TRNC

NEAR EAST UNIVERSITY

INSTITUTE OF SOCIAL SCIENCES

MBA THESIS

"Perceived Service Quality and Patient Satisfaction in TRNC: Comparison of Public and Private Hospitals"

EBRU DİREKTÖR

ADVISOR: ASSIT. PROF. DR. FİGEN YEŞİLADA

Nicosia, 2007

ABSTRACT

PERCEIVED SERVICE QUALITY AND PATIENT SATISFACTION IN TRNC: COMPARISON OF PUBLIC AND PRIVATE HOSPITALS IN TRNC: COMPARISON OF PUBLIC AND PRIVATE HOSPITALS

Prepared by **Ebru Direktör**
June, 2007

The characteristics of services are their process nature and inseparability for consumption from the service process where the services emerges that makes it difficult to conceptualise the object of marketing, that is, the equivalence of a physical product in the service context (Bois, 2000).

Service quality is defined as customers' perception of how well a service meets or exceeds their expectations (Zeithaml *et*. al., 1990). Service quality is judged by customers not by organisation. This distinction forces service marketers to examine their quality from customers' viewpoint. Thus it is important for service organisation to determine what customers expect and then develop service products that meet or exceed those expectations.

Parasuman (1985) suggested that service quality results from a comparison of what customer feel a service provider should offer (i.e. their expectations with provider's actual performance). This has been the driving force behind attempts to measure service quality (Davis et al., 1999). Measurement of service quality is quite a difficult process as it is intangible and is consumed at the time it is delivered.

In between measurement techniques, the most widely used measure has been SERVQUAL measure of Parasuman et al. (1985; 1988; 1991). The SERVQUAL approach enables users to measure the expectation and perception of the respondents'

separately and then determine if there are any existing gaps between the perception and expectation of the respondents.

The aim of the study was to make a research on the service quality of the TRNC's Health Care Sector, both in public and private hospitals. The research aims to find out if there is any quality standards applied in this sector, and determine the existing gaps between the expectation and perception of the health care receivers.

This research has been conducted on 692 systematically selected people and outcomes proved that this research is representative in TRNC.

The findings of the research proved that the SERVQUAL model developed by Parasuman *et*. al. (1985) is applicable in TRNC. Analysis on the expectations and perceptions of respondents showed that there is a gap between the public and private hospitals. Gaps of private hospitals are rather smaller than the gaps of public hospitals which are a proof that private hospitals deliver more quality service to the public. This is simply because, the quality of service in public hospitals is so much below the expectations that citizens of TRNC perceive hospitals are relatively better in the service they provide. If the private hospitals were compared with the public/private hospitals in Turkey or in an EU country, probably the outcomes would be different.

Besides this, the public hospital that is in the best position is Kyrenia Dr. Akçiçek Public Hospital and the one which is in the worst condition is Famagusta Public Hospital. The private hospital that is in the best condition changes according to the dimension that is studied, both Girne Özel and Etik hospital are in the best position and Baskent hospital is in the worst condition.

Keywords : Service Quality, SERVQUAL, Heath Care Sector, TRNC, Patient Satisfaction, Gaps Model.

ACKNOWLEDGEMENTS

I would like to convey my sincere appreciation to my research advisor Assist. Prof. Dr. Figen Yeşilada for her invaluable advice and support.

I would like to express my gratitude. Special recognition goes to Assoc. Prof. Dr. Erdal Güryay for his encouragement, assistance and support of the project.

Last but not least, I would like to thank to my husband Hüseyin, my Daughter Işıl, my mother, and my sisters and also my friends for their patience and who always give me inspiration and support to study and complete this research thesis.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF GRAPHS

Chapter 1 Introduction

Marketing, more than any other business function, deals with customers. Building customer relationship based on customer value and satisfaction is at the very heart of modern marketing. Today, marketing must be understood not in the old sense of making sale – "telling and selling" – but in the new sense of satisfying customer needs (Kotler and Armstrong, 2004).

Marketing is defined as a social and managerial process whereby individuals and groups obtain what they need and what through creating and exchanging products and value with others (Kotler and Armstrong, 2004).

Marketing offer -some combination of products, services, information, or experiences offered to a market to satisfy need or want. Marketing offers are not limited to physical products. In addition to tangible products, marketing offers include services, activities or benefits offered for sale that are essentially intangible and do not result in ownership of anything (Kotler and Armstrong, 2004).

1.1 Product and Service

Product is anything that can be offered to a market for attention, acquisition, use or consumption (Kotler and Armstrong, 2004), both favourable and unfavourable (Scott *et*, al., 1985), that might satisfy a want or need. Products include more than just tangible goods (Kotler and Armstrong, 2004), it is a complexity of tangible and intangible attributes, including functional, social, and psychological utilities or benefits (Dibb *et*. al., 2001). Products include physical objects, services, events, persons, places, organisations, ideas, and mixes of these entities (Kotler and Armstrong, 2004). When buyers purchase a product, they are really buying the benefits and satisfaction they think the product will provide (Dibb *et*. al., 2001).

A **service** is an intangible product involving a deed, a performance or an effort that cannot be physically possessed (Berry, 1990). Services are a form of product that consist of activities, benefits, or satisfactions offered for sale that are intangible and do not result in ownership of anything (Kotler and Armstrong, 2004, page 276). Services are bought on the basis of promises of satisfaction (Dibb *et*. al., 2001). Promises with the images and appearances of symbols, help consumers make judgements about tangible and intangible products (Voss *et*. al., 1998).

Service in general is a classification that covers both pure services that stand by themselves (such as insurance and consultant services) and service that support goods. e.g. computers require sophisticated support services (Czinkota *et*. al., 1997).

As products and services become more and more commoditised, many companies are moving to a new level in creating value for their customers. To differentiate their offers they are developing and delivering total customer experiences (Pine and Gilmore, 2000).

Product planners need to think about products and services on three levels (See figure1.1). Each level adds more customer value. The most basic level is core benefit, which addresses the question "What is the buyer really buying?" when designing products, marketers must first determine the core, problem solving benefits, or services that consumers seek (Kotler and Armstrong, 2004).

At the second level, product planners must turn the core benefit into actual product. They need to develop product and service features, design a quality level, a brand name, and packaging (Kotler and Armstrong, 2004). Finally, product planners must build an augmented product around the core benefit and actual product by offering an additional consumer services and benefits (Kotler and Armstrong, 2004).

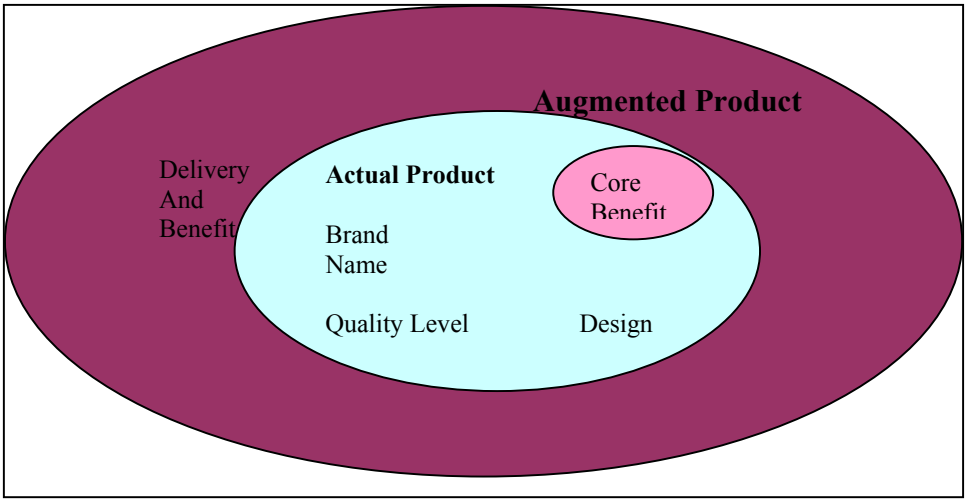


Figure 1.1 Three Levels of Product

Source: Kotler, P. and Armstrong, G, 2004, Principles of Marketing, Pearson Education International, Upper Saddle River, New Jersey, Chapter 9, p. 279

Service industries vary greatly. Governments offer services throughout courts, employment services, hospitals, military services, police and fire departments and so on. Private non-profit organisations offer services through museums, charities, churches, colleges, foundations and hospitals. A large number of business organisations offer services – airlines, banks, hotels, insurance companies, consulting firms, medical and law practices, entertainment companies, and hospitals.

1.1.1 Characteristics of Services

The marketing of services is distinct from goods marketing (Cowell, 1984; Dibb *et.* al, 2001). To understand the nature of services marketing, it is necessary to appreciate the particular characteristics of services (Dibb *et*. al., 2001). Services have four basic characteristics:

1. Intangibility,
2. Inseparability,
3. Perishability, and
4. Heterogeneity

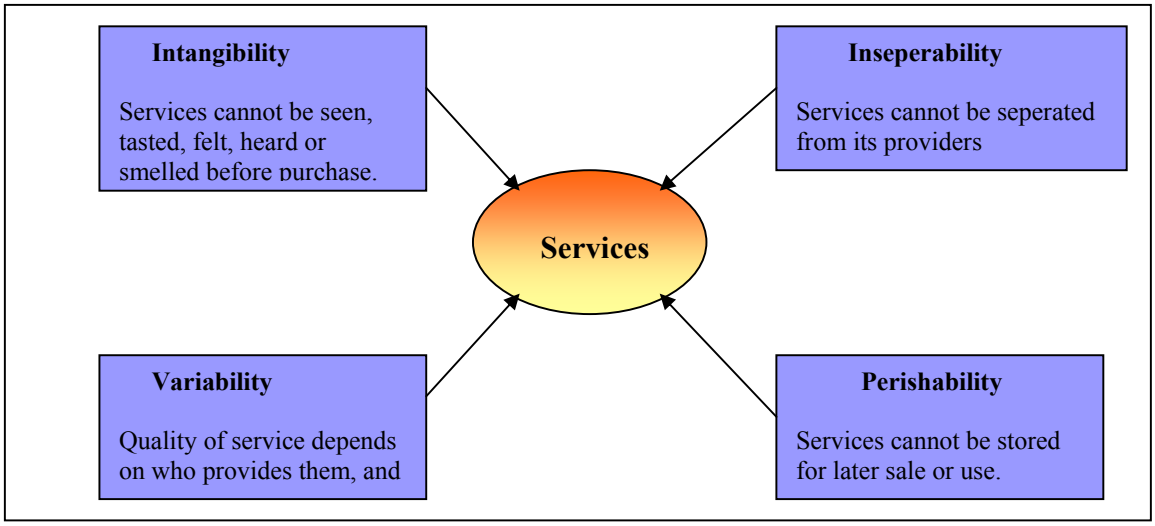


Figure 1.2 Characteristics of Services

Source: Kotler, P. and Armstrong, G, Principles of Marketing, 2004, Chapter 9, p. 299, Pearson Education International, Upper Saddle River, New Jersey

Table 1.1 Services Characteristics and Marketing Problems

Unique Service Features	Resulting Marketing Problems
Intangibility	• Cannot be stored. • Cannot be protected through patents. • Cannot be readily displayed and communicated. • Prices difficult to set.
Inseparability	• Consumers involved in production. • Other consumers involved in production. • Centralised mass production difficult.
Perishability	• Services unable to be stockpiled.
Heterogeneity	• Standardisation and quality difficult to control.

Source: Valerie A. Zeithaml, A. Parasuman and Leonard, L. Berry (1985), "Problems and strategies in services marketing" *Journal of Marketing,* spring, pp. 33-46. ,

1. **Intangibility:** Services differ from goods most strongly in their intangibility (Dibb *et*. al., 2001). Intangibility stems from the fact that services are performances. They

cannot be seen, touched or smelled, nor can they be possessed. Intangibility also relates to the difficulty that consumers may have in understanding service offerings (Bateson, 1979). Services have a few tangible attributes, called **search qualities that** can be viewed prior to purchase, such as the cleanliness of a doctor's waiting room. When consumers cannot view a service product in advance and examine its properties, they may not understand exactly what is being offered (Dibb *et*. al., 2001).

on the other hand, services are rich in experience and credence qualities. **Experience Qualities** are those qualities that can be assessed only after purchase and consumption (satisfaction, courtesy and pleasure). **Credence Qualities** are those qualities that cannot be assessed even after purchase and consumption (Zeithaml, *et*. al, 1981).

2. **Inseparability:** Inseparability **i**n relation to production and consumption is a characteristic of services that means they are produced at the same time they are consumed (Dibb *et*. al., 2001). e.g. the doctor cannot possibly perform the service without the patient's presence, and the consumer is actually involved in the production process (Dibb *et*. al., 2001). Because of the high consumer involvement in most services, standardisation and control are difficult to maintain.

3. **Perishability:** It is a characteristic of services whereby unused capacity on one occasion cannot be stock pilled or inventoried for future occasions, because production and consumption are simultaneous.

4. **Heterogeneity:** Heterogeneity is the variability in the quality of service since most services are labour intensive, they are susceptible to heterogeneity. For the service to be provided and consumed, the client generally meets and deals directly with the service providers personnel. Direct contact and interaction are distinguishing features of services. People typically perform services, and people do not always perform consistently. It is also true that the characteristics of services themselves may make it possible for marketer to customise their offerings to consumers. In such

cases, services marketers often face a dilemma; how to provide efficient, standardised service at some acceptable level of quality while simultaneously treating each customer as a unique person (Dibb *et*. al., 2001).

1.2 Quality

Researchers have concluded that quality has become the key to competitive success and long-term survival (Gourden and Koppenborg, 1991). Empirical research has demonstrated a positive relationship between service quality and organisational performance (Parasuman *et*. al., 1991). Further, quality can be used as an effective strategy for raising return on investment, increasing market share, improving productivity, lowering costs, and achieving customer satisfaction (Mohr, 1991; Tse and Wilton, 1988; Anderson and Zeithaml, 1984).

Quality has been defined as: conformance to standards (Hall, 1990), conformance to requirements (Crosby, 1979), fitness for use (Juran, 1980) and "what customers say it is" (Feigenbaum, 1990). Juran (1992), in examining quality as it relates to goods and services, has bisected quality into two definitions:

1. Products/service features – what the customer desires.
2. Freedom from deficiencies.

Since services are different from products they are intangible and heterogeneous, and production and consumption occur simultaneously (Zeithaml *et.* al., 1985). They require different definition of quality than goods. Calling upon the work of Juran (1992) developed the definition of quality which was too rich to be defined along one dimension, and therefore developed by Grönroos (1991), partitioned service into three components; technical, functional and image.

The health care service can be broken into two quality dimensions: technical quality and functional quality (Donabedian, 1980; Grönroos, 1984). Technical quality in the healthcare sector is defined primarily on the basis of technical accuracy of the medical

diagnosis and procedures or the conformance to the manner in which the health care service is delivered to the patients (Lam, 1997).

Research has shown that technical quality falls short of being a truly useful measure for describing how patients evaluate the quality of medical service encounter. Although technical quality has high priority with patients, most patients do not have knowledge to evaluate effectively the quality of the diagnostic and therapeutic intervention process.

While the importance of functional quality to the health care provider is obvious and unequivocal, its measurement and explanation have presented problems to healthcare researchers and manager. Clearly, functional quality is much more difficult to evaluate (Zeithaml, 1988). Unlike technical quality, for which, there are objective measurements instruments, patients have fewer objective cues and have relied on their subjective evaluation to judge the leave of functional quality (Lam, 1997).

As far organisations and their products go, Garvin (1984) has categorised five different definitions of quality based on the theories of quality gurus:

a) **The Transcendent Approach** – This is like arête, being synonymous with 'innate excellence' such as quality player or quality diamond (24 carat). It is an absolute judgement.
b) **The manufacturing based approach** – This interprets quality as 'fit for purpose', not only in terms of specifications but also in terms of the specifications being appropriate from an end-user or customer point of view.
c) **The product based approach** – This views quality as 'a measurable set of characteristics'.
d) **The value based approach** – This looks at the quality in terms of cost and price.

1.2.1 Customer Approach of Quality

Any definition of quality around the customer is based on the user-based approach (Elsevier, 2995). Using this viewpoint is a key way of ensuring products conforms to quality process and requirements. Slack *et*. al (2001) state that quality is consistent

conformance to customers' expectations. Conformance implies the specifications of manufacturing-based approach; 'consistent' implies a controlled set of characteristics that can be measured as the product based approach; customers' expectations implies a combination of the value and user based approach.

Quality from the organisational point of view involves a number of key dimensions:

- It is to do with excellence, however subjective,
- It is about setting specifications and standards,
- Measurability is important – otherwise how do you know you have achieved quality? There is a need for measurement tools.
- Value for money is relevant – prices and costs from both the customer and organisational point of view.
- It is about meeting customer needs and expectations.

1.3 Service Quality

The characteristics of services are their process nature and inseparability for consumption from the service process where the services emerges that makes it difficult to conceptualise the object of marketing, that is, the equivalence of a physical product in the service context (Bois, 2000).

Quinn and Humbe (1993) indicate that both product and service quality are important. Product quality is important for recruiting customers, but service quality is the key for retaining them. The ultimate goal of producing quality service and product is to achieve customer satisfaction or as Dodwell and Simmons (1994) put it, people retention, customer acquisition and retention, and profitability.

Theoretical and empirical evidence suggests that firms that provide higher levels of service reap higher profits than those do not (Jacobson and Aaker, 1987; Philips *et*. al.,

1983). Better sales associated with better service and an effective service quality assurance program (Comen, 1989).

Service quality is defined as customers' perception of how well a service meets or exceeds their expectations (Zeithaml *et*. al., 1990). Service quality is judged by customers not by organisation. This distinction forces service marketers to examine their quality from customers' viewpoint. Thus it is important for service organisation to determine what customers expect and then develop service products that meet or exceed those expectations (Czinkota *et*. al., 1997). In order to turn service quality into a powerful competitive weapon, hospitality managers must diligently strive for service superiority consistently performing above adequate quest service levels while consistently striving for continuous improvements (Juran, 1992).

Based on the previously suggested aspects of the quality of services (Gummesson, 1977) and on perspectives from cognitive physiology (Bettman, 1979) the concept of service quality was developed as a conceptualisation of the marketing object of service providers (Grönroos, 1982a; 1984).

Figure 1.3 shows the basic perceived service quality model. The original perceived service quality model from Grönroos, 1982 is shown to the left in the figure (a); to the right (b) is illustrates the extended model (Grönroos, 1990a) where the quality dimensions and the disconfirmation notion of the model are put into their marketing context.

The customers' perceptions of the service process are divided into two dimensions: the process dimension, or how the service process functions, and the outcome dimension, of what the process leads to for the customer as a result of the process. The two quality dimensions are termed technical quality (what service process leads to for the customer in a 'technical' sense) and functional quality (how the process functions). Customers perceive the quality of service in these two dimensions, what they get and how they get it. Technical quality is prerequisite for good perceived quality, but it is seldom enough. In addition, functional-quality aspects of a service must be on an acceptable level.

The disconfirmation concept of the model indicates not only that the perceived service quality is a function of the experiences of the customer, but also that the expectations of customers have an impact on the perception of the quality. Hence, the quality perception of a service is the result of a comparison between expectations and perceptions of a customer. It is, however, difficult to measure how the expectations influence experiences and quality perceptions, so there are clear indications that perceived service quality can perhaps best be assessed through direct measurements of quality experiences (e.g. Cronin and Taylor, 1994; Liljander, 1995). However, the expectations do not have impact on the perceived service quality, although it is difficult to measure how their impact works. Hence, service marketers have to be careful when giving promises to the market, so that unrealistic expectations are not created in minds of customers. Expectations are mainly created through external marketing, through sales. However, word of mouth and the image of the service provider, as well as needs of the customers, also influence the level of expectations.

The purpose of the service quality model is to provide a conceptual model of services as objects of marketing viewed with the eyes of the customers that makes it possible for the marketer (1) to develop interactive marketing resources and activities, and (2) to plan external marketing activities.

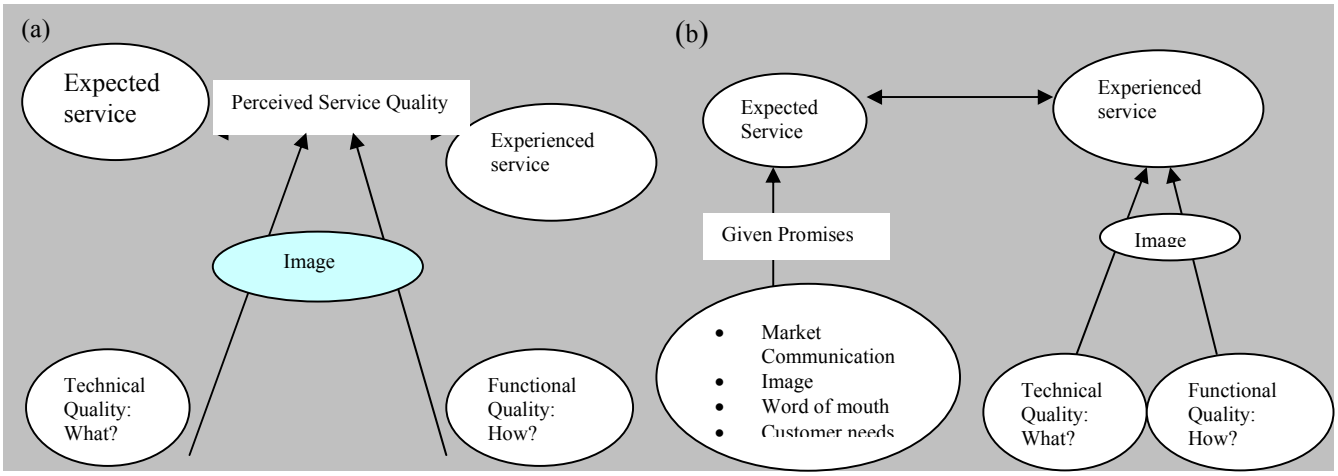


Figure 1.3 Perceived Service Quality Model

Source: Keith Blois, the Oxford Textbook of Marketing, 2000, Oxford University Press, Chapter 21, p. 507.

1.4 Factors Influencing Expectation

Expectation is a factor used in judging service quality involving impressions from past experiences, word-of-mouth communication and the company advertising (Dibb, *et*. al., 2001). Expectations may easily be manipulated or controlled by the individual in the organisation (Camilleri and O'Callaghan, 1998). Service quality as perceived by customers can be defined as the extent of discrepancy between customers' expectations or desires and their perceptions.
The factors influencing expectation are:

- **Word-of-Mouth Communication** – what customers hear from other customers – is potential determinant of expectations.
- **Personal Needs** of customers might moderate their expectations to a certain degree.
- **Past Experience** – the more experienced participants seemed to have lower expectations.
- **External Communications** – from service providers play a key role in shaping customers' expectations.
- **Price** – this factor plays an important role in shaping expectations, especially those prospective customers of a service.

1.5 Perception and Factors Affecting Perception

Perceptions have been described as an individual's formed opinion of the experienced service (Teas, 1993). Perceptions would be formed only after experiencing the service in question.

Perceptions were compared to the users' original expectations of service performance. If expectations are set too high, then perceptions would be significantly lower than expected for most, if not all, aspects of the service product. In such case, a comparison of expectations (for private and public sector) would be inaccurate and unacceptable. Therefore, the use of the SERVQUAL principle had the dual role of measuring actual

service quality and as a control to the comparison of expectations for the private and public sectors (Camilleri and O'Callaghan, 1998).

1.6 The Return on Service Quality

Published research offers evidence that positive service quality perceptions affect customer intentions to behave in positive way. Woodside *et*. al. (1989) found significant association between overall patient satisfaction and intent to choose a hospital again. Cronin and Taylor (1992), using a single-item purchase-intention scale, found a positive correlation with service quality and purchase intention.
In series of studies (Parasuman *et*. al, 1991b; 1988; 1994b) researchers found a positive and significant relationship between customers' perception of service quality and their willingness to recommend the company. Boulding *et*. al. (1993) found a positive correlation between service quality and a two-item measure of repurchase intentions and willingness to recommend.

Zeithaml *et*. al. (1996) empirically examined the quality-intentions link in using a behavioural intentions battery with four dimensions – loyalty, propensity to switch, willingness to pay more, and external response to service problems.

1.6.1 Service Quality and Profitability

In the 1990's, expenditures on quality were not explicitly linked to profit implications (Aaker and Jacobson, 1994). The cost of, and cost savings due to, service quality were more frequently considered because evidence linking those financial variables to service quality was more accessible. The relationship between service and profits took time to verify, partly due to the unfounded expectation that the connection was simple and direct. Despite this expectation, investments in service quality do not track directly in profits.

1. Like advertising benefits, service quality benefits are rarely experienced in the short-term and instead accumulate overtime, making them less amendable that tend to measure over short-term impact.
2. Since many other variables (such as pricing, distribution, competition and advertising) influence company profits, it can be difficult to isolate the individual contribution to service.
3. Mere expenditures on service are not what lead to profits; instead spending on the right variables and proper execution are responsible.

Evidence from the research also uncovered positive associations. Rust *et*. al. (1992) documented the favourable financial impact of complaint recovery systems. Nelson *et*. al. (1992) found a significant and positive relationship between patient satisfaction and hospital profitability. Extending the definition of financial performance to include stock returns, Aaker and Jacobson (1994) found a significant positive relationship between stock returns and changes in quality perceptions while controlling for the effects of advertising expenditures, salience, and ROI.

Rust *et*. al. (1995) provided the most comprehensive framework for examining the impact of service quality improvements on profits. Called the return on quality (ROQ) approach and their framework is based on: (1) quality is an investment; (2) quality efforts must be financially accountable, (3) it is possible to spend too much on quality; (4) not all quality expenditures are equally valid.

The process begins with a service improvement effort that first produces an increased level of satisfaction at the process or attributes level (Bolton and Drew, 1991a; Rust et. al. 1998; Simester *et*. al., 1998). Increased customer satisfaction, Rust *et*. al., 1994; 1995). Overall satisfaction leads to behavioural impact, including repurchase and customer retention, positive word-of-mouth, and increased usage. Behavioural impact then leads to improved profitability and other financial outcomes. Reichheld (1993) showed that building a high-loyalty consumer base of selected customers increased profits.

The ROQ approach is informative because it can help distinguish among all the company strategies, processes, approaches, and tactics that can be altered and thus can be applied in companies to direct their individual strategies.

1.7 Customer Satisfaction and its Relationship between Service Qualities

The causal order of relationship between service quality and consumer satisfaction has been a matter of considerable debate within the marketing literature. Three major positions have been advanced. First, service quality has been identified as an antecedent to satisfaction. Within this causal ordering, satisfaction is described as a "post-consumption evaluation of perceived quality" (Anderson and Fornell, 1994). Rust and Oliver (1994) offer support for this position in their suggestion that quality is "one of the service dimension factored into the consumers' satisfaction judgement" as do Parasuman and Parasuman who specifically suggest that service quality is an antecedent of customer satisfaction (Brady *et*. al., 2002).

However, some researchers argue that satisfaction is antecedent to service quality. Bitner (1990), borrowing from Oliver's (1980) conceptualisation of the relationship between satisfaction, service quality, and consumer behaviour toward the firm, suggests that service encounter is an antecedent of service quality. Finally, Bitner and Hubert (1994) advocate this satisfaction→ service quality causal order based on the premise that service quality is akin to a global attitude and therefore encompasses the more transient satisfaction assessment.

The third conceptualisation of service quality- satisfaction relationship suggests that neither satisfaction nor service quality may be antecedent to other (Dabholkar and Mc Alexander). Cronin and Taylor (1992) propose a structural model that empirically supports a non-recursive relationship between two constructs.

Empirical research finds that patient satisfaction is positively related to purchase intentions (Cronin and Taylor, 1992), loyalty toward health care providers (John, 1992;

Woodside *et*. al., 1989), and adherence to medical treatment recommendations (Hall and Dornan, 1990). Health care providers often naively believe that satisfaction of their patients is contingent only on the provision of appropriate and technically sound care that produces an anticipated effect (Bopp, 1990; Cleary and McNeil, 1988). The criteria that patients use to determine quality of service, however, may be different. Swartz and Brown, (1989) observed that patients' perception often differ from those of physicians, and that physicians may misperceive their patients' evaluations. Appropriate perceptions are important since dissatisfied consumers of service seldom complain to provider (Gronhaug and Arndt, 1980; Quelch and Ash, 1981), but may look at alternative providers and engage in negative "word-of-mouth" with potential clients (Brown and Swartz, 1989; Day and Ash, 1979; Swartz and Brown, 1989). Therefore, misperceptions by healthcare providers may not only reduce patient satisfaction but affect the success of the treatment plan and the financial performance of the practice. Several research studies note the link between the patient's perception of quality of service and patient satisfaction (Cronin and Taylor, 1994; Mc Alexander *et*. al. 1994). The consumer's perception of quality of service tends to focus not on hard-to-evaluate technical services but on such seemingly tangential concerns of physical facilities, interactions with receptionist, or even brochures (Brown and Swab, 1989; Barnes and Mowatt, 986; Crane and Lynch, 1988; Davies and Ware, 1981). The consumers may not know if the physician has made a good diagnosis from the test data, but will know if the physician has communicated his or her opinions in a clear and caring manner.

1.8 Importance of Health Care Quality

There are many reasons why health care quality is important:

1. Providers consider increasing quality care to be "the right thing to do".
2. Involvement and satisfaction of the customer affect behaviour,
3. As quality improves, expectations increase. According to Moore and Berry, consumers become more quality conscious, service firms not only need to satisfy their expectations, but to exceed them.

4. The more pragmatic argument relates quality to increased market share and a competitive edge. Shetty (1987) maintains that quality can advance profitability by reducing costs and improving a company's competitive position.

Within the healthcare industry, competitive advantage is best attained through service quality and customer satisfaction in the minds of customers (Taylor, 1994). Woodside *et.* al, (1998) provided support for service quality influencing the service provider choice. The terms quality and satisfaction are sometimes used interchangeably. While they are closely related, there are differences worth nothing (Rhode Island department of health).

The above mentioned factors are quite an important determinants that always forces organisations to measure the given service quality. Since health care sector is one of the most important sector in the industry, that directly deals with the health of the population, these above mentioned aspects always have to be measured and always have to be kept at the highest level so that there will not be any problem in the health care service delivery process. Therefore, service quality has to be measures periodically; these measurements are based on the techniques that will be explained in a detail in the section II.

1.9 Reasons Why Health Care Sector was Chosen

The measurement of supplied service quality is a crucial aspect for both profit and non-profit organisations in the service sector. Measurement of service quality in education sector, health care sector and in community service is an important factor for the policy makers, which in turn will enable them to increase prosperity of the community. Health Care Industry is one of the sectors that are widely being discussed in TRNC.

All parties involved in the Health Care Industry continuously impose their opinions and their critics related to this sector at different platforms. Despite of these hot discussions in every platform, up until today there was no scientific study conducted in this industry. Scientific studies in this industry will form a base to these discussions and will be a

guide to all policy makers. Due to these above mentioned reasons, it was decided to measure service quality in health care industry was made.

In this case to be able to measure the service quality level data had been obtained through questionnaires conducted all over TRNC and results were achieved by using different statistical analysis.

1.9.1 Current Situation in TRNC's Health Care Industry

In TRNC's health care industry there are six public hospitals and six private hospitals that currently deliver health care service to their patients. Public hospitals classified according to their specific functions: Burhan Nalbantoglu Public Hospital located in Nicosia and this hospital is the only specialisation hospital in TRNC. Kyrenia Dr. Akçiçek Public hospital, Famagusta Public Hospital and Cengiz Topel Public Hospital are regional hospitals, and the rest are specialised branch hospitals namely Barış Sinir ve Ruh Hastalıkları Hospital, Kronik Hastalıkları Hospital, Thalllasseamis Center, Hematoloji-Onkoloji Centre, and finally Endokrin and Diabet Centre (Ministry of Health, 2005 statistical book, page 13) .

The number of doctors working in all the public and private hospitals and private clinics are at an increasing rate. In year 2005 the number of doctors working in public hospitals were 270 and in private hospitals the number of doctors were counted as 327 (Ministry of Health, 2005 statistical book, page 13). In year 2003 the amount of patient per doctor counted as 384 persons (Ministry of Health, 2005 statistical book, page 14). Moreover, the amount of doctors, nurses and other personnel working in these hospitals increased by 40% from year 2003 to 2005 up to 1438 (see appendix 1C).

The bed capacities of public hospitals are not sufficient enough to meet the existing demand of the patients. Especially in Nicosia Burhan Nalbantoglu Public hospitals the ministry of health continuously is constructing new buildings to increase the bed capacity. Moreover, in Famagusta new public hospital building is in construction. In

total there are only 841 bed capacities all around the TRNC (Ministry of Health, Statistical year Book, 2003, page 41) (See Appendix 1C for more detail).

In TRNC some of the complicated illness's treatment is not possible due to the lack of the technologically advanced equipment and specialised doctors in that specific field. In these situations the Ministry of Health as they cannot deliver that service to their patients they forward these patients to either Turkey or South Cyprus to receive the necessary treatment for their illnesses. Mainly these illnesses are; Heart and vessel Surgery and Cancer, and year by year these illnesses are in an increasing trend (Ministry of Health, 2005 statistical book, page 14).

1.9.1.1 Aims of Ministry of Health

- To supply medicine only patients that are staying in hospitals, stop acting as a pharmacy.
- To improve the management structure of all public hospitals.
- To pass the legislation related with preventive medicine.
- Continuously give training to all their staff.
- To deliver e-health system to all hospitals.

1.9.1.2 Critics of Health Care Industry

- Characteristics of Kyrenia Dr. Akçiçek Public Hospital differ from Cengiz Topel Public Hospital. In Cengiz Topel Hospital within the last four months (July, 2006) no operation took place. But in Kyrenia Dr. Akçiçek Public Hospital only small operations took place. Moreover, birth rate in Kyrenia is high. Big cases that come to both of these hospitals immediately transferred to Burhan Nalbantoglu Public Hospital.
- The emergency patients are quite a high in number. Most of these patients that visit the emergency of hospitals do not suffer from any illness that needs immediate interference. These are working people who suffer from a certain illness for some

time but do not want to leave their jobs during the day by visiting policlinics and lose money. By visiting the emergency of hospitals these people will receive the necessary treatment.

- Fees that are taken in the policlinics are so low that the demand for those places are at a quite a high rate.
- The demands for policlinics were so high that hospitals started to give appointments to their patients to diminish that waiting hours. But this system didn't last long and ended in 2006 summer. The main reason for this was the working hours of doctors giving service in those sections were not exactly known.
- As the income of hospital staff is not sufficient they have to work overtime to earn more money. Especially Burhan Nalbantoglu Public Hospital is equipped with technologically advanced equipments but these equipments were not in use properly.
- In public hospitals due to the limited working hours of doctors sufficient work were not conducted. But this situation is getting better each day; the main reason is the number of personnel working under contract is increasing.
- Rooms in hospitals are in quite a bad situation due to lack of good care.
- As there are no penal sanctions in hospitals there is a lack of discipline and coordination.

1.9.1.3 New Actions Taken by Ministry of Health in Health Care Industry

- Meals in public hospitals are given by the private catering companies under the control of dietician.
- Private security companies were hired to control the security of hospitals.
- Private cleaning companies were hired to do all the cleaning work.
- Quematic had been placed in policlinics so that waiting hours will de crease and whenever a patient visits those places will have a chance to see their doctors.
- DNA section is established both with the joint funds of ministry of health and presidency.
- Only in TRNC compared to whole world, all the treatment of diabetic is funded by Ministry of health (Ministry of Health, 2005 statistical book).

In TRNC some of the population were not happy with the delivered health care service in the public hospitals and they prefer to receive these services from private hospitals either in TRNC or at a foreign country. Private hospitals that opened within the last six years were more equipped than those of private clinics and they can receive most of their necessary services from these hospitals, and people started to prefer those private hospitals.

These private hospitals are named as: Etik Private Hospital, Başkent Private Hospital, Cyprus Life Private Hospital, Girne Özel private hospital, Magusa Tıp Private Hospital, and finally Yasam private hospital. As mentioned above these hospitals are well equipped and deliver better service to their patients in their point of view. According to critics made on those hospitals, they should make some improvements in order to be a proper hospital. They do not posses an intensive care unit and emergency services. Therefore these hospitals should make investments on those mentioned factors.

CHAPTER 2 SERVICE QUALITY MODELS

2.1 Introduction

During the past few decades service quality has become a major area of attention to practitioners, managers and researchers owing to its strong impact on business performance, lower costs, customer satisfaction, customer loyalty and profitability (Leonard and Sasser, 1982; Cronin and Taylor, 1992; Gammie, 1992, Hallowell, 1996; Chang and Chen, 1998; Gummesson 1998; Lasser et al, 2002; Guru, 2003; Seth et al, 2005). For an organisation to gain competitive advantage it must use technology to gather information on market demands and exchange it between organisations for the purpose of enhancing the service quality.

The subject of service quality is very rich in context and definitions, models and measurement issue. Several researchers explored the subjects with varying perspectives and using different methodologies. The following factors seem to be suitable for comparative evaluations of the models (Seth et al, 2005).

- Identifications of factors affecting service quality.
- Suitability for variety of services in consideration.
- Flexibility to account for changing nature of customer perceptions.
- Directions for improvement in service quality.
- Diagnosing the needs for training and education of employees.
- Flexible enough for modifications as part the changes in the environment/conditions.
- Suggests suitable measures for improvements of service quality both upstream and down stream the organisation in focus.
- Identifies future needs (infrastructure, resources) and thus provide help in planning.
- Accommodates use of IT in services.
- Capability to be used as tool for benchmarking.

2.2 Measurement of Service Quality

Parasuman (1995), points out that the dominant mode of thinking in measurement of quality in services rest on disconfirmation view, which links the expectations of consumer with their experience of service. Parasuman (1985), states that; early writings on the topic of service quality (Grönroos, 1982; Lehtinen and Lehtinen, 1983; Lewis and Booms, 1983; Sasser et al., 1978) have suggested that service quality results from a comparison of what customer feel a service provider should offer (i.e. their expectations with provider's actual performance). This has been the driving force behind attempts to measure service quality (Davis et al., 1999). In between measurement techniques, the most widely used measure has been SERVQUAL measure of Parasuman et al. (1985; 1988; 1991). There have been a number of studies critical of this measure of aspects of it (Cronin and Taylor, 1992; 1994; Teas, 1993; 1994) but it remains the point of departure for many researchers and managers (Davies et al., 1999).

2.3 Service Quality Models

Seth et al (2005), in their attempt to reviewed 19 service models in the lights of changed business scenario. These models are presented using a standard structure, i.e. covering the brief discussion and the major observations on the models.

2.3.1 Technical and Functional Quality Model

A firm in order to compete successfully must have an understanding of consumer perception of the quality and the way service quality is influenced. Managing perceived service quality means that the firm has to match the expected service and perceived service to each other so that consumer satisfaction is achieved (Grönroos, 1984 and Seth et al, 2005). In 1984, Grönroos identified three components of service quality, namely: technical quality, functional quality and image (Figure 2.1).

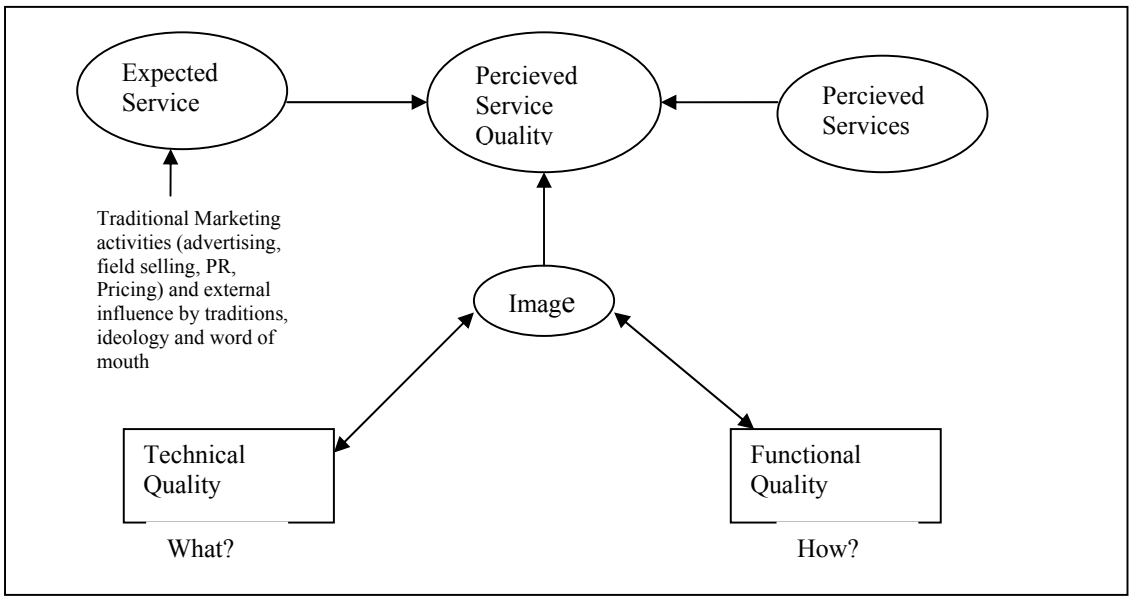


Figure 2.1 Service Quality Model

Source: Gronross, C. (1984), "A service quality model and its marketing implications" *European Journal of Marketing*, Vol. 13 No. 4, pp. 37-44.

1) Technical quality is the quality of what consumer actually receives as a result of his/her interaction with the service firm and is important to him/her and to his/her evaluation of the quality of service.
2) Functional quality is how he/she gets the technical outcome. This is important to him and to his/her views of service he/she received.
3) Image is very important to service firms and this can be expected to build up mainly by technical and functional quality of service including the other factors (tradition, ideology, word of mouth, pricing and public relations).

2.3.2 SERVQUAL

Parasuman et. al. (1985) proposed that service quality is a function of the differences between expectation and performance along the quality dimensions. They developed a service quality model (in Figure 2.2) based on the gap analysis. The various gaps visualised in the model are:

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

Gap 2: Difference between management's perceptions of consumer's expectations and service quality specifications i.e. improper service-quality standards.

Gap 3: Difference between service quality specifications and service actually delivered i.e. the service performance gap.

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

Gap 5: Difference between consumer's expectation and perceived service. This gap depends on size and direction of the four gaps associated with the delivery of service quality on the marketer's side.

According model (Parasuman et. al., 1985), the service quality is a function of perception and expectations and can be modelled as:

$$SQ = \sum_{j=1}^{k} (P_{ij} - E_{ij})$$

Where;

SQ = Overall service quality, k= number of attributes

P_{ij} = Performance perception of stimulus *i* with respect to attribute *j*.

E_{ij} = Service quality expectation for attribute *j* that is the relevant norm for stimulus *i*.

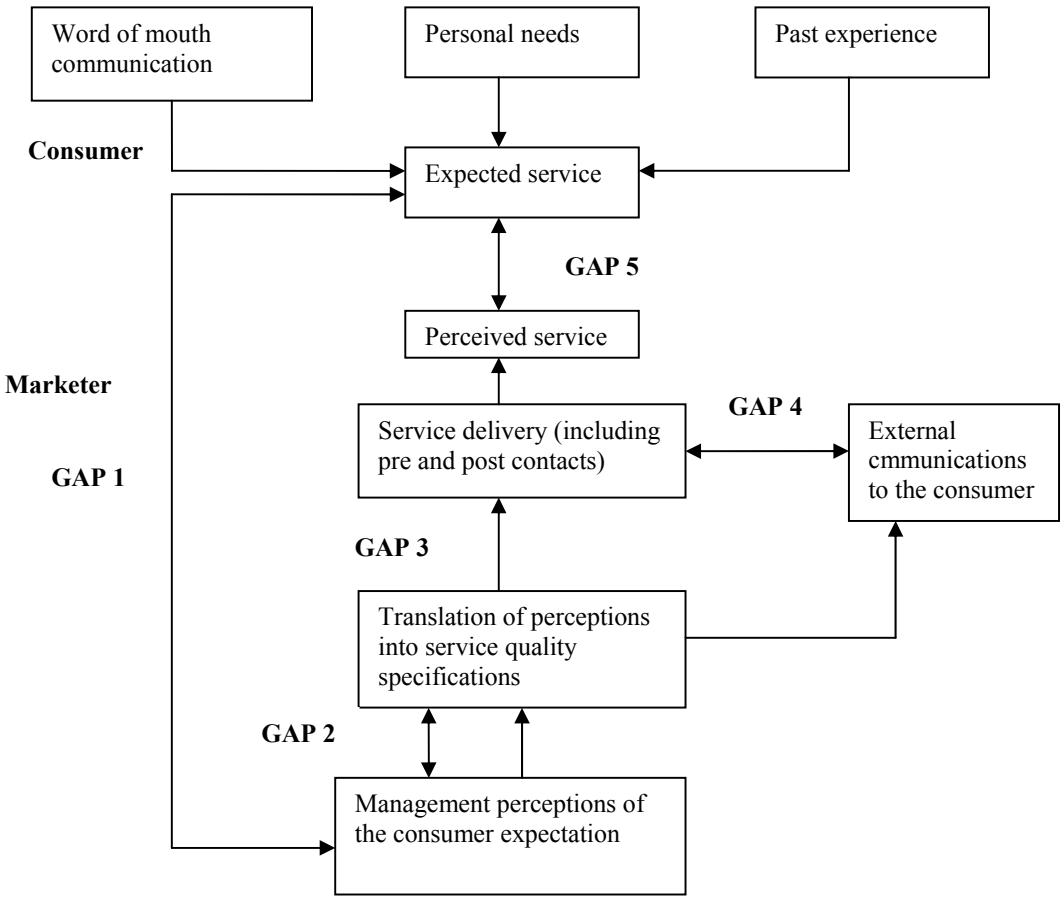


Figure 2.2 Gap Analysis Model

Source: Parasuman, A, Berry, L.L, and Zeithaml, V.A., (1985), "A conceptual model of service quality and its implications for future research", *Journal of Marketing*, Vol. 49, autumn, pp. 41-50.

This exploratory research by Parasuman et. al. (1985) was refined with their subsequent scale named SERVQUAL for measuring customers' perception of service quality (Parasuman et.al., 1988). At this point the original ten dimensions of service quality collapsed into five dimensions: reliability, responsiveness, assurance, tangibles and reliability (communication, competence, creditability, courtesy, and security) and empathy which capture access and understanding/knowing the customers. Later SERVQUAL revised in 1991 by replacing "should" word by "would" in 1994 by reducing the total number of items to 21, but five dimensional structures remaining the same. In addition to this empirical research conducted by Parasuman et. al. (1994), the

four gaps had been delineated and characterised in the research of Parasuman et. al. (1985). This had led to extended service quality model (Figure 2.3). According to this model most factors involve communication and control process implemented in organisations to manage employees.

2.3.3 Attribute Service Quality Model

This model states that a service organisation has "high quality" if it meets customer preferences and expectations consistently (Haywood-Farmer, 1988). According to this the separation of attributes into various groups is the first step towards the development of a service quality model (Haywood-Farmer, 1988).

In general, services have three basic attributes; physical facilities and processes; people's behaviour, and professional judgement. Each attribute consist of several factors (Haywood-Farmer, 1988). In this model, each set of attributes forms an apex of the triangle as shown in Figure 2.4.

2.3.4 Synthesised Model of Service Quality

A service quality map may exist even when a customer has not yet experienced the service but learned through word-of-mouth, advertising or through other media communications (Brogowicz et al. 1990). Thus, there is a need to incorporate potential customers' perceptions of service quality experienced (Brogowicz et al. 1990).

This model attempts to integrate traditional managerial framework service design and operations and marketing activities. According to Brogowicz et al. (1990), the purpose of this model is to identify the dimensions associated with service quality in traditional managerial framework of planning, implementation and control. The model consists of three factors; company image, external influences and traditional marketing activities as the factors influencing technical and functional quality expectations (Brogowicz et al. 1990).

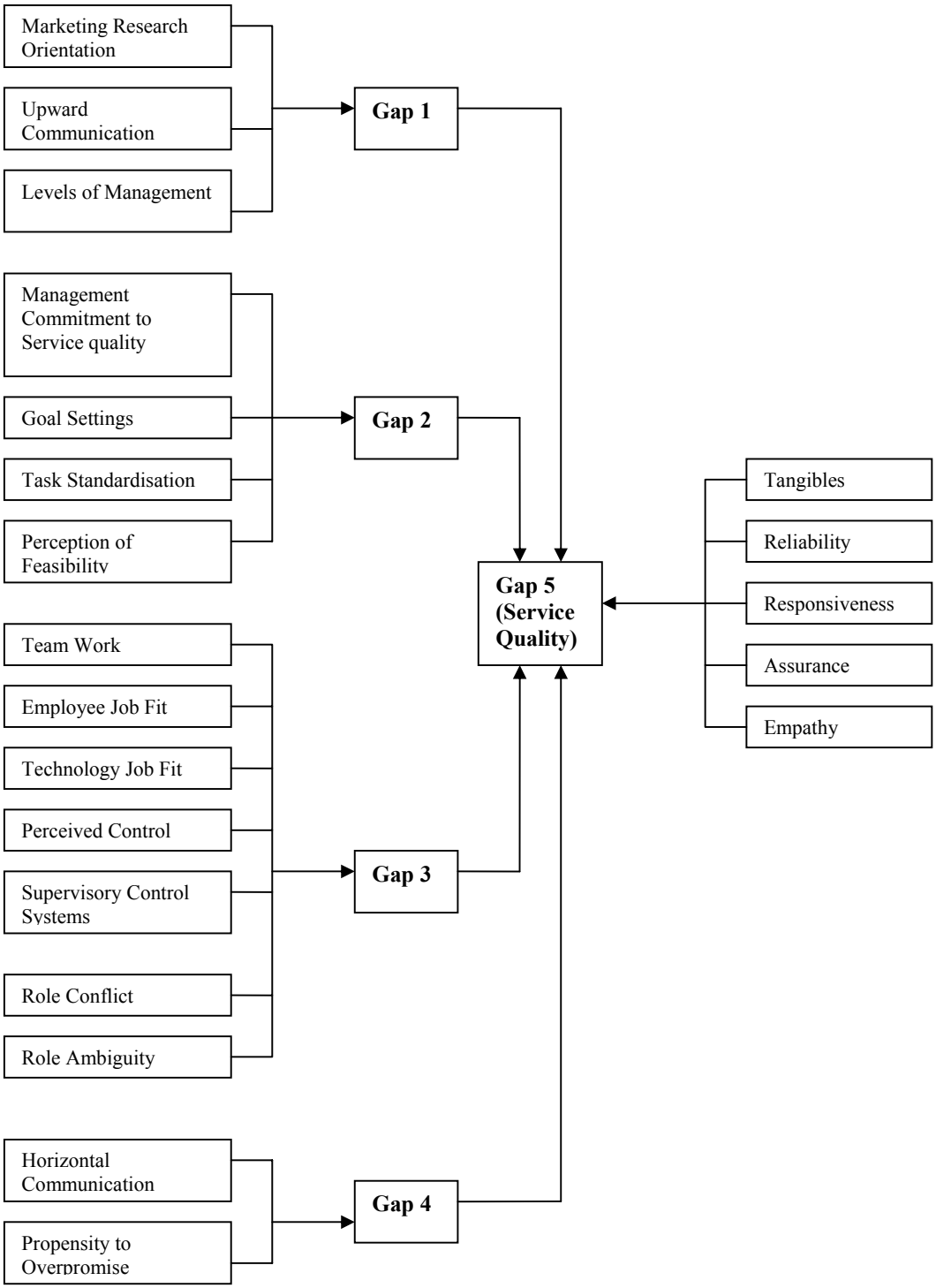


Figure 2.3 Extended Model of Service Quality

Source: Zeithaml, V.A., Berry, L.L. and Parasuman, A. (1988), "Communication and control process in delivery of service quality" *Journal of Marketing*, Vol. 52 No. 2, pp. 35-48.

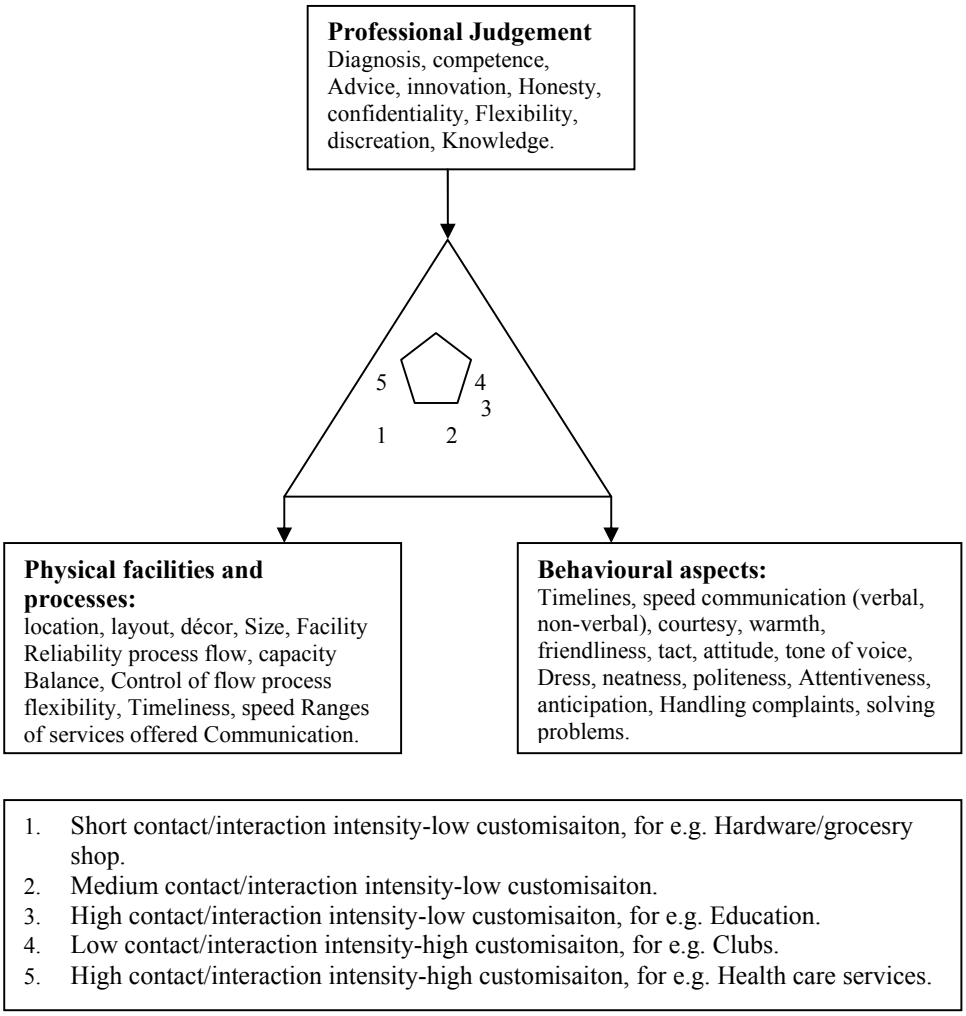


Figure 2.4: Attribute Service Quality Model

Source: Haywood-Farmer, J. (1988), "A conceptual model of service quality," *International Journal of Operations and Production Management*, Vol. 8 No. 6, pp. 19-29.

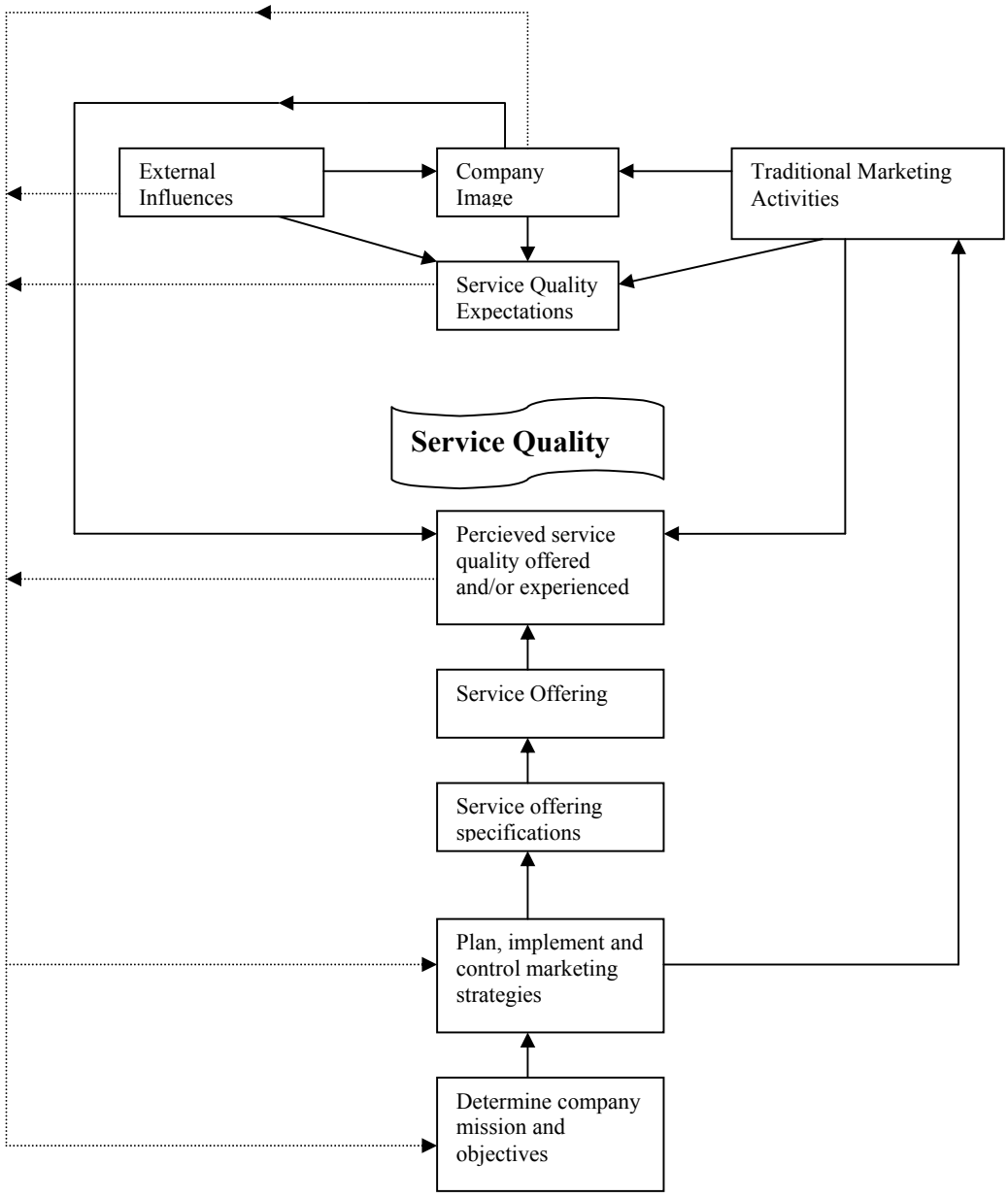


Figure 2.5 Synthesised Model of Service Quality

Source: Brogowicz. A.A. Delene, L.M., and Lyth, D.M., "A synthesised service quality model with managerial implications," *International Journal of Service Industry Management*, Vol. 1 No. 1, pp. 27-44.

2.3.5 Performance Only Model - SERVPERF

Cronin and Taylor (1992) investigated the conceptualisation and measurement of service and its relationship with customer satisfaction and purchase intension. They compared computed differenced scores with perception to conclude that perceptions are better indicator of service quality (Seth, Deshmukh, and Vrat, 2005).

Cronin and Taylor (1992) argued on the framework of Parasuman et al. (1985), with respect to conceptualisation and measurement of service quality and development of performance only measurement of service quality called SERVPERF. Service quality is a form of consumer attitude and the performance only measure of service quality is an enhanced means of measuring service quality (Seth et al., 2005).
The SERVPERF model takes quite a different approach than that of SERVQUAL model to try to eliminate the expectation/perception problems (Cronin and Taylor, 1994). The model investigates the relationship between service quality, consumer satisfaction and purchase intentions (Baggs and Klaner, 1996).

The performance based model theories indicates that it is consumer satisfaction not service quality that influence purchase intentions. Managers must also know whether consumers actually purchase from firms which have all the highest level of perceived service quality or from those with which they are most satisfied (Cronin and Taylor, 1992). This is the most important aspect of measuring customer satisfaction because it relates to bottom line profits for the organisation.

The research that had been described in the study of Brady et al. (2002) replicates and extends the Cronin and Taylor (1992) study suggests that service quality be measured using performance- only index (SERVPERF) as opposed to gap-based SERQUAL scale. The intend of the research was to examine the ability of performance- only measurement approach to capture the variance in consumers' overall perceptions of service quality across three studies (Bradly et al. 2002).

For the first study, the original Cronin and Taylor data were obtained and a replication of their study was undertaken using a recursive for of their non-recursive model in an effort to avoid abnormal parameter estimates they reported. Replication successfully duplicated their findings as to be superiority of the quality. The second and the third studies included new data in which different measures of the constructs examined in the Cronin and Taylor were employed in order to enhance the validity of the findings. The results from those two studies lent strong support again for the superiority of the performance-only approach to the measurement of service quality (Bradly et al. 2002). In addition, both the replication and the two new studies were used to extend Cronin and Taylor's investigation of the service quality- consumer satisfaction relationship. The results of all of these three studies indicate that service quality is properly modelled as an antecedent of satisfaction.

Research up to this time has tried to differentiate service quality from consumer satisfaction through disconfirmation format, whereas SERVPERF boils down to a simple equation (Baggs and Klaner, 1996).

Service Quality = Performance

The method further explains that service quality is an attitude (Cronin and Taylor, 1992). Further experience with service organisation will lead to further disconfirmation which modifies the level of perceived service quality. The redefines level of perceived service quality similarly modifies a consumer's purchase intentions towards that service provider (Baggs and Klaner, 1996). Practitioners of the SERVPERF model often gather data on performance simply by asking customers to asses the performance. Alternatively, focus group sessions are held to gather performance input from a group of customers.

Service quality is evaluated by perceptions only without importance weights according to formula (Seth et al, 2004).

$$\mathbf{SQ} = \sum_{j}^{k} = {}_{1}\mathbf{P}_{ij}$$

SQ = overall service quality;

k = the number of attributes;

P_{ij} = performance perception of stimulus I with respect to attribute j.

2.3.6 Ideal Value Model of Service Quality

In majority of the studies on service quality "expectation is treated as a belief about having desired attributes as the standard for the evaluation" (Mattsson, 1992). However, this issue needs to be examined in the light of other standards such as experience based, ideal, and minimum tolerable and desirable. The model argues for value approach to service quality, modelling it as an outcome of satisfaction process (Seth et al., 2004).

This value based model of service quality suggests the use of the perceived ideal standard against which the experienced is compared. The figure below shows that implicit negative disconfirmation on a pre-conscious value level is then hypothesised to determine satisfaction on a "higher" attitude level. The negative disconfirmation is the major determinant of consumer satisfaction, more attention should be given to cognitive process by which consumers' service concepts are formed and changed (Mattsson, 1992).

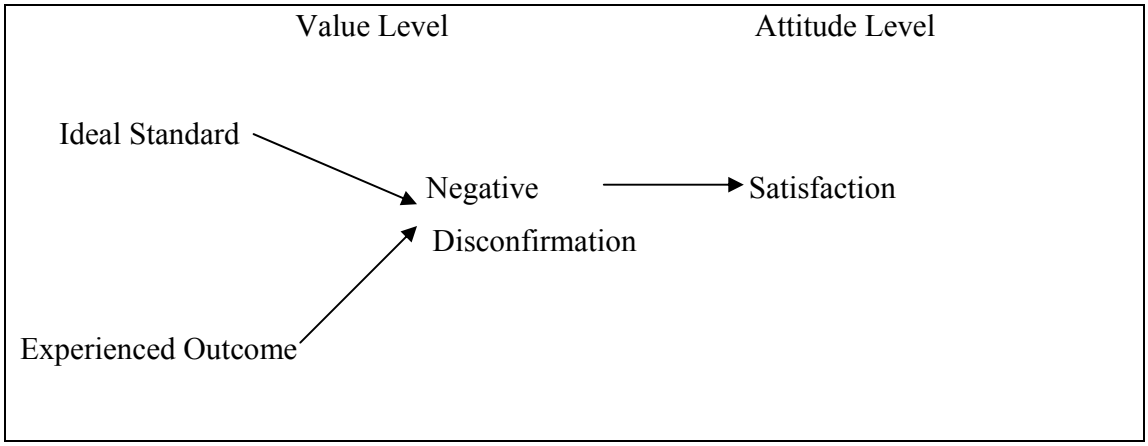


Figure 2.6 Value and Attitude in Negative Disconfirmation

Source: Mattsson, J. (1992), "A service quality model based on ideal value standard", *International Journal of Service Industry Management*, Vol. 3 No. 3, pp. 126-139.

2.3.7 Evaluated Performance and Normed Quality Model

According to Teas (1993), the conventional disconfirmation model has conceptual, theoretical and measurement problems. Teas (1993) pointed out those following issues in the measurement of service quality i.e. SERVQUAL (Parasuman et al. 1988) as: conceptual definition ambiguity; theoretical justification of expectations in the measurement of service quality; the usefulness of the probability specification in the evaluated performance (EP) measurement; and link between service quality and customer satisfaction/dissatisfaction.

Teas (1993), proposed the following two frameworks for service quality:

Evaluated Performance (EP) Framework: with the assumption that an individual evaluates objects i with perceived certainty and that object i has the constant amount of each attribute also with Minkowski space parameter equals to unity U(Teas, 1993). The perceived quality is modelled as:

$$Q_i = -1 \left[\sum_{J=1}^{m} w_j \left| (A_{jk} - I_j) \right| \right]$$

Q_i = The individual's perceived quality of object i.

w_j = Importance of attribute j as a determinant of perceived quality.
A_{ij} = Individual's perceived amount of attribute possessed by an object i.
I_j = The ideal amount of attribute j as conceptualised in classical point of attitudinal models.
m = Number of attributes.

With the assumption that perceived ability of the product to deliver satisfaction can be conceptualised as the product's relative congruence with the consumer's ideal product features (Teas, 1993).

Normed Quality Model: if an object i is defined as the excellence norm that is the focus of revised SERVQUAL concept; the above equations can be used to define the perceived quality in excellence norm Q_e in term of similarity between the excellence norm and the ideal objective with respect to "m" attributes. The quality of another object i, Q_i relative to the quality of excellence norm then normed by quality (NQ) is (Teas, 1993):

$$\mathbf{NQ = [Q_i - Q_e]}$$

NQ = Normed quality index for object i.
Q_e = The individual's perceived quality of excellence norm object.

For infinite ideal points, normed quality is:

$$\mathbf{NQ = \sum_{j=1}^{m} wj\ (A_{ij} - A_{ej})}$$

A_{ei} = individual's perceived amount of attribute "j" possessed by the excellence norm "e".

2.3.8 IT Alignment Model

Investments in information technology (IT) sectors are generally aimed at productivity of efficiency gains with little attention to improve customer service and long-run customer effectiveness (Berkley and Gupta, 1994).

Berkley and Gupta (1994) stated that the model in Figure 2.7 links the service and information strategies of the organisation. The figure describes the use of the IT for improving service quality through a number of case studies from variety of sectors i.e. banking, courier, and transportation, manufacturing and service industries.

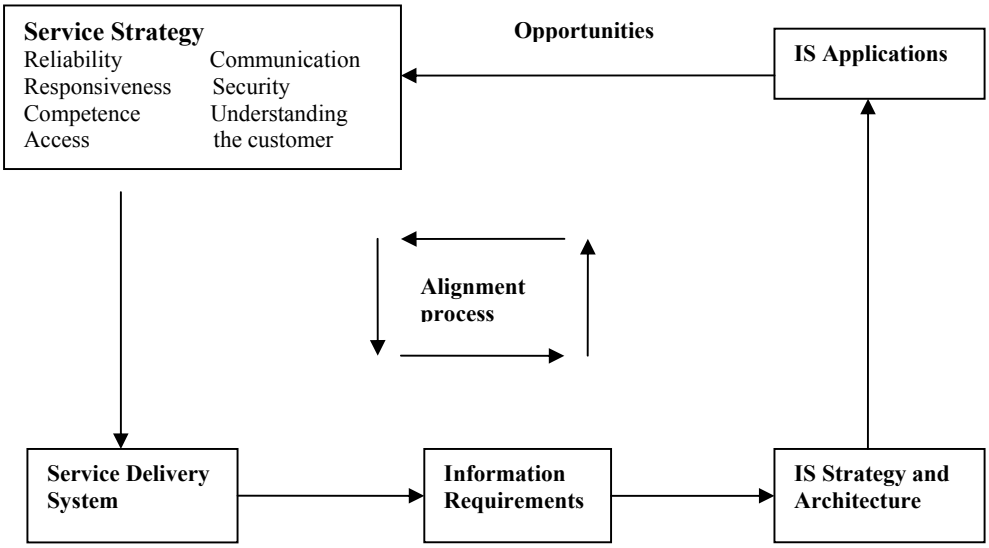


Figure 2.7 IT Alignment Model

Source: Berkley, B.J. and Gupta, A. (1994), "Improving service quality with information technology", *International Journal of Information Management*, Vol. 1, pp. 109-121.

According to Berkley and Gupta (1988), this model describes in detail where IT had been used to improve specific service quality dimensions including reliability, responsiveness, competence, access, communications, and security, understanding and knowing the customers. Through some case studies use of IT for quality control (collect

customer data, monitor operations and facilitate service) is also demonstrated. According to the model (Berkley and Gupta, 1988), it is important that service quality and information systems (IS) strategies must be tightly coordinated and aligned.

2.3.9 Attribute and Overall Affect Model

Dabholkar (1996) proposed two alternative models of service quality for technology-based self-service options. Self-service is becoming popular day by day owing to high cost of labour in service deliveries.

The attribute model (Figure 2.8(a)) is based on what consumers would expect from such option. It is based on cognitive approach to decision making, where consumers would use a compensatory process to evaluate attributes associated with technology based self service option in order to form expectations of service quality.

The overall affect model (figure 2.8(b)) is based on consumers' feeling towards the use of technology (Dabholkar, 1996). It is based on an effective approach to decision making where consumers would use overall predispositions to for expectation self-service quality for technology-based self-service option.
According to Dabholkar (1996), in both the models expected service quality would influence intentions to use technology-based self-service options.

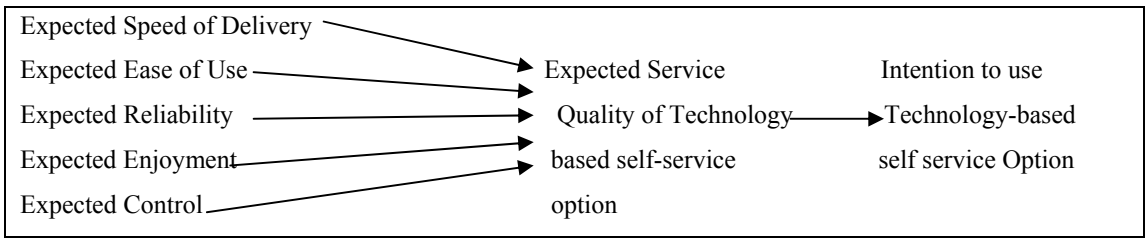


Figure 2.8(a) Attribute Based Model

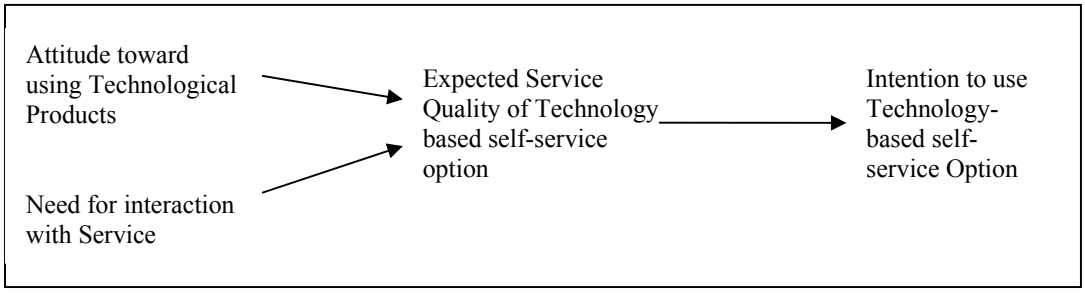


Figure 2.8(b) Overall Affect Model

Source: Dabholkar, P.A.; Thorpe, D.I; and Rentz, J.O (1996), "a measure of service quality for retail stores: Scale development and validation", *Journal of Academy Marketing Science*, Vol. 24 No. 1, pp. 3-16.

2.3.10 Model of Perceived Service Quality and Satisfaction

The model in Figure 2.9 attempts to enhance the understanding of constructs perceived service quality and customer satisfaction (Spreng and Mackoy, 1996). This model is modification to Oliver's (1993) model. The model highlights the effect of expectations, perceived performance desires, desired congruency and expectation disconfirmation on overall service quality and customer satisfaction (Spreng and Mackoy, 1996). These are measured through the set of ten attributes of advising (convenience in making an appointment, friendliness of the staff, advisor listened to my questions, the advisor provided accurate information, the knowledge of the advisor, the advice was consistent, advisor helped in long-range planning, the advisor helped in choosing the right courses of carrier, advisor was interested in personal life and offices were professional).

2.3.11 PCP Attribute Model

Philip and Hazlett (1997) proposed a model that takes the form of hierarchical structure – based on three main classes of attributes – pivotal, core and peripheral (Figure 2.10). According to the model, every service consist of three overlapping areas where the vast majority of the dimensions and concepts which have thus far been used to define service quality.

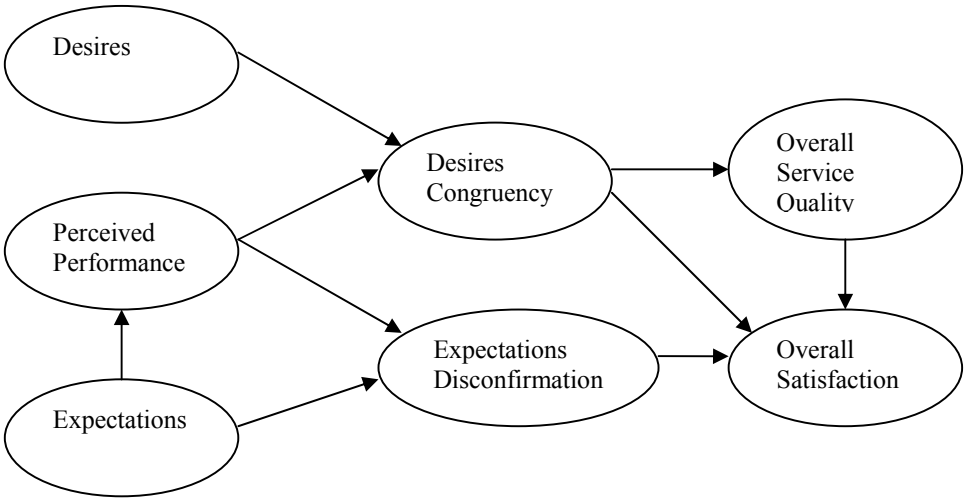


Figure 2.9 Satisfaction-Service Quality Model

Source: Spreng, S.A. and Mackoy, R.D. (1996), "An empirical examination of model of perceived service quality and satisfaction", *Journal of Retailing,* Vol. 722, pp. 201-14.

These ranked levels are defined as – pivotal (outputs), core and peripheral (jointly representing inputs and processes).

The pivotal attributes, located at core, are considered collectively to be the single most determining influence on why the consumer decided to approach a particular organisation and exert the greatest influence on the satisfaction levels (Philip and Hazlett, 1997). They are defined as the "end product" or "output" from the service encounter; in other words, what consumers expect to achieve and receive, perhaps even "take away, when the service process is dully completed.

Core attributes, centred on the pivotal attributes, can best be described as the amalgamation of the people, processes and the service organisational structure through which consumers must interact and/or negotiate so that they can achieve/receive the pivotal attribute (Philip and Hazlett, 1997).

According to Philip and Hazlett (1997), the third level of the model focuses on the peripheral attributes which can be defined as the "incidental extras" or frills designed to

add a “roundness” to the service encounter and make the whole experience for consumer to complete delight.

When a consumer makes an evaluation of any service encounter, he is satisfied is the pivotal attributes are achieved, but as the service is used more frequently the core and peripheral may began to gain importance.

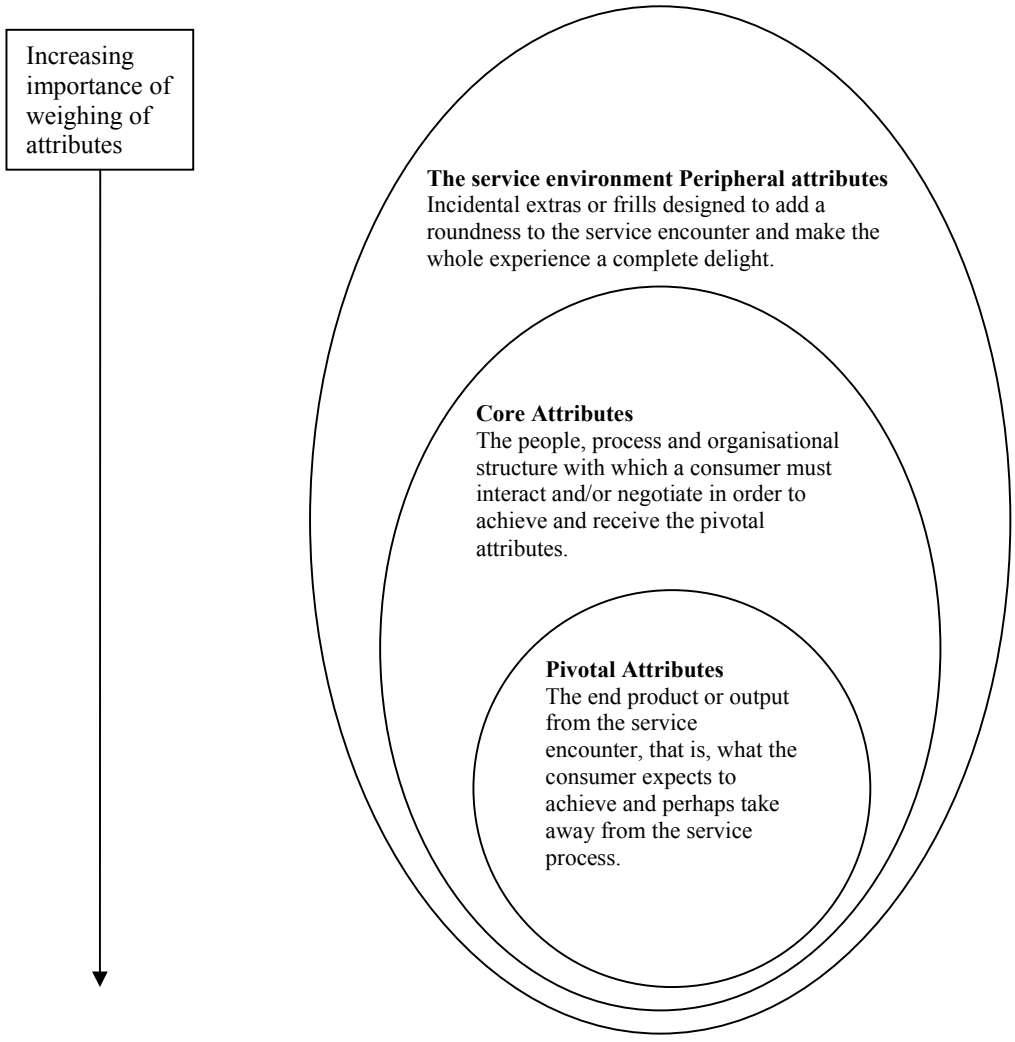


Figure 2.10 PCP Attribute Model

Source: Philip, G. and Hazlett, S.A. (1997), “The measurement of service quality: a new P-C-P attributes model”, *International Journal of Quality and Reliability Management*, Vol. 14 No. 3, pp. 260-86.

2.3.12 Retail Service Quality and Perceived Value Model

The influence of service quality on value and willingness to buy in a specific service encounters through two alternative models (Sweeney et al., 1997). Value can be defined as a comparison between what customers get and what they give, suggesting that value is a comparison of benefits and sacrifices (Zeithaml et. al., 1988). Value construct used in this model is "value for money" (Seth et. al., 2005).

Model 1: This model(Figure 2.11) highlights that in addition to product quality and price, perceptions, functional service quality and technical service quality perceptions both directly influence value perceptions (Sweeney et al., 1997).
Model 2: This model (Figure 2.12) highlights that in addition functional service quality perceptions directly influence consumers' willingness to buy (Sweeney et al., 1997). Functional service quality perceptions also influence technical service quality perceptions, which in turn influence product quality perceptions and neither or the two directly influence value perceptions.

According to Sweeney et. al. (1997), on analysis of modification, indicates for model 2 (being superior to model 1) it is possible to make significant improvement in this model (figure 2.11) by allowing technical service quality to influence perceived value directly.

2.3.13 Service Quality, Customer Value and Customer Satisfaction Model

Oh (1999), proposed an integrative model (Figure 2.12) of service quality, customer value and customer satisfaction. The proposed model focuses mainly on post purchase decision process. Arrows in the model indicate causal directions. The model incorporates key variables such as perception, service quality, consumer satisfaction, customer value and intentions to repurchase. . Finally word-of-mouth communication intention is conceptualised as a direct, combined function of perceptions, value, and satisfaction and repurchase intentions (Oh, 1999).

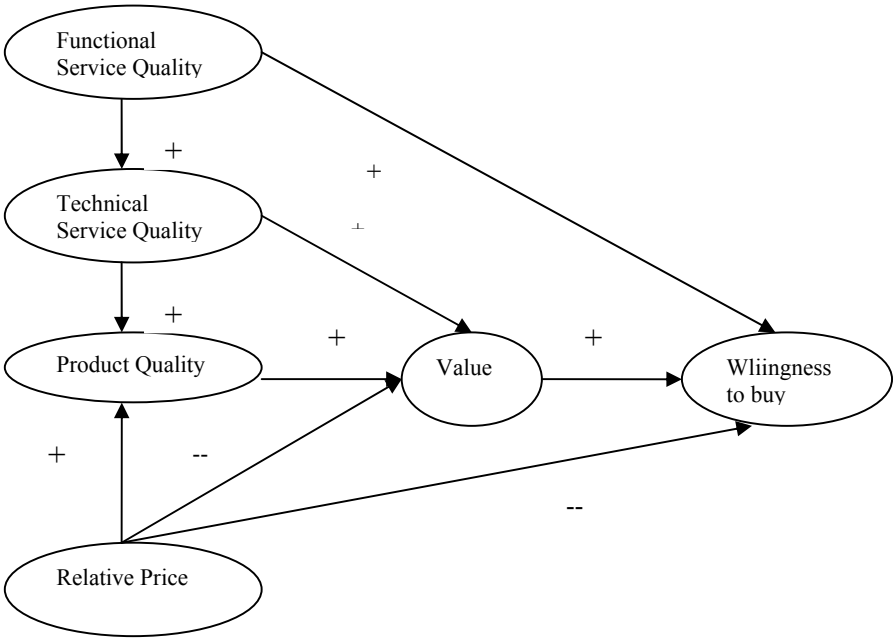


Figure 2.11 Modified Models

Source: Sweeney et. al. (1997)

The model provides evidence that customer value has a significant role in customer's post-purchase decision-making process. It is an immediate antecedent to customer satisfaction and repurchases intentions. Results also indicate that perceived price has a negative influence on perceived customer value and no relationship with perceived service quality (Oh, 1999).

2.3.14 Antecedents and Mediator Model

A comprehensive model of service quality depicted in figure 2.13, which includes an examination of antecedents, consequences and mediators to provide a deeper understanding of conceptual issues related to service quality (Dabholkar et al., 2000).

According to Dabholkar et. al. (2000), this model examines some conceptual issues in service quality as: the relevant factors related to service quality better conceived as

components or antecedents and the relationship of customer satisfaction with behavioural intentions.

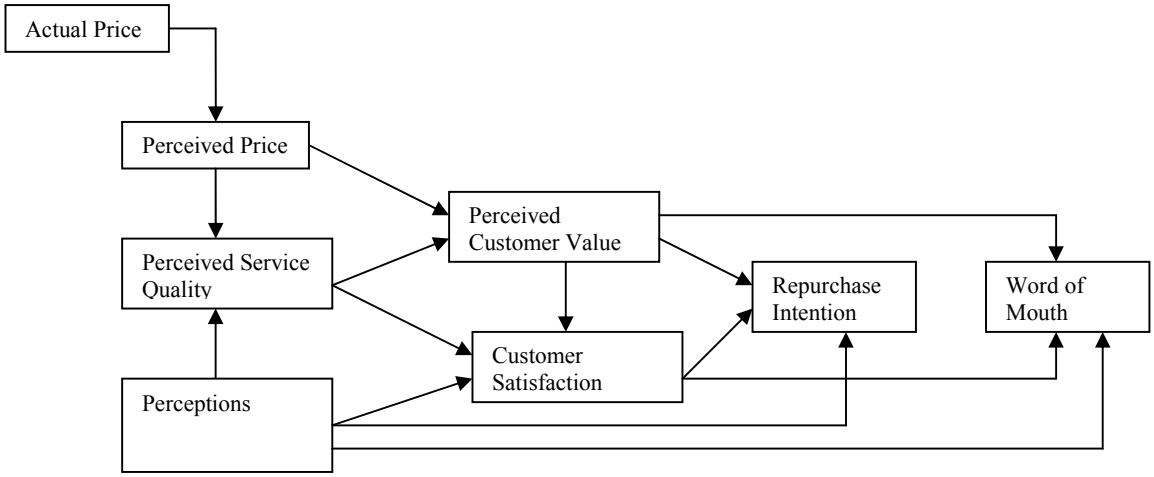


Figure 2.12 Model of service quality, customer value and customer satisfaction

Source: Oh, H. (1999), "Service quality, customer satisfaction and customer value: a holistic perspective", *International Journal of Hospitality Management*, Vol. 18, pp. 67-82.

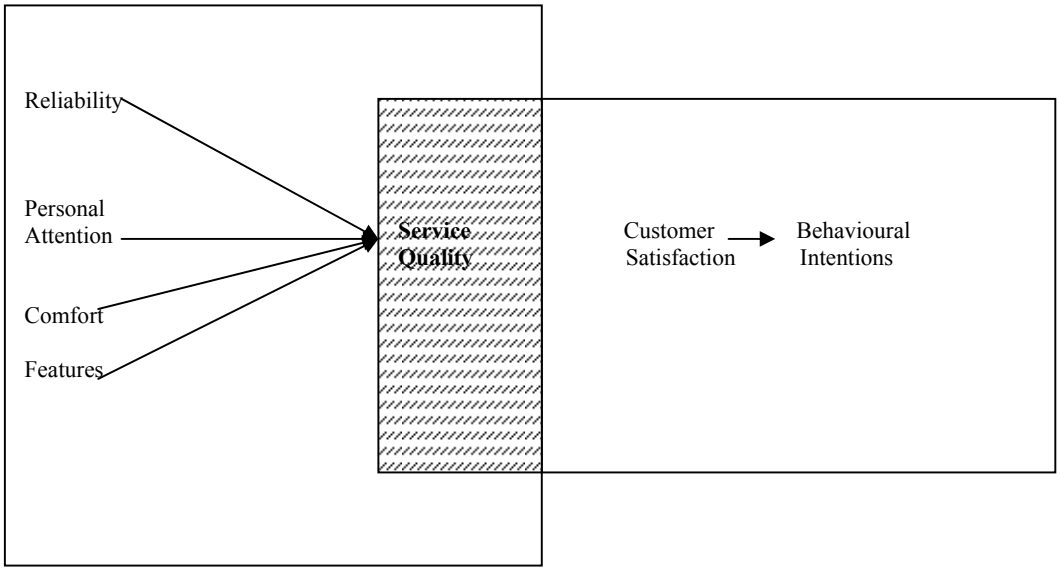


Figure 2.13 Antecedents and mediator model

Source: Dabholkar, P. A., Shepherd, C.D. and Thorpe, D.J. (2000), "a comprehensive framework for service quality: an investigation of critical conceptual and measurement issues through a longitudinal study", *Journal of Retailing*, Vol. 76 No. 2, pp. 131-9.

2.3.15 Internal Service Quality Model

Frost and Kumar (2000) have developed an internal service quality based on the concept of GAP model (Parasuman, et. al., 1985). The model (figure 2.14) evaluated the dimensions, and their relationships, that determine service quality among internal customers (front-line staff) and internal suppliers (support staff) within a large service organisation.

The internal gap 1 shows the difference in support staff's perception (internal supplier) of front-line staff's expectation (internal customers). Internal gap 2 is the significant difference between service quality specifications and the service actually delivered resulting in an internal performance gap. Internal gap 3 is the gap which focuses on the front line staff (internal customers). The gap is based on the difference between front-line staff's expectations and perceptions of support staff's (internal supplier) service quality (Frost and Kumar, 2000).

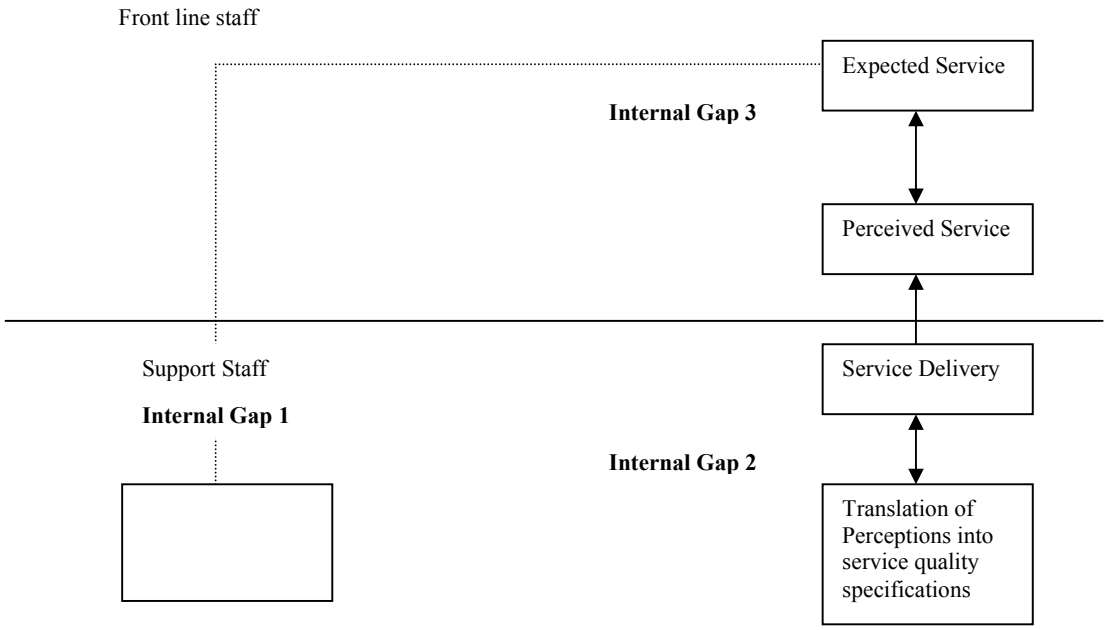


Figure 2.14 Internal Service quality model

Source: Frost, F.A. and Kumar, M. (2000), "INTSERVQUAL: an internal adaptation of the GAP model in a large service organisation", *Journal of Services Marketing*, Vol. 14 No. 5, pp. 358-77.

2.3.16 Internal Service Quality DEA Model

Service quality is an important factor that must be considered when assessing a bank branch performance. The branch may report high volume of products and services offered as well as profits, but lose its long-term advantage owing to eroding service quality (Soteriou and Stavrinides, 2000).

Soteriou and Stavrinides (2000) presented a service quality model that can be used to provide directions to a bank branch for optimal utilisation of its resources. The model does not aim to develop the service quality measures, rather guides how such measures can be incorporated for service quality improvements. The model points out resources that are not properly utilised. The inputs to model consist of two sets: consumable resources such as personnel, space, time etc. and the number of accounts in different categorises. The output of the model is the level of service quality perceived by the personnel of the branch. The data envelope analysis (DEA) model (figure 2.15) compares branches on how well they transform these resources (inputs) to achieve their level of service quality (output) given the client base. The DEA model will identify under-performers and suggest ways for their improvement.

The input minimisation DEA model will provide information on how much could the consumables resources be reduced while delivering the same level of service quality, while the input maximisation DEA model will provide information on how such service quality can be improved using the same consumable resources (Soteriou and Stavrinides, 2000).

2.3.17 Internet Banking Model

One of the key challenges of the internet as a service delivery channel is how service firms can manage service quality as these remote formats brings significant change in customer interaction and behaviour.

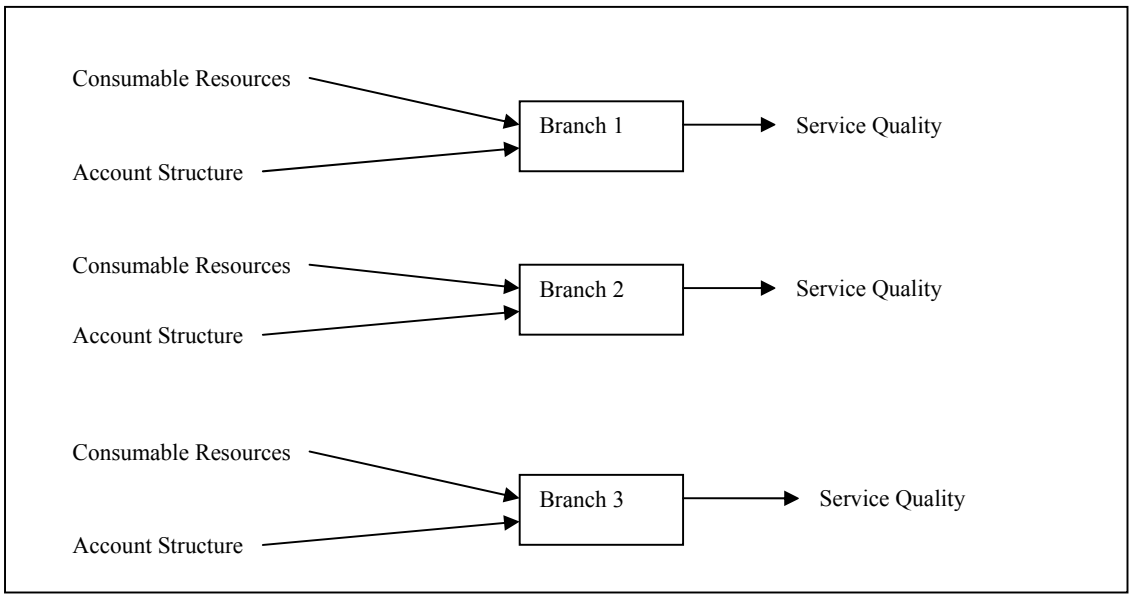


Figure 2.15 Data Envelope Analysis Service Quality Model

Source: Soteriou, A.C. and Stavrinides, Y. (2000), "An internal customer service quality data envelope analyses for bank branches", *International Journal of Bank Marketing*, Vol. 18 No. 5, pp. 246-52.

The study that is being conducted by Broderick and Vachirapornpuk (2002) proposes and tests a service quality model of internet banking (figure 2.16). The research uses a participant observation and narrative analysis of UK internet web site community to explore how internet banking customers perceive and elements of this model. In the context of internet, five key elements are treated as central influences on perceived service quality: They are: customer expectations of the service; the image and reputation of the service organisation; aspects of the service setting; the actual service encounter, and customer participation (Broderick and Vachirapornpuk, 2002).

2.3.18 IT Based Model

According to Zhu et al., (2002) the model highlights the importance of information technology (IT)-based service options. Service providers are using IT-based service options to traditional service dimensions.

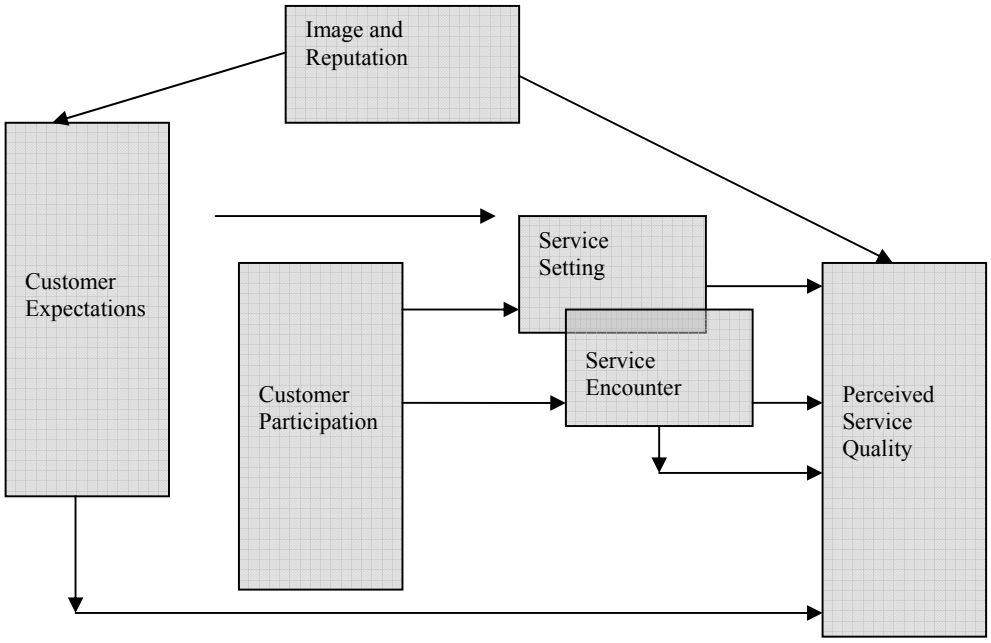


Figure 2.16 Model of Service Quality in Internet Banking

Source: Broderick, A. J. and Vachirapornpuk, S. (2002), "Service quality in internet banking; the importance of customer role", *Marketing Intelligence & Planning*, Vol. 20 No. 6, pp. 327-35.

The model attempts to investigate the relationship between IT- based services and customers' perceptions of service-quality (Zhu et. al., 2002). The IT-based service construct is linked to service quality measured by SERVQUAL (Parasuman et. al., 1988, 1991). Several key variables affecting customers' view of IT-based services are identified and depicted in figure 2.17.

The model focuses on the linkages among the service dimensions as measured by SERVQUAL, the constructs representing the IT-based service quality, preferences towards traditional services, experiences in using IT-based services and perceived IT policies. The impacts of these constructs on perceived service quality and customer satisfaction are also specified (Zhu et. al., 2002).

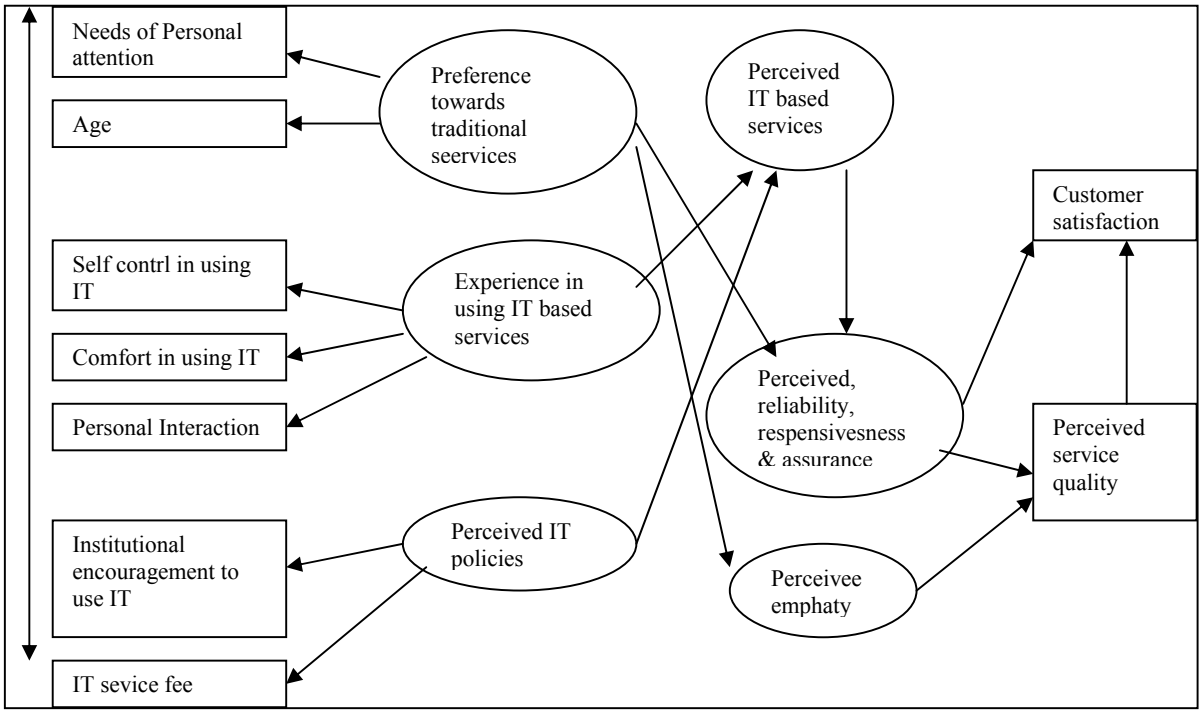


Figure 2.17 Information Technology-Based Service Quality Model

Source: Zhu, F. X., Wymer, W.J. and Chen, I. (2002), "IT-based services and service quality in consumer banking", *International Journal of Service Industry Management*, Vol. 13 No.1, pp. 69-90.

2.3.19 Model of e-service Quality

Service quality is one of the key factors in determining the success or failure of electronic commerce. E-service can be defined as the role of service in cyber place (Rust and Lemon, 2001).

The study that had been conducted by Santos (2003) proposes a conceptual model of e-service quality (figure 2.18) with its determinants. It is proposed that e-service quality have incubative (proper design of web site, how technology is used to provide consumers with easy access, understanding and attractions of web site) and active dimensions (good support, fast speed, and attentive maintenance that a web site can provide to its customers) for increasing hit rate, stickiness, and customer retention (Santos, 2003).

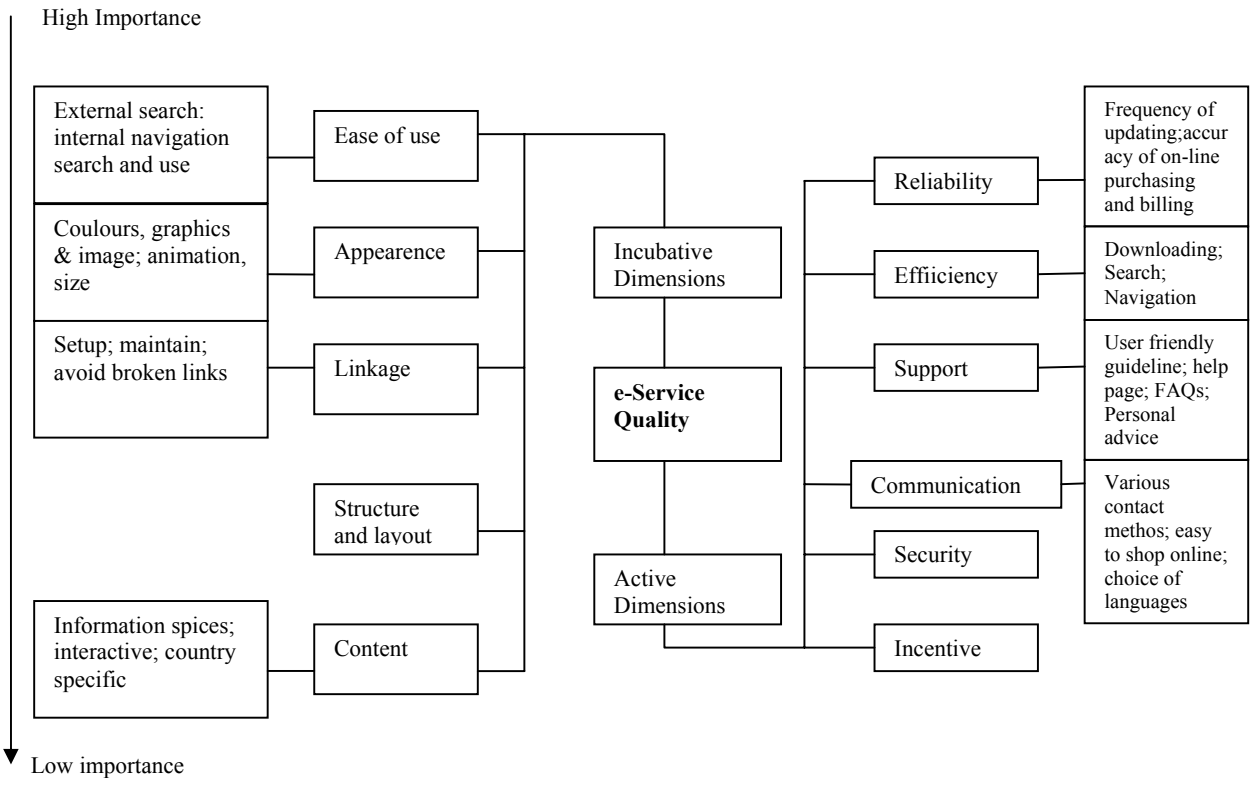


Figure 2.18 e-service quality models

Source: Santos, J. (2003), "E-service quality: a model of virtual service quality dimensions", *Managing Service Quality*, Vol. 3 No. 3, pp. 233-46.

2.4 Observation and Evaluation of Service Quality Model

Owing an importance of service quality, there has been a systematic development of a variety of concepts and models (Seth et. al., 2004).

2.4.1 Linage of Service Quality Models

The growth of literature in the field of service quality seem to have developed sequentially, providing continuous updating and learning from the finding/observations of predecessors (Seth et. al., 2004).

Grönroos (1984), observed that word-of-mouth has a more substantial impact on potential customers than traditional marketing activities, and also highlighted that the need for service quality reached based on consumers' views (SQ 1) . Later Parasuman et. al. (1985) modelled service quality as a gap between consumer and marketer sides at different levels, using word-of-mouth as a key contributor to the expected service (SQ 2). Later, Parasuman et. al. (1988; 1991) developed and revised service quality measurement tool, SERVQUAL. This gap model and SERVQUAL as a base was used (Frost and Kumar, 2000), for internal service quality modelling (SQ 15).

Brogowicz et. al. (1990) (SQ 4), developed a synthesised model of service quality taking the inputs from above two models (SQ1 and SQ 2).

The measurement of service quality through gap model and SERVQUAL was criticised by:

- Cronin and Taylor (1992) (SQ 5) and Teas (1993) (SQ 7) and they proposed SERVPERF (a service quality measuring perceptions only) and Evaluated Performance (EP) model respectively. This was again criticised by Parasuman et. al. (1994), and further counter-acted by Cronin and Taylor (1994) and Teas (1994).
- Haywood-Farmer (1988) (SQ 3), Philip and Hazlett (1997) (SQ 11) developed attribute service quality models.

Cronin and Taylor (1992) pointed out that service quality is an antecedent of consumer satisfaction, which has a significant on purchase intentions. This led to the development of model of perceived service quality and satisfaction (Spreng and Mackoy, 1996) (SQ 10). Dabholkar et. al. (2000) further examined the relationship between two constructs and proposed antecedents and mediator model (SQ 14).

Cronin and Taylor (1992) pointed out that consumers don't always buy best quality service, they might instead purchase on the basis of their assessment of value of service. This highlighted the importance of "value" and thus acts as a motivating point for researchers to include/model value for improvement/understanding of service quality.

Mattson (1992) (SQ 6); Sweeney et. al. (1997) (SQ 12) and Oh (1999) (SQ 13) developed models incorporating the value construct.

Furey (1991) suggests that IT can help to enhance service quality by increasing convenience, providing extra services, and collecting performance information for management use. The increased importance of IT motivated researchers to understand better how service customers evaluate IT-based services and how their evaluations affect their perceptions of the overall service quality of the service provider and their own satisfaction. This led to the related developments of models by Berkley and Gupta (1994) (SQ 8); Dabholkar (1996) (SQ 9); Broderick and Vachirapornpuk (2002) (SQ 17); Zhu et. al. (2002) (SQ 18), and Santos (2003) (SQ 19). It seems that practitioners required an approach to maximise service quality with available inputs, and this led to the development of DEA-based model (Soteriou and Stavrinides, 2000) (SQ 16). The systematic linage between the 19 service quality models is depicted in figure 2.19.

Majority of models and definitions support the view of evaluating service quality by comparing their service quality expectations with their perceptions of service quality they experienced. The evaluation of the models as identifying their finding and weaknesses are presented in Table 2.1.

GAP model and SERVQUAL tool seems to draw much support from researchers (Akan, 1995; Avkiran, 1994; Babakus and Mangold, 1992; Bojanic, 1991; Carman, 1990; Finn and Lamb, 1991; Johns and Tyas, 1996; Johnson and Sirikit, 2002; Saleh and Ryan, 1991) but the general structure (RATER) as proposed by Parasuman et. al. (1988) is debated by many researchers (e.g. Rosen and Karwan, 1994). Also there are debates for P-E measurement of service quality and in favour of SERVPERF (Cronin and Taylor, 1992; Babakus and Boller, 1992; Gotlieb et. al., 1994; Hartline and Ferrell, 1996). For detailed review one may refer to the works of Asubonteng et. al. (1996) and Buttle (1996). Seth et. al. (2004) stated that, appreciating the importance and significance of the SERVQUAL, the models reported in this review can be classified as:

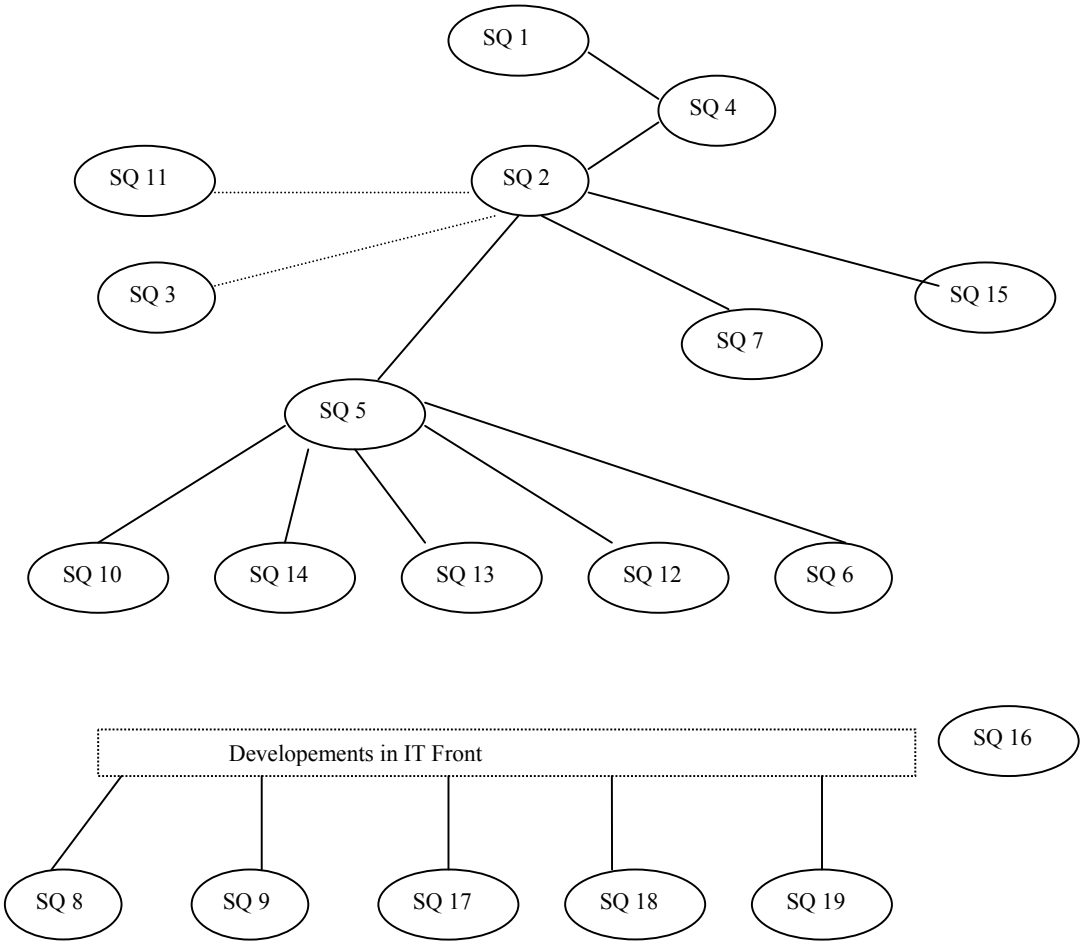


Figure 2.19 Linage of service quality models

Source: Source: Seth, N., Deshmukh, S.G. and Vrat, P. (2005), "Service Quality Models: a review", *International Journal of Quality and Reliability management*, Vol. 22 No. 9, pp. 935-938.

Category A. Gap Model/SERVQUAL based:

- The models under this category are those models, which are developed either using gap model or its modification as base or scale using SERVQUAL items or its modification for measurement of service quality (Seth et. al., 2004).

Category B. Other Models:

- The other models which are different from the gap model.

Table 2.3 presents an attempt to map the models based on the factors given in the earlier sections. It is clear from the review that none of the models carters to the factors highlighted in that section, and so this demands research in this direction (Seth et. al., 2004).

Based on the survey of the literature that was conducted by Seth et. al. (2004), some research issues have identified (which require) attention from researchers and practitioners. These research issues may be categorised as (Seth et. al., 2004):
Category I: Relation between various attributes of service
Category II: Role of technology such as IT
Category III: Measurement issues.

Table 2.3 attempts to highlight these issues with reference to 19 models surveyed.

Category I: relation between various attributes of service

Quality of service is affected by and affects a number of variables such as value, attitude, expectations and aspirations etc. These variables may also guide the purchasing behaviour, financial performance, etc. (Seth et. al., 2004).

Category II: role of technology such as IT

Technology plays an important role in improving quality of service. IT initiatives such as EDI (electronic data interchange), POS (point of sales) information systems and systems such as ERP (enterprise resource planning) may act as an enable for value enhancement. The following issues may need further attention:

- What type of information system architecture is needed for effective delivery of quality service?
- How to listen to the voice of customer through information systems?
- How frequently the information systems need to collect data related to customer perceptions and his/her possible behaviour?

Category III: measurement issues

It is interesting to study measurement related issues. Often, the behaviour and outcomes may be guided by the way of quality of service being measured (Seth, et. al., 2004).

- How to quantify and measure quality of service?
- How to link quality of service *vis-à-vis* business performance? Is there any evidence to say that improved quality of service has enhanced financial performance of the organisation? How does one benchmark on various dimensions of services?

The study that was carried out by Seth, et. al. (2004) highlights the change in the process of delivery of service from conventional to IT-based services between years 1984-2003.

It was further observed by Seth, et. al. (2004)the service quality outcome and measurement is dependent on type of service setting, situation, time, need, etc. factors. In addition to this even the customer's expectations towards a particular services are also changing with respect to factors like time, increase in number of encounters with a particular service, competitive environment etc.

The above mentioned 19 service quality models highlighted various issues, debates, strengths and weaknesses pertaining to the models (Seth, et. al., 2004). It is noted that the models have a focus on only one link (i.e. either marketer to consumer or front-line staff to supporting staff). On the other side, researchers (Caruana and Pitt, 1997; Reynoso and Moores, 1995, etc) have continuously pointed out the positive correlation of internal service quality (considering all the processes and operations associated in delivery of product or service) with business performance and service quality delivered to the customer (including the distribution, marketing and other support functions).

From the study that was conducted by Seth et. al, (2004) related to the models, it appears that the key ingredients to service quality improvements are:

- Clear market and customer focus.
- Motivated staff.

- Clear understanding of concepts of service quality and factors affecting the same.
- Effective measurement and feed back system.
- Efficient implementation system.
- Efficient customer care system.

Measuring service quality actually is a difficult as it always deal with the individual's behaviour and as it is intangible and consumed at the time it is produced. This section explained all the models that are being used to measure the service quality. ın between all these, SERVQUAL model is one of the widely used model to measure service quality and this study will be conducted by using SERVQUAL scale, thus, this method will be explained in more detail in the section 3.

Table 2.I Summary of Service Quality Models

Model no./Type	Key Findings/applications	Select wealknesses/limitations
SQ1. Technical and functional quality model	Service quality depends on technical quality, functional quality and corporate image of the organisation in consideration. Functional quality is more important than technical quality	The model does not offer an explanation on how to measure functional and technical quality
SQ2. Gap Model	This model is an analytical tool. It enables the management to identify systematically service quality gaps between a numbers of variables affecting the quality of the offering. This model is externally focused. It is capable of assisting the management to identify the relevant service quality factors from the viewpoint of consumer.	Explatory Study The model does not explain the clear measurement procedure for the measurement of gaps at different levels.
SQ3. Attribute service quality model	This model provides a base of segregating service organisation on three dimensions for better management of quality. The model has the potential to enhance understanding of the concepts of service quality and help to guide about targeting towards the right customer segment This model is useful both in the design stage and periodically as the service and possibly customer taste evolve	It does not offer the measurement of service quality It does not offer a practical procedure capable of helping management to identify service quality problems or practical means of improving service quality
SQ4. Synthesised model of service quality	The use of this model and related managerial tasks can help managers to improve the success of their service offerings in any industry This model identifies key variables that require systematic management attention in planning, implementation, and controlling service-marketing strategies that prevent or minimise service quality gap.	Needs empirical validation Need to be reviewed for different type of service settings
SQ5. Performance only model	Service quality should be conceptualised and measured as an attitude The performance-based SERVPERF is efficient in comparison with SERVQUAL, as it directly reduces the number of items by 50 per cent and the results are better Service quality is an antecedent of consumer satisfaction and may have a better effect on purchase intentions than service quality	Need to be generalised for all type of service settings Quantitative relationship between consumer satisfaction and service quality need to be established

Model no./Type	Key Findings/applications	Select wealknesses/limitations
SQ6. Ideal value of service quality	This model incorporates and defines the importance of diverse components of the service encounter to be studied This model provides a new learning perspective on how an ideal standard can be formed and how it can be sustained mentally The model highlights attention to the importance of negative disconfirmation experience as a determinant for satisfaction outcome	Fewer number of items used for value and customer satisfaction Needs to be defined for all types of service settings
SQ7. EP and NQ model	The model raised a number of issues pertaining to conceptual and operational definitions of expectation and revised expectation The criterion and construct validity of the EP model was higher than both the SERVQUAL and NQ model	This model was tested for limited
SQ8. IT alignment model	This model describes how IT can be used to improve customer service along key service quality dimensions including reliability, responsiveness, competence, access, communication, security and understanding of the customer This model can help the organisations to realise the complete benefit of using information systems for delivering improved quality of service Allows managers to understand the commonly used technologies in their industry and determine appropriate technology suiting their requirements	It only highlights the impact of IT on service quality. The model does not offer a way to measure and monitor service quality The model is silent about the level of IT use for particular service settings.
SQ9. Attribute and overall affect model	The attribute-based model is favoured in forming the evaluations of service quality for technology-based self-service options The overall affect model is also supported but it does not add further explanatory power to the attribute-based model	Needs to be generalised fro different self-service options Effect of demographic variables price, physical environment etc. is not considered
SQ10. Model of perceived quality and satisfaction	This model shows that service quality and satisfaction are distinct and desires congruency does influence satisfaction A key determinant of service quality and customer satisfaction is meeting customer desires. Rising expectations has a positive effect on customer satisfaction perceptions of performance, but they also have a negative effect on satisfaction through disconfirmation	The model does not highlight how the service quality is achieved and Operationalise The model is weak in providing directions for improvement in service quality
SQ11. PCP attribute model	Provides a simple, effective and general framework of assessing service quality for any service sector Highlights the area of improvements for service quality depending on the frequency of encounter The dimensions of these three levels of attributes are individual sector-dependent and with reference to consumer	The model is lacking in providing general dimensions to three levels of attributes Lacks empirical validation

Model no./Type	Key Findings/applications	Select wealknesses/limitations
SQ12. Retail service quality and perceived quality	The technical service quality is an important contributor to product quality and value perceptions and hence influences willingness to buy Functional service quality has indirect influences on willingness to buy through product quality and value perception; however. It has influence on willingness to buy that is independent of product assessment (poor staff manners)	The model considers only value construct e.g. value for money Fewer number of items per construct is taken in this study
SQ13. Service quality, customer value and customer satisfaction model SQ14. Antecedents and mediator model	The model can be used as a framework for understanding consumer decision process as well as evaluating company performance This model provides directions and targets for customer-oriented company efforts Consumers evaluate different factors related to the service but also form a separate overall evaluation of the service quality (which is not straightforward sum of the components) The antecedent's model can provide complete understanding of service quality and how these evaluations are formed Customer satisfaction is a better predictor of behavioural intentions A strong mediating role was found, confirming that it is important to measure customer satisfaction separately from service quality when trying to determine customer evaluations of service	Model needs to be generalised for different types of service settings Model variables are measured through relatively fewer items Antecedents of customer satisfaction have not been explored The model measures behavioural intention rather than actual behaviour Needs to be generalised for different service settings
SQ15. Internal service quality model	The perceptions and expectations of internal customers and internal suppliers play a major role in recognising the level of internal service quality perceived	Need to be generalised for all types of internal environments Effect of changes in external environment on model is not considered
SQ16. Internal service quality DEA model	Indicates the resources, which can be better utilised to produce higher service quality levels	Need to be generalised for all types of internal environments Effect of changes in external environment on model is not considered Does not provide the measurement of service quality Model ignores other bank performance measures

Model no./Type	Key Findings/applications	Select wealknesses/limitations
SQ17. Internet banking model	Implication for the management of quality in internet banking service arises in two areas a) within the service interface and b) with the management of increased customer role The level and nature of customer participation had the greatest impact on the quality of service experience and issues such as customers' "zone of tolerance" and the degree of role understanding by customers and perceived service quality	Not much empirical work created out The model is based on the experience on one web site only, needs to be validated with other experiences
SQ18. IT-based model	IT-based services have a direct impact on reliability, responsiveness and assurance dimensions and an indirect impact on customer satisfaction and perceived service quality IT can help service providers achieve higher level of customer satisfaction The customer evaluation of IT-based services is affected by preference towards traditional services, past experience in IT-based services and perceived IT policies	Fewer number of items chosen to measure the feeling of self-control and comfort in using IT-based services Does not provide a measure of service quality of IT-based transactions
SQ19. Model of e-service quality	It provides a better understanding of e-service quality and, therefore, to achieve high customer retention, customer satisfaction, and profitability This e-service quality model can be assistance to all companies that engage e-commerce or plan to do so	Exploratory study Model did not provide specific measurement scales No statistical analysis carried out

Source: Source: Seth, N., Deshmukh, S.G. and Vrat, P. (2005), "Service Quality Models: a review", *International Journal of Quality and Reliability management*, Vol. 22 No. 9, pp. 935-938.

Table 2.2 Categorisation and Salient Features of the Service Quality Models

S. no.	Category of model	Author (year)	Model	Respondents/test audience	Method of collection data	Scale used	Methods of analysis	Measurement of service quality addressed through
SQ2	A	Parasuman et. al. (1985)	Gap model	Ranged from 298 to 487 across companies/telephone co., securities brokerage, insurance co., banks, repair and maintenance	Survey questionnaire approach	Seven point Likert	Principal-axis factor followed by oblique rotation	** Ten dimensions (reliability, security, responsiveness, access, communication, tangibles, courtesy, creditability, competence, understanding/knowing)
SQ4*		Brogowicz et. al. (1990)	Synthesised model of service quality	----------	*	*	Analysis not reported	Through technical and functional quality defining planning, implementation and controlling tasks
SQ5		Cronin & Taylor (1992)	Performance only model	660/banking, pest control, dry-cleaning and fast food	Survey questionnaire approach	Seven-point semantic differential	Principal-axis factor followed by oblique rotation & LISREL confirmatory	22 items same as SERVQUAL but with performance only statements
SQ7		Teas (1993)	Normed quality and evaluated performance model	120/randomly selected from discount stores	Personal interview	------	Qualitative assessment, correlation and t-test	Limited subset of SERVQUAL items, (two items of each five dimensions)
SQ12		Sweeney et. al. (1997)	Retail service quality and perceived value model	1,016 respondents/electrical appliances stores	Survey questionnaire method	Seven-point semantic differential scale	Confirmatory, factor analysis using LISREL VIII	Functional quality through five SERVQUAL items and technical quality through one SERVQUAL item
SQ14		Dabholkar et. al. (2000)	Antecedent mediator model	397 undergraduate and postgraduate students	Telephonic interviews (conducted twice)		Regression structural equation modelling	Through measurement of reliability, personal attention, comforts and features.

							using LISREL	
S. no.	Category of model	Author (year)	Model	Respondents/test audience	Method of collection data	Scale used	Methods of analysis	Measurement of service quality addressed through
SQ6		Mattsson (1992)	Ideal value model	40 guests while checking in and checking out/two large luxury hotels	Survey questionnaire approach	Seven-point Likert	Pearson moment correlation, pair wise intra- and inter-sample median test and Chi square test	Through 18 items of value and nine items of customer satisfaction
SQ8		Berkley and Grupta (1994)	It alignment model		*	*	Analysis not reported	The model does not cover the measurement of service quality
SQ9		Dabholkar et. al. (1996)	Attribute and overall affect model	505 undergraduate students/fast food setting	Scenario and questionnaire approach	Seven-point Likert	Confirmatory factor analysis and structured equation modelling using LISREL VII	Through three items measuring expected service quality specifically of ordering situation
SQ10		Spreng and Mackoy (1996)	Perceived quality and satisfaction model	273 undergraduate students	Survey questionnaire approach	Seven-point Likert	Confirmatory factor analysis and structured equation modelling using LISREL	Through desires, perceived performance, expectations, and desired congruency (each comprising ten attributes)
SQ11*		Philip and Hazlett (1997)	PCP attribute model		*	*	Analysis not reported	Pivotal attributes, core attributes and peripheral attributes
SQ 13		Oh (1997)	Service quality, customer value and customer satisfaction model	545/two luxury hotels	Survey questionnaire approach	Six-point	Path analysis using LISREL VIII	Through single item for perceived price and eight items for perceptions for hotel settings
S. no.	Category	Author	Model	Respondents/test	Method of	Scale used	Methods of	Measurement of service

	of model	(year)		audience	collection data		analysis	quality addressed through
SQ17		Broderick and Vachiraporn puk	Internet banking model	160 incidents on 55 topic episodes posted/UK internet web site community	Participant observation and narrative analysis		Qualitative approach	Through service settings, service encounter, customer expectations and image
SQ19		Santos (2003)	E-service quality model	30 focus groups comprising six to ten members	Focus group interviews/ discussion		Qualitative approach	Through incubative and active dimensions
Notes: *mainly conceptual models, not tested/validated; Category A: Gap model/SERVQUAL-based; Category B: other models; ** later in 1988 and 1991 the authors proposed and revised 22-item, five dimension service quality measurement tool SERVQUAL.								

Table 2.3 Evaluation of Service Quality Models

	Model																		
Items	SQ1	SQ2	SQ3	SQ4*	SQ5	SQ6	SQ7	SQ8*	SQ9	SQ10	SQ11	SQ12	SQ13	SQ14	SQ15	SQ16	SQ17	SQ18	SQ19
Identification of factors affecting service quality	♦	♦		♦	♦	♦	♦		♦	♦	♦	♦	♦	♦	♦				♦
Suitability for variety of services in consideration	♦	♦	♦		♦									♦					
Flexibility to account for changing nature of customers' perception	♦			♦							♦		♦		♦			♦	
Directions for improvement in service quality	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
Suitability for developing a link for measurement of customer satisfaction					♦	♦	♦			♦			♦	♦				♦	
Diagnosing the needs for training and education of employees		♦		♦	♦			♦						♦					
Flexible enough for modifications as per the changes in the environment/conditions		♦	♦		♦		♦				♦	♦		♦	♦				
Suggests suitable measures for improvements of service quality both upstream and down stream the organisation in focus	♦		♦	♦		♦		♦		♦	♦	♦					♦		
Identifies future needs (infrastructure, resources) and thus provide help in planning				♦				♦	♦		♦		♦		♦		♦	♦	
Accommodates use of IT in services								♦	♦							♦	♦	♦	♦
Capability of being used as a tool for benchmarking	♦	♦	♦	♦	♦	♦	♦				♦			♦	♦	♦			

Note: * conceptual model

Source: Seth, N., Deshmukh, S.G. and Vrat, P. (2005), "Service Quality Models: a review", *International Journal of Quality and Reliability management*, Vol. 22 No. 9, pp. 940-942.

Table 2.4 Select research issues related to various service quality models

Model no./type	Category	Select research issues
SQ1. Technical and functional quality model	I	How technical and functional quality influences a service delivered and how the customer perceive these dimensions
SQ2. GAP model	III	How to measure the gaps at different levels using a standard measurement tool. What are the factors affecting gaps? Whether these gaps differ from industry to industry.
SQ3.attribute service quality model	III	How to measure service quality in a particular service encounter using this model. On what attributes it depends and how to determine relative importance of attributes for service encounter
SQ4. Synthesised model of service quality	I	What factors contribute to the information and feedback, design, implementation and communication gaps? How service managers can minimise the gaps through the performance of planning, implementation and control tasks
SQ5. Performance only model	I	What is the role of value in the determination of service? How value affects the purchase decisions
SQ6. Ideal value model	I	What is the cognitive process by which consumer service concepts are formed and changed?
SQ7. EP and NQ model	I	How to generalise the EP model results for all type of service settings, whether change in the type of service needs re-examination of model.
SQ8. IT alignment model	II	How IT can enhance customer satisfaction. Whether the investment in IT depends on competition, market growth and other similar factors. How much to invest and up to what level IT should be used.
SQ9. Attribute and overall affect model	II	What is the role of attitude and behaviour towards using a technology on expectations of service quality?
SQ10. model of perceived quality and satisfaction	I	How to determine the balance between positive and negative effect of expectations
SQ11. PCP attribute model	III	What should be weighing of this level of attributes? On what factors it depends? Whether this changes with the type of service settings
SQ12. Retail service quality and perceived value	I	What is the impact of functional value, emotional value and social value on product quality, perceived price, and value for money and willingness to buy?
SQ13. Service quality, customer value and customer satisfaction model	III	What are the measurement issues associated with perceived value and customer satisfaction? Whether the determinants of perceived value and customer satisfaction change with type of service settings
SQ14. Antecedents and mediator model	I	What is the role of actual behaviour and actual repurchase on predictive power of service quality and customer satisfaction evaluation? What are the antecedents of customer satisfaction, whether these are correlated with antecedents of service quality

Model no./type	Category	Select research issues
SQ15. Internal service quality model	III	Which of the SERVQUAL dimensions is most important in measurement of internal service quality? Whether responsiveness plays a bigger role than reliability for all types of service settings
SQ16. Internal service quality DEA model	I	Can data envelope analysis be used as a tool to drive the linkage between service quality, profitability and operating efficiency? What will be the impact on model of other performance measures included as output?
SQ17. Internet banking model	II	Whether the model can be applied to other internet service encounters. Whether the interrelation of entities will change with the change in demographic variables.
SQ18. IT-based mode	II & III	How to measure service quality of IT-based transactions.
SQ19. Model of e-service quality	II & III	What are the items of the determinants considered in the model and how to measure e-service quality? Whether there will be change in the study with type of business (goods, different types of sites etc.)
Notes: Category I: general relation between various attributes of service; Category II: role of technology such as IT; Category III: measurement issues.		

Source: Seth, N., Deshmukh, S.G. and Vrat, P. (2005), "Service Quality Models: a review", *International Journal of Quality and Reliability management*, Vol. 22 No. 9, pp. 940-942.

CHAPTER 3 INTRODUCTION TO SERVQUAL

3.1 Introduction

Health care services have become increasingly customer oriented in the past decade primarily in response to increasing competition within the industry and increasing tendencies to file malpractice suits (Brown and Swartz, 1989; Swartz and Brown, 1989). For the success of health care organisations, accurate measurement of health care quality is as important as understanding the nature of delivery system. Without a valid measure, it would be difficult to establish and implement appropriate tactics and strategies for service quality management (Lee, *et*. al., 2000).

The most widely known and discussed scale for measuring service quality is SERVQUAL (Parasuman, Zeithaml and Berry, 1988).

Ovretveit (1992) distinguishes between professional service quality which must be assessed by clinical peers and which includes clinical aspects of service delivery such as diagnosis, treatment and competence of service professional; and client quarterly which relates to the patients' (and carers') perceptions of service delivered.

The disconfirmation "paradigm" (Oliver, 1980; Cadotte, *et*, al., 1987; Johnston and Clark, 2001) has become generally accepted as the departure point for modelling the concept. In essence, this is the view that perceived service quality is measured in terms of the match between customers' expectation of service and their perception of then actual service delivered.

Having defined the concept of service quality, researches needed to develop a sound measure of the construct. What service attributes require improvement in order to enhance quality? What degree or amount of improvement is required? How can the impact of service quality improvement efforts be assessed? Unlike the goods quality, which can be measured objectively by such indicators as durability and number of

defects (Crosby, 1979; Garvin, 1983), service quality is an abstract, an elusive construct (Parasuman *et*. al., 1985), and distinctive construct (Fayek, 1996). Service quality is intangible and heterogeneous (i.e. every consumers' service experience varies) (Valerie *et*. al, 2004). Further, the production and consumption of service quality are inseparable; service is "produced" by the firm and "consumed" by the customer at the time of service encounter (Parasuman *et*. al., 1985). In the absence of objective measures, one has to rely on survey-based measures. Given those characteristics survey-based measures are most suited to measuring service quality.

The most popular measure of service quality is SERVQUAL, an instrument developed by Parasuman *et*. al, (1985; 1988). Not only has research on this instrument been widely cited in marketing literature, but also its use in industry has been quite widespread (Brown et. al. 1993; Asubonteng, et. al; 1996).

SERVQUAL provides a technology for measuring and managing service quality. Since 1985, when the technology first published its innovators Parasuman, Zeithaml and Berry have further developed, promulgated and prompted the technology through a series of publications (Parasuman *et*. al. 1985; 1986; 1988; 1990; 1991a; 1991b; 1993; 1994; Zeithaml *et*. al. 1990; 1991¸1992; 1993; Buttle, 1995).

By January 1992-1994 SERVQUAL has been a keyword in just 41 publications in a variety of industrial, commercial and not-for-profit settings (Buttle, 1995). Published studies include tyre retailing (Carman, 1990), dental services (Carman, 1990), hotels (Saleh and Ryan, 1992), travel and tourism (Fick and Ritch, 1991), car servicing (Couman and van der Wiele, 1992), business schools (Rigotti and Pitt, 1992), higher education (Ford *et*. al., 1993; McElwee and Redman, 1993), hospitality (Johns, 1993), business-to-business channel parties (Kong and Mayo, 1993), accounting firms (Freeman and Dart, 1993), architectural services (Baker and Lamb, 1993), recreational services (Taylor *et.* al., 1993**), hospitals** (Babakus and Mangold, 1992; Mangold and Babakus, 1991; Reidenbach and Sandifer-Smallwood, 1990, Soliman, 1992; Vandamme and Lewis, 1993; Walbridge and Delene, 1993; Bebko and Gang, 1995; Bovers et. al.,

1994; Clow *et*. al., 1995; Headley and Miller, 1993; Licata et. al., 1994; Lytle and Mokusa, 1992; O'Connor et. al. 1994; and Woodside et. al., 1989; Canel and Fletcher, 2001; Lam, 1997; Donthu, 1991; Berman-Brown and Bell, 1998; Scardina, !994; and Avkiran, 1999), airline catering (Babakus et. al., 1993a), banking (Kwon and Lee, 1994; Wong and Perry, 1991), apparel retailing (Gagliano and Hathcole, 1994) and local government (Scott and Shieff, 1993). Other settings include; dental school patient clinic, a business school placement centre, a tire store, and acute care hospital (Carman, 1990), independent dental offices (Mc Alexander *et*. al., 1994), at AIDS services agencies (Fusilier and Simpson, 1989; Walbridge and Delene, 1993); in large retail chains (such as kMart, Wal Mart and Target) (Teas, 1993), and banking, pest control, dry cleaning, and fast food restaurants (Cronin and Taylor 1992).

There have also been many unpublished SERVQUAL studies, such as; Buttle (1995) stated that service quality has become an important research topic because of its apparent relationship with costs (Crosby, 1979), profitability (Buzzell and Gale, 1987; Rust and Zahorik, 1993; Zahorik and Rust, 1992), customer satisfaction (Bolton and Drew, 1991; Boulding et. al., 1993), customer retention (Reicheld and Sasser, 1990); and positive word-of-mouth.

Swartz and Brown (1989) drew some distinctions between different views on service quality, drawings from work of Gronroos (1983) and Lehtinen and Lehtinen (1982) concerning the dimensions of service quality. "What the service delivers is evaluated after performance (Swartz and Brown,, 1989, p. 190). This dimension is called outcome quality by Gronroos (1983) and physical quality by Lehtinen and Lehtinen (1982). How the service is evaluated during delivery (Swartz and Brown, 1989, p. 190).,

3.2 Development and Refinement of SERVQUAL

To measure customer satisfaction with different aspects of service quality, Parasuman *et.* al. (1985) developed a survey research called SERVQUAL.

SERVQUAL is designed to measure service quality as perceived by the customer (Fayek, 1996; Asubonteng et. al., 1996, (Parasuman *et*. al., 1985).

SERVQUAL is presented by Parasuman *et*. al., (1985) as synthetic scale, with a correct level of reliability and validity, useful in many service situations. It allows that service company to determine the facets on which it has to work to improve global perception of its service quality. To develop this scale Parasuman *et.* al. (1988) and refined (1991) followed Churchill's (1979) procedure (Llosa *et*. al., 1998).

Parasuman *et.* al.(1985) is measure of service quality was based on Oliver's (1980) Disconfirmation Model. Oliver (1980) proposed that satisfaction is a function of the disconfirmation of performance from expectation (Lee, *et*. al, 2000), the disconfirmation model (Oliver, 1980) provides good relative indication how the service levels rate against similar competitors but lacks a quantitative foundation that can be used universally across industries (Baggs and Kleiner, 1996) and on the other hand SERVQUAL is founded on the view that customer's assessment of service quality is paramount. This assessment is conceptualised as a gap between what customer expects by way of service quality from a class of service provides, and their evaluations of the performance of a particular service provider (Buttle, 1995). Service quality is presented as a multidimensional construct (Buttle, 1995). In their original formulation Parasuman et. al (1985) identified ten components of service quality as (Buttle, 1996):

1. **Reliability:** includes consistency of performance and dependability. It also means that firm performs the service right first time and honours its promises. Specifically, it may involve ;
    - Accuracy of billing,
    - Performing service at designated area.

2. **Responsiveness:** concerns the willingness or readiness of employees to provide service. It may involve
    - Mailing a transaction slip immediately,

- Calling the customer back quickly,
- Giving prompt service (e.g. setting appointments quickly)

3. Competence: means possessions of the required skills and knowledge to perform the service, it includes;

- Knowledge and skill of the contact personnel,
- Knowledge and skill of the operational support personnel,
- Research capability of the organisation.

4. Access: involves approachability and ease of contact. It may mean:

- The service is easily accessible by telephone,
- Waiting time to receive service is not extensive,
- Convenient hours of operation and convenient location of service facility.

5. Courtesy: involves politeness, respect, consideration, and friendliness of contact personnel (including receptionists, telephone operations, etc.). It includes:

- Consideration of consumers' property.
- Clean and neat appearance of public contact personnel.

6. Communication: means keeping customers informed in language they understand, and listening to them. It may mean that the company has to adjust its language for different customers. It may involve:

- Explaining the service itself and how much the service will cost.
- Explaining the trade-offs between service and cost.
- Assuring the consumer that problem will be handled.

7. Creditability: involves the trustworthiness, believability, honesty. It involves having the customer's best interest at heart. Contributing to creditability is:

- Company name and reputation,
- Personnel characteristics of the contact personnel,

- The degree of hard sell involved in interactions with the customer.

8. Security: is the freedom from danger, risk or doubt. It may involve;

- Physical safety,
- Financial security and confidentiality,

9. Understanding/Knowing: the customer involves in making the effort to understand the customer's needs. It involves:

- Learning the customer's specific requirements,
- Providing individualised attention.

10. Tangibles: appearance of physical facilities, equipment, personnel and communication materials (Valerie, *et.*al., 2004). Include the physical evidence of the service,

- Physical facilities and appearance personnel,
- Tools and equipment used to provide the service,
- Physical representations of service, such as plastic credit card.

The SERVQUAL was produced following procedures for developing valid and reliable measures of marketing construct (Brown et. al., 1993). Parasuman, *et*. al. (1985) concluded from their study that consumers evaluated service quality by comparing expectations to performance on ten basic dimensions (Asubonteng, et. el., 1988). The scale (Parasuman, et. al., 1988) was developed by, first, writing a set of about 100 questions that asked consumers to rate a service in terms of both of expectations and of performance on specific attributes that were thought to reflect each of ten dimensions (Figure. 3.1). Next, the data were analysed by grouping together sets of questions that all appeared to measure the same basic dimension, such as reliability.

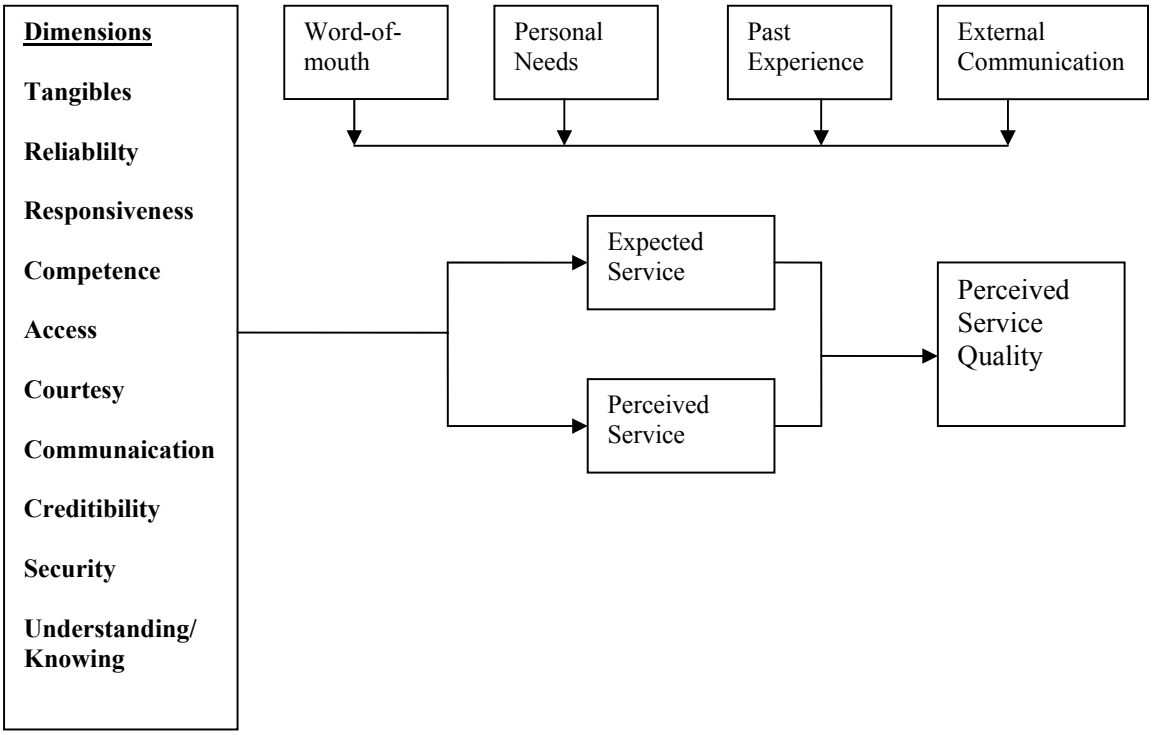


Figure 3.1 Customer Assessment of Service Quality Model

Source: Zeithaml et. al., (1990), Delivering Service Quality, Balancing Customer Perception and Expectation, The Free Press, New York, p.23

3.2.1 Potential Uses and Applications of SERVQUAL

The SERVQUAL scale can be used by the firms in the following ways (Valerie, *et* , al., 2004):

1. To determine the average gap score (Between customer perception and expectation) for each service attribute.
2. To assess a company's service quality along each of the five SERVQUAL dimensions.
3. To compute company's overall weighted SERVQUAL score that takes into account not only the service quality gap on each dimension but also relative importance of the dimension.

4. To track customers' expectations and perceptions (on individual service attributes and/or on the SERVQUAL dimensions) over time.
5. To compare a company's SERVQUAL scores against those of competitors.
6. To identify and examine customer segments that differs significantly in their assessments of a company's service performance.
7. To assess internal service quality (i.e., the quality of service rendered by one department or division of a company to others within the same company).

SERVQUAL is not a panacea for all service-quality measurement problems, nor should it be used b y the companies as a sole basis for assessing service quality. Rather, it should be viewed as a component of a more comprehensive service quality information system (Berry and Parasuman, 1991).

3.3 Dimensions and Statements of SERVQUAL Model

Through an empirical test, Parasuman et. al., (1988), calculated successive Alpha's Cronbach and oblique factor analyses, (Llosa et. al. 1998) and ten components were collapsed into five dimensions; Reliability, tangibles, responsiveness, assurance and empathy (Buttle, 1994). Reliability, tangibles and responsiveness remained distinct, but the remaining seven components collapsed into two aggregate dimensions, assurance and empathy. Parasuman et. al. developed a 22-item instrument with which to measure customers' expectation and perceptions (E to P) of the five RATER dimension. Four or five numbered items are used to measure each dimension (Buttle, 1994).

Parasuman et. al. used a scale composed of 22 items designed to load on five dimensions reflecting service quality as defined by its authors. Each item is used twice: first, to determine customer's expectations about firms in general, within the service category being investigated; second to measure perceptions of performance of a particular firm (Llosa et. al., 1998)

Table 3.1 Dimensions of Service Quality

Dimensions	Definition	Items in Scale
Reliability	The ability to perform the promised service dependably and accurately.	4 statements 5-9
Assurance	The knowledge and courtesy of employees and their ability to convey trust and confidence.	5 statements 10-14
Tangibles	The appearance of physical facilities, equipment, personnel and communication materials.	4 statements 1-4
Empathy	The provision of caring, individualised attention to customers.	5 statements 18-22
Responsiveness	The willingness to help customers and to provide prompt service.	4 statements 14-17

Source: Buttle, F. (1996), "SERVQUAL: review, critique, research agenda", *European Journal of Marketing*, Vol. 30. No.1, pp. 8-32.

The expectations scale measured the extent to which customers felt companies in the sector in question should possess a specified service attribute and the perceptions scale measured by the extend to which customers felt a given company did posses the attribute (Parasuman *et*. al., 1985).

SERVQUAL was revised later by Parasuman et. al. (1991) based on the result of an empirical study on five service companies. The differences of the revised version from the original version are as follows (Lee, et, al. 2000):

Firstly, wording of all expectation items changed (Buttle, 1994) since the "should" terminology in the original version might contribute to unrealistically high expectation scores, a slightly different wording was adopted. The 1988 version had attempted to capture respondent's normative expectations (Buttle, 1994) and revised wording focused

on what customer's would expect from companies delivering excellent services (Lee, et. al. 2000). For example, the statement, "Telephone companies *should* keep their records accurately", was modified to the statement "excellent telephone companies *will* insist on error-free records" (Lee, et. al., 2000; Buttle, 1994).

Second, detailed wording of many perceptions items have also changed. Two new items were substituted for two original items (Lee, et. al., 2000; Buttle, 1994). The tangibles item referred to the appearance of communication materials, to more fully capture the dimensions and to incorporate suggestions from managers (Lee. et.al. 2000). The assurance item referred to the knowledge of employees. Both references had been omitted in the 1988 version.
Third, the negatively worded items in the original version were all changed to a positive format.

There seems to be general agreement that service quality is a second-order construct, that is, it is factorially complex, being composed of several first-order variables (Babakus and Boller, 1992). SERVUAL is composed of the five RATER factors (Buttle, 1994).

The issue of the dimensions of service quality has concerned the number of basic dimensions that compromise service quality. Recall that Parasuman et. al. (1988) found that the 22 questions formed five dimensions. Some studies have found more than five dimensions, while other research has suggested fewer dimensions (see tables 3.3 and 3.4, Appendix 1 B)).
Regardless of disagreement, important findings across studies include support premises that:
Service attributes A_i $\longrightarrow$ Important Actions (behaviours) B_i

In health care, these "important actions" include willingness to return and willingness to recommend (Woodside *et.* al. 1989). Bowers *et*. al. (1994), and Reidenbach and Sandifer-Smallwood (1990) found out that SERVQUAL outcomes switching and word-

of-mouth behaviour were related to service quality. In addition, while there is no agreement on the exact linkages, attributes, and dimensions of quality and satisfaction, most researchers agree that service quality comprises attributes that are both measurable and variable (Asubonteng *et*. al., 1996).

SERVQUAL replications, carried out in different service activities, show that the number of dimensions of the service is not unique (Llosa *et*. al., 1998). Finn and Lamb (1991) found out that the dimensions change when customers estimate "product" services (department stores) instead of "pure" services (banks). The number of dimensions found in the different replications studied varies from three (McDougall and Levesque, 1992; Koelemeijer, 1991; Bouman and Van der Wiele, 1992) to nine as admission service, tangible accommodation, tangible food, tangible privacy, nursing care, explanation of treatment, access and courtesy, afforded visitors, discharge planning, and patient accounting (billing), (Carman (1990) (Llosa, 1998; Buttle, 1995). "Tangibles" dimension is found in all of these replications. Babakus and Mangold (1989) and Cronin and Taylor (1992, 1994) considered SERVQUAL as "unidimensional" because they do not confirm the scale structure (Llosa *et* .al., 1998; Buttle, 1994).

McDougall and Levesque's (1992) study is very interesting. Through factor analysis they found three following dimensions: Tangibles, Contract Performance and Customer-Staff Relationship. They conclude that Perceived service quality has two main facets, one representing the output quality, the other service process. This relates to the dimensions brought out by Gronross (1984).

Gronross (1984) identifies three components – technical, functional and reputational quality; Lehtinen and Lehtinen (1982) also identify three components – interactive, physical and corporate quality; Hedvall and Paltschik (1989) identify two dimensions – willingness and ability to serve and physical and psychological access; Leblanc and Nguyen (1988) list five components – corporate image, internal organisation, physical

support of the service producing system, staff/customer interaction, and the level of customer satisfaction (Buttle, 1994).

Five factors were distinguished in Saleh and Ryan's (1992) work in the hotel industry – conviviality, tangibles, reassurance, avoid sarcasm and empathy.
Four factors were extracted in Gagliano and Hathcte's (1994) investigation of service quality in the retail clothing sector – personal attention, reliability, tangibles and convenience.

Three factors were identified in Bouman and van der Wiele's (1992) research into car servicing customer kindness, tangibles and faith. The authors "were not able to find out the same dimensions for judging the service quality as did Berry et. al." (Buttle, 1994).
One factor was recognised by Babakus et. al.'s (1993b) survey. The authors advance explanation of this unidimensional result including the nature of the service, non-response bias and the use of a single expectation/perceptions gap scale.
Babakus and Boller (1992), commented that "the domain of service quality may be factorially complex in some industries and very simple and unidimensional in others, and they claimed that the number of service quality dimensions is dependent on particular service being offered.

Parasuman et. al (1991b) suggests two reasons for these anomalies. First, they may be the product of differences in data collection and analysis procedure. Spreng and Singh (1993) have commented on the lack of discrimination between several of the dimensions.
Parasuman et. al. (1988) has claimed that SERVQUAL: "provides a basic skeleton through its expectations/perceptions format encompassing statements for each of the five service quality dimensions. The skeleton, when necessary, can be adopted or supplemented to fit the characteristics or specific research needs of a particular organisation".

Parasuman et. al. (1988), also claimed that the final 22-item scale and its five dimensions have sound and stable psychometric properties. In the 1991 revision, Parasuman et. al. (1991 b) found evidence of "consistent factor structure….. across five independent samples". In 1991, Parasuman *et*. al. claimed that "SERVQUAL's dimensions and items represent core evaluation criteria that transcend specific companies in industries (Parasuman, 1991b).

More generally, measuring expectations with Likert scale overestimates the importance of several dimensions, for respondents do not have to make comparative judgement between the different dimensions of the scale.
This variability between dimensions can be first explained by the heterogeneity of the studied market areas. Two other reasons are given by Carman (1990) and McDougall and Levesque (1992). Experience and learning change both the nature and the number of dimensions (Llosa *et*. al., 1998).

3.3.1 Relative Importance of SERVQUAL Dimensions

The five SERVQUAL dimensions are a concise representation of the core criteria that customers employ in evaluating service quality (Zeithaml, *et*. al., 1990). According to a survey carried out by the authors in different industries; they made surveys on credit-card users, repair and maintenance, long-distance telephone and retail bank services to rate the importance of SERVQUAL dimensions. In their research they had used scale from 1 to 10. And also according to those respondents reliability is the most critical dimension and tangibles are the least important dimension regardless of the service being studied.

3.4 Interactions Among Dimensions

Parasuman *et*. al. (1988), found the five dimensions of their scale by means of an oblique rotation which implies correlated dimensions (Llosa *et.* al., 1998). However, the authors argued that the obtained "average" correlation coefficients are weak. In their

1991 replication, in spite of the oblique rotation, heavy loadings existed among three factors: Reliability, Responsiveness and Assurance.

Bouman and Van der Wiele (1992) also examined the influence of some dimensions on others. In their study they found three factors: Courtesy, Tangibles and Firm Trust. Using a path analysis, they wished to examine the causality connections between variables: they demonstrated that the last two factors indirectly influence the perceived service quality. The element, courtesy, when directly linked to this perceived quality, serves as a mediator.

McDougall and Levesque (1992) replicated SERVQUAL in one of the activities studied by Parasuman *et.* al.,(1988). They tested the existing correlations between the five dimensions of SERVQUAL except for the tangibles factor; they found high correlation between the factors (between 0.52 and 0.81). This means a strong dependence between the latter. Increasing quality level on one may increase the level of perceived service quality on the others. These results are far from those of Parasuman *et* .al. (1988) whose factor pattern and reliability is thus challenged.

The average inter-correlation between the five dimensions varies between 0.21 and 0.26 depending on the service sector studied. This demonstrates reasonable distinctiveness. Alpha values vary between 0.72 and 0.86, providing that the score possesses good reliability.

3.4.1 Dimension Equation

McDougall and Levesque (1992) also criticized the fact that SERVQUAL is a compensatory model. A high score on one dimension can compensate a low one on another. By asking the respondents the five dimensions' relative weights, these authors identified reliability as being by far is the most important dimension. Then they checked if the service quality judgement is lexicographic. In that case, the person orders dimensions from the most important to the least important one. The authors conclude

that by saying that customers' evaluation of quality can be explained by a lexicographic mode, through minor compensatory phenomena still exists (Llosa *et*. al. 1988).

3.5 The Applicability of SERVQUAL in Healthcare Industry and Studies Conducted

Several tools have been developed for measurement of patient's perception and expectations. These tools vary in terms of definition, context, and measurement (Uzun, 2001), but the SERVQUAL instrument developed by Parasuman *et*. al (1988), remains the most widely used to determine the relative importance of the five dimensions and influencing customer perceptions; and track quality trends over time (Sohail, 2003). Academic testing of SERVQUAL instrument has tended to occur in for-profit services. However, a number of researchers have evaluated the tool in health care service context, albeit primary in USA for profit sector Reidenbach and Sandifer- Smallwood, (1990), Babakus and Mangold (1992) and Taylor and Cronin (1994), all tested SERVQUAL in the health-care services, although Taylor and Cronin committed that health service managers should be encouraged to test the dimensions in their own business environments rather than authoratically adopt SERVQUAL factor structure. Youssef *et*. al. (1996), who empirically tested the methodology in UK NHS hospitals, also concurred that the survey instrument and the five dimensions were broadly transferable to health services (Silvestro, 2005; Ramsaran-Fowdar, 2005).

On the other hand, research conducted by Haywood-Farmer and Stuart (1988) suggested that the SERVQUAL was inappropriate for measuring professional service quality since it excluded the dimensions for "core service", "service customisation" and "knowledge of the professional". In addition, Brown and Swartz (1989) identified "professional creditability", "professional competence", and "communications" as factors significant for both physicians and patients in the evaluation of service quality.

Other studies, however, have resulted in the identification of further quality factors relevant to health services which are not adequately embraced by Parasuman's

conceptualisation (Silvestro, 2005). Bower's *et.* al. (1994) applied the SERVQUAL methodology in an army hospital in Southeast USA. Using focus groups to identify any factors not embraced by Parasuman ***et.*** al.'s five dimensions, they identified **two further determinants** of health service quality, namely **"caring" and "patient outcomes"** Silvestro, 2005; Ramsaran-Fowdar, 2005)

Further survey based quantitative testing of Parasuman *et*. al's dimensions and these additional dimensions revealed empathy, responsiveness, reliability, communication and caring to be strongly correlated with overall patient satisfaction (Silvestro, 2005). Gabbolt and Hogg (1995) also identified the notion of care as critical to patient evaluations of the health-care service quality: but they considered notion of care to be incorporated to Parasuman *et*. al's five generic five dimensions, rather than being a separate factor.

Care was also identified as a quality factor in research by Silvestro and Johnston (1992) which is used critical incident technique (Bitner *et*. al., 1990) to identify quality factors based on customer data across a range of service sectors. Their research was further developed by Johnston (1995), resulted in the identification of the following quality factors: cleanliness, aesthetics, comfort, functionality, reliability, responsiveness, flexibility, communication, integrity, commitment, security, competence, courtesy, friendliness, attentiveness, care, access and availability (Silvestro, 2005).

Dean (1999), empirically tested the transferability of SERVQUAL to health service settings in Australia. Her research highlighted the importance of understanding differences in patient expectations in different types of health service, thus demonstrating that quality factors may vary not only by industry but also within industry and that the managers of health service targeting multiple markets should distinguish between different patient types in their analysis of patient expectations.

Other studies carried out in the health care industry (Silvestro, 2005; Kaldenberg *et*. al., 1997; Fayek, 1996; Camilleri and O'Callaghan, 1998; Roshnee and Fawdar, 2005; Lee.

et. al., 2000, Lam, 1997; Devebakan and Aksaraylı, 2003, Babakus, 1992; Sohail, 2003; Andaleeb, 2001; Andaleeb, 2000; Vandamme and Leunis, 1992; Mostofa, 2005; Jabnoun and Chacker, 2003; Kilbourne et. al., 2004; Wisnievski and Wisnievski, 2005) and their findings are as follows:

Bowers *et.* al. (1994) found out 2 further determinants of health service industry namely "caring" and "patient outcomes". Also Gabbolt and Hogg (1995) identified notion of "care" as critical point of patient's view and this finding is incorporated with Parasuman. According to Silvestro and Johnston (1992), again "care" was found out to be quality factor in their research and critical incident technique is used.
Johnston (1995) identified the following as quality factors: cleanliness, aesthetics, comfort, functionality, reliability, responsiveness, flexibility, communication, integrity, commitment, security, competence, courtesy, friendliness, attentiveness, care, access and availability.

Dean (1999) demonstrated that quality factors may vary not by industry but also within industry.

Lee . *et.* al. (2000), demonstrated that almost no approach that is used is justified in the view of prevalent understanding that health-care recipients are often unable to evaluate key dimensions of health-care service (Bopp, 1990; Hansel and Baumgarten, 1988) and thus may not have as much to contribute to the design of an effective health-care systems as providers and also added that in terms of the discriminant validity of the seven health-care service quality dimensions, Lee. *et*. al's results were not supportive of the validity,
Considering that similar finding has been reported before (Dabholkar, Thorpe and Rentz, 1996).

Youssef, F. (1996), found out that services, as perceived by patients, failed to meet expectations in all dimensions, except for those patients who found out that the "tangibles" exceeded expectations. Part of the solution is recognition by management

that high quality can contribute significant to bottom line performance. Part is recognition that delivering high quality of service touches everyone. Another part is the recognition that many steps can be taken to improve quality. Improving service quality requires planning and co-ordination. Most of all requires total commitment.

Kilbourne *et.* al's (2004) modification to SERVQUAL: while gap scores have been shown to have better diagnostic capabilities, the perception only measure of service quality appear to have higher convergent and predictive validity. The perception only scores were, therefore judged to serve the purpose of the Kilbourne *et.* al's study better. Moreover, some researchers have found out that better results are sometimes obtained having fewer than the normal five dimensions underlying SERVQUAL. After initial testing, Kilbourne *et.* al. settled upon a four-dimension scale, which excludes "assurance".

The author's research reveals that the modified, four dimensions SERV QUAL instrument, when applied to residents' perceptions of long-term health care service quality, does not vary across the USA and Britain. SERVQUAL clearly captures quite subtle quality indicators in a multi-dimensional way- Tangibles, responsiveness, reliability, and empathy, as well as the overall factor of service quality. Administrators will find SERVQUAL convenient and reliable to use in the nursing home as a routine measure of service quality between countries.

In Jabnoun and Chacker (2003) study the factor analysis of responses resulted in five dimensions; namely, empathy, tangibles, reliability, administrative responsiveness and supporting skills. Furthermore, with exception of administrative responsiveness these factors showed strong predictive validity. Also statistics indicated that in patients were generally unhappy with overall service quality and all the dimensions of the instrument. This dissatisfaction is consistent with a number of other health service studies (Lim and Tang, 2000; Anderson, 1995; Youssef et. al., 1995) conducted in different countries. Health service managers should benchmark other industries such as banking industry,

were high service quality has consistently been registered (Kwan and Lee, 1994; Jun. et. al, 1999; Lasser et. al., 2000).

The researcher also found a significant difference between private and public hospitals in terms of service quality and the four dimensions of empathy, tangibles, reliability, and supporting skills. Public hospitals have outscored private hospitals, which scored particularly low in the dimension of tangibles and reliability.

Moustofa, M. M. (2005) found out that the results highlighted a three factor solution for the SERVQUAL instrument with 67 percent of variance explained. The result does not support the five components of original SERVQUAL. A discriminant function was estimated for patients who selected public hospitals and who selected private hospitals. The model was found to be significant in explaining patients' choice of the type of the hospital.

Vandamme, R. and Leunis, J. (1992) suggests, however that, SERVQUAL may not be easily generalisable to hospital services or health-care services in general.

- Patients had difficulties in making trade-off between the different components of service offering
- The wording of expectation statements should be subject to closer scrutiny. The use of the wording "I expect ----------" will probably lead to more experience-based expectation scores.
- Satisfaction with hospital services may be influenced also by some factors beyond the direct control of service delivery process.

Andaleeb, S.S. (2000) in Urban Bangladesh, found out that patient perceptions were sought on five aspects of service quality including responsiveness, assurance, communication, discipline and baksheesh. Because private hospitals are not subsidised, it was felt that the incentive structure would induce them to provide better services than public hospitals on the measure of service quality. This contention was largely supported.

Andaleeb, S.S. (2001), in developing countries, stated that since all five service dimensions (responsiveness, assurance, communication, discipline and baksheesh) significantly associated the satisfaction variable; practitioners might use service enhancement strategies on the parameters of the model.

Wisnievski, M. and Wisnievski, H, (2005): in their study they found out that across the five dimensions, statistically significant gap scores were found for reliability and responsiveness. Comparison of these gap scores with the mean dimension weights suggests that the priority gaps as far as patients' assessments of service quality is concerned that of reliability. Given the importance of, it does not appear that the SERVQUAL instrument has a useful diagnostic role to play in assessing and monitoring service quality in nursing enables nursing staff to identify where improvements are needed from the patients' perspective.

Kaldenberg, *et.* al. (1997), this research indicates that the revised SERVQUAL can identify degrees of satisfaction and can help identify issues in dental practice that could be improved.

Silvestro, R. (2005)'s study suggests that gap analysis can facilitate diagnosis of the causes of the mismatch between patient priorities and perceptions, such as diagnosis may inform changes to the way patient expectations are managed, and the way the service is designed, controlled and monitored. Added to that, this study also suggests that the gap analysis can facilitate improved understanding of the expectation and perception of different market segments.

Roshnee, R.R.- Fowdar (2004), found additional service quality dimensions, namely "core medical" and "professionalism/skill/competence" and a few additional items within each of the generic quality dimensions. The core service was found to be the most important quality attribute for patients and is not represented in the SERVQUAL instrument. On the other hand, subjects thought that the physicians should be

professional, they should not be money minded and should give priority to their professional obligations first.

Additional quality items specific to health care services appeared under the different SERVQUAL dimensions, such as:

- Physician reputation which is very important quality factor in health care since patients heavily relies on word-of-mouth when selecting GP.
- Availability of medicine prescribed by the physician at the pharmacy.
- Thoroughness of explanation of the medical condition and the treatment by GP.
- Honesty of physician and
- Personal demeanour of the GP, patients expected GP's to be warm, kind, welcoming, reassuring and well-mannered; not angry and shouting at patients or rude.

The findings of this study were quite similar to the results obtained by Walbridge and Delene (1993). Also it was found that the dimensions in service quality cannot be replicated fully to the health care services.
Chan *et*. al. (2003), in his study assessed the efficacy of SERVQUAL in an Australian Hospital. SERVQUAL was found to have acceptable validity and reliability.
Lam (1997); found out in his results that SERVQUAL appears to be consistent and reliable scale for measuring health care service quality. However, the proposed five dimensions of the SERVQUAL are not confirmed. The results also indicate that perceived health care service performance generally falls short of expectation except in the physical elements of service quality. Timely professional and component services are what patients expect from the health care providers.

Babakus, E (1992), SERVQUAL, a standard instrument for measuring functional service quality, is reliable and valid in hospital environment. One of the service quality's major contributions to the health care industry will be its ability to identify symptoms and to provide a starting point for the examination of underlying problems that inhibit the provision of quality services for the long-run success of the health care organisations, both functional and technical quality have to be monitored and managed effectively.

3.6 A Comparison of Quality Dimensions by Various Researches

Using focus groups consisting of patients, administrators and physicians, Jun et. al. (1998) identified 11 dimensions of the health care service quality. Eight of these dimensions, tangibles (physical environment, cleanliness), reliability, responsiveness, competence, courtesy, communication, access and understanding the consumer, are parts of the Parasuman model. Bowers (1994) added care and patient outcomes. Another dimension, collaboration was discussed by Jun's groups. Jun (1998) further emphasises that communication is essential for collaboration as it "fills the gaps to prevent disjointed service".

Mittal and Baldasare (1996), measured the effects of certain quality factors in a physician's practice, and found out that physician competence, communication, respect, caring, taking home to learn history and follow up treatment were weighted more heavily if patients were not satisfied. Alan. M. Rees, in The Consumer Health Information Source Book, maintains that satisfaction with hospital care is too often assessed on the basis of amenities to the critical quality of care. He recommends those measures of respect for patient values, preferences and needs; coordination of care; information and education provided; physical comfort; emotional support and alleviation of fear and anxiety; opportunity for involvement of family and friends; provision for continuity and transition to home environment. Seihoff (1998) documented continuity of care and caring behaviours in evaluating the use of unlicensed assistive personnel vis-à-vis patient satisfaction.

Swedish researchers, Arnetz J.E, and Arnetz, B.B (1996), developed a reliable and valid instrument to determine the predictions of patients' ratings on quality of hospital care. They measured satisfaction at two separate points during hospital stay as "information concerning ones' illness-communication" and "perceptions of the staff work environment - tangibles". Raper (1996), found that physiological safety and information giving contributed significantly to cursing care and to the patients. Young et. al. (1996),

found out that patients ranked patient teaching of the highest importance, and participation in care is the lowest.

Table 3.2 Comparison of Attributes of Quality Health Care Proposed by Key Researchers

Parasuman	Bowers	Jun	Mittal/Baldasae	Rees	Donabedian	MHCQP/Picker
Tangibles	*	*			*	*
Reliability	*	*			*	
Responsiveness	*	*	*	*		*
Competence	*	*	*	*		*
Courtesy	*	*	*	*		*
Communication	*	*	*			*
Access	*	*	*	*	*	
Understanding Customer	*	*		*	* (values of customer	*
	Caring	*	*	*		*
	Patient Outcomes	*	*		*(Efficacy)	
		Collaboration		*		
				Continuity of Care		*
					Efficiency (cost)	
					Optimality (cost/benefit)	

Source: Rhode Island Department of Health, health Care Quality Measurement.

3.7 Comparison of Parasuman *et.* al. (1985, 1988) Studies with Other Studies Using SERVQUAL

The SERVQUAL scale has been used in a variety of studies in different settings to assess customer perceptions of service quality. All studies neither have nor examined

the scale's psychometric properties: however, there are few recent exceptions (Babakus and Boller, 1992; Babakus and Mangold, 1992; Brensinger and Lambert, 1990; Carman, 1990; Cronin and Taylor, 1992; Finn and Lamb, 1991; Headley and Miller, 1993; Lytle and Mokwa, 1992; McAlexander *et*. al, 1994; O'Connor *et*. al., 1994; Taylor and Cronin, 1994; Walbridge and Delene, 1993). Tables 4 and 5, provide a comparative summary and also reveals areas of consensus as well as unsolved issues regarding SERVQUAL's psychometric properties (Asubonteng, 1996).

3.8 Use of the Factor Analysis

Factor analysis was a major tool as it provides a means of determining which questions are measuring dimension number one, which questions are measuring dimension number two and so on, as well as which questions do not distinguish between dimensions in the data. Questions that were not clearly related to a dimension were discarded. A revised scale was administered to a second sample, questions were tested and the result was a 22-question (item) measuring five basic dimensions of reliability, responsiveness, empathy, assurance and tangibles both on expectations and performance. Since both expectations are measured using 22-questions, and performance is rated using 22 parallel questions, 44 questions in total are used (Asubonteng, 1996).

Several researchers have since examined the stability of SERVQUAL dimensions (Asubonteng, McCleary and Swan, 1996; Babakus and Boller, 1992; Carman, 1990; Dabholkar *et.* al., 1996), found that the number of service quality dimensions were not stable across different services in the factor analysis results (Lee *et*. al., 2000).

3.8.1 Results of Factor Analysis from Other Studies

Mostofa (2005) had conducted a research on the service quality of Hospitals in Egypt. According to the author; SERVQUAL scale was factor analysed by principal component analysis.

In factor analysis, a rotation procedure is commonly applied which maximises the correlations of item on factor (Comrey and Lee, 1991). The SERVQUAL construct comprises many interrelated items and, therefore, oblique rotation was applied as rotation procedure. Advocates of oblique rotation assert that in real world important factors are likely to be correlated; thus searching for unrelated factors is unrealistic (Dixon, 1993).

Three factors were extracted in the analysis using standard eigenvalue of 1.0 (child, 1990). Total variance explained (67.4 percent) by these three components exceeds the 60 percent threshold commonly used in social sciences to establish satisfaction with the solution (Hair *et*. al., 1995).

Factor one explained 49.6 percent of total variation with eigenvalue of 10.9and contains items similar in nature to those of responsiveness and empathy factors in the original SERVQUAL scale, named as "human performance quality". Factor two explained 12.1 percent of total variation with an eigenvalue of 2.66 and this item contains items relating reliability in the original model and was labelled as "human reliability". While factor three explained 5.7percent of the total variation with an eigenvalue of 1.27, and contains items relating to the tangibility of the service and labelled as "facility quality". (See Appendix 1B, Table 1).

Mostofa (2005) used Kaiser-Mayer-Olkin (KMO) measure of sampling adequacy (Kaiser, 1970) was used to measure the adequacy of the sample for extraction of three factors. The KMO value found (0.885) is indicative of a data set considered to be highly desirable for factor analysis (Kim and Mueller, 1978). The Bartlett's test of sphericity was used to test the multivariate normality of the set of distributions. This procedure also tests whether the correlation matrix is an identity matrix (factor analysis would be meaningless with an identity matrix). A significance value of $p< 0.05$ indicates that the data do not produce an identity matrix or differ significantly from identity (George and Mallery, 2000). The analysis focusing on the sphericity of the distribution allowed authors to reject the hypothesis according to which the matrix would be unitary (Approx.

Chi-square 6427.780, df= 231, $p<0.001$). This result implies that the data are thus approximately multivariate normal and acceptable for factor analysis.

Results revealed that the five component structure proposed by Parasuman *et*. al. (1988) for SERVQUAL scale was not supported. This is more in line with Rosen and Karwan (1994) who suggested that the dimensions could be reduced rather than expanded. It is also in line with Rigotti and Pitt's study (1992), which produced four factors. Carman (1990) in study of dental clinics found five basic factors. In medical services, Lytle and Mokwa (1992) identified seven dimensions and in hospitals, Licata *et*. al. (1995) found 12.

In the study of Jabnoun and Chaker (2003); to test the dimensionality of the instrument, all 30 items were factor analysed using principal component extraction with an orthogonal (varimax) rotation. The number of factors was unconstrained. 0.40 was used as a factor cut-off point for the sake of convergent validity. Factors including less than three factors were eliminated. Using these criteria resulted in five factors totalling these 27 items. These factors were empathy, tangibles, reliability, administrative responsiveness, and supporting skills. Table 2, Appendix 1B, demonstrates Cronbach coefficient alpha for each of these dimensions and also factor loading of each item and their original dimensions. Also, it is shown that these factors are reliable (Nunnally, 1978). This supports the internal cohesiveness of the items forming each dimension. Table 3, Appendix 1B, indicates that inpatients are generally unhappy with overall service quality and all the dimensions of the instrument. This result is not unusual in the health industry as it concurs with many other studies (Lim and Tang, 2000; Anderson, 1995; Youssef *et*. al. 1995). Table also shows that patients are most dissatisfied with tangibles and they are least dissatisfied with empathy.

In the study of Emin Babakus (1992); in order to examine the dimensionality of the scale, each one of the correlation matrixes was factor analysed. Data on expectations produced three factors with eigenvalues greater 1.0, accounting for 56.2 percent of the variation on item scores. The first factor accounted for more than 41 percent of the

variability, and all 15 items loaded heavily on this factor. The results from an oblique rotation did not show any meaningful patterns in terms of dimensionality. Therefore, the first factor from the initial solution was considered as a viable underlying factor. Factor analysis resulted in perceptions has two factors, with eigenvalues greater than 1.0, accounted for 70.2 percent. Rotation results did not identify any conceptually meaningful dimensions. The initial solution indicated that a single factor adequately summarises the data on the basis of factor loading and variance explained. A fourth factor analyses were conducted using expectations and perceptions scores together. The results identified two distinct factors representing expectations and perceptions. All items heavily loaded on the appropriate factor. Factor loading from combined solution did not differ any significant way from those obtained with separate analysis.
To further address the dimensionality and the convergent and discriminant validity issues, a confirmatory factor analysis framework was used. Initial results did not identify the proposed five dimensions; this could be due to highly correlated nature of the five dimensions of service quality. The composite single indicators were created on the basis of the priori dimensions. Such practices are common in the literature to reduce model complexities (cf. Bagozzi, 19980; Joacimsthaler and Lastovicka, 1984; Joreskog, 1987; Michaels *et*. al., 1987).

In the study of Chan *et*. al. (2003); an exploratory factor analysis (EFA) of the factor structure of SERVQUAL was undertaken to examine the construct validities of the variables. The EFA procedure employed principal components method for extraction, Varimax rotation, and factors with eigenvalues greater than 1.0 were retained (Hair *et*. al., 1998). Hair *et*. al., (1998) suggested that conservative factor loadings of greater than ± 0.40 were to be considered significant at the level 0.05.

The reliability of the SERVQUAL scale was estimated using Cronbach's alpha coefficient. Tangibles had Cronbach's alpha value of 0.67. As this reliability value was near to the acceptable level threshold of 0.70, and the four items that made up tangibles had item to item correlations of above 0.35, all items were retained. The other four dimensions of reliability, responsiveness, assurance and empathy had item to item

correlations of at least 0.35 and Cronbach alpha values above 0.70. One item from the dimension of assurance loaded highly onto the dimension of reliability is perceived by the respondents to be assessing the construct reliability.

The final Cronbach alpha values of the five factors include 0.67 for tangibles, 0.88 for reliability, 0.75 for responsiveness, 0.83 for assurance, and 0.85 for empathy. Table 4 appendixes 1B shows factor loadings for each items and also the eigenvalues. The factor loading patterns for SERVQUAL items and Cronbach alpha values for the constructs supported five factor solutions.

In the study of Andaleeb (2001); the measure of service quality was factor analysed. The initial factor structure derived from varimax rotation resulted in seven factors. Close scrutiny revealed that some of the factors were not clean especially when several items loaded simultaneously on more than one factor. The five factors explained 69% of the cumulative variation.

When compared to the original SERVQUAL factors, the five factors of this study demonstrated some interesting parallels. These dimensions were: responsiveness, assurance, communication, discipline and baksheesh.

Each factor was assessed for reliability using coefficient α. The coefficient always exceeded the value of 0.7 recommended by Nunnally (1978). To assess the validity of the measures, the multiple items measuring each construct were further factor analysed. In each case, the items always loaded on one factor only, lending support to their validity.

In the study of Vandamme and Leunis (1993); scale purification started with the computation of the Cronbach Alpha and the item-to-total correlations for each hypothesised dimensions; reliability, assurance, responsiveness, empathy, and tangibles. The initial Cronbach Alpha calculated on the difference scores was 0.15 for reliability dimension and between 0.54-0.70 for other dimensions.

Items with relatively low item-to-item correlations were removed from the original set of items (D11 and D4). The remaining items were factor analysed using principal component factor analysis together varimax rotation. Based on the eigenvalue criterion 10 dimensions emerged. Items with no clear loading on a particular factor were removed from the set. This reduced the dimensionality to nine dimensions. The mentioned procedure was repeated several times and finally six factors were retained and explaining 67 percent of the total variance; Tangibles, Medical responsiveness, Assurance I, Assurance II, Nursing Staff and Personal Benefits and values. The dimensions obtained from this study only partially represent the dimensions identified by Parasuman *et*. al.(1988).

Cronbach Alpha coefficients for the six dimensions range from 0.58 to 0.75. Only the items with a factor loading greater than 0.50 were retained for the calculation of Alpha scores. For at least three dimensions, alpha coefficients seem satisfactory, since it exceeds the rule of thumb value of 0.70 proposed b y Nunnally (1978) for basic research. The lowest reliability values are associated with the dimensions which are least related to the original SERVQUAL dimensions. This may be an indication that author's adoption of the original SERVQUAL instrument does not yet capture a relevant service quality dimensions in the health care sector.

In the study of Yağci and Duman (2006): according to this study four dimensions had been obtained, eigenvalue of 1.0 and cut-off point 0.30 had been accepted and to clarify all these dimension varimax rotation had been conducted. These are; before treatment services, doctoral services, supply of the personal requirements, and general appearance. In the before services treatment, coefficient alpha score was 0.96, correlations between statements differs from 0.45-0.88, with an eigenvalue of 1.35 and explained variance of 4.076.
In the doctoral services, coefficient alpha score was 0.97, correlations between statements differs from 0.60-0.80, with an eigenvalue of 19.80 and explained variance of 60.00.

In the supply of personal services, coefficient alpha score was 0.94, correlations between statements differs from 0.55-0.79, with an eigenvalue of 2.32 and explained variance of 7.016.
In the general appearance, coefficient alpha score was 0.88, correlations between statements differs from 0.71-0.73, with an eigenvalue of 1.13 and explained variance of 3.414.

3.9 Validity and Reliability of SERQUAL

SERVQUAL instrument has been extensively adopted in various industries, and its validity and reliability have been confirmed. Scardina (1994) and Arikan (1999) reported that SERVQUAL was superior in validity and reliability for patient satisfaction in health-care.

Reliability of SERVQUAL

Parasuman *et*. al. (1988) tested their SERVQUAL scale for reliability and validity (Asubonteng *et*. al., 1996).

Reliability refers to the instrument's ability to provide consistent results in repeated uses (Gatewood and Field, 1990). Coefficient (Cronbach's) alpha is the basic measure for reliability (Green *et*. al., 2000; Schacherer, 2002). The coefficient α is best conceptualised with the average of all possible split-half reliabilities for a set of items. A split-half reliability between two parts is halves of the total instruments. Computing each of these stepped up split half reliabilities and averaging them would be Cronbach's alpha (Schacherer, 2002).

The coefficient α measures the extent of internal consistency between, or correlation among, the set of questions making up each of the five dimensions, such as the five reliability questions (Schacherer, 2002).

The minimum reliability that is acceptable is difficult to specify (Asubonteng, 1996). The suggested cut-off point for coefficient alpha values is 0.70 indicating that the scale exhibits desirable levels of internal consistency (Schacherer, 2002) and, if the reliability is low, such as below 0.60, one is faced with a choice of investing time and money in additional research in an attempt to develop a revised measure with greater reliability, or using the measure, recognising that fluctuations in measured quality may be due to measurement rather than a change in quality. High reliabilities, such as 0.90 or above, are desirable (Asubonteng *et.* al., 1996; Schacherer, 2002). Nunnally (1978) suggested than an alpha value of 0.7 is acceptable (Mostofa, 2005).

The Cronbach's alpha reliability coefficients for the five SERVQUAL dimensions are similar across studies (e.g. Babakus and Boller, 1992; Babakus and Mangold, 1992; Bowers *et*. al., 1994; Carman, 1990; Cronin and Taylor, 1992; Finn and Lamb, 1991; Headley and Miller, 1993; Lytle and Makowa, 1992; McAlexander *et*. al., 1994¸O'Connor *et*. al., 1994; Taylor and Cronin, 1994) and at least of the same magnitude as those reported in Parasuman *et.* al., (1988). These findings validate the internal reliability or cohesiveness of the scale items forming each dimension. Some researchers (e.g. Babakus and Boller, 1992; Babakus and Mangold, 1992; Carman 1990) have suggested that the overall reliability can be improved by changing negatively worded stated items to positively stated items. The lowest reliability is 0.59 reported by Finn and Lamb (1991) and the highest reliability is 0.97 reported by Babakus and Mangold (1992).

The application of SERVQUAL has produced mixed findings in the health care setting. Some studies (Babakus and Mangold, 1992; Bowers *et*. al., 1994) have demonstrated that SERVQUAL is reliable in the health care arena. In contrast, O'Connor *et*. al. (1993) reported inadequate reliability with the tangibles scale and found that the reliability quality dimension was not a significant predictor of customer satisfaction (Asubonteng, 2005).

Validity of SERVQUAL

There are several different forms of validity that can serve as criteria for assessing the psychometric soundness of a scale: discriminant validity, face validity and convergent and concurrent validity (Peter and Churchill, 1986), and construct validity (Buttle, 1996; Lee *et*. al, 2000). Where construct validity itself is a composite of several forms of validity: nomological validity, convergent validity and discriminant validity (Buttle, 1996). Demonstration of construct validity requires evidence of convergent validity and discriminant validity (Campbell and Fiske, 1959).

Discriminant Validity

The findings of most studies (tables 4 and 5) differ from the original study with respect to SERVQUAL's discriminant validity. Most studies imply greater overlap among the SERVQUAL dimensions – especially among responsiveness, assurance and empathy than implied in the original study (Peter *et*. al., 1993). The number of distinct dimensions based solely on the factor analysis results is not the same across studies (Asubonteng *et*. al., 1996). It varies from two in the Babakus and Boller (1992) study to eight in one of the four setting studied by Carman (1990).

The variation across studies may be due to differences in data collection and analysing procedures (tables 4 and 5). Another explanation may be that respondents may consider the SERVQUAL dimension to be conceptually unique (Asubonteng *et*. al., 1996). Differences in the number of empirically derived factors across studies may be due to primarily to across dimension similarities and/or within-dimension differences in customers' evaluations of a specific company involved in each setting (Peter *et*. al., 1993).

As already stated, Carman (1990), and Babakus and Boller (1992) have questioned the use of difference scores in multivariate analysis. Peter *et*. al. (1993) identifies two potential problems that can arise through the use of difference scores. One problem is

common to all measures while the other is unique to measures formed as linear combinations of measures of other constructs. The common problem relates to how the reliability of measures affects discriminant validity. Low measure reliability attenuates correlations between constructs. Thus, a measure with low reliability may appear to posses' discriminant validity simply because it is unreliable. Since difference score measures are usually less reliable than non-difference score measures, they can be particularly subject to this phenomenon. Any correlation between difference and other variable is an artefact of the difference score and the other variable (Johns, 1981).

Face Validity

SERVQUAL's face validity a subjective criterion reflecting the extent to which scale items are meaningful and appear to represent the construct being measured (Buttle, 1996; Asubonteng, 1996), was explicitly assessed a priori in most studies (Babakus and Boller, 1992; Carman, 1990¸Parasuman *et*. al. 1988). Babakus and Boller (1992) confirmed the suitability of SERVQUAL for a utility company through preliminary discussions with customers and extensive interviews with company executives and technical personnel. In contrast, Carman's (1990) initial assessment of the scale resulted in his using a subset of the original 22 items (ranging from ten in the dental clinic setting to 17 in the tire store ands placement centre settings). Some settings do not explicitly discuss SERVQUAL's face validity (e.g. Babakus and Mangold, 1992; Finn and Lamb, 1991). However, the fact that 22 items were used in the studies implies support for meaningfulness of the items in the settings involved. With few exceptions, the SERVQUAL items appear to be appropriate for assessing service quality in different settings (Asubonteng, 1996).

Convergent Validity

Convergent validity is the extend to which scale correlates with other measures of the same construct (Buttle, 1996). This relates to the extend to which different scale items assumed to represent a construct do in fact "converge" on the same construct (Peter *et*. al, 1993). The reliability of a scale as measured by coefficient alpha reflects the degree of

cohesiveness among the scale items and is therefore an indirect indicator of convergent validity. As already stated, coefficient alpha values for the five SERVQUAL dimensions are fairly high across studies.

More stringent test of convergent validity is whether scale items expected to load together in a factor analysis do so (Peter *et*. al, 1993). The factor-loading patterns in none of the studies are similar to that obtained in Parasuman *et*. al. (1988). Thus, there is a little proof of SERVQUAL's convergent validity. Some evidence of convergent validity as reflected by the factor-loading patterns in these studies (Babakus and Boller, 1992; Carman, 1990; Headley and Miller, 1993) is weaker because several SERVQUAL items had very low loadings on the dimensions they were supposed to represent. Finn and Lamb (1991) reported overall fit statistics for the LISREL measurement model, but the authors do not provide factor-loading matrix. For this reason, the assessment of convergent validity in their study by examining factor loadings is not feasible (Peter *et*. al, 1993).

Concurrent Validity

This relates to the extent to which SERVQUAL scores are associated as hypothesised with conceptually related measures (Peter *et*. al, 1993). Concurrent validity was examined in several studies (Babakus and Boller, 1992; Bresinger and Lambert, 1990). SERVQUAL performs well in this regard, with few exceptions. In the Babakus and Boller (1992) study, perception scores have stronger correlations with other dependent scores (i.e. perception-minus-expectation scores). In other study by Bresinger and Lambert (1990) SERVQUAL scores received by motor carriers accounted for only 8 percent of the variance in the share of customers' business obtained by those carriers. Several authors (Babakus and Boller, 1992; Carman, 1990; Teas, 1993) have called into question the empirical usefulness of the expectations data. These authors also raised psychometric concerns about the appropriateness of using measures defined as difference scores in multivariate analysis (Parasuman *et.* al. 1990; 1991).

The findings of some studies provide some support for reliability and face validity for the SERVQUAL scores on the five dimensions. Brown *et.* al. (1993) provide the following insights in their assessment of SERVQUAL.

1. Factor-analysis results relating to the convergent validity of the items representing each dimension are mixed because in several studies the highest loadings for some items were on different dimensions from Parasuman *et.* al. (1988).
2. Lack of support for the discriminant validity of SERVQUAL is reflected by factor-loading patterns, and the number of the factors retained is inconsistent across studies.
3. The usefulness of expectation scores and the appropriateness of analysing gap scores need to be examined.
4. The findings from across-study comparisons have very important implications for service quality researchers and SERVQUAL users.

3.10 Measurement of Quality

The SERVQUAL instrument consists of 22 statements for assessing consumer perceptions and expectations regarding the quality of service. Respondents are asked to rate their level of agreement or disagreement with the given statements on the seven-point Likert-scale (but can be more or less according to the country and context that will be applied). Consumers' perceptions are based on the actual service they receive, while consumers' expectations are based on the past experiences and the information received (Douglas and Connor, 2003).

Analysis of SERVQUAL data can take several forms: item-by-item analysis (e.g. P1-E1, P2-E2); dimension-by-dimension analysis (e.g. P1+P2+P3+P4+P5/5) – (E1+E2+E3+E4+E5/5), where P1-P5, and E1-E5, represents the five perceptions and expectation statements relating to a single dimension): and computation of the single measure of the service quality (P1+P2+P3+-------+P22/22) – (E1+E2+E34-----+E22/22)), so called the SERVQUAL GAP (Douglas and Connor, 2003) .

According model (Parasuman et. al., 1985), the service quality is a function of perception and expectations and can be modelled as (Seth *et.* al., 2005) :

$$SQ = \sum_{j=1}^{k} (P_{ij} - E_{ij})$$

Where;

SQ = Overall service quality, k= number of attributes

P_{ij} = Performance perception of stimulus *i* with respect to attribute *j*.

E_{ij} = Service quality expectation for attribute *j* that is the relevant norm for stimulus *i.*

3.11 The GAPS Model of Service Quality

Executives striving to achieve administrative position and a sustainable advantage in today's increasingly competitive business world have no doubt realise that the importance of delivering superior quality of service by meeting or exceeding the customer's expectations. However, simply believing in the importance of providing excellent service quality is not enough.

Executives who are truly dedicated to service quality must put in motion a continuous process for:

1. Monitoring customers' perceptions of service quality,
2. Identifying the causes of quality shortfalls,
3. Taking appropriate action to improve the quality of service (Zeithaml, *et.* al, 1990)

Parasuman *et*. al. (1985) developed one approach to viewing the delivering service quality in a structured and integrated way: the "gaps model" of service quality. The gaps model positions the key concepts, strategies, and decisions in delivering quality service in a manner that begins with the customer and builds the organisation's tasks around what is needed to close the gap between customer expectations and perceptions.

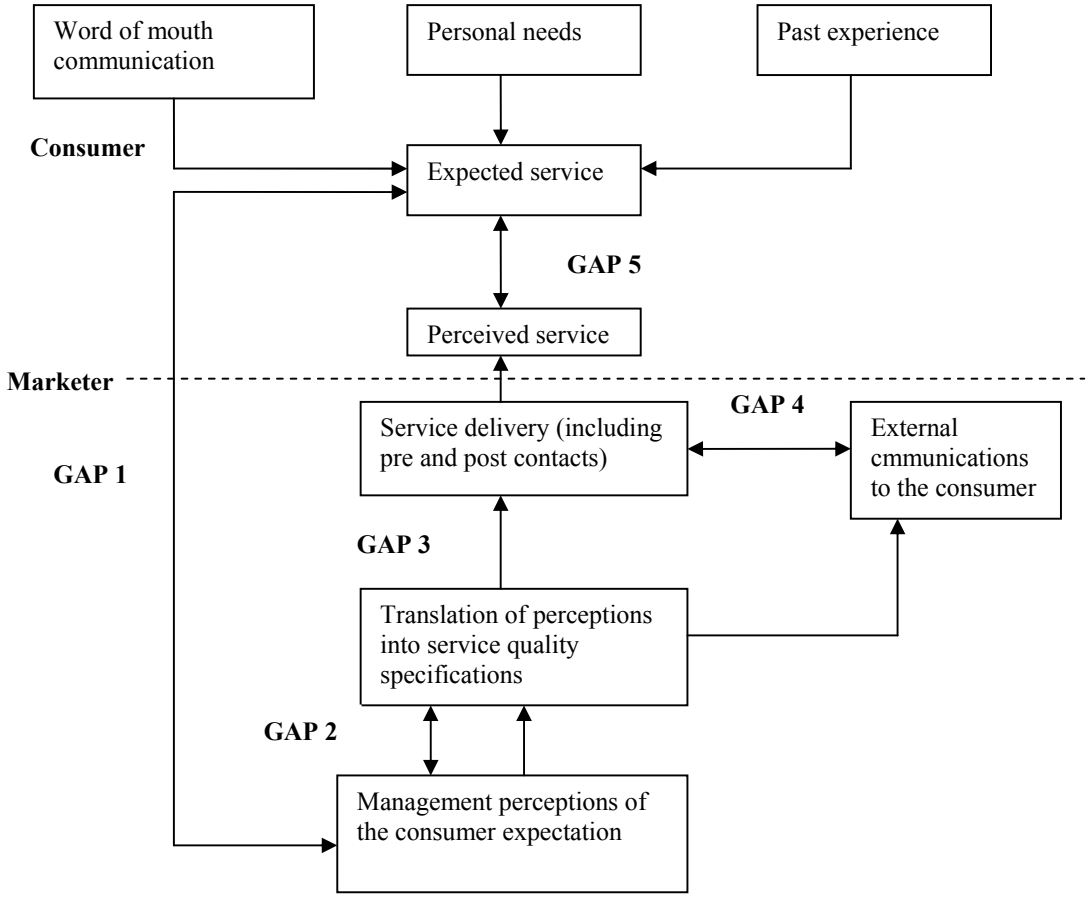


Figure 3.2 Gaps Model

Source: Parasuman et. al. (1985)

The customer gap is the top-half of the model and to close this all – important customer gap- the model suggests that four other gaps – the provider gaps- need to be closed.

3.11.1 GAP 1: Not Knowing What Customer Expect

Provider gap 1 is the difference between customer expectations of service and company, particularly management, understanding of those expectations. There are many reasons why managers may not be aware of what customers expect: they may not directly interact with customers, they may be unwilling to ask about expectations, or they may be unprepared to address them (VPZ, 1990). Further, because there are few clearly defined and tangible cues for services, this gap may be considerably larger than it is in firms that

produce tangible goods (Grönroos, 1982; Webster, 1992). Blocks of factors defined in Table 3.6 are main reasons for the gaps that have been formed.

Table 3.3 Key Factors Contributing to Gap 1

Factor and Definition	Specific Illustrative Issues
Marketing Research Orientation: extend to which marketers make effort to understand customers' needs and expectations through formal and informal information-gathering activities.	• Is research conducted regularly to generate information about what customers want? • Does the marketing research a company conducts focus on quality of service delivered by it? • Do managers understand and utilise the research findings? • Do managers mingle with customers to learn what is on their minds?
Upward Communication: Extend to which top management seeks, stimulates, and facilitates the flow of information from employees at lower levels.	• Do managers encourage suggestions from customer contact personnel concerning quality of service? • Are there formal or informal opportunities for customer contact personnel to communicate with management? • How frequently do managers have face-to-face contact with customer contact personnel?
Levels of Management: number of managerial levels between the topmost and bottommost positions.	• Do too many managerial levels separate top managers from those responsible for dealing with and serving customers?

Source: Zeithaml, Parasuman and Berry, Delivering Quality of Service, 1990,Free Press, New York, p. 53,

3.11.2 Gap 2: The Wrong Service Quality Standards

A recurring challenge in service companies is the difficulty of translating customers' expectations into service quality specifications.

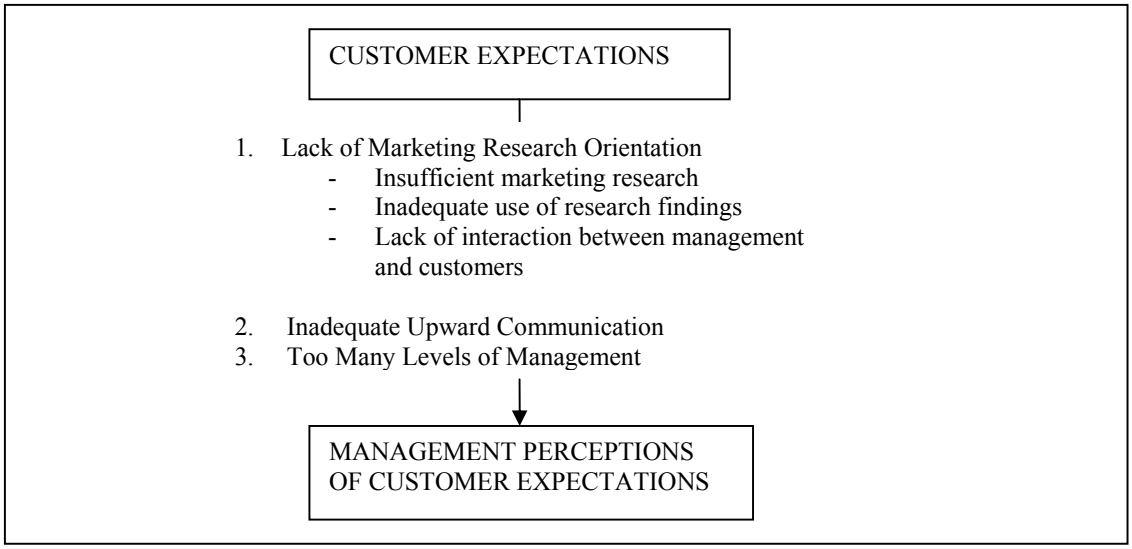


Figure 3.3 Key Factors Contributing to Gap 1

Source: Source: Zeithaml, Parasuman and Berry, Delivering Quality of Service, 1990, Free Press, New York, p. 52,

Table 3.4 Selected Methods for Understanding Customers' Expectations

	Investment of Money	**Investment of Time**	**Primary Uses**
Strategic Use of Complaints	Low	Low	Identifying
Customers Desires in Similar Industries	Low	Low	Developing an initial framework for customers' expectation in focal industry
Research on intermediate customers	Moderate	Moderate	Efficient way to gain in-debt information on end customers.
Key client studies	Moderate	Moderate	In-debt information on most important customers
Customer panels	Moderate to high	Moderate to high	Continuous source of information on most important customers
Transaction-based studies	Moderate	Moderate	Provides feedback on service quality performance of each component of service quality
Comprehensive customers' expectation studies	High	High	Establishes measures that are customer-based; provides foundation for tracking studies with provide a dynamic view of customers' expectations and perceptions

Source: Source: Zeithaml, Parasuman and Berry, Delivering Quality of Service, 1990, Free Press, New York, p. 55.

Thus provider Gap 2 reflects the difference between company understanding of customers' expectations and development of *customer-driven service designs* and *standards*. Customer-driven standards differ from conventional performance standards that most service companies establish in that they are based on pivotal customer requirements that are visible to and measured by customers (Zeithaml and Bitner, 2003).

When service standards are absent or when the standards in place do not reflect customers' expectations, quality of service as perceived by customers is likely to suffer (Levitt, 1976).
Because services are intangibles, they are difficult to describe and communicate a particularly difficult problem when new services are being developed. When all people involved (managers, frontline employees, and behind-the-scene support staff) are not working with the same concepts of the new service, based on customers needs and expectations, service design will likely be poor (Shostack, 1992). For a service that already exists, any attempt to improve it will also suffer if people do not have the same vision of the service, which results in oversimplification, incompleteness, subjectivity, and bias (Shostack, 1992).

Once managers accurately understand what customers expect, they face a second critical challenge: using this knowledge to set service quality standards for the organisation. Management may not be willing (or able) to put the system in place to match and exceed customers' expectations. A variety of factors including resource constraints, short-terms profit orientation, market conditions, or management indifference – may account for Gap 2, the discrepancy between managers' perceptions of customers' expectations and actual specifications they establish for service delivery. Gap 2 is a wide gap in many companies (ZPB, 1990).

ZPB (1990) identified the four conceptual factors (shown in figure 3.4 and described in table 9), which results in the major reasons for Gap 2.

1. Inadequate commitment to service quality,
2. Lack of perception of feasibility,

3. Inadequate task of standards,
4. Absence of goal setting.

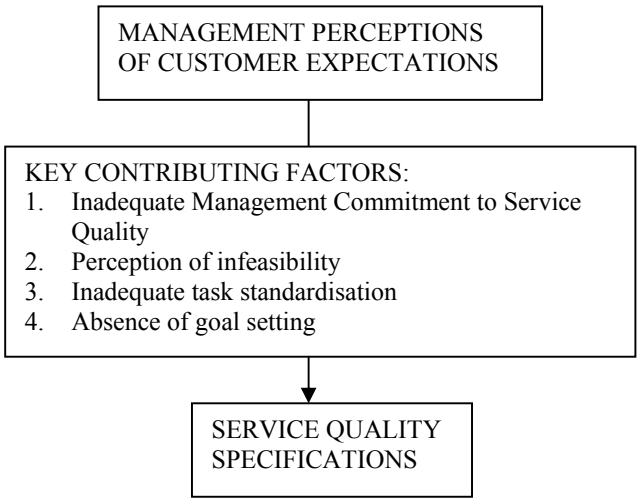


Figure 3.4 Key Factors Contributing Gap 2

Source: Zeithaml, Parasuman and Berry, Delivering Quality of Service, 1990, Free Press, New York, p. 72.

Table 3.5 Conceptual Factors Pertaining to Gap 2

Factor and Definition	Specific Illustrative Issues
Management Commitment to Service Quality: Extend to which management views service quality as a key strategic tool.	• Are resources committed to departments to improve service quality? • Do internal programs exist for improving the quality of service to customer? • Are managers who improve the quality of service to customers who are likely to be rewarded than other managers? • Does the company emphasise its sales goals as much as or more than it emphasises serving customers? • Are upper and middle managers committed to providing quality service to their customer?
Perception of Feasibility: Extent to which managers believe that customer expectations can be met.	• Does the company have the necessary capabilities to meet customer requirements for service? • Can customer expectations be met without hindering financial performance?

	• Do existing operations systems enable customer expectation to be met? • Are resources and personnel available to deliver the level of service that customers demand? • Does management change existing policies and procedures to meet the needs of customers?
Task Standardisation: Extent to which hard and soft technology are used to standardise service tasks.	• Is automation used to achieve consistency in serving customers? • Are programs in place to improve operating procedures so that consistent service is provided?
Goal Setting: Extent to which service quality goals are based on customer standards and expectations rather than company standards.	• Is there a formal process for setting quality of service goals for employees? • Does the company have clear goals about what it wants to accomplish? • Does the company measure its performance in meeting its service quality goals? • Are service quality goals based on customer-oriented standards rather than company-oriented standards?

Source: Zeithaml, Parasuman and Berry, Delivering Quality of Service, 1990,Free Press, New York, p.73,

3.11.3 Gap 3: The Service Performance Gap

Provider gap 3 is the discrepancy between developments of customer-driven service standards and actual service performance by company employees. Standards must be backed by appropriate resources (people, systems, and technology) and also must be enforced to be effective – that is, employees must be measured and compensated on the basis of performance along those standards (ZBP 1988). Thus, even when standards accurately reflect customers' expectations, if the company fails to provide support for them- if does not facilitate, encourage, and require their achievement- standards do no good. When the level of service-delivery performance falls short of the standards, it misses that customers expect as well. Narrowing gap 3 by ensuring that all the resources needed to achieve the standards are in place reduces the customer gap.

Research and company experience have identified many of the critical inhibitors to closing gap 3 (Schneider and Bowen, 1993). These include employees who do not clearly understand their role (Katz and Kahn, 1978; Walker et. al., 1977), employees who feel caught in the middle between customers and company management (Rizzo et. al., 1970), the wrong employees (Bettencourt and Gwinner, 1996; Schneider and Schecter, 1991), inadequate technology, inappropriate compensation, and recognition (Ouchi and McGuire, 1975), and lack of empowerment and teamwork (Bowen and Lawler, 1992). These factors all relate to company's human resource function involving internal practices such as recruitment, training, feedback, job design, motivation, and organisational structure (VZP, 2004).

Other problems involve in the challenge of delivering service through intermediaries such as retailers, franchisees, agents and brokers (Bongiorno, 1993). Most service companies face formidable problems in attaining service excellence and consistency in the presence of intermediaries who represent them, interact with their customers, and yet are not under their direct control (Serwer, 1995). Even if contact employees and intermediaries are 100% consistent in their service delivery, the customer can introduce heterogeneity in service delivery (Grove and Fisk, 1997). If customers do not perform their roles appropriately, service quality is jeopardized (Kelly, *et*. al., 1992).

According to ZPV (1990) research focusing on the provider's side of gap model indicates that seven key conceptual factors contribute to gap 3, the service-performance gap. These factors are illustrated in figure 3.5 and table 10 defines these factors and presents specific issues related to them.

1. role ambiguity,
2. role conflict,
3. poor-employee job fit,
4. poor technology job fit
5. inappropriate supervisory control systems leading to an inappropriate evaluation system

6. lack of perceived control on the part of employees,
7. lack of teamwork,

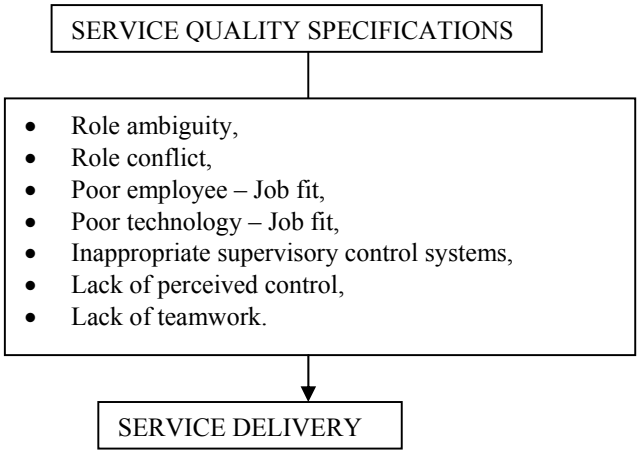


Figure 3.5 Key Factors Contributing to Gap 3

Source: Zeithaml, Parasuman and Berry, Delivering Quality of Service, 1990,Free Press, New York, p. 91.

Table 3.8 Conceptual Factors Pertaining to GAP 3

Factor and Definition	Specific Illustrative Issues
Role Ambiguity: Extend to which employees are uncertain about what managers or supervisors expect from them and how to satisfy those expectations.	• Does management provide accurate information to employees concerning job instruction, company policy and procedures, and performance assessment? • Do employees understand the products and services offered by the company? • Are employees are able to keep up with changes that affect their jobs? • Are employees trained to interact effectively with customers? • How often does management communicate company goals and expectations to employees? • Do employees understand what managers expect from them and how to satisfy those expectations?
Role Conflict: extent to which employees	• Do customers and managers have the same

perceive that they cannot satisfy all the demands of all the individuals (internal and external customers) they must serve.	expectations of the employees? • How often do customer-contact employees have to depend on other support services employees to provide quality service to customers? • Do employees have more work to do than they have time to do it? • Does the number of demands in employees' jobs make it difficult to effectively serve customers? • Do too many customers want service at the same time? • Do employees cross-sell services to customers in situations where it is inappropriate?
Employee-Job Fit: the match between the skill of employees and their jobs.	• Do employees believe that they are able to perform their jobs well? • Does the company hire people who are qualified to do their jobs? • Does management devote sufficient time and resources to the hiring and selection of employees?
Technology-Job Fit: the appropriateness of the tools and technology that employees use to perform their jobs.	• Are employees given the tools and equipment needed to perform their jobs well? • How often does the equipment fail to operate?
Supervisory Control Systems: the appropriateness of the evaluation and reward systems in the company.	• Do employees know what aspects of their jobs will be stressed most in performance evaluations? • Are employees evaluated on how well they interact with customers? • Are employees who do the best job serving customers more likely to be rewarded than other employees? • Do employees who make a special effort to serve customers receive increased financial rewards, career advancement, and/or recognition? • Do employees feel appreciated for their contributions?
Perceived Control: extent to which employees perceive that they can act flexibly rather than by rote in problem situations	• Do employees spend time in their jobs trying to resolve problem over which they have little control? • Are employees given the freedom to make

encountered in providing services.	individual decisions to satisfy customers' need? • Are employees encouraged to learn new ways to better serve their customers? • Are employees required to get approval from another department before delivering service to customers?
Teamwork: extent to which employees and managers pull together for a common goal.	• Do employees and managers contribute to a team effort in servicing customers? • Do support services employees provide good service to customer-contact personnel? • Are employees personally involved and committed to the company? • Do customer-contact employees cooperate more than they compete with other employees in the company? • Are employees encouraged to work together to provide quality service to customers?

Source: Zeithaml, Parasuman and Berry, Delivering Quality of Service, 1990,Free Press, New York, p. 92-93.

3.11.4 Gap 4: When Promises do not Match Delivery

Provider Gap 4 is the difference between service delivery and service provider's external communications. Promises mad e by a service company through its media advertising, sales force, and other communications may raise customer expectations and serve as the standard against which customers assess service quality (ZBP, 1988). Because company communications about services promise what people do, and because people cannot be controlled the way machines that produce physical goods can be controlled, the potential overestimating is high (ZPB, 1990).

The discrepancy between actual and promised service therefore has an adverse effect on the customer gap. Broken promises can occur for many reasons: over-promising an advertising or personal selling, inadequate coordination between operations and

marketing, and difference in policies and procedures across service outlets (George and Berry, 1981). In addition to unduly elevating expectations through exaggerated claims, there are other, less obvious ways in which external communications influence customers' service quality assessments. Service companies frequently fail to capitalise on opportunities to educate customers to use service appropriately (Legg and Baker, 1991). Customers are not always aware of everything done behind the scene to serve them (ZPB, 1990). They also frequently fail to manage customer expectations of what they will receive in service transactions and relationships (VZP, 2004).
The firm that explicitly communicates the guarantee may be selected over others by a customer who is uncertain about the quality of the service. Even though many competitors provide the same guarantees, the firm that communicates it to customers is the one chosen on that attribute. Making customers aware of the standards or efforts to improve service when these efforts are not readily apparent to customers can improve service-quality perceptions. Customers who are aware that a firm is taking concrete steps to serve their best interest are likely to perceive a delivered service in a more favourable way.

Discrepancies between service delivery and external communications, in the form of exaggerated promises and/or the absence of information about service delivery aspects intended to serve customers well, can powerfully affect customer's perceptions of service quality. The research conducted by Zeithaml *et.* al. (1990), focusing on provider's side of gaps model indicates that two key conceptual factors contribute to Gap 4. these factors are shown in Figure 3.6 and table 11):

1. Inadequate horizontal communication
2. propensity to over promise in communication

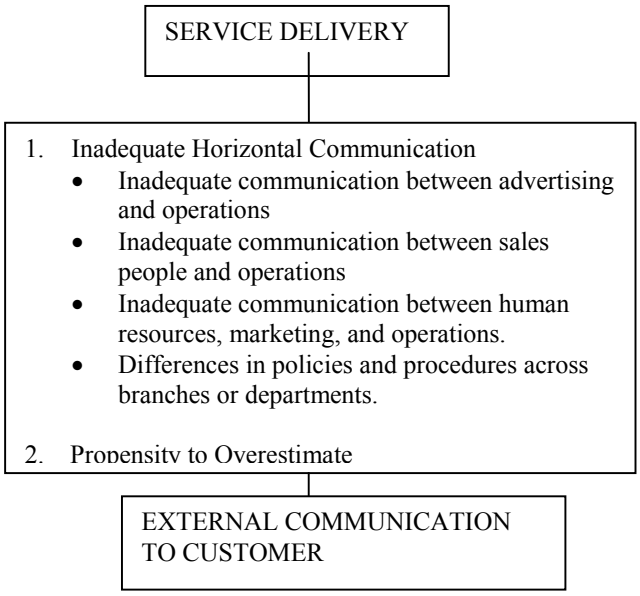


Figure 3.6 Key Factors Contributing to Gap 4

Source: Zeithaml, Parasuman and Berry, Delivering Quality of Service, 1990,Free Press, New York, 116**.**

Table 3.7 Conceptual Factors Pertaining to Gap 4

Factor and Definition	Specific Illustrative Issues
Horizontal Communication: extent to which communication occurs both within and between different departments of a company.	• Do customer contact personnel have input in advertising planning and education? • Are customer contact personnel aware of external communications to customers before they occur? • Does the sales force interact with customer contact personnel to discuss the level of service that can be delivered to customers? • Are the policies and procedures inside the company for serving company consistent across departments and branches?
Propensity to Over promise: Extent to which a company's external communications do not accurately reflect what customers receive in the service encounter.	• Is there increasing pressure inside the company to generate new business? • Do competitors over promise to gain new customers?

Source: Zeithaml, Parasuman and Berry, Delivering Quality of Service, 1990,Free Press, New York, 116**.**

EMPHASISE PRIMARY QUALITY DETERMINANTS

Communicating service quality begins with an understanding of the aspects of service quality that are most important to customers. Isolating quality dimensions most important to customers provides a focus for advertising efforts. Emphasising the most important dimension or dimensions of service quality results in effective communications than those focusing on other dimensions.

The research conducted by Zeithaml *et.* al. (1990) with SERVQUAL has provided surprisingly consistent rankings of the dimensions across service industries. In virtually, all the empirical work accomplished thus far, reliability stands above all others in importance, regardless of the specific service or industry studied. Customers' expectations of service providers are highest for reliability, and customers rank reliability as the most important of the five dimensions.

If reliability is the central to service customers, why don't all companies focus on reliability in advertising? Who do many companies focus instead on other service dimensions such as empathy and tangibles?

Zeithaml, *et.* al. (1990), believe that it is essential to obtain perceptions of reliability from the customer before choosing dimensions that are less important than reliability for company advertising. SERVQUAL and related questions provide a means of investigate these perceptions in individual firms and industries.

3.12 Managing Customers' Expectations

A major of the research conducted by Zeithaml, *et.* al. (1990) has been that consumers' perceptions of service quality can be influenced either by raising consumers' perceptions or by lowering expectations. Managing customers' expectations, especially those created by the company itself through external communications and price, is an essential part of the strategy to attain perceived quality service.

The expectations customers bring to the service affect their evaluations of its quality: the higher the delivered service must be to be perceived as high quality. Therefore, *promising reliability in advertising is only appropriate when reliability is actually delivered.*

Expectations are the standards or reference points against which a firm's performance is judged. It is believed that Gap 4 can be closed by managing customers' expectations. To manage these expectations companies must first understand the factors that influence expectations.

"*Uncontrollable" Sources of Expectations*. The research conducted by Zeithaml, *et.* al. (1990) suggests that word-of-mouth communication, customers' experience with the service, and customer's needs are key factors influencing consumers' expectations. These factors are rarely controllable by the firm; however, an in-depth understanding of these sources and their effects on expectations may lead to strategies that improve perceptions of service.

Controllable Sources of Customers' Expectations. Controllable factors such as company advertising, price, personnel selling, and the tangibles associated with the service are likely to be critical in determining the expectations that customers hold for a service.

Another way to manage expectations is to describe the service delivery process and provide the customer a choice of quicker lower-quality provision versus slower, higher-quality provision.

In both of these strategies, marketing reflects a full and accurate understanding of the operations functions this communication bridge between marketing and operations is essential in managing expectations.

Price as an Indicator of Service Quality. Price sets expectations for the quality of service, particularly when other cues to quality are not available. When customers lack information about the quality of service, they often use price as a surrogate for quality (Zeithaml, 1988). Because customers depend on price as a cue to quality and because price sets expectations of quality, service prices should e determined carefully. In addition to covering costs or matching competitors, prices must be chosen accurately to convey the appropriate quality signals. Pricing too low can lead to inaccurate inferences about the quality of service. Pricing too high can set expectations that may be difficult to match service delivery.

3.13 The Customers' Role in Service Delivery

Sometimes service problems and failures are caused by customers. When customers do not accept their responsibilities and roles in service transactions problems occur. In many of these situations, communications can be used to encourage customers to be better customers.

In General, one of the most important strategies in managing service promises involves aligning all of the company's individual external and internal messages so that integrated marketing communication (IMC) is achieved. This is more difficult to attain in services than in goods because many of the most important communication exchanges are between employees and customers; therefore the messages employees give to customers must be consistent with the message the company sends through advertising, public relations, the Internet, and other channels (Bell and Leavitt, 1998). Among the issues associated with achieving IMC are managing service promises (George and Berry, 1981; Legg and Baker, 1991), managing internal marketing communications, improving customer education, and managing customer expectations (Clemmer and Schneider, 1993; Parasuman *et*. al., 1991a). Explicit service premises, such as guarantees and warranties, have been found to be effective ways to increase customer perceptions of service reliability (Andaleeb, 1998)

As in the basic gaps model, shown in figure 3.2 the gap between customers' expectations and perceptions of service quality (Gap 5) results from the four gaps on the organisation's side of the model. Customers have expectations and perceptions of Gap 5 on each dimension. Each of four organisational gaps (gaps 1 through 4) in turn is caused by the factors associated with that gap.

Gap theory identifies the perception gap (no. 5) as the most important in terms of assessment of "actual" service quality. Parasuman *et.* al. have proposed the gap between perceived and expected service quality be taken as the definition of service quality itself. This is justifiable on the basis that (Olsen *et*. al, 1996);

- Quality is always measured against expectation,
- The service process involves the customer as a key player,
- Service excellence only exists insofar as it is perceived as excellence by customer.

3.14 Studies carried Out by Using Gaps Model

In the study of Sohail (2003): patients' expectations of reliability, responsiveness, tangibles, assurance and empathy were generally low. The mean scores of perceptions have exceeded expectations for all measures examined. This indicates that the perceived value of service quality has exceeded the initial expectations for all variables under all dimensions.

A comparison of gap scores recorded in the study and another conducted in the context of Hong Kong (Lam, 1997) reveals a number of differences. Comparing Lam (1997) and the Sohail (2003), differences were observed in the gap scores in the dimensions of reliability, responsiveness, assurance and empathy. For almost all of the measures in these dimensions, the patients in Hong Kong had higher expectations of the services than were actually received. In the study of Sohail (2003), reality exceeded expectations. This suggests that hospitals in Malaysia provide services that exceed expectations of patients, whereas there are factors that hospitals in Hong Kong need to address if they are not meet the service expectations of patients.

3.15 Critics on SERVQUAL

Although the SERVQUAL is a popular tool for measuring service quality, the psychometric properties of the instrument are not yet established (Chan *et*. al., 2003). On the other critics, (Carman, 1990, Babakus and Boller, 1992; Brown *et*. al., 1992; Babakus, 1993; Churchill and Peter, 1993; Teas, 1993; 1994; Lam and Woo, 1997) have questioned the conceptual foundation and psychometric properties of SERVQUAL scale. Finn and Lamb (1991) have argued that the generic nature of the instrument may not be appropriate for any service and some adaptation of the items may be needed. Furthermore, Babakus and Mangold (1993), Carman (1990) and Orwing *et.* al. (1997) has failed to replicate the five factors of SERVQUAL and have suggested that the items represent only one factor rather than five.

Several researchers (Cronin and Taylor, 1992; Brown *et*. al, 1993) have pinpointed the calculation of difference score (expectation of service quality minus perception of service quality) in the SERVQUAL measure can result in psychometric problems and customers overstating their expectations because of prior bad experience with the organisations (Clow and Vorhies, 1993). As a result, a few scholars, (Shewchuck *et*. al., 1991; Taylor and Cronin, 1994) have suggested the use of either the expected or perception scale, but not the difference between them.

As with any research tool, there are concerns expressed by other researchers. Lam (1997), Williams (1998) and O'Neil and Palmer have reviewed the criticism of the original instrument. Critics include the failure to draw on various disciplines of psychology social science and economics. Other issues relate to measuring time, stability over time, the measuring scale, the service quality dimensions and the use of difference scores, that is (Douglas and Connor, 2003);

Perception – Expectation = Quality

Other criticism is the generic nature of the instrument. It was suggested that survey instrument needed to be customised for use in the specific industry to which it was being applied by including additional related questions (Carman, 1990; Babakus and Boller, 1992; Brown *et*. al., 1993).

The original SERVQUAL used an importance score (the customer's service priorities), an expectations score (the customer's expected service level), a perception score (the customer's agreement that something was provided), and the gap score (the difference between the customer's expectation score for service and the perception score). There were several problems with this approach (Kaldenberg *et*. al., 1997). The questionnaire was the excessively lengthy and redundant, the gap scores were unreliable and neither expectation nor importance scores contributed significantly to explaining variance in service quality (Cronin and Taylor, 1992; 1994). In the light of these, Parasuman, Zeithaml, and Berry (1994) proposed several alternatives to the original SERVQUAL design.

According to Buttle (1994) the growing popularity and widespread application, SERVQUAL has been subject to a number of theoretical and operational critics which are detailed below:

1. **Theoretical**
    - **Paradigmic Objections:** SERVQUAL is based on a disconfirmation paradigm rather than an attitudinal paradigm; and SERVQUAL fails to draw on established economic, statistical and psychological theory (Taylor, 1992; 1994).
    - **Gaps Model:** There is little evidence that customers assess service quality in terms of P-E gaps.
    - **Process Orientation:** SERVQUAL focuses on the process of service delivery, not the customers of the service encounter.
    - **Dimensionality:** SERVQUAL's five dimensions are not universals; the number of dimensions comprising service quality is contextualised; items do not always

lead on to the factors which one would a priori expect; and there is a high degree of inter-correlation between the five RATER dimensions.

2. Operational

- **Expectations:** The term expectations are polysemic; consumers use standards other than expectations to evaluate service quality; and SERVQUAL fails to measure absolute service quality expectations.
- **Item Composition:** Four or five items can not capture the variability of each service quality dimensions.
- **Moments of Truth (MOT):** Customer's assessment of service quality varies from MOT to MOT.
- **Polarity:** the reversed polarity of items in the scale causes respondent error.
- **Scale Points:** the seven-point Likert scale is flawed.
- **Two Administrations:** Two administrations of the instrument cause boredom and confuse.
- **Variance Extracted:** the lower SERVQUAL score accounts for a disappointing proportion of item variances.

Carman (1990) argued that SERVQUAL could not be a generic measure that could be applied to any service. Babakus and Boller (1992) also maintained that the dimensionality of service may depend on the type of services under study. In addition to their empirically analysis, perception-only measures had higher correlations with an overall service quality measure and with compliant resolution scores than did SERVQUAL measures. The findings were also supported in studies by Cronin and Taylor (1992) and Bouilding *et.* al.(1993). Cronin and Taylor (1992) and Teas (1993) questioned the validity of SERVQUAL and proposed alternative models. Brown *et*. al. (1993) challenged conceptualising service quality as a difference score measure (Lee *et.* al. 2000).

The critics related to SERVQUAL have been subject to many published studies, and the questions in general are listed below (Valerie *et*. al., 2000):

a) ***Is it Necessary to Measure Expectations?*** Studies have shown consistently that scores on the perception only component of SERVQUAL are able to explain significantly more variance in consumers' overall evaluations of an organisations service quality than are the perception-expectation difference scores. Thus, from a strictly predictive-validity standpoint, measuring expectations is not warranted. Moreover, measuring expectations increases survey length. However, SERVQUAL's developers have argued that measuring expectations has diagnostic value (i.e. it generates information that will pinpoint shortfalls of service quality) and that basing service improvement decisions solely on perceptions data might lead to suboptimal or erroneous resource allocation (Parasuman *et*. al, 1994a). Additionally, from a practitioner's standpoint, an equally important purpose is to pinpoint service quality shortfalls and take appropriate corrective action. From this diagnostic-value perspective, it is prudent to measure perceptions against expectations (Valerie *et*. al. (2000).

b) ***How Should the Expectations Construct be Operationalised?*** Although the definition of service quality as the gap between customers' expectations and perceptions is conceptually simple, the operationalisation of this definition has been controversial because of the multiple ways the term "expectation" can be and has been interpreted. While service quality researchers have generally viewed expectations as normative standards (i.e. customers' belief about what a service provider *should* offer) researchers working in the area of customer satisfaction/dissatisfaction have typically considered expectations to be predictive (i.e. what customers feel a service provider *will* offer) standards. However, both "should" and "will" expectations have been used in measuring service quality (Boulding *et.* al., 1993). Furthermore, other types of expectations (e.g. "ideal", "deserved") have been proposed and defended as appropriate comparison standards (Woodruff *et*. al., 1991).

Zeithaml *et*. al. (1993) developed a model of expectations that suggested that consumers use two different comparison standards in assessing service quality: *desired service* – the level of service representing a blend of what customers believe

"can be" and "should be" provided; and *adequate service* – the minimum level of service customers are willing to accept. Separating these two levels is a "zone of tolerance" that represents the range of service performance a customer would consider satisfactory.

Although SERVQUAL's original expectations component measures normative expectations (i.e. the desired service construct) it did not capture the adequate service construct. Therefore, in a multi-sector study (Parasuman *et*. al., 1994b), SERVQUAL was augmented and refined to capture not only the discrepancy between the perceived service and desired service, which was labelled as measure of service superiority (MSS), but also the discrepancy between perceived service and adequate service - labelled as measure of service adequacy (MSA).

c) ***Is it Appropriate to Operationalise Service Quality as a Difference Score?*** Operationalising a construct as a difference between two other constructs may be questioned for psychometric reasons, especially if the difference scores are to be used in multivariate analyses (Peter *et*. al., 1993). SERVQUAL's difference score formulation has been questioned on this basis (Babakus and Boller, 1992; Brown *et*. al., 1993). Some critics have suggested that direct (i.e. non-difference score) measures of the perception-expectation gap will be psychometrically superior (Carman, 1990; Peter *et*. al., 1993). However, empirical comparisons of SERVQUAL and direct measures of service quality have not established conclusively that the direct measures are superior (Parasuman *et*. al., 1993).

The difference score operationalisation of service quality appears to have psychometric properties that are as sound as those of direct-measure operationalisation. Moreover, difference-score measures yield richer diagnostics than direct-score measures.

d) ***Does SERVQUAL Have Five Distinct Dimensions That Transcend Different Contexts?*** Replication of studies incorporating SERVQUAL have not been able to

reproduce as "clean" a five-dimensional factor structure as was obtained in the original study (Parasuman *et*. al., 1988). Parasuman *et*. al. (1991a) point out that the number final SERVQUAL dimensions vary from two (Babakus and Boller, 1992) to five (Bresinger and Lambert, 1990) to eight (Carman, 1990). Parasuman *et*. al. (1991b) offers several explanations for these differences: "Respondents may indeed consider the SERVQUAL dimensions to be conceptually distinct; however, if their evaluations of a specific company on individual scale items are similar across dimensions, fewer than five dimensions will result as in the Babakus and Boller (1992) study. Alternatively, if their evaluations of a company on scale items within a dimension are sufficiently distinct, more than five dimensions will result in Carman's (1990) study. Differences in the number of empirically derived factors across replications may be primarily due to across-dimension similarities and/or within-dimension differences if customers' evaluation of a specific company involved in each setting. At a general level, the five dimensional structure of SERVQUAL may still serve as meaningful framework for summarising the criteria customers use for assessing service quality. The dimensionality of SERVQUAL continues to be debated (Cronin and Taylor, 1992; Parasuman *et*. al, 1994a).

CHAPTER 4 METHODOLOGY

This study aimed to determine the level of service quality and patient satisfaction in TRNC's Health Care Industry by taking both private and public hospitals in to consideration.

4.1 Presentation of the Study

The data was collected through questionnaire. This questionnaire targets both private and public hospitals located in TRNC. The questionnaire is divided in four sections.

The first part of the questionnaire aims to measure the expectations of respondents from excellent hospitals. This expectation section is composed of 22 statements which in turn measures five dimensions proposed by Parasuman *et*. al. (1985).

Table 4.1 Number of Statements Included in Each Dimensions

DIMENSION	NUMBER OF STATEMENTS
Reliability	5
Tangibles	4
Responsiveness	4
Assurance	4
Empathy	5

In the second part the perception of respondents' on public hospitals (Burhan Nalbantoglu Public Hospital, Kyrenia Dr. Akçiçek Public Hospital, Famagusta Public Hospital) and private hospitals (Etik Private Hospital, Cyprus Life Private Hospital, Başkent Private Hospital, Girne Özel Hospital, Magusa Tıp Private Hospital, and Yaşam Private Hospital) were considered under the five dimensions, Reliability, Assurance, Responsiveness, Empathy, and Tangibles of service quality.

The aim was to measure the expectation and perception of the public and private hospitals that were taken in to consideration.
The statements that took place in the first and second part are original SERVQUAL scale which was developed by Parasuman *et*. al. (1985). Statements that had been used in the research were translated in Turkish in the previous scientific studies. These translated statements were taken in to consideration and used in this study. Five point Likert scale had been used to evaluate these statements.

In the third part of the questionnaire rankings related to the service quality dimensions; reliability, assurance, responsiveness, empathy and tangibles had been examined. Each statement measures each dimension.

In the fourth and the last dimension 15 questions were asked to determine the demographic conditions of the respondents. Moreover, in this section respondents were asked "if they received and health care service from the South Cyprus and their satisfaction level, if they received any health care treatment".

4.2 Hypothesis of the Study

Four hypotheses were developed for the study. They are;

H_1 – SERVQUAL model is an applicable model in TRNC.
H_2 – All public hospitals possess gaps between the expectation and perception on their service quality.
H_3 - All private hospitals possess gaps between the expectation and perception on their service quality.
H_4 – According to the service quality dimensions, gaps in the public hospitals are bigger than the gaps in the private hospitals.

4.3 Sampling of Research

The study targeted the citizens aged 18+ located in Nicosia, Kyrenia and Famagusta. The above mentioned cities have 18+ populations as 31,768 in Nicosia, 19,124 in Famagusta, and 7.440 (Nufus ve kayıt dairesi, 2005) in Kyrenia. The number of respondents which represents this targeted citizens were counted as 58,332 (Nufus ve kayıt dairesi, 2005), 62. 54%, of the questionnaires were conducted in Nicosia, 33% were conducted in Famagusta and 13% were conducted in Kyrenia in proportion to the targeted population.

After determining the number of interviews that will be conducted by the probability sampling technique in each city, these determined numbers were divided into the number of sample points and through systematic sampling. The number and the name of the districts which these questionnaires will be conducted were determined.

The response rate was 81.6%. When targeted population and number of samples were taken in consideration within 95%, confidence interval maximum ±3.7 sampling error is obtained.

Face to face qualitative technique is used in this research. All the respondents that were visited in their homes were asked to answer a standard questionnaire. Only 28 of these questionnaires are conducted on the telephone by the request of the respondents. 25% of these 692 questionnaires were controlled by the Kadem on the phone.

4.3.1 Limitation of Sampling Techniques

There were two limitations in this research.

1. There was an age limitation. People above 18 years were chosen and the main reason for this is the sociological structure of TRNC. In TRNC mostly people below 18 years of age are living with their families and they are not earning money. They get financial aid from their families. In this way asking some of the demographic

questions to people under 18 years old related with the financial position will lead us to a wrong analysis. Thus, 18 years of age were discarded.

2. This research was conducted only in Kyrenia, Nicosia, and Famagusta, and İskele and Güzelyurt were not taken in consideration. The reason for this is, only the cities where both private and public hospitals exist were taken in to consideration.

4.4 Field Study

Questionnaires had been prepared after the decisions made on the sample size and all those questionnaires had been conducted by a professional research company , KADEM.

The lists of the respondents were asked from the Kadem and then randomly selected 40 respondents were chosen from these lists. These randomly selected 40 people were called back in order to check if these questionnaires had been conducted properly face to face, according to the agreement made between both parties and without an error.

4.5 Statistical Methods Used in the Research

Several statistical analyses were conducted using SPSS 12.0 version. In this study T-test, one way ANOVA, correlation and Factor analysis were used.

In the data analysis, firstly frequency and percent distribution analysis were conducted in order to measure the respondents' demographic conditions. After all these analysis, factor analysis was conducted. Factor analysis is a measurement tool of service quality's five dimensions and in this study those five dimensions were kept constant, and 22 statements in expectation section were factor analysed which also takes place in the original service quality model developed by Parasuman *et*. al. (1985).

Factors and dimensions obtained thorough this factor analysis were used to calculate the expectation means and then perception mean values of both public and private hospitals separately. These calculated mean values were then used to run gap analysis.

Five dimensions obtained through factor analysis that showed similarities with the original Parasuman *et*. al. (1985) was analysed by T-Test analysis in order to determine if five dimensions' expectations and perceptions showed any differences according to the marital status and sex of the respondents. One way ANOVA analysis was conducted to measure if income, education level and age made any difference on the expectations and perceptions of service quality dimensions.

The relationship of service quality dimensions with education level and age was also investigated through of Correlation analysis.

CHAPTER 5 FINDINGS

5.1 Demographic Analysis

Service quality in health care sector is a very important concern both for citizens living in a country and for governments. Thus, in order to find out all the positive and negative aspects of service quality in the TRNC's health care industry a survey was conducted.

This survey was conducted all over the TRNC and the number of respondents to the survey was totalled up to 692 persons. All the respondents are either current citizens or foreigners who are currently located in TRNC for working and other purposes.

Table 5.1 Demographic Analysis

		Frequency (n)	Percentage Distribution (%)
Gender:	**Women**	414	59.9
	Men	277	40.1
	Total	**691**	**100**
Age groups :	**18-20**	28	4.1
	21-30	143	20.7
	31-40	176	25.5
	41-50	152	22.0
	51-60	102	14.8
	61-70	57	8.3
	71+	31	4.5
	Total	**690**	**100**
Education Level:			
Illiterate		9	1.3
Primary School Graduate		147	21.3
Secondary School Graduate		86	12.4

Higher School Graduate	239	34.6
University Graduate	171	24.7
Master/Phd	37	5.4
Others	2	0.3
Total	**691**	**100**
Teacher		
Housewife	20	2.9
Free Lance	61	8.8
Retired	163	23.9
Others	132	19.4
Total	81	11.9
	225	33
	682	**100**
Marital Status:		
Married	523	75.9
Single	166	24.1
Total	**689**	**100**
Income Level:		
750ytl and lower	55	8.1
751-1,250	96	14.1
1,251-1,750	98	14.4
1,751-2000	66	9.7
2,001-2.500	100	14.7
2,501-3,000	82	12.0
3,001-3,501	39	5.7
3,501-4,000	59	8.7
4000+	87	12.8
Total	**682**	**100**
Region of Residence:		
Nicosia	399	57.7
Kyrenia	81	13.2

Famagusta	199	28.8
Morphou	2	0.3
Total	**691**	**100**

The gender distribution of respondents was 40.1% women and 59.9% men were very close to the total population division of men and women. From the latest census that took place on 30th April, 2006, the total amount of de-jure population was announced to be 256, 644, of which 138,568 (54%) men and 118,078 (46%) women.

The age limitation for this survey was decided to be 18 years and above. The main reason for this limitation was due to our culture. The highest three scores were obtained from the respondents between 21-50 years old, of which 77.7%, and 50.2% of these said that they were financing their health service expenses.

The education levels of respondents were mainly high school (34.6%). Then this is followed by 24.7% of university graduates which is followed by 21.3% of primary school graduates. 23.9% of the respondents are housewives, 19.4% are dealing with their own business and 11.9% of them are retired. Others section consisting of several different business groups is totalled up to 33%.

The respondents were also directed questions related to their income level. The income level responses were grouped under 9 categories. 33.6% of the respondents stated their income level to be between 750-1750ytl and these respondents are categorized as low level of income earners. The middle-level income earners were classified as people earning between 1,751-3,000ytl, and they were totalled to 36.4% and finally the remaining 27.2% of the respondents stated to be higher-level income earners.

Additionally, from these results it can be said that higher the level of income is, higher will be the demand for private hospitals and this is proven by the responds given to the question asked as “from where did you receive the health care service”. The results were 34% from private and 55.2% from public and 5.6% from other places. When the

responds given to these questions are combined it can be seen that of 34% people who received health service from private hospitals, 27.2% is higher level income receivers and the remaining are the people from middle and lower level income levels. Moreover, it can be seen that the most of the low level income receivers receive their health service from public hospitals (55.2%), and some middle level income receivers receive service from both public and private hospitals.

The respondents were mainly located in Nicosia with 57.7%, then in Famagusta with 28.8% followed by Kyrenia with 13.2%. Nicosia has the highest population with (de-facto) 88,877 people, Famagusta with 64,269 and followed by Kyrenia with 62,158, and these are followed by Morphou and İskele.

Table 5.2 General Questions about Health Care Services Taken Recently

	Frequency (n)	**Percentage Distribution (%)**
Did you receive any health care service in TRNC within the last six months:		
Yes	419	60.9%
No	269	39.1%
Total	**688**	**100**
From where: Private Hospitals	146	34
Public Hospitals	237	55.2
Others	22	5.1
Both private and Public	24	5.6
Total	**429**	**100**
Who paid this service fee:		
Myself	212	50.2
Insurance	162	38.4
Both myself and insurance	38	9.0
Other	10	2.4

Total	**422**	**100**
Do you recommend the hospital that you had received health care to other people		
Yes	338	77.7
Maybe	96	22.1
No	1	0.2
Total	**435**	**100**
Have you faced any problems:		
Yes	95	16.2
No	325	55.3
I Didn't receive any treatment within the last six months	168	28.6
Total	**588**	**100**
Where did you receive the health care service from South?		
Public Hospital	41	6
Private Hospital	25	3.6
I didn't receive any service	617	90.1
Both from public and private hospital	2	0.3
Total	**685**	**100**
Satisfaction From South:		
Very Satisfied	23	32.4
Satisfied	34	47.9
Dissatisfied	8	11.3
Very Dissatisfied	6	8.5
Total	**71**	**100**
Would you get Health Care Service from the Hospitals at the South in the future?		
Yes, certainly		
Maybe	102	14.9
Absolutely no	282	41.2

Total	301 **685**	43.9 **100**

The questions and answers that are shown in table 5.2 are related to the respondents' perception of the health care quality in TRNC and in South Cyprus.

One of the questions asked whether the respondents had received any health care service within the last six months from any of the institutions in TRNC, and 60.9% of the respondents said yes, they did, and the rest 39.1% said no, they didn't, and added that from this 60.9% of respondents who received this service preferred going to private hospitals and the rest 50.2% to public hospitals and the remaining 5.1% to other places. Moreover, as stated before 50.2% of respondents who received this service from public hospitals were mainly lower level income earners. The number of respondents to this question was 429 and the remaining 263 people who did not receive any treatment within the last six months did not respond to this question.

According to the rules and regulations applied by the ministry of health in TRNC, all the working people and their families, retired people and people who get social aid from the government, and people who pay for their social insurance to the government are obliged to receive free treatment from all of the public hospitals, and from other places which provides health service. Respondents were asked if they have received any treatment within the last six months and who paid for the treatment fees. Except for those 270 respondents, who did not receive any treatment, 212 people stated that they paid their own fees, 162 people stated that they are financed by insurance and the remaining are financed by other resources. And those people also asked "if they recommend the service that they had received", and from those 488 respondents, 338 (77.7%) recommend the place that they had received this service from and the rest did not recommend the service that they had received. Moreover, those respondents added that 16.2% had faced problems during their treatment, 55.3% did not faced any problems during their treatment and the rest 28.6% of the respondents expressed that they do not have any idea as they did not receive any treatment within the last six months.

Before 2003, Turkish Cypriots who were not satisfied with the health care service that they received from TRNC used to go mainly to Turkey and to the other places all around the world to receive proper health care service. With the opening of the borders most of these people have right to cross the borders. In this way they obtained an opportunity to receive this service from the South Cyprus. Respondents were asked "if they had received any treatment at the South Cyprus and from where, any health care service from the South Cyprus", and 41 people (6%) stated that they received this service from the public hospitals, 25 (3.6%) received from private hospitals, 2 (0.3%) received this service from both public and private hospitals and 617 (90.1%) people said that they did not receive any treatment from the South. 32.4% of those people who received this service were very satisfied and 47.2% stated that they were only satisfied and 19.8% said they were not satisfied at all from the service that they had received.

Moreover, the respondents finally asked if they will go to hospitals to receive any health care service from the South if they had to. 14.9% of the respondents said that they will definitely go, 41.2% said they may go, and the rest 43.9% stated that they will not to South to receive any heath care service.

5.2 Factor Analysis

Factor analysis was a major tool as it provides a means of determining which questions are measuring dimension one, which questions are measuring dimension two, and so on, and which questions do not distinguish between dimensions in the data (Asubonteng, 1996, Chap 3, p. 87). Questions that were not clearly related to the dimensions were discarded.

To test the dimensionality of the instrument, all 22 items were factor analysed. Factor analysis measures if those 22 items are grouped within each other, and these groups are formed within our questionnaire. Factor analyses were first conducted on expectation section in order to measure the validity and reliability of the questionnaire.

Several researchers have examined the stability of SERVQUAL dimensions found that the number of service quality dimensions were not stable across different services in the factor analysis results (Lee *et.* al. 2000, Chp. 3, p. 91). From the factor analysis that was conducted on the expectations section, almost all the statements loaded to the dimensions that they belong to, but, statement 3 on the tangibles dimension had been loaded on the reliability dimension. Moreover, statement 1 on empathy dimension had been loaded on assurance dimension. Thus, from these results, it can be said that the SERVQUAL questionnaire is applicable in TRNC and only if statement of tangibles 3 should be studied under reliability dimension and statement of empathy 1 should be studied under assurance dimension.

This study also proved to be reliable in TRNC. But, statement E19 should be taken out of the questionnaire which in turn increases the validity and reliability of the research.

SERVQUAL instrument has been extensively adopted in various industries and its validity and reliability have been confirmed. Scardina (1994) and Arikan (1999) reported that SERVQUAL was superior in validity and reliability for patient satisfaction. This means that this questionnaire is valid in TRNC as it is. For the sake of convergent validity 0.4 was used as a factor loading cut-off point. There is no deleted item. Sampling adequacy is 95%.

Table 5.3 Dimensions of the Instrument

	Factor Loading
<u>Tangibles (α= o.75)</u>	
T1. Excellent hospitals will have modern looking equipment.	**0.840**
T2. The physical facilities at excellent hospitals will be visually appealing.	**0.820**
T4. Materials associated with the service will be usually appealing at excellent hospital.	**0.489**
<u>Reliability (α=0.83)</u>	

R4. Excellent hospitals will provide a service at the time they promise to do so.	**0.718**
R1. When excellent hospitals will tell customers exactly when services will be performed.	**0.687**
R3. Excellent hospitals will provide service right at the first time.	**0.656**
R2. When customer has a problem, excellent hospitals will show a sincere interest in solving them.	**0.647**
R5. Excellent hospitals will insist on error free records.	**0.600**
T3. Employees at an excellent hospital will have neat appealing.	**0.535**
Responsiveness (α=0.78)	
R4. Employees of excellent hospitals will never be too busy to respond to patients' requests.	**0.687**
R3. Employees of excellent hospitals will always be willing to help patients.	**0.599**
R2. Employees of excellent hospitals will give prompt service to patients.	**0.539**
R1. Employees of excellent hospitals will tell patients exactly when services will be performed.	**0.520**
Assurance (α=0.87)	
A2. Patients of excellent hospitals will feel safe in their transactions	**0.728**
A1. The behaviour of employees in excellent hospitals will insist of confidence in hospitals.	**0.721**
A3. Patients of excellent hospitals will be consistently courteous with patients.	**0.704**
A4. Employees of excellent hospitals will have knowledge to answer patients' questions.	**0.700**
E1. Excellent hospitals will give patients individual attention.	**0.501**

Empathy (α=0.68)	
E5. The employees of excellent hospitals will understand the specific needs of their customers.	**0.768**
E4. Excellent hospitals will give patients individual attention.	**0.732**
E3. Excellent hospitals will have employees who give customers personal attention.	**0.629**
E2. Excellent hospitals will have operating hours convenient to all their customers.	**0.541**

The coefficient alpha (α) is the basic measure for the reliability which measures the extent of internal consistency between, or correlation among, the set of questions making up each of the five dimensions (Schacherer, 2002, Chp 3, p. 97). The minimum reliability that is acceptable is difficult to specify (Asubonteng, 1996) indicating that the scale exhibits desirable levels of internal consistency (Schacherer, 2002)

SERVQUAL scale was factor analysed by principal component analysis. In factor analysis, a rotation procedure is applied which maximises the correlations of item on factor with Varimax Kaiser Normalisation.

Factors including less than 0.4 were eliminated. In this respect, statement E 19 was eliminated. Using this criterion resulted in five factors totalling 21 items. These factors were empathy, responsiveness, assurance, reliability and tangibles. Two factors were loaded to different dimensions. Statement 3 originally located on the tangibles dimension was loaded to reliability dimension and statement 1 on the empathy dimension was loaded on the assurance dimension. From these results, it would be advisable to other researchers, in further studies, to take findings in to consideration and conduct a survey with this new format.

5.3 Findings on Gaps

Parasuman *et.* al., (1985) developed one approach to view the delivering in a structured and integrated way: the "gaps model" of service quality. Gaps model positions the key concepts, strategies and decisions in a manner that begins with customer and builds the organisation's tasks around what is needed to close the gap between customer expectations and perceptions.

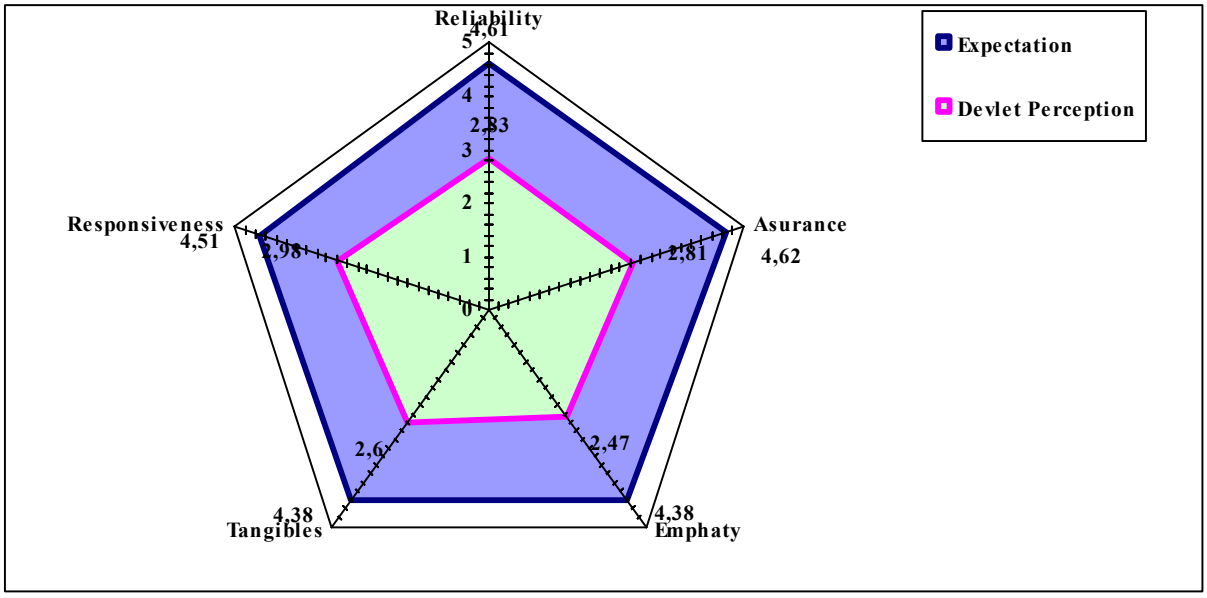


Figure 5.1 Expectation and Perception of Public Hospitals

The first column of Table 5.4 shows the respondent's expectations. Expectation is a factor used in judging service quality involving impressions from past experiences, word-of-mouth communication and the company advertising (Dibb, *et*. al., 2001). Expectations may easily be manipulated or controlled by the individual in the organisation (Camilleri and O'Callaghan, 1998). It can be seen that all dimensions' expectation mean scores had been calculated. For the gap analysis, the factors namely; tangibles, reliability, assurance, responsiveness and empathy obtained from the factor analysis were used.

Table 5.4 Gaps of the Study

	Expectation	Public Hospitals Perception	Public Gaps	Private Hospitals Perception	Private hospitals Gap
Tangibles	4.38	2.60	1.78	4.31	0.07
Reliability	4.61	2.83	1.78	4.17	0.44
Responsiveness	4.51	2.98	1.53	4.20	0.31
Assurance	4.62	2.81	1.81	4.21	0.41
Empathy	4.38	2.47	1.91	3.95	0.43

The first step was to calculate the expectation mean values of each dimension (Table 5.4). The second step was to calculate the perception mean values of each dimension both on public and private hospitals. Perceptions have been described as an individual's formed opinion of the experienced service (Teas, 1993). Perceptions would be formed only after experiencing the service in question. Perceptions were compared to the users' original expectations of service performance. This perception section shows what actually been recognised by the respondents related to the services from those hospitals that had been received.

The aim in this study is to find out whether there is any gap between the health care service expectations and perceptions of the respondents. There is a generally accepted formula developed by Parasuman *et*. al. (1985) is commonly used to calculate the gap between perception scores and expectation scores of the respondents.

Gap= Expectation – Perception

Each dimension's gap is calculated by applying this formula to each dimension separately.

For Example; to calculate the gap on reliability on both private and public hospital,

Gap on Reliability of public hospitals= Reliability − reliability (public hospitals)

(Expectation) (Perception)

Gap → 1.78 = 4.61 - 2.83

Gap on Reliability of private hospitals= Reliability − reliability (private hospitals)

(Expectation) (Perception)

Gap → 0.44 = 4.61 – 4.17

The calculations had been applied to each dimension and their outcomes are depicted in Table 5.4.

A gap between expectation and perception means that the perceived services that had been delivered were not sufficient enough to meet the expectations of the respondents, thus both private and public hospitals have to take some corrective actions to close these gaps in order to give higher quality based service to their patients.

5.3.1 Public Hospitals

The gaps calculated in public hospitals shows that in all of the dimensions, perceived quality is beyond the expectations.

The radar chart (figure 5.1) shows the gaps in public hospitals. The navy line shows the expectation of the respondents and pink line shows the perception of the respondents the blue shaded is the gap between the expectation and the perception of the respondents.

5.3.1.1 Reliability Gap

The expectation section (Table 5.4) showed that on the **reliability dimension** the mean expectation of the respondents were 4.61 and the perception on the same dimension proved to be 2.83. This means that there is a gap of 1.78 between the expected and perceived service quality on the reliability dimension, where reliability is the ability to perform promised service dependably and accurately. With this gap it is proven that

public hospitals need some improvements and corrective actions in order to close this weakness.

To be able to measure these sections five very important statements had been used, and as this gap formed from the responses given to these five statements, the health ministry has to take these statements and what they measure in to consideration.
These statements are:

- Excellent hospitals will tell their patients exactly when services will be performed.
- When customers have a problem, excellent hospitals will show a sincere interest in solving it.
- Excellent hospitals will provide service right at the first time.
- Excellent hospitals will provide a service at the time they promise to do so.
- Excellent hospitals will insist on error free records.

Also from the factor analysis outcome the third statement on tangibles dimension stating that "Employees at an excellent hospital will have neat appealing" is loaded on the reliability dimension. Therefore, this statement should be seen as a part of the reliability dimension and should be analysed and if necessary make proper improvements on them when taking corrective action on the gap that was determined. Otherwise, this corrective action will not be a proper one as one of the statements is ignored. This action will be insufficient and in turn again will result in a gap.

It is understood from the responses that the amount of services given to these respondents on the reliability dimension did not satisfy them. To be able to form that satisfaction thus leads to perception of good quality, management team of the public hospitals have to concentrate on these statements one by one, and analyse their weaknesses and strengths and then take corrective action to improve their weaknesses.

5.3.1.2 Assurance Gap

On the assurance dimension the expectations' mean score was 4.62 and the perceptions' mean score was 2.81 (Table 5.4). In this case, the gap on the assurance dimension is 1.81. The assurance dimension measures the knowledge and courtesy of employees and their ability to convey trust and confidence. Again respondents were presented four statements to evaluate. The statements were:

- The behaviour of the employees in excellent hospitals will insist on confidence in hospitals.
- Patients of excellent hospitals feel safe in transactions.
- Employees of excellent hospitals will be consistently courteous with patients.
- Employees of excellent hospitals will have knowledge to answer patient's questions.

Statement 1 from empathy dimension has been loaded to assurance dimension and this statement states that "Excellent hospitals will give patients individual attention". This statement is loaded in this dimension, because if the service receivers feel that they are receiving individual attention then they feel more secure and even more special, and thus trust more to the service provider.

Moreover, from the results it can be seen that there is a gap of 1.81 which shows that there is a lack of trust to the public hospitals and the respondents are not satisfied with the service that they received. Therefore, public hospitals' management should take in to consideration the above mentioned statements and take corrective actions to improve them.

5.3.1.3 Empathy Gap

Empathy is one of the most important aspects for all the sectors in service industry, not only for the health care sector. Empathy is the provision of caring, individualised

attention to customers. In such a sense every service receiver need to feel special. Empathy is measured with the statements listed below:

- Excellent hospitals will give patients individual attention (this statement has been loaded to assurance dimension)
- Excellent hospitals will have operating hours convenient to all their patients.
- Excellent hospitals will have employees who give patients personal attention.
- Excellent hospitals will have their patient's best interest at heart.
- The employees of excellent hospitals will understand the specific needs of their patients.

The analysis of the answers shows that there is a gap between the expectation and perception on the empathy dimension. The expectation mean score was 4.38 and perception mean score was 2.47, thus the gap score that occurred was 1.91. This gap demonstrates that there is lack of individual attention and caring to the patients in the public hospitals. This is mainly due to lack of time and more work load on the service providers and also may be due to lack of motivation. Again when considering those improvements the first statement should be taken in to consideration on the assurance dimension and others should immediately be improved. Otherwise, the patients' psychology will collapse and moreover, they will search other places to go and receive this service.

5.3.1.4 Tangibles Gap

Tangibles are the appearance of the physical facilities, equipment, personnel, printed and visual materials. To be able to evaluate the expectations and perceptions of tangibles dimension the following statements are asked to the respondents:

- Excellent hospitals will have modern looking equipment,
- The physical facilities at excellent hospitals will be visually appealing.

- Employees at an excellent hospital will have neat appealing (this statement has been loaded to reliability dimension).
- Materials associated with the service (such as pamphlets and statements) will be visually appealing at excellent hospitals.

When factor analysis was conducted the statement "employees at an excellent hospital will have neat appealing" had been loaded on the reliability dimension. Therefore statement was not analysed in the tangibles dimension.

The expectation mean score on this dimension was 4.38 and the perception mean score was calculated as 2.6, thus, this un-equivalence lead to a gap of 1.78 (Table 5.4). This gap of 1.78 is a proof that shows that the public hospitals are not sufficient enough to obtain the necessary equipment and is not able to provide physical appearance to its patients.

5.1.3.1.5 Responsiveness Gap

Responsiveness dimension measures willingness to help patients to provide prompt service. On this dimension both the organisation and its employees are considered in terms of their abilities to serve their respondents and satisfy them. To be able to measure this dimension, the following statements have been presented to the respondents in evaluation.

- Employees of excellent hospitals will tell patients exactly when services will be performed.
- Employees of excellent hospitals will give prompt service to patients.
- Employees of excellent hospitals will always be willing to help patients.
- Employees of excellent hospitals will never be too busy to respond to patients' requests.

Like the other dimension, in this dimension there is a gap. The expectation mean value score was 4.51 and the perception score was 2.98. Thus the gap of 1.53 has been obtained

(Table 5.4). It can also be seen from figure1 that when compared to other gaps, this gap is the smallest one. This means that the public sector is more relatively successful on the responsiveness dimension. To be more successful than the other dimensions does not mean that the public hospitals have no problem in this dimension, therefore, the management team of the public hospitals has to give training and motivate their employees. By doing so they might diminish this gap.

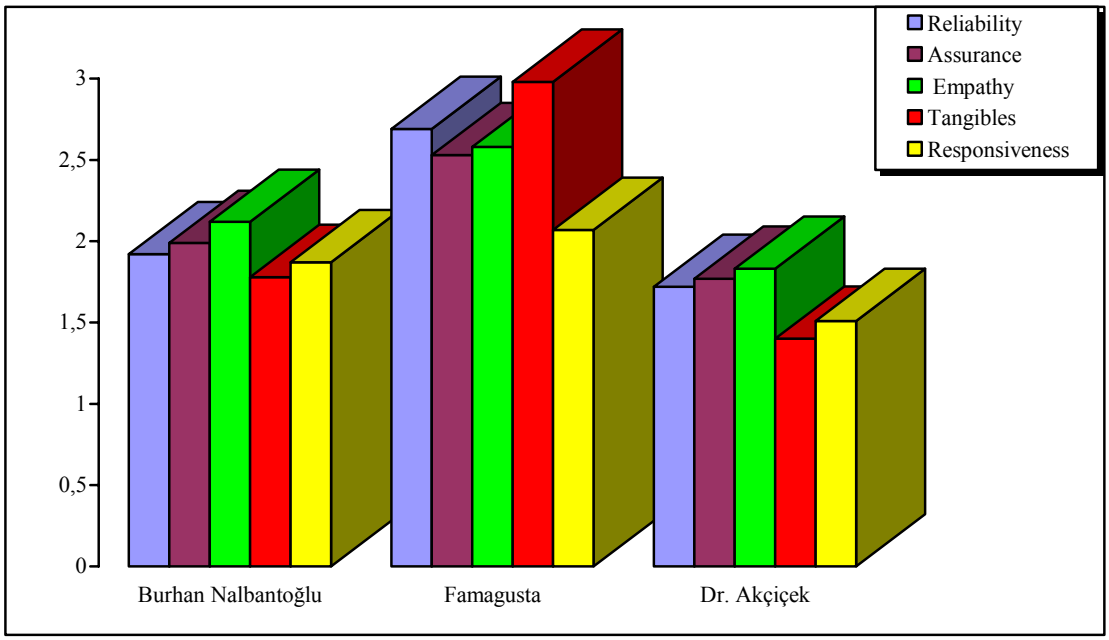
5.3.2 Comparison of Public Hospitals

Table 5.5 and Graph 5.1 both shows the difference between expectation and perception and the gaps of all public hospitals located in TRNC. On the **reliability** dimension, the most reliable hospital is Kyrenia Dr. Akçiçek Public Hospital, with the lowest gap score of 1.72, followed by Dr. Burhan Nalbantoglu Public Hospital with a gap score of 1.92 and on the last position is the Famagusta public hospital with a perception score of 2.69. In this situation, this proved that especially Girne Akçiçek Hospital delivers its service to its patients more accurately than the other two.

Table 5.5 comparison of Public Hospital's Expectation, Perception and Gaps

	Expectation	Burhan Nal. Hospital Nicosia	Gap	Famagusta Hospital	Gap	Dr. Akçiçek Hospital Kyrenia	Gap
Reliability	4.61	2.69	1.92	1.91	2.69	2.89	1.72
Assurance	4.62	2.63	1.99	2.03	2.58	2.85	1.77
Empathy	4.38	2.25	2.12	1.90	2.58	2.55	1.83
Tangibles	4.38	2.60	1.78	1.40	2.98	2.98	1.40
Responsiveness	4.51	2.63	1.87	2.43	2.07	3.00	1.51

Graph 5.1 Gap comparisons on Dimensions of Public Hospitals



On the **assurance** dimension, when three public hospitals are compared it can be seen that the one with the lowest gap is Dr. Akçiçek Hospital with gap score to be closed 1.77, followed by Burhan Nalbantoglu 1.99 and then Famagusta hospital, 2.58.
Assurance measures the knowledge and courtesy of employees and their ability to convey trust and confidence, in this situation it can be said that the most trustable hospital is Dr. Akçiçek Hospital among others, according to the respondents.

Being welcomed from nurses, doctors and other staff increases the morale of the patients. This ability of being **emphatic** is very important in any sector of the service industry, and within those three hospitals the one with the lowest empathy gap again is the Dr. Akçiçek public hospital. Dr. Akçiçek has a gap score of 1.83, followed by Burhan Nalbantoglu Public Hospital with 2.12 and finally Famagusta has 2.58 gap score to be closed.

Tangibles dimension measures the physical look, the equipment etc. of the hospitals. Again on this dimension Dr. Akçiçek Public Hospital has the lowest gap among the public hospitals. Famagusta hospital is in a very bad position with a huge gap (2.38).
The final dimension is **responsiveness**, which measures willingness to help patients to provide prompt service. In this dimension again the same results has been raised. Dr.

Akçiçek Public Hospital has the smallest gap with 1.51, followed by Burhan Nalbantoglu Public Hospital with 1.87 and finally Famagusta Hospital with 2.07.

5.3.3 Private Hospitals

The radar diagram (Figure 5.2) demonstrates the expectation, perception and the gap of the private hospitals. Green line shows the expectation, black line shows the perception and the area shaded with blue colour shows then gap between the gaps of private hospitals.

Figure 5.2 Expectations and Perception of Private Hospitals

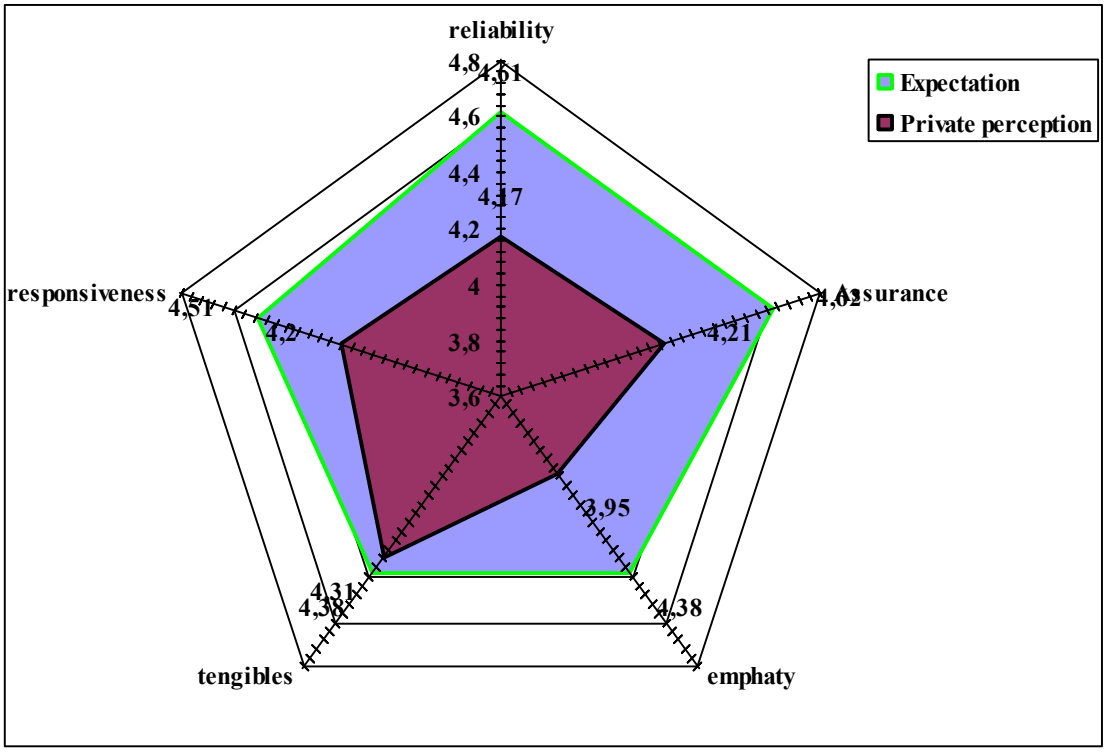


Table 5.6 The Expectation, Perception and the Gap of Private Hospitals

	Expectation	Public Hospitals Perception	Public Gaps	Private Hospitals Perception	Private hospitals Gap
Tangibles	4.38	2.60	1.78	4.31	0.07
Reliability	4.61	2.83	1.78	4.17	0.44
Responsiveness	4.51	2.98	1.53	4.20	0.31
Assurance	4.62	2.81	1.81	4.21	0.41
Empathy	4.38	2.47	1.91	3.95	0.43

The Table 5.6 shows the gaps between the expectation and the perception of the private hospitals.

On the **tangibles** dimension the expectation of the respondents were 4.38 where the perceptions mean score has been calculated to be 4.31, thus, the gap that occurred in only 0.07 which is a quite a small gap.

The **reliability** dimension's expectation score was 4.61 and the perception was 4.17 and therefore the gap become as 0.44. This is a quite a small gap and it means that almost all the private hospitals are seem to be reliable in the eye of their patients.

Responsiveness measures willingness to help patients to provide prompt service. On this dimension both the organisation and its employees are in consideration, and their abilities to serve their respondents and satisfy them. The expectation mean score on this dimension was calculated as 4.51 and the perception mean score was calculated as 4.20 thus the gap of 0.31 has occurred.

The last two dimensions are **assurance and empathy**. In the assurance dimension the respondent's gap has been formed as 0.41 where is an indicator of good behaviour of staff and their courtesy and ability to obtain the trust of the service receiver. In this way they obtain the trust of the patients. And therefore they retain the number of service receivers and even increase this amount.

The last dimension is **empathy**. The gap is 0.43, which is rather lower than the public hospitals.

5.3.4 Comparison of Private Hospitals

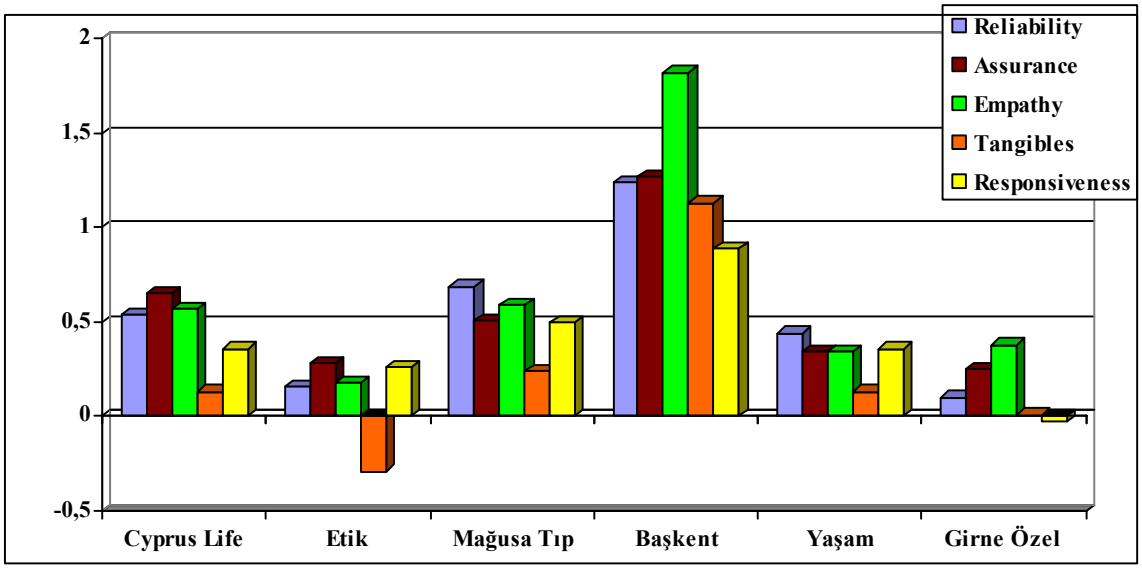
On the reliability dimension Başkent Private Hospital with 1.24 has the highest gap, followed by Mağusa Tıp and the one that has the lowest gap is Girne Özel Hospital with 0.10.

Table 5.7 Comparison of Private Hospitals

	Expectation	Cyprus Life	Gap	Etik P. H.	Gap	Mağusa Tıp P.H.	Gap	Başkent P.H.	Gap	Yaşsm P.H:	Gap	Girne Özel P.H.	Gap
Reliability	**4.61**	4.07	**0.54**	**4.45**	**0.16**	**3.92**	**0.69**	**3.37**	**1.24**	**4.17**	**0.44**	**4.51**	**0.10**
Assurance	**4.62**	3.97	**0.65**	**4.34**	**0.28**	**4.11**	**0.51**	**3.35**	**1.27**	**4.28**	**0.34**	**4.37**	**0.25**
Empathy	**4.38**	3.81	**0.57**	**4.20**	**0.18**	**3.79**	**0.59**	**2.56**	**1.82**	**4.04**	**0.34**	**4.00**	**0.38**
Tangibles	**4.38**	4.25	**0.13**	**4.67**	**-0.29**	**4.14**	**0.24**	**3.25**	**1.13**	**4.25**	**0.13**	**4.37**	**0.01**
Responsiveness	**4.51**	4.15	**0.36**	**4.35**	**0.26**	**4.01**	**0.50**	**3.62**	**0.89**	**4.15**	**0.36**	**4.54**	**-0.03**

On the **reliability** dimension Başkent Private Hospital has the highest gap with 1.24, followed by Mağusa Tıp and the one that has the lowest gap is Girne Özel Hospital with 0.10.

Graph 5.2 Gap Comparisons on Dimensions of Private Hospitals



On the **assurance** dimension again Başkent hospital has the highest gap with 1.27 followed by Cyprus Life with 0.65; again the one with the lowest gap is Girne Özel Private Hospital.

Think about a patient who doesn't need any warm welcome, smiling face, care, individual attention from the service providers. Any hospital who gives this good service who welcomes their service receivers, who is **emphatic** to their patients will successfully close this gap. Başkent Hospital has the highest gap, followed by Magosa Tıp Private Hospital and the one has the lowest gap score is again the Girne Özel Private Hospital.

Tangibles dimension measures the physical environment, equipment and the outlook of those hospitals. It can be seen from the graph 5.2 that there Etik Private Hospital has a gap with minus sign.

Lastly on the **responsiveness** dimension, Girne Özel Private Hospital has a minus signed gap, service receivers are very sensitive to the service they receive. If they receive a good service, if all the promises that are made are kept, and if all the service receivers are cared individually, then the service receivers will be satisfied and will always visit those

hospitals, and by this way these hospitals will increase the number of their potential service receivers.

5.3.5 Comparison of Private Hospital's Gaps with Public Hospitals' Gaps

The area that is shown by black line shows the expectation of the respondents, green line shows the perception of the respondents on private hospitals and the burgundy line shows the perception of respondents on public hospitals.

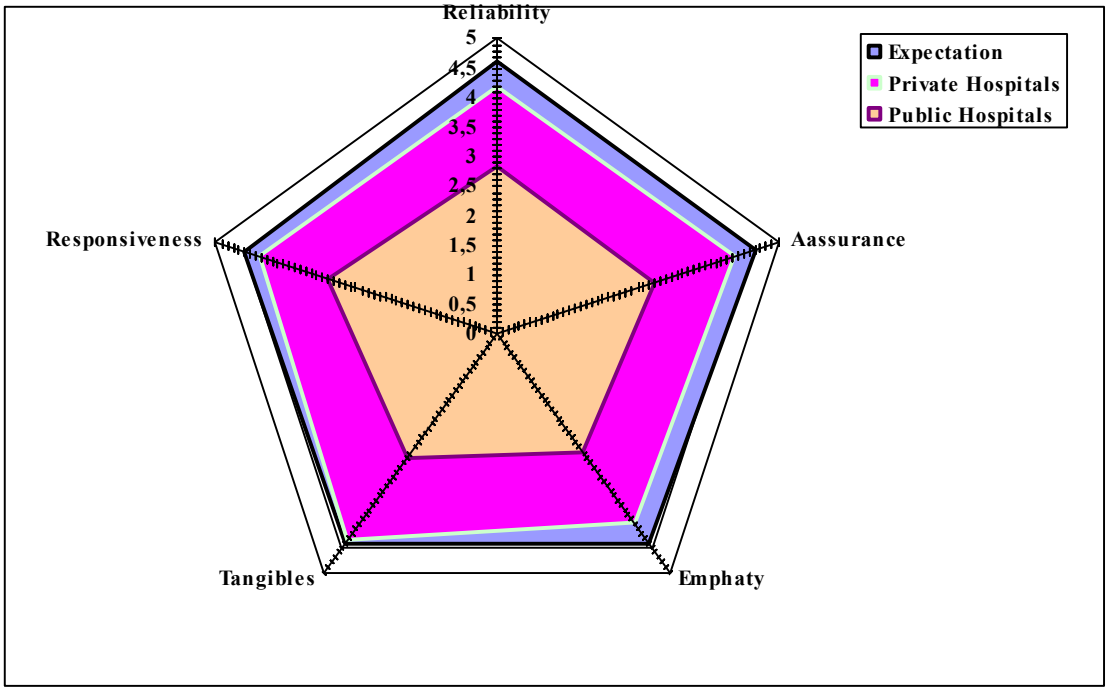


Figure 5.3 Comparison of Private and Public Hospital's Expectation and Perception

The figure 5.3 and Table 5.8 shows that on the **tangibles** dimension there is a quite a big difference between the public and private hospitals. The Gap that should be closed on public hospitals was 1.78 where the gap that should be closed by the private hospitals was 0.07.

Table 5.8 Comparison of Private Hospital's Gaps with Public Hospitals' Gaps

	Responsibility	Assurance	Empathy	Tangibles	Responsiveness
Public Hospitals	1.78	1.81	1.91	1.78	1.53
Private Hospitals	0.44	0.41	0.43	0.07	0.31

The **reliability** dimension measures ability to perform promised service dependably and accurately. When compared, the gaps between these hospitals public hospitals have gap of 1.78 and private hospitals have gap of 0.44. The gaps in the public hospitals are in a worse position than private hospitals.

On the **assurance** dimension, the perception gap of public hospitals is 1.81 and private hospital's 0.41. Assurance is the knowledge and courtesy of employees and their ability to convey trust and confidence.

Responsiveness is another dimension that has a gap difference between the private and public hospitals. Public Hospitals have the gap score of 1.53 and private hospitals have the gap score of 0.31. Responsiveness measures willingness to help patients to provide prompt service

The last dimension is **empathy.** This dimension is the provision of caring, individualised attention to customers. There is a gap difference between the private and public hospitals in this dimension as well. Especially public hospitals have the highest gap between the other dimensions with this dimension.

5.4 One-Way ANOVA Analysis Results

One way ANOVA procedure can display multiple comparison statistics to evaluate the differences between all possible pairs of group means. ANOVA analysis shows if there

is significant difference between the public hospitals. The significance level is 0.05, and any relationship under these levels shows a difference between the two. If significance level is between 0.00 and 0.05 there seems to be a significant difference between the variables and, if this amount is greater than 0.5 then this shows that there is no significant difference between the variables.

Table 5.9 Findings of One Way ANOVA Analysis on Public Hospitals

DIMENSIONS		n	∂	s	F	p
Reliability	Nicosia	376	2.91	1.19	12.115	0.0001
	Famagusta	157	2.45	0.92		
	Kyrenia	73	3.12	1.16		
Assurance	Nicosia	378	2.85	1.21	4.108	0.017
	Famagusta	157	2.61	0,97		
	Kyrenia	73	3.05	1.22		
Empathy	Nicosia	378	2.44	1.18	2.186	0.113
	Famagusta	157	2.43	0.94		
	Kyrenia	73	2.73	1.29		
Tangibles	Nicosia	376	2.83	1.24	57.308	0.0001
	Famagusta	158	1.78	0.96		
	Kyrenia	73	3.23	1.18		
Responsiveness	Nicosia	377	2.86	1.43	0.490	0.613
	Famagusta	156	3.13	6.98		
	Kyrenia	**73**	**3.25**	**2.07**		

ANOVA analysis was conducted on the Public Hospitals and according to these analysis the difference on Reliability dimension (p=0.0001), Assurance dimension (p=0.017), Empathy dimension (p=0.113) and Responsiveness dimension (p=0.0001) was observed.

According to the LSD test conducted, on the **reliability** dimension; Nicosia Burhan Nalbantoglu Public Hospital and Kyrenia Dr. Akçiçek Public Hospital are in a better position on the reliability dimension than Famagusta Public Hospital (mean difference=0.45, p=0.0001; Mean difference=0.67, p=0.0001). Moreover, on this dimension there is no significant difference between Burhan Nalbantoglu Public Hospital and Dr. Akçiçek Public Hospital. These results proved that in between those three hospitals Famagusta Public Hospital proved to be the least reliable one.

On the **Assurance** dimension, both Burhan Nalbantoglu and Dr. Akçiçek Public Hospitals are in a better position than the Famagusta Public Hospital (mean difference=0.24, p=0.030; Mean difference= 0.44, p= 0.008). Famagusta Public Hospital, on this dimension proved to be the least assured hospital compared to others.

On the **Empathy** dimension there is a significant difference between Burhan Nalbantoglu Public Hospital and Dr Akçiçek Public Hospital (mean difference=-2.91, P= 0.043). Moreover, on this dimension Dr. Akçiçek is more empathetic than Burhan Nalbantoglu as it has a negative mean value. There is no significant difference between Famagusta Hospital with Burhan Nalbantoglu and Dr. Akçiçek Hospital.

On the **Tangibles** dimension, both Burhan Nalbantoglu and Dr. Akçiçek Public Hospitals are in a better position than the Famagusta Public Hospital (mean difference=1.05, p=0.0001; Mean difference= 0.40, p= 0.008). Famagusta Public Hospital, on this dimension proved to be the worst one of these hospitals.
Finally, on the responsiveness dimension there is no significant difference among the public hospitals. Since, almost all the analyses had been resulted that Famagusta Public Hospital is the least reliable, least assured and **least** tangible among all the public hospitals, this hospital has to be restructured immediately.

Table 5.10 Findings of One Way ANOVA Analysis on Private Hospitals

DIMENSIONS		n	∂	s	F	p
Reliability	Cyprus Life	54	4.07	0.96	3.656	0.003
	Etik	58	4.46	0.62		
	Magosa Tıp	108	3.95	0.71		
	Başkent	3	4.50	0.44		
	Yaşam	61	4.18	0.62		
	Girne Özel	36	4.51	1.75		
Assurance	Cyprus Life	54	3.97	1.97	2.169	0.057
	Etik	58	4.34	0.66		
	Magosa Tıp	108	4.15	0.59		
	Başkent	3	4.47	0.76		
	Yaşam	61	4.28	0.56		
	Girne Özel	36	4.37	0.86		
Empathy	Cyprus Life	54	3.81	1.07	1.982	0.081
	Etik	58	4.20	0.83		
	Magosa Tıp	108	3.82	0.79		
	Başkent	3	3.41	1.42		
	Yaşam	62	4.04	0.82		
	Girne Özel	36	3.99	1.13		
Tangibles	Cyprus Life	54	4.25	0.96	1.218	0.300
	Etik	58	4.67	2.40		
	Magosa Tıp	108	4.18	0.73		
	Başkent	3	4.33	0.58		
	Yaşam	62	4.26	0.63		
	Girne Özel	36	4.37	0.95		

Responsiveness	Cyprus Life	54	4.16	1.02	3.436	0.005
	Etik	58	4.35	0.64		
	Magosa Tıp	108	4.05	0.63		
	Başkent	3	4.83	0.14		
	Yaşam	62	4.15	0.62		
	Girne Özel	36	4.54	0.82		

ANOVA analysis was conducted on the Private Hospitals and according to these analysis there is significant difference on Reliability dimension (p=0.003) and Responsiveness dimension (p=0.005) among the private hospitals considered.

Matrixes below show whether there is any significant difference between all of the Private Hospitals in TRNC. The Values written on the boxes are the mean differences between two hospitals. (Row, i, minus column, j). Minus sign on columns means that the mean value on columns are greater than the mean values on row, thus those hospitals are in a better position than the compared ones. N/S stated on the matrixes means that there is no significant difference between these compared hospitals.

Reliability Dimension	**Cyprus Life**	**Etik**	**Magosa Tıp**	**Başkent**	**Yaşam**	**Girne Özel**
Cyprus Life	----	-0.39	N/S	N/S	N/S	-0,44
Etik	0.39	----	0.50	N/S	N/S	N/S
Magosa Tıp	N/S	-0,50	-----	N/S	N/S	-0,55
Başkent	N/S	N/S	N/S	N/S	N/S	N/S
Yaşam	N/S	N/S	N/S	N/S	-----	N/S
Girne Özel	0.44	N/S	0.55	N/S	N/S	-----

The above matrix shows that on the **reliability** dimension Etik Private Hospital is in a better position than Cyprus Life and Mağusa Tıp Private Hospitals (mean difference=0.39, p=0.003; mean difference= 0.50, p=0.003). Moreover, Girne Özel

proved to be more reliable than Mağusa Tıp and Cyprus Life Private Hospitals (mean difference=0.55, p=0.003; mean difference=0.44, p=0.003). Overall, Girne Özel is the most reliable hospital.

Assurance Dimension	Cyprus Life	Etik	Magosa Tıp	Başkent	Yaşam	Girne Özel
Cyprus Life	-----	-0.37	N/S	N/S	-0.37	-0.40
Etik	0.37	----	N/S	N/S	N/S	N/S
Magosa Tıp	N/S	N/S	----	N/S	N/S	N/S
Başkent	N/S	N/S	N/S	----	N/S	N/S
Yaşam	0.37	N/S	N/S	N/S	----	N/S
Girne Özel	0.40	N/S	N/S	N/S	N/S	----

On the Assurance dimension, when outcomes compared as shown on the matrix Etik, Yaşam and Girne Özel Private Hospitals are proved to be more assured than Cyprus Life Hospital (Mean difference=0.37, p=0.057, Mean difference=0.37, Mean difference=0.40). The above results proved that the least assured private hospital is Cyprus Life and the most assured one is Girne Özel Private Hospital.

Empathy Dimension	Cyprus Life	Etik	Magosa Tıp	Başkent	Yaşam	Girne Özel
Cyprus Life	----	-0.40	N/S	N/S	N/S	N/S
Etik	0.40	----	0.38	N/S	N/S	N/S
Magosa Tıp	N/S	-0.38	----	N/S	N/S	N/S
Başkent	N/S	N/S	N/S	----	N/S	N/S
Yaşam	N/S	N/S	N/S	N/S	----	N/S
Girne Özel	N/S	N/S	N/S	N/S	N/S	----

On the Empathy dimension Etik, Cyprus Life and Mağusa Tıp has significant difference (mean difference=0.40, p=0.081; mean difference=0.38). Above all these, private

hospitals Etik appears to be the most empathic hospital followed by Cyprus Life and Magusa Tıp.

Tangibles Dimension	Cyprus Life	Etik	Magosa Tıp	Başkent	Yaşam	Girne Özel
Cyprus Life	----	N/S	N/S	N/S	N/S	N/S
Etik	N/S	----	0.48	N/S	N/S	N/S
Magosa Tıp	N/S	-0.48	----	N/S	N/S	N/S
Başkent	N/S	N/S	N/S	N/S	N/S	N/S
Yaşam	N/S	N/S	N/S	N/S	N/S	N/S
Girne Özel	N/S	N/S	N/S	N/S	N/S	N/S

On the **Tangibles** dimension there is a significant difference between Etik and Mağusa Tıp Private Hospitals (mean difference=0.48, p=0.3). This shows that Etik Private Hospital is perceived as more modern, newly furnished, and newly equipped hospital than Mağusa Tıp Private Hospital.

Responsiveness Dimension	Cyprus Life	Etik	Magosa Tıp	Başkent	Yaşam	Girne Özel
Cyprus Life	----	N/S	N/S	N/S	N/S	-0.38
Etik	N/S	----	0.29	N/S	N/S	N/S
Magosa Tıp	N/S	-0.29	----	N/S	N/S	-0.48
Başkent	N/S	N/S	N/S	----	N/S	N/S
Yaşam	N/S	N/S	N/S	N/S	----	-0.38
Girne Özel	0.38	N/S	0.48	N/S	0.38	----

On this last dimension, it can be seen that there is a statistical difference between Girne Özel with Cyprus Life, Mağusa Tıp and Yaşam Hospital (mean difference= 0.38, 0.48, 0.38). Moreover, there is also a significant difference between Etik and Mağusa Tıp (mean difference= 0.29). On this dimension Girne Özel is the best hospital perceived by the respondents and the worse one is Mağusa Tıp Private Hospital.

5.5 Correlation Analysis

The correlation analysis was conducted between the age, expectation and perception of both private and public hospitals.

Table 5.11 Correlation Analysis Results According to Age

Factors	n	r	p
Public Reliability	**604**	**0.201**	**0.0001**
Public Assurance	**606**	**0.200**	**0.0001**
Public Empathy	**606**	**0.222**	**0.0001**
Public Tangibles	**605**	**0.215**	**0.0001**
Public Responsiveness	**604**	**0.028**	**0.089**
Private Empathy	**322**	**0.143**	**0.010**
Private Responsiveness	**322**	**0.137**	**0.014**

According to the results that are shown in Table 5.11 there is no significant relationship between the expectation of the respondents and age. There is a positive relationship between the age and service quality dimensions. The results of the correlation analysis indicate that as age increases, respondents' perceived reliability (r =0.201, p=0.0001), assurance (r=2.00, p= 0.0001), and responsiveness (r=0.028, p=0.089) to public hospital's increases. These three dimensions measure the trust of respondents' to public hospitals, accuracy of dependency of the service delivered, the caring and individual attention of service personnel to the service receivers, service delivery time, interest of the personnel in solving the problems and so on.

As seen on table 5.12 the education levels of the respondents also have a positive relationship with the expectation on the reliability (r= 0.099, p= 0.009) and responsiveness (r = 0.118, p= 0.002) dimension.

Table 5.12 Correlation Analysis Results According to Education Level

Factors	n	r	p
Reliability Expectation	**690**	**0.099**	**0.009**
Responsiveness Expectation	**690**	**0.118**	**0.002**
Public Reliability (Perception)	**605**	**-0.083**	**0.041**
Public Assurance (Perception)	**607**	**-0.105**	**0.010**
Public Empathy (Perception)	**607**	**-0.162**	**0.0001**
Public Tangibles (Perception)	**606**	**-0.094**	**0.021**

As shown in table 5.12 that there is a negative relationship between the education level and the perceived reliability (r =-0.083, p= 0.041) and perceived assurance (r= -0.105, p= 0.010) of the public hospitals. The awareness of the service receivers' lead them to ask for a perfect and high quality service from the public hospitals.

As the education level increases, the knowledge of the modern equipment, technological advancements in equipment, expectation hygiene factors, expectation of neat and clean appearance of staff increases. The negative relationship on the public tangibles dimension (r= -0.094, p= 0.021) shows that respondents did not perceive the service that had been delivered to them as a quality one.

Table 5.13 shows the relationship between the income level and expectation, and perception of both public and private hospitals. There is a positive relationship between the respondents expectation on the reliability (r= 0.080, p=0.037), assurance (r= 0.080, p= 0.037), empathy (r=0.077, p= 0.0449), tangibles (r= 0.081, p=0.035) and responsiveness (r=0.093, p=0.015) dimension with the income level.

The table also indicates that there is a negative relationship between the income level and respondents' perceived **reliability** (r= -0.116, p= 0.004), **empathy** (r= -0.118, p= 0.035) and **responsiveness** (r= -0.117, p= 0.037) on public hospitals

Table 5.13 Correlation Analysis Results According to Income Level

Factors	n	r	p
Reliability Expectation	**681**	**0.080**	**0.037**
Assurance Expectation	**681**	**0.112**	**0.003**
Empathy Expectation	**680**	**0.077**	**0.044**
Tangibles Expectation	**681**	**0.081**	**0.035**
Responsiveness Expectation	**681**	**0.093**	**0.015**
Public Empathy (Perception)	**599**	**-0.116**	**0.004**
Private Reliability (Perception)	**318**	**-0.118**	**0.035**
Private Responsiveness (Perception)	**319**	**-0.117**	**0.037**

5.6 T-test Analysis

T-test analysis was conducted to explore whether perceptions and expectation differ according to gender and marital status.

Table 5.14 T-Test Analysis of Gender

Dimensions		Mean ± sd		t	p
Private Reliability	Female	4.31	0.97	0.304	0.003
	Male	4.00	0.81		
Private Assurance	Female	4.30	0.68	2.610	0.009
	Male	4.10	0.80		
Private Empathy	Female	4.04	0.91	2.181	0.030
	Male	3.82	0.90		
Private Responsiveness	Female	4.31	0.70	2.990	0.003
	Male	4.06	0.78		

According to the gender there is no statistical significant difference between both the females and males in their expectation and perceptions of the health care service.

Table 5.14 shows that there is a significant difference on the perception of female and male on private hospital's reliability and assurance dimension (t=3.04, p=0.003; t=2.61, p=0.009). Mean values proved that women find private hospitals more reliable and assure than men do. When comparing mean values women's perception is much higher than the male's perceptions as they are counted out of five.

Table 5.14 shows that there is a significant difference on the perception of female and male on private hospital's empathy and responsiveness dimension (t=4.04, p=0.030; t=2.181, p=0.003). Mean values proved that women find private hospitals more emphatic and responsive than males do.

Table 5.15 T-Test Analysis of Marital Status

Dimensions		**Mean ± sd**		**t**	**p**
Public Reliability	Married	2.86	1.17	2.118	0.035
	Single	2.63	1.02		
Public Assurance	Married	2.85	1.19	2.140	0.033
	Single	2.61	1.03		
Public Empathy	Married	2.51	1.17	2.194	0.029
	Single	2.27	0.99		
Public Tangibles	Married	2.71	1.28	3.71	0.0001
	Single	2.26	1.14		
Responsiveness Expectation	Married	4.52	0.62	2.05	0.041
	Single	4.52	0.61		

According to the marital status there is no statistical significant difference between the females and males in their expectation except responsiveness. In terms of the perception of the private hospitals there is no difference between the females and males.

Table 5.15 shows that there is a significant difference on the expectation of responsiveness between female and male according to marital status (t=2.05, p=0.041). The mean value comparison showed that they have the same mean value amounts but the standard deviation of married is slightly higher than the single.

There is also a significant difference between the perception of married and single on the public hospital's reliability (t=2.118, p=0.035), public hospital's assurance (t=2.14, p=0.033), public hospital's empathy (t=2.194, p=0.029) and public hospital's tangibles (t=3.71, p=0.0001).

The analysis of public hospital's reliability (t=2.118, p= 0.035) and public hospital's assurance (t= 2.140, p= 0.033), and mean value differences proved that for married people reliability and responsiveness are more important for married than single people. There is a significant difference between the perception of the married and single respondents on the public hospital's empathy (t=2.194, p=0.029) and public hospital's responsiveness (t= 2.05, p=0.041).

5.7 Ranks

In this section respondents were asked to rank the following statements from the most important (giving 1) to the least important (giving 5).

Statements:

C1: The appearance of the hospitals physical facilities, equipment personnel, and communication materials- this statement measures **tangibles** dimension.

C2: The hospitals ability to perform the promised service dependently and accurately – this statement measures **reliability** dimension.

C3: The hospital's willingness to help patients and provide prompt service – this statement measures **responsiveness** dimension.

C4: The knowledge and courtesy of the hospital's employees and their ability to convey trust and confidence – this statement measures **assurance** dimension.

C5: The caring, individual attention the hospitals provide its patients –this statement measures **empathy** dimension.

The results of the ranks are as follows:

Most important: C2- Reliability
C3- Responsiveness
C4- Assurance
C5- Empathy
Least important; C1- Tangibles

SECTION 6 CONCLUSIONS AND RECOMMENDATION

6.1 Introduction

The aim of the study was to make a research on the service quality of the TRNC's Health Care Sector. The research aims to find out if there is any quality standards applied in this sector. To be able to analyse this, a measurement tool for service quality called SERVQUAL developed by Parasuman *et*. al. (1985) was applied on 692 systematically selected people in Nicosia, Famagusta and Kyrenia, where both private and public hospitals exist. The findings of this research were explained in detail in section 5 and conclusions on findings are follows.

It is known from the original SERVQUAL scale (Parasuman *et*. al., 1985) that five dimensions namely Reliability, Assurance, Empathy, Responsiveness and Tangibles (RATER) are accepted as quality dimensions. In the current research, these five dimensions were kept constant, and loading of the statements on these dimensions were analysed. Except from that two statements were loaded to a different dimension (chapter 5, page 140) and one empathy statement (E19) that was removed from further analysis. .

19 statements were loaded to the same dimensions of Parasuman *et.* al.(1985) study. These loadings on different dimensions are rational as the factor that is inconsistent in Health Care Sector. All dimensions' Cronbach Alpha figures were above the accepted 0.70 (Nunnally, 1970), and these figures proved that SERVQUAL is applicable in TRNC.

6.2 Conclusion on Rankings

The ranking results of the dimensions show that people in TRNC think that reliability, and responsiveness is the most important dimensions in health care industry. This simply indicates that people need to feel secure and receive individual care.
The least important factor is tangibles; the same results had been obtained from other studies conducted all studies. This may be due to that they do not care the physical

attractiveness, shape of the hospitals s long as they receive very reliable and responsive service from the service provider.

6.3 Conclusion on GAP Model

Gap analysis is the result of comparison of both expectation and perception of respondents. The gap model (Figure 3.2, p. 103) showed that there are five different gaps. Gaps numbered 1-4 are related to the management gap (see chapter 3). The fifth gap is concerned with the consumer's expectations and perceptions, and the research that was conducted only measures this gap, and this gap is the most important in terms of assessment of actual service quality (chapter 3, p. 125).

For the executives, who are truly dedicated to service quality and who are searching the ways in closing these gaps and delivering a better service to their service receivers must put in motion a continuous process for:

- Monitoring customers' perception of service quality.
- Identify the causes of quality shortfalls.
- Taking appropriate action to improve the quality of service (Parasuman *et*. al., 1985).

6.3.1 Conclusion on Public Hospitals

The results of the analysis conducted indicate that public hospitals have rather bigger gaps when compared to private hospitals. The public hospitals' gap values were found as follows: Tangibles, 1.78, Reliability, 1.78; responsiveness, 1.53; Assurance, 1.81, and Empathy, 1.91.

When the above mentioned gap scores we scored out of 100, it is easier to comprehend and interpret the size of the gaps. Therefore, gap scores will be discussed using the score computed out of hundred.

The least important factor is tangibles; In fact the same results had been obtained from other studies conducted all studies (Chap 3, p. 116). This may be due to that they do not care the physical attractiveness, layout of the hospitals as long as they receive very reliable and responsive service from the service provider.

The other statistical analysis's results also proved that the most important two dimensions for the respondents were reliability and responsiveness, and the perception of these two dimensions according to the respondents on the public hospitals were quite a low and, private hospitals have very high perception on these two dimensions. This is mainly due that these respondents found those public hospitals very unreliable thus have to shift to other places that may serve them better. Due to that reason, not actually that these hospitals deliver better service, they shift to these private hospitals and they even go to other countries and even to South Cyprus to receive more reliable health care service.

All empirical work accomplished thus far, reliability stands above all others regardless of the specific service or industry studied. Customers' expectations of the service providers are highest for the reliability, and customers rank reliability as the most important of the five dimensions (Chap 3, p. 116). The same result is achieved in the result that was conducted in TRNC; therefore reliability will be closed firstly.

Reliability is one of the most important aspects in health care industry. If people do not trust the hospital they receive health care service, they would not ask for service again.

The expectation of the respondents from the reliability dimension was 92.2 out of hundred but public hospitals only managed to recover 56.6 out of it. This means that there is a gap of 35.6 out of hundred. Reliability dimension is related with the ability to perform promised service dependently and accurately (see Chapter 5, page 149). It can obviously be seen that there is a huge gap between the expectation and perception of the respondents in this gap, which means that the trust of the patients to the public health organisations has decreased (kıbrıs gazetesi, sağlıkta güç birliği, 21/02/07). The main reasons for this gap might be as follows:

- ✓ Especially patients of Nicosia Burhan Nalbantoglu Hospital have to go to that hospital quite early in the mornings. There are at least 400-500 patients to be served in a day (sağlıkta köklü değişiklikler, 21/04/07) they have to be there at around 5 o'clock, to have a number to be served, and also this situation is same for the second polyclinic in Nicosia named "Tren Yolu". The Ministry of Health declared that they replaced the queuing system in those hospitals so that the waiting time of those patients will be reduced. This way they are reducing the gap that is formed by the statement "excellent hospitals should tell their patients exactly when services will be performed". But, still those efforts are not yet enough to close this gap. The Ministry of Health can only close this gap by increasing the amount of service suppliers and equipment, so that those patients will have knowledge when the services will be performed. This will increase the perception of the respondents' perception on this dimension.
- ✓ The behaviour of the nurses to those service receivers are very bad and those service receivers do not find them reliable, this problem can only be solved by increasing the number of nurses so that they will have more time to look after their patients.
- ✓ Respondents' of the research also mentioned that the number of doctors in Kyrenia Hospital is quite a low in a number. This reduces the reliability of the respondents to that hospital. This gap can only be closed by increasing the number of doctors in that hospital, therefore the satisfaction of those patients will increase.

The gap in the reliability dimension forces the service receivers to look for alternative places to receive this service. After the opening of the borders, especially in year 2004 there were too many people receiving this service from South and this rate decreased in the following year to 10%. One of the respondents stated that in the South the medicine for the cancer treatment that he/she was taken was very strong and due to that reason his/hers illness had increased, and these events had decreased the reliability of respondents to the South. But still there are too many people exists in TRNC that do not trust the existing Health Care system and look for an alternative places to receive this service.

Kyrenia Dr. Akçiçek Public Hospital delivers its service to its patients more accurately than other two, and the main reason for this is the location of Kyrenia. It is quite nearer to Burhan Nalbantoglu Hospital and people with more serious and urgent health problems prefer to go to Nicosia instead of having treatment in Kyrenia Dr Akçiçek Public Hospital. Moreover, in Kyrenia Dr. Akçiçek Public Hospital big and serious operations are not conducted as there is a lack of technologically advanced equipment and trained staff, and urgent emergency patients are transferred straight away to Nicosia. Thus, in Kyrenia Dr. Akçiçek Public Hospital simpler and smaller operations are carried out. This transfer of patients from Kyrenia Dr. Akçiçek Public Hospital and Nicosia Burhan Nalbantoglu Public Hospital decreases the number of patients in Kyrenia Hospital, and patients who know that they can only receive the treatment that is necessary for their wellness they immediately go the Burhan Nalbantoglu Hospital instead of going to Dr. Akçiçek. By reducing the amount of patients that has been looked after, the personnel and doctors will have more time and effort to perform promised service accurately and on time.

The TRNC Ministry of Health tried to eliminate this gap by making changes in their existing system. They started to give health treatment by shifting to appointment system in their five specialised branches all day long, cardiology, rheumatology, nephrology, gastroenterology, and diabetes (sağlıkta köklü değişiklikler, 21/04/07). Moreover, there is an appointment system in the afternoons for internal medicine, obstetrics, orthopaedics, ophthalmology, and paediatrics branches for the patients whose illness is not emergence and do not need an immediate intervention (sağlıkta köklü değişiklikler, 21/04/07). But these systems are not yet known by those service receivers, thus these people have to come and wait to be looked after, and thus this diminishes the reliability of those patients to those hospitals.
To be able to reduce this gap, they have to communicate this information to the society to make those service receivers aware of that service they are supplying, and through this they will have a chance to tell their patients when the services will be performed, and this will increase the perception of those service receivers.

In Assurance dimension the expectation scores of respondents were 92.4 out of hundred and their perception score were 56.2. The gap of 36.2 had been obtained is quite a big gap and this gap has to be closed.

The assurance dimension measures the knowledge and courtesy of employees and their ability to convey trust and confidence. For patients and also for the people who received and who will receive service from both public and private hospitals need to feel themselves assured. This means that they have to trust the people and the organisation that they receive any service from.

Moreover, the employees of those public hospitals should insist on confidence in hospitals. Patients of excellent hospitals feel safe in their transactions, employees of excellent hospitals will be consistently courteous with patients and finally employees of excellent hospitals will have the knowledge to answer patient's questions.

When compared Dr. Akçiçek hospital has the smallest gap out of three public hospitals on this dimension. The main reason for this is Dr. Akçiçek is a small hospital compared to others and thus has lower amount of patients and number of patients per staff is quite low in number. This low amount of patient makes the staff work more efficiently and their performance increases thus this will make them happy.

The gap of 36.2 out of hundred proved that public hospitals are not delivering sufficient service that satisfies their patients in this dimension and people who are receiving health care from those places do not trust the service providers. Any hospital that manages to give above mentioned services to their patients will be successful. Therefore, public hospitals that have such a huge gap in this dimension should focus on the above mentioned factors in order to reduce or even close their gaps.

In the public hospitals there are too many patients waiting to be served and feel safe in their transactions but as there are not enough working staff (doctors and nurses) that can

supply what the patients expect from them, and as there is limited working hours of the doctors, patients perceive that the doctors and nurses are not courteous to them and this diminishes the trust to those hospitals.

This gap can only be closed by increasing the number of working staff and their working hours in those hospitals so that doctors and nurses will have more time to spent on each of their patients. This increased time will enable them to have more knowledge on their patients' situation/problems so that then they can have more dependable and trustable service from the service providers. This will increase the trust of those patients and from the word-of mouth communication, this good improvement will lead to a more satisfaction from those service receivers thus this gap will be closed.

In Empathy Dimension the expectation scores of respondents were 87.6 out of hundred and their perception score was 49.4. The gap of 38.2 had been obtained is quite a big gap and this gap has to be closed. When compared all gaps in the public hospitals the expectation of the respondents from this dimension is at the lowest level. Despite this, the gap that is formed in this dimension is the biggest gap.

Empathy is the provision of caring, individualised attention to service receivers, the most important factors that are in consideration; excellent hospitals will have operating hours convenient to all their patients, excellent hospitals will have employees who give patients personal attention, excellent hospitals will have their patient's best interest at heart and the employees of excellent hospitals will understand the specific needs of their patients. Most basically when a consumer visits a place where s(he) receives a service s(he) wants to feel that the people actually offering the service are empathetic.
Any hospital which pays an individual attention to supply the above mentioned factors to their service receivers will be very successful in the long run. This individualised attention will attract more patients to their hospitals by the help of the word-of-mouth communication as TRNC is a small country and every body knows each other. Any management team who tries to solve this problem in this perspective will be very successful.

When three public hospitals are compared it is seen that Dr. Akçiçek has the smallest gap. The main reason for this is Dr. Akçiçek is a small hospital compared to others and thus has lower amount of patients and patient per staff is quite low in number. This low amount of patient makes the staff work more efficiently and their performance increases thus they can make their patients happy.
From the respondents' viewpoint all service providers in those public hospitals;

- Are very kind and helpful to you if they know you, if you are friend of them, otherwise not kind to the patients and even very rude to them.
- Mostly do not pay an individualised attention to the service receivers.
- some are not kind to their patients,

This is mainly due to lack of time and work load of the service providers and also may be due to a lack of motivation, as there are limited amount of service providers working in a quite limited time interval with a low salary.

Again when considering those improvements the first statement should be taken in to consideration on the assurance dimension and others should immediately be improved. Otherwise, the patients' psychology will collapse and moreover, they will search for other places to go and receive this service.

The ministry of health, in order to close this gap, has to diminish the workload of the service providers so that they will have more time and effort to look after their patients with more care and smiling face. In this way, they will increase the satisfaction level of the service receivers and this will lead to better perception and even loyalty will be achieved eventually. By doing this they will attract more patients to the hospitals.

In Responsiveness Dimension the expectation scores of the respondents were 90.2 out of hundred and perception scores was 52, leading to a gap of 47.

Responsiveness measures the willingness to help patients to provide prompt service. This dimension measures the ability of service providers to deliver prompt service to patients, the exact service delivery time and process, the ability of the service providers to be always willing to help their patients, and the service receivers need prompt responses from those service providers.

In Burhan Nalbantoglu Public hospital there are too many patients waiting to be served and there are a limited amount of nurses and doctors serving them. Moreover, Dr. Akçiçek Public Hospital is rather small when compared to others and people with serious and complicated illnesses prefer to visit other hospitals especially Burhan Nalbantoglu, thus this leads patients be treated nice and neat and individual attention is given to them, which in turn results in trust between the parties.

Moreover, these service providers are arguing that they are not receiving enough salary and fringe benefits, thus their motivation level decreases and therefore, they go out to private hospitals and private clinics to have second job and earn the salary that will satisfy them.

The ministry of health should therefore have to make some proper improvements to be able to increase the working hours, and motivation level of the service providers to be able to close this gap. The ministry of health is trying to pass some new legislation that will in overall affect the whole health care industry of TRNC. One of the subjects in this legislation is related to the working hours of the doctors. According to the legislation that they are trying to activate, all the doctors working in the public hospitals can only work either at the public hospital or they will resign and work in the private hospitals or clinics. Parallel to that they are searching for the ways of increasing the salary of those doctors, and they are planning to activate a law called “revolving fund law” in the public hospitals so that doctors who look after more patients will earn more salary and with this increased salary and working hours the doctors’ motivation, performance and responsiveness to the service receivers will thus increase.

In the **tangibles** dimension; the expectation of the respondents were 87.6 out of hundred where their perception scores were resulted as 52. This proved that in this dimension public hospitals have a gap of 35.6 that has to be closed. These scores can only measure the functional quality of the hospitals and they cannot measure the technical quality (Grönroos, 1985) as respondents do not have sufficient knowledge about the technical equipment that is used in these hospitals. Tangibles dimension are mainly related to the outlook of the buildings, its cleanliness, the equipment's technology and hygiene, and also the appearance of the working staff in these hospitals. Assume that when a patient visits a hospital and faces with personnel that have very dirty uniform on them, and the physical look of that place is in a very bad situation and then even faces with equipment that is in dirt and covered with rust. This outlook is very disturbing to patients and thus they will not accept any treatment under these conditions. From the beginning that hospital will lose its potential patient in this competitive environment, even if it provides a perfect medical treatment to their patients.

Famagusta Public Hospital is a very old one and has to be replaced or repaired. The news and other media and written resources, announced that Ministry of Health had started to build a new hospital building in Famagusta. In this way only the gap of tangibles can be reduced.

The above mentioned factors need investment, but as the TRNC is a small and isolated island and do not receive any financial aid from other countries except from Turkey, it has a quite limited budget to govern the whole country. Moreover, from this quite a limited budget, the Ministry of Health has a quite a low portion, approximately 5% of the whole budget, which is a very limited amount to manage the whole Health Care Sector. If these hospitals possess quite a good, highly technological equipments it does not mean anything to the patients, as first impressions are quite an important factor. Therefore, the outlook and the shape seems to be a quite important factor in determining the quality of the service taken, thus ministry of health has to take this dimension in to consideration as well.

As hygiene is one of the main factors in this dimension, the Ministry of Health made an agreement with a private cleaning and a catering company in order to provide better cleaning and catering services, but this effort has to be increased as the visitors of the hospitals are not happy especially with cleaning. Moreover, the physical outlook of those hospitals, as they are not new, especially Famagusta hospital is in quite a bad situation. For the service receivers, the first impression on cleanliness of the staff, proper outlook, and technologically advanced equipment and hygiene are very important. Therefore, the management of those hospitals has to make an investment on the above mentioned factors to close this gap. Nowadays, from news and newspapers, it can be seen that the Ministry of Health has started to make a new hospital building in Famagusta, they had finished the new building in Kyrenia two years ago, and they are building new buildings in Nicosia. They are trying to close this gap by constructing new buildings (kıbrıs gazetesi, sağlık servisleri yeriden yönetilecek, 16/02/07). However, they are trying to change to room system, instead of using wards, they are planning to build separate rooms for each patient with a private bathroom to increase the satisfaction of patients (kıbrıs gazetesi, sağlık servisleri yeriden yönetilecek, 16/02/07), but from the results of the research, it can be understood that these efforts are not enough and they should make more investment inside the building and on their staff's appearance to be more successful. If they manage to increase their service quality in this tangibles dimension than this increased service quality will lead to an increased satisfaction (Chapter 1, Page 16), also if Ministry of Health manages to increase their budget and investment, this will attract more patients to their hospitals.

The Ministry of health is aware of the low service quality that is in process in all of the Public Hospitals and as mentioned above they are trying to make very sharp and radical and effective changes in the whole system. This system aims to deliver a health care service within the EU standards (sağlıkta köklü değişiklikler, kıbrıs gazetesi, 20/03/07) so that they expect an increase in the level of service quality and patient satisfaction. These planned changes and their expected returns are as follows:

- **Comprehensive Health Insurance:** this is assumed to be the most important legislation and it will be the first one that will be applied. According to this

legislation, all the people living in TRNC will be covered by this insurance and all of their health care expenses will be paid from this insurance.

- **Health Care Law:** this is the second legislation that Ministry of Health is trying to activate. According to this legislation all the health care service will be delivered all day long. Therefore, there will be some changes in the rights assigned to all those health care service providers. By passing this legislation the ministry of health is extending the working hours of the doctors, therefore doctors will have more time and more effort for the treatment of their patients. This will increase the reliability and assurance of the service receivers to those hospitals and as a consequence the patient satisfaction will eventually increase. Moreover, with the help of the word-of-mouth communication the potential patients will increase.
- **Revolving Fund Law:** one of the most important problems that ministry of health faces is the limited budget that is given from the government. This limited budget restricts ministry of health in making necessary investments in their hospitals. This legislation aims to increase the sources of funds for the ministry of health; therefore, with this increased budget ministry of health will have more capital to make investments wherever needed. In this way they can make more and very modern well equipped hospital buildings, and by doing so the ministry of health will have a chance to reduce the gap in the tangibles dimension. Moreover, this increased budget, if they spent on the fringe benefits of the service providers will make them more motivated and this increased motivation may decrease the gap in the empathy dimension as the service providers will be more dedicated to their service receivers.
- **General Practitioner:** according to this legislation, patients who suffer any illness first of all will visit the doctor in their local area and after making a necessary diagnosis; if necessary they will be sent public hospitals for more detailed treatment. The aim of this legislation is to reduce the workload of local hospitals. In this way all the doctors and nurses in those hospitals will have more time and effort to deal with very serious and complicated illnesses. According to the ministry of health this will increase the gaps in the reliability and assurance dimensions of those public hospitals.

This system is the same as the one that is applied in United Kingdom, but this system is not working properly in UK. Doctors in the local areas are not transferring their patients earlier enough to receive the necessary treatment from the NHS hospitals and this system collapsed in UK. Therefore, in TRNC, if this system is applied properly, it will really serve the ministry of health aims and will be very successful (sağlıkta köklü değişiklikler, kıbrıs gazetesi, 20/03/07).

These legislations only by themselves will not be very successful, all the service providers and service receivers will have to stick to those rules and regulations, in this way with a corporation, these legislations will eventually be very successful and will reduce the existing gaps and lead to a satisfaction in parties, service providers and service receivers.

6.3.2 Conclusion on Private Hospitals

In the **Reliability** dimension**,** the expectation of respondents' from private hospitals were 92.2 out of hundred and the perception scores were 83.4, which is an indication of a small gap of 8.8 between the perception of expectation of the respondents that has to be closed. The main reason for this relatively lower reliability gap is the unreliable environment in the public hospitals. This unreliable environment formed in these public hospitals forces the service receivers (özel hastahaneler, 29/01/2007, reform süreci başladı, 14/03/07, Kıbrıs gazetesi), when they become unsatisfied with the service they received from the public hospitals; to go and receive almost the same service from the private hospitals thus the reliability perception increases in those private hospitals. But, there are concerns related to the reliability of those private hospitals and private clinics as well on this dimension and Association of Doctors are trying to pass new legislations. These legislations aim to control all the private hospitals and private clinics' services, moreover, to enforce private hospitals to apply those legislations to increase their service quality. Gaps obtained in five dimensions of service quality model will be closed in this way. These concerns are;

- There is a lack of audit by the ministry of health (özel hastahaneler, 29/01/2007). By the legislation all the private hospitals will be under a very strict audit by the related organisations. Almost all doctors in public hospitals are working in these private hospitals and also those private hospitals bring some doctors from Turkey to conduct some surgeries in the TRNC. These factors also decrease the reliability of private hospitals, if they are in the control of the ministry of health.
- The location of those private hospitals should be placed far away from the industrial places that cause air pollution.
- In all those private hospitals there are limited amount of rooms that they deliver all specialised services. In this way the reliability of those hospitals will diminish. According to those legislations, all private hospitals should posses a specialised room for all special treatment that will be conducted. They all should posses; separate operating rooms, x-ray rooms, wake up rooms, pain rooms, laboratories and morgue. In this way they will have a chance to close that small gap.
- There is a limited amount of operation rooms in all private hospitals as they are small in building and capacity. For the sceptical and aseptic operations and for normal birth and operational birth operation rooms should be separate. Thus, this will increase the reliability of respondents' to those hospitals.
- All private hospitals should possess an intensive care unit, but most of these hospitals do not have these intensive care units. According to legislation they will have to have intensive care unit. By this way they will increase the reliability.
- As mentioned before, doctors working in these hospitals are also doctors of public hospitals. But this situation will have to change by the law. All private hospitals have to have their own core staff, specialised in their own branches.
- Most of the private hospitals employ nurses that are not qualified as nurses and they give training to them. The procedure has to change and all private hospitals should employed people who are qualified as nurses.

Since reliability is the ability to perform promised service dependably and accurately, the above mentioned outcomes proved that all private hospitals need to make more effort to close these gaps by paying more attention to perform what they promise and do their job

more accurately. In this way they can decrease these gaps and thus increase the amount of their patients. Başkent hospital has the highest gap thus need to make more effort to close this gap. Girne Özel Private Hospital has the lowest gap, 0.10, and has to make a little effort in order to close this gap.

In the **Responsiveness** dimension**,** the expectations of respondents were 90.20 out of hundred and the perception of respondents 84. The gap of 6.2 out of hundred has been achieved. Like the other dimensions, this gap is rather small, and this is a proof that the private hospitals gave prompt service to their patients. Otherwise, they might lose their patients to other private hospitals.

On this dimension Girne Özel has a negative gap which means that their perception score exceeds the expectation of the respondents. This is a proof that this hospital is very responsive to their service receiver's demands. They proved that they are ready to help their patients and deliver a prompt service to them. Başkent Private hospital again has the highest gap, followed by Magusa Tıp Private Hospital. These hospitals which have gaps have to close these gaps in order to survive in this competitive environment. They have to give training to their employees and make then feel responsive to their patients and deliver the service that is been asked immediately. Otherwise, if they do not close this gap, they will lose their service receivers to other private hospitals, to south Cyprus or to Turkey.

In the **Assurance** dimension the expectation score of the respondents was 92.4 out of hundred and the perception score of the respondents was 84.2. The gap of 8.2 out of hundred has been obtained. Since the assurance dimension measures the knowledge and courtesy of employees and their ability to convey trust and confidence, all the private hospitals have to pay more attention to close this gap.

As trust between parties is an important tool for communicating with each other, without a trust and the knowledge of the employees the number of patient's satisfaction will

dramatically decrease and then these private hospitals will lose their patients in this competitive environment.

In the **Empathy** dimension the respondents' expectation score was 87.6 out of hundred and the respondent's expectation score were 79.0 and the gap in this dimension was 8.6 out of hundred. Empathy is actually the ability of staff to help the service receivers and help them with a smiling face, which in turn increases the moral of the service receivers. Then this increased moral will lead to patient satisfaction and thus increases the demand for that specific private hospital. In this competitive environment the one who satisfies best is patients will increase their patient amount.

Etik Private Hospital in Nicosia has the smallest gap and Başkent Private hospital has the biggest gap among the private hospitals. This is a proof of smiling face and individual care and attention given to all patients visiting Etik hospital, which in turn increases the number of patients visiting that hospital with the help of the word of mouth communication. The result of this increased potential in the existing competitive environment, if the hospital management manages to keep on the same strategy of being empathetic to its patients, will lead to patient satisfaction then a patient loyalty. Other hospitals will have to take corrective action in order to decrease the existing gap in this dimension and they will have to satisfy their patients all the time otherwise they will lose their existing patients and will not have any chance to attract new potential patients to their hospitals.

In Tangibles dimension expectation scores were 87.6 out of hundred and the perception scores of respondents resulted 86.2. This dimension has the smallest gap of only 1.4 out of hundred. The main reason for this high perception score is that almost all of the private hospitals are lately constructed and they are new, they posses equipments that are new, thus technologically advanced. Since they are private they are in a fierce competition with each other and also with the public hospitals, therefore they have to keep up with the new technology and have good physical environment in order to retain their current patients and prospect for new ones.

On this dimension Etik Private Hospital has a negative perception score. This means that the perception of the respondents exceeds the expectation and that hospital supplies more than the expected. They are perfect on this dimension. They do not need to make any corrective actions, but except from Etik other hospitals have to take corrective action to close this gap. Etik Hospital as mentioned before does not have to take any action on this dimension, but they are still trying to improve their tangibles dimension by constructing a new building, and this action in return will bring them more patients. But their gap scores are rather small when compared to other dimensions. The main reason for this quite a small gap is that as they are private they sell the service that they gave and thus they have to be perfect to attract the service receivers. Girne Özel has a quite small gap, it can be said that they almost gave the service what is expected from them. It is also known that Girne Özel Hospital has been constructed lately; they are delivering health care service in their new building, with new and technologically advanced equipment. Also they are quite keen on the cleanness of their staff and their outlook. Thus, these positive actions increased the perception of the service receivers on this hospital and the number of patients that they are looking after is increasing day by day and nowadays, the new building that they had constructed lately has becoming small for them and they are searching the ways of expanding their hospital's capacity.

When compared both private and public hospitals on tangibles dimension (see Figure 5.3, Table 5.6, page 160) from the perception gap it can obviously seen that the physical outlook, the equipments, and the appearance of the private hospital's staff seems to be more attractive and trustable to the service receivers. No one wants to visit any hospital with a bad physical outlook, equipments which are dirty, and staff who wears dirty clothes, etc. Therefore, these service receivers will go and receive service from places where they receive the kind of service that they are demanding. In this way the gap between private and public hospitals has increased. Private hospitals to be able to retain their patients and attract new ones are always interested in spending money on physical appearance, but this is not the same for the public hospitals as they are trying to survive

with a little amount of budget and they do not have excess money to spend as much as the private hospitals do on the physical appearance.

The gap on the reliability dimension is a big one (see Figure 5.3, Table 5.6, page 160), and has to be closed by both parties and public hospitals have to make more effort to be successful. They have to provide service more accurately; by listening the complaints of their patients understanding what they suffer from, and then take corrective actions. Private hospitals have little gap then the public hospitals as they see lower amount of patients each and every day, and thus from this limited amount of patients they have more time to listen their patients and then take corrective action. Added to that, as private hospitals charge their patients from the service they deliver they have to be more understanding to them, otherwise they will lose their patients to other hospitals.

The gap on the assurance dimension is bigger than the private hospitals (see Figure 5.3, Table 5.6, page 160). Thus, from these gaps it can be concluded that the public hospitals do not give that feeling that they are trustable when compared with the private hospitals. But the conflicting point in this situation is that; most doctors of the private hospitals are also doctors of the public hospitals, and they serve those patients in public and private hospitals. If this is the situation, the problem arises here that is why the assurance dimension gap of the private hospitals is lower than the public hospital? Aren't all the doctors who give treatment almost the same people?

Responsiveness Dimension (see Figure 5.2, Table 5.6, page 156); in this situation as the private hospitals have smaller capacity than the public hospitals and the number of patients is less than the public hospitals, the staff of the private hospitals have more time and performance and ability to serve the patients immediately when they ask for service. Moreover, with this advantage as mentioned above private hospitals still have gaps in the expectation and the perception of the respondents on the responsiveness dimension that need to be closed. If not, these public hospitals will lose their patients to private hospitals and even these private hospitals will lose their patients to other places that deliver this service.

The main reason for the gaps in empathy dimension in both private and public hospitals is they have to take care a large number of people, but private hospitals do not suffer from the same problem. In such a case with a limited amount of personnel it seems to be quite difficult for public hospitals' staff and doctors to pay their patients an individual attention, and adjust their hours convenient to their patients. Since, the numbers of patients in the private hospitals are rather lower than the public hospitals and as there is a competitive environment in the sector, all private hospitals have to have more time, more smiling face and more performance to take care of their patients individually. E.g. listen to their complaints and apply a treatment that is best suitable for them and continuously monitor their patients with smiling face and individual care.

A comparison of gap scores recorded in the study and another conducted in the context of Hong Kong (Lam, 1997,) reveals a number of differences. Comparing Lam (1997) and the Sohail (2003) differences were observed in the gap scores in the dimensions of reliability, responsiveness, assurance and empathy. For almost all of the measures in these dimensions, the patients in Hong Kong had higher expectations of the services than were actually received. In the study of Sohail (2003), reality exceeded expectations. This suggests that hospitals in Malaysia provide services that exceed expectations of patients, whereas there are factors that hospitals in Hong Kong need to address if they are not meet the service expectations of patients.

However, some similarities were observed between two studies. These were in terms of physical elements of the service quality. The patients' perception exceeded their expectations, supporting the study of Sohail (2003), which reveals that patients in Malaysia are generally satisfied with the physical elements of the service quality, and this finding also supported in the TRNC only in one private hospital. Etik Private Hospital in TRNC had a negative mean score of -0.29 which means that that hospital is successful in terms of tangibility. Another comparative analysis conducted in Turkey revealed different results. Uzun (2001) determined the level of satisfaction with nursing care at a university hospital in Turkey. Uzun (2001) found that the quality of services were below

the five dimensions indicate an overall improvement in service quality. This finding is supported in TRNC by almost all the public and private hospitals. Almost in all dimensions, except one or two on private hospitals, gaps had been found and all of these gaps have to be closed.

6.4 Conclusions on Demographic Analysis

In TRNC most of the people who are under 18 years old are financed and supported by their families, and it was important for the researcher to have knowledge on their opinion as different personality from their families on the financial and decision making process. This is because in one of the demographic questions the respondents were asked "who is financing your health expenses", in such a case if the age level was kept very low then the results were dependent on their families which in turn affect their decision making process in choosing the right place for them when receiving this service.

The results of the correlation analysis according to age showed that as people get older, they tend to perceive public hospitals (See table 5.11). The reason of this might be; as mentioned above these dimensions in very broad sense measures the respondent's trust to those hospitals. As the age of the patient increases they have more spare time to spend on the hospitals they might wait longer to be served. But younger people do not have this spare time to wait to receive that service they are more impatient than the older people because they have a limited time.

In general as people get older their health problems will increase, thus this requires more visit to hospitals, in this way and as most of these people are retired and old people and they randomly need health care control and treatment and since they receive these services free of charge they might prefer going to public hospitals. Other reason might be these people pretend not to see the weaknesses of these services that they receive as they are old people and they might think they are dependent on those hospitals. Moreover, these people perception of service might differ from the younger people, such that, the younger people are more impatient than the older one thus they require immediate service

otherwise they might become aggressive and not satisfied with the service delivered, but older people might be more patient than the younger people and they might be satisfied with the late delivered service.

On the perception of the public hospitals' empathy dimension there is again a positive relationship with the age. As the age increases the perceived empathy increases. The reason for this is; when people will be more tolerable.

As seen on table 5.12 (Chapter 5, page, 169) the education levels of the respondents also have a positive relationship with the expectation on the reliability and responsiveness dimension.

Educated people are more aware of the responsibility of the hospitals, what they should offer in order to supply a good quality service, these people are aware that these hospitals should; provide accurate and prompt service to the service receivers; solve the problems of their patients sincerely and immediately; provide a good service right at the first time; inform their patients when the services will be delivered; prove to their patients that there is a confidentially in the hospitals; prove that they have an excellent knowledge on the work they are doing and so on. These factors are the responsibility and assurance of all the hospitals in the health care industry.

As shown in the table 5.12 (Chapter 5, page 169) there is a negative relationship between the education level and the perceived reliability and perceived assurance of the public hospitals. Since, it is known that there is too much demand on the public hospitals from the public and it is free of charge, and there is a lack of capacity to serve those people, these hospitals will not be able to supply what is being asked from them. Working hours of the doctors in public hospitals are quite short and that they cannot have sufficient time to look after all the patients individually and in detail. An educated respondent who is aware that doctors have to deliver what is being asked from them. Thus found this system as unreliable.

As the education level increases, the knowledge of the modern equipment, technological advancements in equipment, and expectation on hygiene factors, expectation of neat and clean appearance of staff increases. The negative relationship on the public tangibles dimension shows that respondents did not perceive the service that had been delivered to them as a quality one. Probably they do not find those hospitals as clean and equipped with high technological equipments. Instead of taking service from these hospitals they might shift to other places that supply high quality service.

As there is a limited amount of budget that allocated to the Ministry of Health from the government and they have no other sources of funds, the Ministry of Health might not be able to spend the necessary amount to refurnish these hospitals or to rebuild new ones. Only in Famagusta it is known that there is a new hospital building that is being constructed. But this will only increase the amount of perceived service quality on the tangibles dimension only, not other dimensions directly.

According to findings, there is a positive relationship between the respondents' expectation on the reliability, assurance, empathy, tangibles and responsiveness dimension with the income level.

Increased income level will enable service receiver to demand for better service from the private hospitals by paying the amount asked for. In this way as their income level is high they expect a good, prompt and promised service on time, with accuracy and dependency. When these people have problems they expect excellent hospitals to solve their problems. Also, if they do not receive this service that they ask for, they can immediately shift to other hospitals to receive better service. These high levels of income receivers try to buy the best quality service with the power of their money. This is the main reason for their high expectation on the reliability and responsiveness dimension.

Findings also indicate that there is a negative relationship between the income level and respondents' perceived reliability, empathy and responsiveness on public hospitals.

Increased income level will lead to a decreased perception of respondents' on public hospitals, meant that in general these high level income earners will not go and receive the service from these public hospitals instead they will go to other private hospitals or to other places that they can supply this service for them with their money. They might believe that as they have money they can go to private hospitals to receive accurate and dependant service on the time that they are promised and without waiting in the queue to be served as it is done in public hospitals. They ask for more reliable service from the private hospitals, in this way they will know at what time they will receive any service, they are sure that they will receive an immediate service from the private hospitals moreover they might be sure that they will have error free records and whoever they visit this hospital they might not need to explain the history of their illness to the related staff and all the information related to them are recorded in their files. In this way the perception on the reliability and responsiveness dimension of private hospitals increases.

Moreover, as the income level of service receivers increases the expectation on the tangibles dimension also increases. They ask for a higher quality, good looking, and modern equipped buildings. They want to see people, who are serving them to be clean and neat.

Perception of empathy on public hospitals also has negative relation with the income level. It is known that all public hospitals as they are all free of charge have to deliver service to all income level receivers. In this way they have to serve hundreds of people each and every day, due to that reason the service providers working in these public hospitals will not be able to deliver all the patients individual attention, they cannot have working hours convenient to their patients, they expect their patient to visit them during their visiting hours, unless emergency. Moreover, due to the same reason mentioned, these peoples will not be able to understand the specific needs of their patients, they are not as much as empathetic as private hospitals' service providers. People with low income level do not have any other opportunity thus they have to go and receive this service from the public hospitals. Since this is not a situation for the high income level receivers; they may go and receive quality service from the private by paying the value of

the service that they received. For this reason there is a negative relationship with income level and perceived empathy from public hospitals. If they will not satisfy with the quality of service they receive they may shift to other private hospitals. Therefore all the private hospitals has to be very emphatic to their patients and have to deliver the service they are asked for, otherwise they will not be able to retain their customers and even lose their potential patients.

In TRNC the service quality level in all the public hospitals is quite low and, all private hospitals are competing with each other by delivering quality service to capture more patients. To be able to manage this in such a small country, they have to provide excellent service especially on the empathy dimension, as the word-of-mouth communication is common in this country.

The results of the T-test analysis (see Table 5.14, page 170) proved that there is a significant difference on the perception of female and male on private hospital's reliability and assurance dimension. Females are more emotional, more caring than males. Assume that when a female receives a service that was promised to her, that is dependent and accurate, and also receives individual attention and caring from the service provider, these people do not expect more than that. Therefore these females will be emotionally satisfied more than males do on the reliability and assurance dimensions.

Moreover, there is a significant difference on the perception of females and males on private hospital's empathy and responsiveness dimension. The main reason for this is that females are more interested in the individual attention that is given to them; they want the service provider to be on time, they are more sensitive and emotional than males and thus lead them to perceive empathy and responsiveness different than males.

There is a significant difference on the expectation of responsiveness between female and male according to marital status (Table 5.15, page 172). It can be said that the expectation of married people on the responsiveness dimension is slightly higher than the

single, which may be because they require quick, on time and caring from the service providers.

The analysis of public hospital's reliability and public hospital's assurance, and mean value differences proved that for married people reliability and responsiveness are more important for married than single people. These dimensions both measure the trust, care, individual attention, being dependent and being accurate to the service receivers and married people feel more responsible for their families and more caring and emotional than the single person, so they may not accept any fault or any bad quality service given to them, therefore reliability and responsiveness are quite an important factor for them.

There is a significant difference between the perception of the married and single respondents on the public hospital's empathy and public hospital's responsiveness. For a married people with or without child who feel responsible for him/herself to another person/ child; the physical environment, the modern looking and hygiene equipment, neat and clean staff, always having a service provider around and explaining what treatment will be given and what time it will be given, feeling that an individual attention is paid to them, seems to be more attractive than a single person, as these married peoples are more sensitive, more reliable and more emotional than single people. Therefore the perception of the married differs significantly from the single people.

From the respondents' viewpoint, the most important dimensions are reliability and responsiveness, where respondents need to feel secure and individual care is assigned to them. The least important factor is tangibles; the same results had been obtained from other studies conducted. This may be due to that they do not care the physical attractiveness, shape of the hospitals as long as they receive very reliable and responsive service from the service provider.

The other statistical analysis's results also proved that the most important two dimensions for the respondents were reliability and responsiveness, and the perception of these two dimensions according to the respondents on the public hospitals were quite low while

private hospitals have very high perception on these two dimensions. This is mainly because that these respondents found those public hospitals very unreliable thus have to shift to other places that may serve them better. Due to that reason, not actually that these hospitals deliver better service, they shift to these private hospitals and they even go to other countries and even to South Cyprus to receive more reliable health care service.

The conclusions derived from findings and the recommendations discussed so far indicate that both the Ministry of Health and the managements of both public and private hospitals must take actions. The managements of private hospitals should not be illusion by the findings of the study, since the quality of service they provide is perceived much better than the public hospitals. This is simply because, the quality of service in public hospitals is so much below the expectations that citizens of TRNC perceive hospitals are relatively better in the service they provide. If the private hospitals were compared with the public/private hospitals in Turkey or in an EU country, probably the outcomes would be different. Thus, it would be wise to conduct such a research.

Throughout this part, the laws and legislations that the Ministry of Health is currently working on has been pointed out. It seems that some changes will be made on the current laws and some new laws and legislations will come into practice. To see the impact of these changes, the same research must be conducted in the future.

Finally, as mentioned in chapter 3 and 4, this study aiming to close gap 5 on the gaps model. The first four gaps are about the management side. Thus, with the current study, only one of the gaps has been studied. Further research is needed on the other four gaps.

REFERENCES

ARTICLES

Aaker, D.A. and Jacobson, R. (1994), "The financial information content of perceived service quality", *Journal of Marketing Research,* Vol. e31, May, 191-201.

Akan, P. (1995), "Dimensions of service quality: a study in Istanbul", *Managing Service Quality*, Vol. 5 No. 6, pp. 39-43.

Andaleeb, S.S. and Basu, A.K. (1998), "Do warranties influence perceptions of service quality? A study of automobile repair and service industry", *Journal of Retailing and Consumer Services,* Vol. 5 No. 2, pp. 87-92.

Andaleep, S.S, (2000), "Service quality in Public and private hospitals in urban Bangladesh: a comparative study", *Health Policy,* Vol. 53, Iss. 1, pp. 25-37.

Andaleep, S.S, (2001), "Service quality perceptions and patient satisfaction: a study of hospitals in a developing country", *Social Science Medicine*, Vol. 52, Iss. 9, PP. 1359- 1370.

Anderson, C., and Zeithaml, C.P. (1984), "Stage of the product life cycle; business strategy and business performance", *Academy of Business Journal*, Vol. 27, March, pp. 5-24.

Anderson, E, (1995), "Measuring service quality and university health clinic", *International Journal of Health Care Quality Assurance*, Vol. 8 no. 2, pp. 32-7.

Arikan. Y.S. (1999), "Effect of nursing service on patient satisfaction", thesis, *Health Sciences Institute of Marmara University*, Nursing Department, Istanbul.

Arnetz, J.E. and Arnetz, B.B. (1996), "The development and application of a patient satisfaction measurement system for hospital-wide quality improvement", *International Journal of Quality Health Care,* December, Vol. 8 No. 6, pp. 555-66.

Asubonteng, P., McCleary, J.K. and Swan, E.J.,(1996), "SERVQUAL revisited: a critical review of service quality", *Journal of Services Marketing*, Vol. 10 No. 6, pp. 62-81.

Averill, J.R. (1973), "Personal control over aversive stimuli and its relationship to stress", *Physiological Bulletin,* No. 4, pp. 286-303.

Avkiran, N.K. (1994), "Developing an instrument to measure customer service quality in branch banking", *International Journal of Bank Marketing*, Vol. 12 No. 6, pp. 10-18.

Babakus, E. and Boller, G.W. (1992), "An empirical assessment of SERVQUAL scales", *Journal of Business Research*, Vol. 24, pp. 253-68.

Babakus, E. and Mangold, G.W. (1992), "Adapting the SERVQUAL scale to hospital services: an empirical investigation", *Health Services Research,* Vol. 26 No. 6, pp. 767-86.

Babakus, E. (1993), "Measuring service in service public utilities: The case of electric, gas, and water services", *Journal of non-profit and Public Sector Marketing*, Vol. 1 No. 1, pp. 33-49.

Babakus, E., Pedrick, D.L. and Richardson, A., (1993a), "Measuring perceived service quality within the airline catering service industry", unpublished manuscript, Memphis State University, TN.

Baggs, C.S. and Kleiner, B.H., (1996), "How to measure customer service efficiently", *Managing Service Quality*, Vol. 6 No.1, pp. 36-39.

Baggs, S. and Kleiner, H.B.(1997), "How to measure service effectively," *Managing Service Quality*, Vol. 6 No. 1, pp. 36-39.

Baker, J.A., and Lamb, C. W .Jr., (1993), "Managing Architectural design service quality", *Journal of Professional Services Marketing*, Vol. 10 No. 1, pp. 89-106.

Barnes, N.G, Mowatt, D, (1986), "An examination of Patient attitudes and their implications for dental services marketing" *Journal of Healthcare Marketing*, Vol. 6 No. 3 pp. 60-63.

Bateson, J.E.G. (1979), "Why we need service marketing", in O.C. Ferrel, S.W. Brown, and C.W. Lamb, Jr, eds, *Conceptual and Theoretical Development in Marketing,* Chicago: American Marketing Association, pp. 131-146.

Bebko, C.P. and Garg, R.K. (1995), "Perceptions of responsiveness in service delivery", *Journal of Hospital Marketing,* Vol. 19 No. 4, pp. 49-52.

Berkley, B.J. and Gupta, A. (1994), "Improving service quality with information technology", *International Journal of Information Management*, Vol. 1, pp. 109-121.

Berman-Brown, R. and Bell, L. (1998), "Patient-centred audit: a users' quality

model". *Managing Service Quality*, Vol. 8 No. 2, pp. 88-96.

Berry, L.L. (1980), "Services marketing is different", *Business Horizons*, May-June, pp. 24-29.

Berry, L.L. (1981), "The employee as customer", *Journal of Retail Banking*, pp. 33-40.

Berry, L.L., Zeithaml, V.A., and Parasuman, A. (1985), "Quality counts in services, too", *Business Horizons*, May-June, pp. 44-52.

Berry, L.L. and Parasuman, A. and Zeithaml, V.A. (1988), "The service quality puzzle" *Business Horizon,* Vol. 31 No. 5, pp. 35-43.

Berry, L.L. and Parasuman, A. (1997), "Listening to customer: The concept of service quality information system", *Sloan Management Review*, Vol. 38 No.3, pp. 65-76.

Bettencourt, L.A., and Gwinner, (1996), "Customisation of service experience: The role of frontline employee", *International Journal of Service Industry Management*, Vol. 7 No. 2, pp. 3-20.

Bitner, M.J. (1990), "Evaluating service encounters: the effects of physical surroundings and employee responses", *J Mark*, Vol. 54, pp. 69-82.

Bitner, M.J., Booms, B.H., Tetreault, M.S, (1990), "the service encounter Diagnosing favourable and unfavourable incidents", *Journal of Marketing*, Vol. 54 No. 1 pp. 71-84.

Bojanic, D.C. (1991), "Quality measurement in professional service firms", *Journal of Professional Services Marketing*, Vol. 6 No. 2, pp. 27-36.

Bolton, R.N. and Drew, J.H., (1991), "A multistage model of customers' assessment of service quality and value", *Journal of Consumer Research*, Vol. 17, March, pp. 375-84.

Bongiorno, L. (1993), "Franchise Fracas", *Business Week,* March 22, p. 68.

Bopp, K.D. (1990), "How patients evaluate the quality of Ambulatory medical encounters: A marketing perspective", *Journal of Healthcare Marketing*, Vol. 10 No. 1, pp. 6-15.

Bouilding, W, Kalra, A, Staelin, R, and Zeithaml, V. (1993), "A dynamic process model of service quality: From expectations to behavioural intentions", *Journal of*

Marketing Research, Vol. 30, February, pp. 7-27.

Bouman, M. and Van der Wiele, T. (1992), "Measuring service quality in the car service industry: Building and testing an instrument", *International Journal of Service Industry Management*, Vol. 3, pp. F16.

Bourman, M. and van der Wiele, T., (1992), "Measuring service quality in the car service industry, building and testing an instrument", *International Journal of Service Industry Management*, Vol. 3 No. 4, pp. 4-16.

Bowen, D. (1986), "Managing customers as human resources", *Human Resource Management*, Vol. 25 No. 3, pp. , 371-83.

Bowen, D.E., and Lawler, E.E.III (1992), "The empowerment of service workers: What, Why, How, and When", *Sloan Management Review*, Vol. 33 No. 3, pp. 31-9.

Bowers, M.R., Swan, J.E. and Koehler, W.F. (1994), "What attributes determine quality and satisfaction with health care service management", *Health Care Management Review*, Vol. 19 No. 4, pp. 49-55.

Bowers, M.R., Swan, J.E. and Koehler, W.F., (1994), "What attributes determine quality and satisfaction with health-care delivery", *Health Care Management Review*, Vol. 9 No. 4, p.49.

Brady, K.M, Cronin, J.J.JR. And Brand, R.R., (2002) "Performance-measurement of service quality: a replication and extension", *Journal of Business Research*, Vol. 55, Iss. 1, pp. 17-31.

Brady, K.M., Cronin, J.J. and Brand, R.R, (2002), "Performance-only measurement of service quality: a replication and extension," *Journal of Business Research*, Vol.55 No. 1, pp. 17-31.

Bresinger, R. and Lambert, D. (1990), "Can the SERVQUAL scale be generalised to business to business?" in *Knowledge Development in Marketing, 1990 AMA's Summer Educators' Conference Proceedings.*

Broderick, A. J. and Vachirapornpuk, S. (2002), "Service quality in internet banking; the importance of customer role", *Marketing Intelligence & Planning*, Vol. 20 No. 6, pp. 327-35.

Brogowicz. A.A., Delene, L.M., and Lyth, D.M., "A synthesised service quality model with managerial implications," *International Journal of Service Industry*

Management, Vol. 1 No. 1, pp. 27-44.

Brown, Stephan, W. and Teresa, A. Swartz, (1989), "A gap analysis of professional service quality", *Journal of Marketing*, Vol. 53, April, pp. 92-8.

Brown, J.J., Churchill, G.A. and Peter, J.P, (1993), "Research note: improving the measurement of service quality", *Journal of Retailing,* Vol. 66 No.1, pp. 126-39.

Buttle, F., (1995), "SERVQUAL: review, critique, research agenda", *European Journal of Marketing*, Vol. 30 No. 1, pp. 8-32.

Buttle, F. (1996), "SERVQUAL: review, critique, research agenda", *European Journal of Marketing*, Vol. 30. No.1, pp. 8-32.

Cadotte, E.R, Woodruff, R.B and enkins, R.L., (1987), "Expectations and norms in models of consumer satisfaction", *Journal of Marketing Research,* Vol. 24, August, pp. 305-14.

Cahng, T.Z and Chen,S.J. (1998) "Market orientation, service quality and business profitability: a conceptual model and empirical evidence", *Journal of Services Marketing*, Vol. 12 No. 4, pp. 246-64

Camilleri, D. and O'Callaghan, M. (1998), "Comparing Public and private hospital care service quality", *International Journal of Health Care Quality*, Vol. 11 No. 4, p. 127.

Camp, R. (1989), *Benchmarking: The Search for Industry Best Practices That Lead to Superior Performance.* Milwaukee, Wisc.: American Society for Quality Control

Campbell, D.T. and Fiske, D.W. (1959), "Convergent and Discriminant validity by the multi trait –multi method matrix", *Psychological Bulletin,* Vol. 56 No. 2, pp. 81-105.

Canel, C. and Fletcher, E.A.A. (2001), "An analysis of service quality at a student health centre", *International Journal of Health Care Quality Assurance*, Vol. 14 No. 6, pp. 260-7.

Carman, J.M. (1990), "Consumer perceptions of service quality: as assessment of SERVQUAL dimensions", *Journal of Retailing*, Vol. 66 No. 1, pp. 33-55.

Carman, J.M. (1990), "Consumer perceptions of service quality", *Journal of Retailing*, Vol. 66, pp. 33-55.

Carroll, D. (1992), "Expert: Being on time isn't everything for airlines" *USA Today,*

March 5, 6B.

Caruana, A. and Pitt, L. (1997), "INTQUAL: an internal measure of service quality and the link between service quality and business performance", *European Journal of Marketing*, Vol. 31 No. 4, pp. 246-64.

Chan, C. Entrekin, L. and Anderson, C. (2003), "Psychometric Assessment of the perception of service quality", *Research and Practice in Human Resource Management*, Vol. 11 No. 1, pp. 65-74.

Charles, M.I., and Pranter, C.A. (1989), "Compatibility Management: Customer-to-customer relationships in service environments", *Journal of Services Marketing*, Vol. 3 No. 3, pp. 5-15.

Chebat, J.C., and Collias, P. (2000), "The impact of empowerment on customer contact employees' roles in service organisations", *Journal of Service Research*, Vol. 3 No. 1, pp. 66-81.

Chung, B.G., and Schneider, B. (1999), "Correlations of service employees' role conflict." Ithaca, N.Y.: Cornell University, Schools of Hotel Administration, working Paper.

Churchill, G.A.,(1979), "A paradigm for developing better measure of marketing constructs", *Journal of Marketing Research*, Vol. 16, February, pp. 64-73.

Cleary, P.D and McNeil, B.J. (1988), "Patient satisfactions an indicator of quality care" Inquiry, Vol. 25 No. 1 pp. 25-36.

Clemmer, E.C., and Schneider, B. (1993), "Toward understanding and controlling customer dissatisfaction", In *Designing a Winning service Strategy*, eds. Mary Jo Bitner and Lawrence Crosby, 87-91. Chicago, I11.: American Marketing Association.

Clow, K.E. and Vorhies, D.W. (1993), "Building a competitive advantage for service firms", *Journal of Services Marketing*, Vol. 7 No. 1, pp. 22-32.

Clow, K.E., Fiscar, A.K., and O'Bryan, D. (1995), "Patient expectations of dental services", *Journal of Health Care Marketing*, Vol. 15 No. 3, pp. 23-31.

Comen, T. (1989), "Making quality assurance work for you", *Cornell HRA Quarterly,* Vol. 30 No. 3, pp. 23-29.

Crene, F.G and Lynch, J.E. (1988), "Consumer selection of physicians and

dentists: An examination of choice criteria and cue usage" *Journal of Health Care Marketing*, Vol. 8 No. 3, pp. 16-19.

Cronin, J.J and Taylor, S.A. (1992) "Measuring service quality: a re-examination and extension", *Journal of Marketing*, Vol. 6, July, pp. 55-68.

Cronin, J.J. and Taylor, S.A (1994), "SERVPERF versus SERVQUAL: reconciling performance-based and perception-minus-expectation measurement of service quality," *Journal of Marketing*, Vol. 58 No.1, pp. 29-51.

Curry, A. and Sinclair, E. (2002), "Assessing the quality of physiotherapy services using SERVQUAL", *International Journal of Healthcare Quality Assurance*, Vol. 15, No 4/5, pp. 197-204.

Dabholkar, P. A., Shepherd, C.D. and Thorpe, D.J. (2000), "a comprehensive framework for service quality: an investigation of critical conceptual and measurement issues through a longitudinal study", *Journal of Retailing*, Vol. 76 No. 2, pp. 131-9.

Dabholkar, P.A. (1996), "Consumer evaluations of new technology-based self-service operations: an investigation of alternative models", *International Journal of Research in Marketing*, Vol. 13 No.1, pp. 29-51.

Dabholkar, P.A.; Thorpe, D.I; and Rentz, J.O (1996), "a measure of service quality for retail stores: Scale development and validation", *Journal of Academy Marketing Science*, Vol. 24 No. 1, pp. 3-16.

Davies, A.R. and Ware, J.E. Jr. (1981), "Measuring patient satisfaction with dental care" *Social Science and Medicine*, Vol. 15 No. 6, pp. 751-760.

Davies, B., Baron, S., Gear, T., and Read, M. (1999), "measuring and managing service quality," *Marketing Intelligence and Planning*, 17/1, pp. 33-40.

Day, R.L. and Ash, S. (1979), "Comparison of patterns of satisfaction /dissatisfaction and complaining behaviour for durables, non-durables and services", *New Dimensions of Consumer Satisfaction and Complaining Behaviour,* eds.

***Dean*, A (1999**), "The applicability of SERVQUAL in different health-care environments", *Health Marketing Quarterly*, Vol. 16 No. 3, pp. 1-21.

Devebakan, N. and Aksaraylı, M. (2003), "Sağlık işletmelerinde algılanan hizmet kalitesinin ölçümünde SERVQUAL skorlarının kullanımı ve Özel Altınordu

HAstahanesi uygulaması", Dokuz Eylül Üniversitesi, Sosyal Bilimler Enstitüsü Dergisi, Cilt 5, Sayı 1.

Dodwell, S. and Simmons, P. (1994), "Trials and tribulations in the pursuit of quality improvement", *International Journal of Contemporary Hospitality Management,* Vol. 6 nos, ½, pp. 14-18.

Donabedian, A (1980), "Explorations in quality assessment and monitoring", Vol. 1, the definitions of quality and approaches to its assessments (N Health Administration Press).

Donabedian, A., (1987), "Commentary on some studies of the quality of care", *Health Care Financing Review,* Annual Supplement, pp. 75-85.

Donthu, N. (1991), "Quality control in services industry", *Journal of Professional Service Marketing*, Vol. 7 No. 1, pp. 31-54.

Douglas, L and Connor, R. (2003), "Attitudes to service quality – the expectation gap" *Nutrition and Food Science*, Vol. 33, Iss. ¾, pp. 165-173.

Douglas, L. and Connor, R. (2003), "Attitudes to service quality, the expectation gap", *Nutrition and Food Science,* Vol. 33, Iss. ¾, pp. 165-173.

Ehrenfeld, t. (1992), "The case of the unpopular pay plan", *Harvard Business review,* Vol. 70, January-February, pp. 14-7.

Fayek, Y.N (1996), "Health care quality in NHS hospitals", *International Journal of Health Care Quality Assurance*, Vol. 9 Iss. 1, pg. 15.

Fick, G.R. and Ritchie, J.R.B., (1991), "Measuring service quality in the travel and tourism industry", *Journal of Travel Research,* Vol. 30 No. 2, Autumn, pp. 2-9.

Finn, D. and Lamb, C. (1991), "An evaluation of SERVQUAL scale in retailing settings", *Advances in* Consumer *Research*, Vol. 18, pp. 483-90.

Finn, D.W. and Lamb, C.W. (1991), "An evaluation of the SERVQUAL scale in retail settings" in Solomon, R.H. (Eds), *Advances in Consumer Research*, Vol. 18, Association of Consumer Research, Provo, UT.

Finn, D.W. and Lamb, C.W. (1991), "An evaluation of the SERVQUAL scales in a retailing setting", *Advances in Consumer Research*, Vol. 18, pp. 338-357.

Fisher, L.M. (1998), "Here comes front-office automation" *Strategy and Business*,

Vol. 13, pp. 53-65.

Ford, J.W., Joseph, M. and Joseph, B., (1993), "Service quality in higher education: a comparison of Universities in the United States and New Zeland using SERVQUAL", unpublished manuscript, Old Dominion University, Norfolk, VA.

Freeman, K.D. and Dart, J, (1993), "Measuring the perceived quality of professional business services", *Journal of Professional Services Marketing*, Vol. 9 No.1, pp. 27-47.

Frost, F.A. and Kumar, M. (2000), "INTSERVQUAL: an internal adaptation of the GAP model in a large service organisation", *Journal of Services Marketing*, Vol. 14 No. 5, pp. 358-77.

Furey, T.R. (1991), "How information power can improve service quality", *Planning Review*, Vol. 19 No. 3, pp. 24-6.

Fusilier, M.R. and Simpson, P.M, (1995), "AIDS patients' perceptions of nursing care quality", *Journal of Health Care Marketing*, Vol. 15 No. 1, pp. 49-53.

Gabbott, M. and Hogg, G. "Grounds of discrimination establishing criteria for evaluation", *Service Industries Journal,* Vol. 15 No. 1, p. 90.

Gagliano, K.B. and Hathcote, J., (1994), "Service quality components and group criteria in local government", *International Journal of Service Industry Management*, Vol. 4 No. 4, pp. 42-53.

Gammie, A. (1992), "Stop at nothing in the search for quality", *Human Resources*, Vol. 5, Spring, pp. 35-8.

Garvin, D.A., (1983), "Quality On Line", *Harvard Business Review* 61, Sept-Oct., 65-73.

Garvin, D. (1984), 'What does "Product Quality" really mean', *Sloan Management* Review, Fall.

Geer, J.H. and Maisel, E. (1972), "Evaluating the effects of the prediction-control confound", *Journal of Personality and Social Psychology,* No. 8, pp. 314-19; and D.C. Glass and J.E. Singer, *Urban Stress*, (New York: Academic Press).

George, W.R., and Berry, L.L. (1981), "Guidelines fro the advertising of services." *Business Horizons*, Vol. 24 (May-June), pp. 52-6.

Goodwin, C. (1988),"I can do it myself: Training the service consumer to contribute

to service productivity", *Journal of Services Marketing*, Vol. 2, pp. 71-8.

Gotlieb, J.B., Grewal, D. and Brown, S.W. (1994), "Consumer satisfaction and perceived quality: complementary or divergent constructs", *Journal of Applied Psychology*, Vol. 79 No. 6, pp. 875-85.

Gourdin, K.T. nad Kloppenborg, T.J. (1991), "Identifying service quality gaps in commercial air travel: the first step toward quality improvement" *Transportation Journal*, Vol. 31, pp. 22-30.

Grönroos, C.A. (1982a), "An applied service marketing theory", *European Journal of Marketing,* Vol. 16, January-February, pp. 30-41.

Gronross, C. (1984), "A service quality model and its marketing implications" *European Journal of Marketing*, Vol. 13 No. 4, pp. 37-44.

Grönroos, C. (1984), "A service quality model and its marketing implications", *European Journal of Marketing*, Vol. 18 No. 4, pp. 36-44.

Grönroos, C.A. (1984), "Service quality model and its applications" *European Journal of Marketing*, Vol. 18, pp. 36-40.

Grove, S., and Fisk, R. (1997), "The impact of other customers on service experiences: A critical incident examination of 'Getting Along'", *Journal of Retailing,* Vol. 73 No. 1, pp. 63-85.

Gummesson, E, (1977), Marknadsfönny och försüljning ax konsuttjanster (Stockholm: Akademilli Heartur).

Gummesson, E. (1998), "Productivity, quality and relationship marketing in service operations", *International Journal of contemporary Hospitality Management*, Vol. 10 No. 1, pp. 4-15.

Guru, C. (2003), "Tailoring e-service quality through CRM", *Managing Service Quality*, Vol. 13, No. 6, pp. 20-531.

Gwinner, K.P., Dwayne, D.G., and Bitner, J.M. (1998), "Relational benefits in service industries: The customer's perspective", *journal of the Academy of Marketing Science*, Vol. 26 No. 2, 101-104.

H. Lee, Linda M. Delene, Mary, A. Bunda and Chankon Kim, (2000), "Methods of measuring health care service quality", *Journal of Business Research*, Vol. 48 pp. 233-246.

Hall, J.A. and Dornan, M.C. (1990), "Patient socio-demographic characteristics as predictors of satisfaction with medical care: A meat-analysis", *Social Science and Medicine,* Vol. 30 No. 7, pp. 811-818.

Hallowell, R. (1996), "The relationships of customer satisfaction, customer loyalty and profitability: an empirical study", *International Journal of Service Industry Management,* Vol. 7, No. 4, pp. 27-42.

Hartline, M.D., and Ferrel, O.C. (1996), "The management of customer contact service employees: An empirical investigation", *Journal of Marketing*, Vol. 60 No. 4, pp. 52-70.

Harvey, J. (1998), "Service quality: A tutorial" *Journal of Operations Management*, Vol. 16 No. 5, pp. 583-97.

Haywood-Farmer, J. (1988), "A conceptual model of service quality," *International Journal of Operations and Production Management*, Vol. 8 No. 6, pp. 19-29.

Haywood-Farmer, J. and Stuart. F. (1988), "Measuring the quality of professional services", *The Management of Service Operations*, Proceedings of the Third Annual International Conference of the U.K. Operations Management Association, R. Johnston, ed., London, University of Warwick.

Headley, D.E. and Miller, S.J, (1993), "Measuring service quality and its relationship to future consumer behaviour", *Journal of Health Care Marketing*, Vol. 13 No. 4, pp. 32-41.

Hedvall, M.B. and Paltschik, M. (1989), "An investigation in, and generation of, service quality concepts", in Avlonitis, G.J et. al. (Eds), Marketing Thought and Practice in the 1990's, *European Marketing Academy,* Athens, pp. 473-483.

Hensel, J.S., and Baumgarten, S.A (1988), "Managing patient perceptions of medical practice service quality", *Review of Business*, Vol. 9 No.3, pp. 23-26.

Jabnoun, N. and Chaker, M. (2003), "Comparing the quality of private and public hospitals", *Managing Service Quality*, Vol. 13 No. 4, pp. 290-299.

Jobson, R. and Aaker, D.A. (1987), "The strategic role of product quality", *Journal of Marketing*, Vol. 51, pp. 31-44.

Johlke, M.C., and Duhan, D.F. (2000), "Supervisor communication practices and service employee outcomes." *Journal of Service Research*, Vol. 3 No. 2, pp. 154-65.

Johns, N. (1993), "Quality management in hospitality industry, part 3: recent developments", *International Journal of Contemporary Hospitality Management*, Vol. 5 No.1, pp. 10-15.

Johns, N. and Tyas, P. (1996), "Use of service quality gap theory to differentiate between food service outlets", *The Service Industries Journal*, Vol. 18 No. 3, pp. 321-46.

Johns. G. (1981), "Difference scores measures of organisational behaviour variables: a critique", *Organisational Behaviour and Human Performance*, Vol. 27, June, pp. 443-63.

Johnson, W.C. and Sikirkit, A. (2002), "Service Quality in the Thai telecommunication industry: a tool for achieving a sustainable competitive advantage", *Management Decision*, Vol. 40 No. 7, pp. 693-701.

Johnston. R. (1995), "The determinants of service quality satisfiers and dissatisfies" *International Journal of Service Industry Management*, Vol. 6 No. 5, pp. 53-71.

Jun, M., Robin, P. and George, A.Z. (1998), "The identification and measurement of quality dimensions in health care: focus group interview results", *Health Care Management Review*, Fall, Vol. 23 No. 4, p.81.

Jun. M., Petersen, R.J., Zsidisin, G.A., and Daily, B.F. (1999), "Service quality perceptions in the banking industry: major dimensions", *Journal of Business Strategies,* Vol. 16 No.2, pp. 170-88.

Kaiser, H. (1970), "A second generation little jiffy", *Psychometrika,* Vol. 35 No. 3, pp. 401-15.

Kaldenberg, D., Becker, B.W, Beverly, A, and Brown, W.G, (1997), "Identifying service quality strength and weaknesses using SERVQUAL: a study of dental services", *Health Marketing Quarterly*, Vol. 15 Iss. 2, pp. 69-87.

Kelly, S.W., Skinner, S.J. and Donnelly, J.H. (1992), "Organisational socialisation of service customer", *Journal of Business Research,* Vol. 25 No. 2, pp. 197-214.

Kilborne, W.E, Duffy, J.A, Duffy, M., and Giarchi, G. (2004), "The applicability of SERVQUAL in cross-national measurements of health-care quality", *Journal of Services Marketing*, Vol. 18 No7, pp. 524-33.

Kingman-Brundage, J. (1991), "technology, design and service quality"

International Journal of Service Industry Management, Vol. 2 No. 3, pp. 47-59.

Kong, R., and Mayo, M.C., (1993), "Measuring service quality in business-to-business context", *Journal of Business and Industrial Marketing*, Vol. 8 No. 2, pp. 5-15.

Kordupleski, R.E., Rusk, R.T. and Zahorik, A.J. (Why improving quality doesn't improve quality (or whatever happened to marketing?)" *California Management Review*, Vol. 35 No. 3, pp. 47-59.

Kwan, W. and Lee. T.J (1994), "Measuring service quality in Singapore retail banking", *Singapore Management Review*, Vol. 16 No. 2, July, pp. 1-24.

Lam, S.S.K. (1997), "A tool for measuring patients' opinions of hospital service quality in Hong Kong", *Total Quality Management*, Vol. 8 Iss. 4, pp. 145-53.

Lam, S.S.K. (1997), "SERVQUAL: a tool for measuring patient's opinions of hospital service quality in Hong Kong", *Total Quality Management*, Vol. 8 No. 4, pp. 145-52.

Lam, S.S.K. and Woo, K.S. (1997), "Measuring service quality: A test-retest reliability investigation of SERVQUAL", *Journal of Marketing Research Society,* Vol. 39 No. 2, pp. 381-396.

Lam, S.S.K; (1997), "SERVQUAL: A tool for measuring patients' opinions of hospital service quality in Hong Kong", *Total Quality Management,* Vol. 8 No. 4, pp. 145-153.

Lassar, W.M., Manolis, C. and Winsor, R.D. (2000), "Service quality perspectives and satisfaction in private banking", *Journal of Services Marketing*, Vol. 14 No. 2/3, pp. 244-72.

Lovelock, C. (1981), "Why marketing management needs to be different for services", *Marketing of Services* (Chicago: American Marketing Association), pp. 5-9.

Lytle, R.S. and Mokuva, M.P. (1992), "Evaluating health care quality: the moderating role of outcomes", *Journal of Health Care Marketing*, Vol. 12 No.1, pp. 4-14.

Mangold, G.W. and Babakus, E. (1991), "Service quality: the front-stage perspective vs. the back-stage perspective", *Journal of Services Marketing*, Vol.5 No.

4, Autumn, pp. 59-70.

Mattsson, J. (1992), "A service quality model based on ideal value standard", *International Journal of Service Industry Management*, Vol. 3 No. 3, pp. 126-139.

Mc Elwee, G. and Redman, T., (1993), "Upward appraisal in practice: an illustrative example of using the QUALED scale", *Education and Training*, Vol. 35 No. 2, December, pp. 27-31.

McAlexander, J.H., Kaldenberg, D.O, and Koeing, H.F. (1994), "Service Quality Measurement: examination of dental practices sheds more light on the relationships between service quality, satisfaction and purchase intentions in a health care setting", *Journal of Health Care Marketing*, Vol. 14 No. 3, pp. 34-40.

McDougall, G. and Levesque, T. (1992), "The measurement of service quality: Some methodology issues", 2eme Seminaire International de Recherche en management des Activities de Service, pp. 411-30.

Mittal, V. and Baldasare, M.P (1996), "Eliminate the negative: managers should optimise, rather than maximise performance to enhance patient satisfaction", *Journal of Health Care Marketing*, Fall, Vol. 16 No. 3.

Moore, S.A. and Schlegelmilch, B.B. (1994), "Improving service quality an industrial setting" *Industrial Marketing Management*, Vol. 23 No.1, pp. 83-92.

Morgan, J. and Everlett, T. (1990), "Introducing management quality in NHS", *International Journal of Health Care Quality Assurance*, Vol. 3 No5, pp. 23-37.

Mostofa, M.M., (2005), "An empirical study of patients' expectations and satisfaction in Egyptian hospitals", International *Journal of Health Care Quality Assurance*, Vol. 18 Iss. 7, pp. 516-32.

Nelson, E, Rust, R.T, Zahornik, A, Rose, R.L, Batalden, P and Siemanski, B. (1992), "Do patient perceptions of quality relate to hospital finance performance?", *Journal of Healthcare Marketing*, Vol. 12 No. 4, December, pp. 1-13.

O'Connor, S.J, Shewchuck, R.M, and Carrey, L.W., (1994), "The great gap: physicians' perception of patient service quality expectations fall short of reality", *Journal of Health Care Marketing*, Vol. 14 No. 2, pp. 32-9.

Oh, H. (1999), "Service quality, customer satisfaction and customer value: a holistic perspective", *International Journal of Hospitality Management*, Vol. 18, pp. 67-82.

Oliver, R.L. (1980), "A cognitive model of antecedents and consequences of satisfaction decisions", *Journal of Marketing Research*, Vol. 17, November, pp. 460-9.

Orwing, R.A., Pearson, J. and Cochran, D. (1997), "An empirical investigation into the validity of SERVQUAL in the public sector", *Public Administration Quarterly*, Vol. 21 No.1, pp. 54-68.

Ouchi, W.G., and Ann, M. (1975), "A conceptual framework for the design of organisational control mechanism", *Management Science*, Vol. 25 No. 9, pp. 833-48.

Ovretvert, J. (1992), "Health care service quality", *Blackwell Scientific Press*, Oxford, in Selbman, and Garaedts, M. (1995), "Who should define the quality of health care? The health care provider, the patient, the institutions financing health care, or politicians interested in health care?" unpublished manuscript.

Parasuman, A, Berry, L.L, and Zeithaml, V.A., (1985), "A conceptual model of service quality and its implications for future research", *Journal of Marketing*, Vol. 49, Autumn, pp. 41-50.

Parasuman, A, Berry, L.L, and Zeithaml, V.A., (1986), "SERVQUAL: a multiple-item scale for measuring customer perceptions of service quality", Report No. 86-108, *Marketing Science Institute,* Cambridge, MA.

Parasuman, A, Berry, L.L, and Zeithaml, V.A., (1988), "SERVQUAL a multiple-item scale for measuring consumer perceptions of service quality", *Journal of Retailing,* Vol. 64, Spring, pp. 12-40.

Parasuman, A, Berry, L.L, and Zeithaml, V.A., (1990), "An empirical examination of relationship in an extended service quality model", *Marketing Science Institute,* Cambridge, MA.

Parasuman, A., Berry. L.L. and Zeithaml, V.A, (1991), "Refinement and reassessment of the SERVQUAL scale", *International Journal of Hospitality Management*, Vol. 18, pp. 67-82.

Parasuman, A, Berry, L.L, and Zeithaml, V.A., (1991a), "Perceived service quality as a customer based performance measure: an empirical examination of organisational barriers using an extended service quality models", *Human Resource Management*, Vol. 30 No. 3, Autumn, pp. 355-64.

Parasuman, A, Berry, L.L, and Zeithaml, V.A., (1991b), "refinement and reassessment of SERVQUAL scale", *Journal of Retailing*, Vol. 69 No. 4, Spring, pp. 420-50.

Parasuman, A, Berry, L.L, and Zeithaml, V.A., (1994), "Reassessment of expectations as a comparison standard in measuring service quality: implications for future research", *Journal of Marketing*, Vol. 58, January, pp. 111.24.

Parasuman, A, Berry, L.L, and Zeithaml, V.A., (Research note: more on improving service quality measurement", *Journal of Retailing*, Vol. 69 No.1, Spring, pp. 140-7.

Parasuman, A, Zeithaml, V.A. and Berry, L.L. (1994a), "Reassessment of expectations as a comparison standard in measuring service quality: Implications for further research", *Journal of Marketing*, Vol. 58 No. 1, pp. 111-24.

Parasuman, A, Zeithaml, V.A. and Berry, L.L. (1994b), "Moving forward in service quality research: Measuring different customer-expectation levels, comparing alternative scales, and examining the performance-behavioural intentions link", Cambridge, Mass: Marketing Science Institute, Report No. 94-114

Peter, P.J and Churchill, G.A. (1986), "Relationship among research design choices and psychometric properties of rating scales: a meta-analysis", *Journal of Consumer Research,* Vol. 23, February, pp. 1-10.

Peter, P.J, Churchill, G.A. and Brown J.J. (1993), "Caution in the use of difference scores in consumer research", *Journal of Consumer Research*, Vol. 19, March, pp. 655-62.

Philip, G. and Hazlett, S.A. (1997), "The measurement of service quality: a new P-C-P attributes model", *International Journal of Quality and Reliability Management*, Vol. 14 No. 3, pp. 260-86.

Quinn, M. and Humble, J. (1993), "Using service to gain a competitive edge – the prompt approach" *Long Range Planning,* Vol. 26 no. 2, pp. 31-40.

Ramsaran-Fowdar, R.R., 2005, "Identifying health care quality attributes", *Journal of Health and Human Services Administration,* Winter 2004/Spring 2005, Vol. 27, Iss. ¾, pp. 428-444.

Raper, J.L. (1996), "A cognitive approach to patients satisfaction with emergency

department nursing care", *Journal of Nursing Care Quality*, Vol. 10 No. 4, pp. 48-58.

Reichheld, F. (1993), "Loyalty-based management", *Harvard Business Review*, March-April, pp. 64-74.

Reichheld, F.F. and Sasser, W.E.Jr., (1990), "Zero defections: quality comes to service", *Harvard Business Review*, Sept-Oct., pp. 105-11.

Reidenbach, E.R. and Sandifer-Smallwood, B. (1990), "Exploring perceptions of hospital operations by a modified SERVQUAL approach", *Journal of Health Care Marketing*, Vol. 10 No. 4, pp. 47-55.

Reynoso, J. and Moores, B. (1995), "Towards the measurement of service quality", *International Journal of Quality and Reliability Management*, Vol. 14 No. 3, pp. 64-83.

Rigotti, S. and Pitt, L. (1992), "SERVQUAL as a measuring instrument for service provider gaps in business schools", *Management Research News*, Vol. 15 No. 3, pp. 9-17.

Rizzo, J, House, R.J. and Lirtzman, S.I. (1970), "Role conflict and ambiguity in complex organisations", *Administrative Science Quarterly,* Vol. 15 No. 2, pp. 150-63.

Roberts, J.S (1987), "Reviewing the quality of care: priorities for improvement", *Health Care Financing Review* – Annual Supplement, pp. 69-74.

Rosen, L. and Karwan, K.(1994), "Prioritising the dimensions of service quality", *International Journal of Service Industry Management*, Vol. 5 No. 4, pp. 39-52.

Rosen, L.D. and Karwan, K.R. (1994), "Prioritising the dimensions of service quality", *International Journal of Service Industry Management*, Vol. 5 No. 4, pp. 39-52.

Roshnee, R.R- Fawdar (2005), "Identifying health care quality attributes", *Journal of Health Care and Human Services Administration*, Winter 2004/Spring 2005, Vol. 27, Iss. ¾, pp. 428-444.

Rust, R.T, Keiningham, T, Clemens, S, and Zahorik, A, (1998), "Return on quality at Chase Manhattan Bank." Nashville, Tenn.: Vanderbilt University, Centre for Service Marketing, Working Paper.

Rust, R.T., Subramanian, B. and Wells, M. (1992), "Making complaints a

management tool." *Marketing Management*, Vol. 2 No. 3, pp. 40-45.

Rust, R.T. and Zahorik, A.J., (1993), "Customer satisfaction, customer retention and market share", *Journal of Retailing*, Vol. 69 No. 2, Summer, pp. 193-215.

Rust, R.T. and Lemon, K.N. (2001), "E-service and the consumer", *International Journal of Electronic Commerce*, Vol. 5 No. 3, pp. 85-101.

Rust, R.T., Zahorik, A.J., Keiningham, T.L. (1995), "Return on quality (ROQ): Making service quality financially accountable", *Journal of Marketing*, Vol. 59 No. 2, pp. 58-70.

Ruth, B.N, and Drew, J.H. (1991a), "A longitudinal analysis of the impact of service changes on customer attitudes", *Journal of Marketing,* Vol. 7 No. 2, pp. 27-36.

Saleh, F and Ryan, C. (1991), "Analysing service quality in hospitality industry using the SERVQUAL model", *Service Industry Journal*, Vol. 1, July, pp. 324-43.

Saleh, F. and Ryan, C. (1992), "Analysing service quality in hospitality industry using the SERVQUAL model", *Services Industries Journal*, Vol. 11 No. 3, pp. 324-43.

Santos, J. (2003), "E-service quality: a model of virtual service quality dimensions", *Managing Service Quality*, Vol. 3 No. 3, pp. 233-46.

Scardina, S. (1994), "A tool for evaluating patient satisfaction with nursing care", *Journal of Nursing Care Quality*, Vol. 8, pp. 38-46.

Schacherer, M. (2002), "A methodological approach to extending SERVQUAL to measure the internal service quality between employer and employee" DBA Anglia Business School, Research Paper 3.

Schlesinger, L.A., and Heskett, J.L. (1991), "The service-driven service company", *Harvard Business Review*, Vol. 69, pp. 71-81.

Schneider, B and Bowen, D.E. (1985), "Employee and customer perceptions of service in banks: Replication and Extension" *Harvard Business Review,* Vol. 70 No. 3, pp. 423-33.

Schneider, B. and Schechter, D. (1991), "Development of a personal selection system for service jobs", *In Service Quality: Multidisciplinary and Multinational Perspectives,* eds. Stephen W. Brown, Evert Gummesson, Bo Evardsson, and

BengtOve Gustavsson, 217-36. Lexington, Mass: Lexington Books

Schneider, B. and Bowen, D.E. (1993), "The service organisations: Human resource management is crucial", *Organisational Dynamics*, Vol. 21 No. 4, pp. 39-52.

Scott, K.W. and Hoffman, K.D. (1997), "An investigation of positive affect, prosocial behaviours, and service quality", *Journal of Retailing,* Vol. 73 No. 3, pp. 407-27.

Seihoff, A.M. (1998), "Impact of unlicensed assistive personnel on patient satisfaction; an integrative review of the literature", *Journal of Nursing Care Quality,* December, Vol. 13 No. 2, pp. 1-10.

Semester, D.I., Hauser, J.R. Wernerfelt, B, and Rust, R.T., (1998), "Implementing quality improvement programs designed to enhance customer satisfaction: Quasi-Experiments in the U.S and Spain." Cambridge, Mass.: MIT, Sloan School of Management, Working Paper.

Serwer, A.E. (1995), "Trouble in Franchise", *Fortune*, March 6, pp. 115-8.

Seth, N., Deshmukh, S.G. and Vrat, P. (2005), "Service Quality Models: a review", *International Journal of Quality and Reliability management*, Vol. 22 No. 9, pp. 913-949.

Seth, N., Deshmukh, S.G. and Vrat, P., (2005), "Service Quality Models: a review," *International Journal of Quality and Reliability Management*, Vol. 22 No. 9, pp. 913-949.

Shetty, Y.K. (1987) "Product quality and competitive strategy", *Business Horizon*, Vol. 30 No. 5, pp. 46-52.

Shewchuck, R.M., O'Connor, S.J. and White, J.B. (1991), "In search of service quality measures: Some questions regarding psychometric properties", *Health Service Management Research*, Vol. 4 No.1, pp. 65-75.

Silvestro, R. (1999), "positioning services along the volume variety diagonal: the contingencies of service design, control and improvement", *International Journal of Operations and Production Management*, Vol. 19 No. 4, pp. 399-421.

Silvestro, R. (2005), "Applying gap analysis in the health serviced to inform the service improvement agenda", *International Journal of Quality and Reliability*, Vol. 22, Iss. 2/3, pp. 215-234.

Singh, J.J.R., Goolsby, J.R., and Rhoads, G.K. (1998), "Behavioural and psychological consequences of boundary spanning: Burnout and customer service representatives", *Journal of Marketing Research*, Vol. 31, pp. 309-22.

Sohail, M.S (2003), "Service quality in hospitals: more favourable than you think", *Managing Service Quality*, Vol. 13 No. 3, pp. 197-206.

Sohail, S.S (2003), "Service quality in hospitals: more favourable than you might think", *Managing Service Quality,* Vol. 13 No. 3, pp. 197-206.

Soliman, A.A., (1992), "assessing the quality of health care", *Health Care Marketing*, Vol. 10 Nos. 1-2, pp. 121-41.

Soteriou, A.C. and Stavrinides, Y. (2000), "An internal customer service quality data envelope analyses for bank branches", *International Journal of Bank Marketing*, Vol. 18 No. 5, pp. 246-52.

Spreng, S.A. and Mackoy, R.D. (1996), "An empirical examination of model of perceived service quality and satisfaction", *Journal of Retailing,* Vol. 722, pp. 201-14.

Spreng. R.A and Singh, A.K., (1993), "An empirical assessment of the SERVQUAL scale and the relationship between service quality and satisfaction", unpublished manuscript, Michigan State University, TN

Swartz, T. and Brown, T. (1989), "Consumer and provider expectations and experiences in evaluating professional service quality", *Journal of the Academy of Marketing Science,* Vol. 17(2), pp. 189-95.

Sweeny, J.C., Soutar, G.N. and Johnson, L.W. (1997), "Retail service quality and perceived value", *Journal of Consumer Services*, Vol. 4 No. 1, pp. 39-48.

Tax, S.S., and Brown, S.W. (1998), "Recovering and learning from service failure", *Sloan Management Review*, Vol. 40 No. 1, pp. 75-88.

Taylor, S.A., Sharland, A, Cronin, A. A .Jr. and Bullard, W,. (1993), "Recreational quality in the international setting", *International Journal of Service Industry Management*, Vol. 4 No. 4, pp. 68-88.

Taylor, S.A. (1994) "Distinguishing service quality from patient satisfaction in developing health care marketing strategies" *Hospital and Health Service Administration*, Vol. 39, pp. 221-236.

Taylor, S.A. and Cronin J.J. (1994), "Modelling patient satisfaction and service quality", *Journal of Health Care Marketing*, Vol. 14 No. 1, pp. 34-44.
Teas, K.R. (1993), "Expectations, performance evaluation, and consumers' perceptions of quality", *Journal of Marketing*, Vol. 57, October, pp. 18-34.
Teas, K.R., (1993), "Expectations, performance evaluations, and consumers' perception of quality", *Journal of Marketing*, Vol. 57, October, pp. 18-34.
Teas, R. K. (1994), "Expectations; a comparison standard in measuring service quality: an assessment of a reassessment", *Journal of Marketing*, Vol. 58. No. 1, pp. 132-9.
Teas, R.K. (1993), "Expectations, performance evaluation, and consumers' perception of quality", *Journal of Marketing*, Vol. 57, pp. 18-34.
Tse, D.K and Wilton P.C. (1988), "Models of consumer satisfaction formation: an extension", *Journal of Marketing Research*, Vol. 25, May, pp. 204-12.
Uzun, O. (2001), "Patient satisfaction with nursing care at a university hospital in Turkey", *journal of Nursing Care Quality*, Vol.16 No. 1, pp. 24-33.
Vandamme, R., Leunis, J. (1992), "Development of a multiple scale for measuring hospital service quality", *International Journal of Service Industry Management,* Vol. 4 No. 3, pp. 30-49.
Vandamme, R. and Leunis, J., (1993), "Development of multiple-item scalr for measuring hospital service quality", *International Journal of Service Industry Management*, Vol. 4 No. 3, pp. 30-49.
Voss, G.B., Parasuman, A., Grewal, D. (1998), "The roles of price, performance and expectations in determining satisfaction in service exchanges", *Journal of Marketing*, Vol. 64 No. 4, October.
Walbridge, S.W. and Delene, L.M., (1993), "Measuring Physician attitudes of service quality", *Journal of Health Care Marketing*, Vol. 13 No. 4, Winter, pp. 6-15.
Walker, O.C. Jr., Churchill, G.A. Jr., Ford, N.M, (1977), "Motivation and performance in Industrial Selling: present knowledge and needed research", *Journal of Marketing Research*, May, pp. 156-68.
Walker, O.C., Gilbert, A.C. an Ford, N.M. "Motivation and performance in industrial selling: Present knowledge and needed research", *Journal of Marketing*

Research, Vol. 14, May, pp. 156-68.

Webster, F.E., (1992), "The changing role of marketing in corporation", *Journal of Marketing,* Vol.56 No. 4, pp. 1-17.

Winslow, R. (1992), "Videos, Questionnaires aim to expand role of patients in treatment decisions." *The Wall Street Journal*, (February, 25), B1.

Wisnievski, M. and Wisnievski, H. (2005), "Measuring service quality in a hospital colposcopy clinic", *International Journal of Health Care Quality,* Vol. 18, Iss. 2/3, pp. 217-229.

Wong, S.M. and Perry, C., (1991), "Customer service strategies in financial retailing", *International Journal of Bank Marketing*, Vol. 9 No. 3, pp. 11-16.

Woodruff, R.B, Clemons, D.S, Schumann, D.W, Gardial, S.F, and Burns, M.J. (1991), "The standards issue in CS/D research: A historical perspective", *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behaviour*, Vol. 4, pp. 103-109.

Woodside, A.G. Frey, L. and Day, T.R. (1989), "Linking service quality, customer satisfaction, and behavioural intentions" *Journal of Healthcare Marketing*, Vol. 9, December, pp. 5-17.

Woodside, A.G., Frey, L.L, and Daly, R.T, (1989), "Linking service quality, customer satisfaction", *Journal of Health Care Marketing*, December, pp. 5-17.

Woodside, A.G., Frey, L.L. and Daly, R.T. (1989), "Linking service quality, customer satisfaction, and behavioural intention" *Journal of Healthcare Marketing*, Vol. 9, December, pp. 5-17.

Young, W.B., Minnick, A.F, AND Marcantonio, R., (1996), "How wide is the gap in defining quality care? Comparison of Important aspects of patient care", *Journal of Nursing Administration*, Vol. 26 No. 5, pp. 15-20.

Youssef, F., Nel, D. and Bovarid, T. (1995), "Service quality in NHS hospitals", *Journal of Management in Medicine,* Vol. 9 No. 1, pp. 66-74.

Youssef F.N., Nel, D. and Bovaird, T. (1996), "Health-care quality in NSF hospitals", *International Journal of Healthcare Quality Assurance*, Vol. 9 No. 1, pp. 15-28.

Zahorik, A.J and Rust, R.T., (1992), "Modelling the impact of service quality of

profitability: a review", in Swartz, T.A., Bowen, S.W. (eds), *Advances in Services Marketing Management*, JAI Press, Greenwich, CT, pp. 49-64.

Zeithaml, V.A, Berry, L.L. and Parasuman, A. (1996), "The behavioural consequences of service quality", *Journal of Marketing*, Vol. 60 No. 2, pp. 31-46.

Zeithaml, V.A. (1981), "How consumer evaluation process differ between goods and services", in James H. Donnelly and William R. George, eds, *Marketing of Services*, Chicago: American Marketing Association, pp. 186-190.

Zeithaml, V.A., Parasuman, A., and Berry, L.L. (1985), "Problems and strategies in services marketing", *Journal of Marketing*, Spring, pp. 33-46.

Zeithaml, V.A. (1988), "Consumer perceptions of price, quality, and value: .a means-end model and Synthesis of Evidence", *Journal of Marketing*, July, pp. 2-22

Zeithaml, V.A., Berry, L.L. and Parasuman, A. (1988), "Communication and control process in delivery of service quality" *Journal of Marketing*, Vol. 52 No. 2, pp. 35-48.

Zeithaml, V.A., Berry, L.L., and Parasuman, A. (1993), "The nature and determinants of customer expectations of service", *Journal of Academy of Marketing Science*", Vol. 21 No.1, pp. 1-12.

Zhu, F. X., Wymer, W.J. and Chen, I. (2002), "IT-based services and service quality in consumer banking", *International Journal of Service Industry Management*, Vol. 13 No.1, pp. 69-90.

BOOKS

Bell, D.E. and Leavitt, M. (1998), "Bronner Slosberg Humphrey", Harvard Business School Case No. 9-598-136.

Berry, L.L. (1983), "Relationship marketing", *In Emerging Perspectives on Services Marketing*, eds. Leonard L. Berry, G. Lynn Shostack, and Gregory D. Upah, 25-8. Chicago, I11.: American Marketing Association

Berry, L.L., and Parasuman, A. (1991), "Marketing to Employees", In *Marketing Services: Competing Through Quality*, Chap. 9. New York, NY. The Free Press

Bettman, J.R. (1979), "An information processing theory of consumer choice (Reading, Mass: Addison – Wesley.

Bitner, M.J. and Hubert, A.R. (1994), "Encounter satisfaction versus overall service satisfaction versus quality. In: *Services quality: new directions in theory and practice,* Sage Publications, Thousand Oaks, CA, pp. 72-92.

Blois, K. (2000), The Oxford Text Book of Marketing, Chapter 21, C. Grönroos, pp. 506.

Buzzell, R.D. and Gale, B.T., (1987), The PIMS Principles, Free Press, New York, NY.

Child, D. (1990), *The Essentials of Factor Analysis,* Cassel, London.

Comrey, A. and Lee, H. (1991), *A First Course in Factor Analysis,* Lawrence Erlbaum Associates, Hillsdale, NJ.

Cowell, D. (1984), The Marketing Services, London, Heinemann.

Crosby, P.B., (1979), Quality id Free, Mc Grew Hill, New York, NY.

Crosby, P.B., (1979), "Quality is free: the art of making quality certain", New York, NY, New American Library.

Czinkota, R.M., Kotabe, M, and Mercer, D., Marketing Management Text and Cases, Chp. 8, pp. 275-285.

Dibb, S., Simkin, L., Pride, W. and Ferrel, O.C. Marketing Concepts and Cases, 4th edition, 2001.

Dickson, P. (1994), *Marketing Management*, Fort Worth, Tex.: Dryden Press.

Dixon, J. (1993), "Grouping techniques", in Munro, B. and Page, E(Eds), *Statistical Methods for Healthcare Research,*2nd ed., J.B. Lippincott Co., Philadelphia, P.A.

Fitzsimmons, J.A. and Fitzsimmons, M.J. (1997), *Service Management*, 2nd ed., Chap. 11. New York, N.Y.: Irwin/McGrew-Hill.

Gatewood, R. and Field, H. (1990), *Human Resource Selection*, 2nd edition, The Dryden Press, Cleveland, O.H.

George, D and Mallery, P. (2000), *SPSS for Windows: A Simple Guide and Reference,* 2nd ed., Allyn & Bacon, Boston, MA.

Green, S. Salkind, N. and Akey, T. (2000), Using SPSS for windows: Analysing and Understanding Data, 2nd edition, Prentice-Hall, Upper Saddle River, N.J.

Grönroos, C. (1982), *Strategic Marketing and Marketing in Service Sector*. Helsingfors, Sweden. Swedish School of Economics and Business Administration.

Grönroos, C. (1985), "Internal Marketing – Theory and Practice", *Services Marketing in a Changing Environment*, (Chicago: American Marketing Association), pp. 41-47.

Grönroos, C.A. (1990a), *Service Management and Marketing: Managing the Moments of Truth in Service Competition*, (Lexington, Mass.: Lexington Books).

Hair, J., Anderson, R., Tathain, R., and Black, W., *Multivariate data Analysis,* 4th ed., Prentice-Hall Englewood Cliffs, NJ.

Hair, J.F.Jr, Anderson, R.E., Tatham, R.L. and Black, W.C., (1998), *Multivariate Data Analysis*, 5th ed., Upper Saddle River, NJ: Prentice-Hall.

Johnston, R. and Clark. G., (2001), Service Operations Management, Prentice Hall, London.

Katz, D. and Kahn, R. (1978), *The Social Psychology of Organisations*, New York, N.Y.: Wiley and Sons.

Kim J. and Mueller, C. (1978), *Introduction to Factor Analysis,* Sage Publications, Beverly Hills, CA.

Kotler, P. and Armstrong, G, (2004), Principles of Marketing, 10th edition, Chapter 1, pp. 5-6, Pearson education, New Jersey

Management Extra, Quality and Operations Management, Elsevier Butterworth – Heinmann, Liancre House, Jorhan Hill, Oxford, 2005.

Mohr, I. (1991), "The change to total quality: phenomenological insights from corporate quality executives, doctoral dissertation, City University of New York, Ann Arbor.

Normann, R. (1984), *Service Management*, New York, N.Y.: John Wiley.

Nunnally, J. (1978) Psychometric Theory, McGrew Hill Book Co., New York, NY.

Olsen, M.D, Teare, R. and Gummeson, E (1996), Service Quality in Hospitality Organisations, Cassell, New York, NY.

Ovretvert, J. (1992), Health Service Quality, Blackwell, Oxford.

Parasuman, A. (1995), "Measuring and Monitoring service quality", in Glynn, W. and Barnes, J. (Eds), *Understanding Services Management*, Wiley, Chichester.

Peter, J.T. and Austin, N. (1985), *A Passion for Excellence,* New York Randon House, p. 84.

Rees. A.M. (1998), "Informed consumer choice in Health Care", The Consumer Health Information Source Book, Edition 5.

Rust, R.T., Zahorik, A.J., Keiningham, T.L. (1994), *Return on Quality* Chicago, 1II.:Probus Publishing Co.

Scolt, J.D, Warshaw, R. and Taylor, J.R., Introduction to Marketing Management, 5th edition, (Homewood, 1II, Irwin, 1985), p. 215.

Shostack, G.L. (1992), "Understanding services through blueprinting", *In Advances in Services Marketing, and Management: Research and Practice,* Vol. 1, eds. Teresa A. Swartz, David E. Bowen, and Stephen W. Brown, 75-90. Greenwich, Conn.: JAI Press.

Silvestro, R. and Johnston, R. (1992), "The determinants of service quality: hygiene and enhancing factors", in Schuing, E,E. Gummerson, E. and Little, C.(Eds), QUISII: Selected papers, Business Research Institute, St. Johns University, New York. NY.

Slack, N., Chambers, S. and Johnson, R. (2001), 3rd edition. Operations Management, FT Prentice Hall.

Valerie, A., Zeithaml, V., and Parasuman, A., (2004), Service Quality, Published by Marketing Science Institute, Chp. 2 p. 5.

Zeithaml, V.A., Berry, L.L., and Parasuman, A. (1990), "Delivering Quality Service: Balancing customer perceptions and expectations", Free Press, New York, NY.

Zeithaml, V.A., Berry, L.L., and Parasuman, A. (1990), Delivering Quality Service: Balancing Customer Perceptions and Expectations, The Free Press, New York, NY.

Zeithaml, V.A., Berry, L.L., and Parasuman, A. (1991), "The nature and determinants of customer expectations of service", working paper 91-113, Marketing Service Institute, Cambridge, MA.

Zeithaml, V.A., Berry, L.L., and Parasuman, A. (1992), "Strategic positioning on the dimensions of service quality", in Swartz, T.A., Bowen, D.E. and Brown, S.W. (Eds.). *Advances in Services Marketing and Management*, Vol. 2, JAI Press, Greenwich, CT, pp. 207-28.

Zeithaml, V. and Bitner, M.J. (2003), Services Marketing: Integrating Customer Focus Across the Firm, 3rd ed. Burr Ridge, I11.: Irwin McGrew Hill.

[1] **Nüfus Kayıt Dairesi** 2005 Kütük kayıtları, Lefkoşa, KKTC

WEB PAGES

Kıbrıs Gazetesi, "Sağlıkta Güç Birliği", 21/02/07, http://www.kibrisgazetesi.com/index.php/cat/2/news/37522/PageName/Ic_Haberler

"**Sağlıkta Köklü Değişiklikler**", 27/04/07, www.cm.gov.nc.tr/ftp/tutanak/D6Y2/b59.doc

"**Sağlık Servisleri Yeriden Yönetilecek**", Kıbrıs Gazetesi,16/02/07, http://www.kibrisgazetesi.com/index.php/cat/2/news/37255/PageName/Ic_Haberler

"**Özel Hastahaneler**", Kıbrıs Gazetesi, 29/01/2007; http://www.kibrisgazetesi.com/index.php/cat/2/news/36536/PageName/Ic_Haberler

"**Reform Süreci Başladı**", 14/03/07, Kıbrıs Gazetesi http://www.kibrisgazetesi.com/index.php/cat/2/news/38537/PageName/Ic_Haberler

APPENDIX 1 A

Table 1A.1 Select research issues related to various service quality models

Model no./type	Category	Select research issues
SQ1. Technical and functional quality model	I	How technical and functional quality influences a service delivered and how the customer perceive these dimensions
SQ2. GAP model	III	How to measure the gaps at different levels using a standard measurement tool. What are the factors affecting gaps? Whether these gaps differ from industry to industry.
SQ3.attribute service quality model	III	How to measure service quality in a particular service encounter using this model. On what attributes it depends and how to determine relative importance of attributes for service encounter
SQ4. Synthesised model of service quality	I	What factors contribute to the information and feedback, design, implementation and communication gaps? How service managers can minimise the gaps through the performance of planning, implementation and control tasks
SQ5. Performance only model	I	What is the role of value in the determination of service? How value affects the purchase decisions
SQ6. Ideal value model	I	What is the cognitive process by which consumer service concepts are formed and changed?
SQ7. EP and NQ model	I	How to generalise the EP model results for all type of service settings, whether change in the type of service needs re-examination of model.
SQ8. IT alignment model	II	How IT can enhance customer satisfaction. Whether the investment in IT depends on competition, market growth and other similar factors. How much to invest and up to what level IT should be used.
SQ9. Attribute and overall affect model	II	What is the role of attitude and behaviour towards using a technology on expectations of service quality?
SQ10. model of perceived quality and satisfaction	I	How to determine the balance between positive and negative effect of expectations
SQ11. PCP attribute model	III	What should be weighing of this level of attributes? On what factors it depends? Whether this changes with the type of service settings
SQ12. Retail service quality and perceived value	I	What is the impact of functional value, emotional value and social value on product quality, perceived price, and value for money and willingness to buy?
SQ13. Service quality, customer value and customer satisfaction model	III	What are the measurement issues associated with perceived value and customer satisfaction? Whether the determinants of perceived value and customer satisfaction change with type of service settings
SQ14. Antecedents and mediator model	I	What is the role of actual behaviour and actual repurchase on predictive power of service quality and customer satisfaction evaluation? What are the antecedents of customer

		satisfaction, whether these are correlated with antecedents of service quality

Model no./type	Category	Select research issues
SQ15. Internal service quality model	III	Which of the SERVQUAL dimensions is most important in measurement of internal service quality? Whether responsiveness plays a bigger role than reliability for all types of service settings
SQ16. Internal service quality DEA model	I	Can data envelope analysis be used as a tool to drive the linkage between service quality, profitability and operating efficiency? What will be the impact on model of other performance measures included as output?
SQ17. Internet banking model	II	Whether the model can be applied to other internet service encounters. Whether the interrelation of entities will change with the change in demographic variables.
SQ18. IT-based mode	II & III	How to measure service quality of IT-based transactions.
SQ19. Model of e-service quality	II & III	What are the items of the determinants considered in the model and how to measure e-service quality? Whether there will be change in the study with type of business (goods, different types of sites etc.)
Notes: Category I: general relation between various attributes of service; Category II: role of technology such as IT; Category III: measurement issues.		

Source: Seth, N., Deshmukh, S.G. and Vrat, P. (2005), "Service Quality Models: a review", *International Journal of Quality and Reliability management*, Vol. 22 No. 9, pp. 940-942.

Table 1A.2 Comparison of Parasuman et. al studies with other studies using SERVQUAL

Study	Parasuman et. al. (1985,88)	Carman (1990)	Finn and Lamb (1991)	Babakus and Mangold (1992)	Babakus and Boller (1992)	Headley and Miller (1993)
Data collection study sample(s)	Customers of telephone co., securities brokerage, insurance co., banks and repair and maintenance	Customers of a dental school patient clinic , a business school placement centre, a tire store and a hospital	Customers of four retail store types: stores like kMart, WalMart, etc. JC Penney, Sears, etc. Dillards, Foley's, etc. and saks, Neeimann-Marcus.	Customers of a hospital	Customers of an electric and gas utility co.	Customers of a medical services
Sample size	Ranged from 298 to 487 across companies	Ranged from 75 to 600+ across settings	Ranged from 58 to 69 across settings	443	689	159 usable pre- and post- encounter responses, 11 primary care physicians
Questionnaire format	Similar to PZB (1988) format	Similar to PZB (1988) in the placement centre	Similar to PZB (1988)	Similar to PZB (1988)	Similar to PZB (1988)	Similar to PZB (1988)
Major wording changes	Negatively worded questions	No major changes in the SERVQUAL items retained, however, several of the items added were transaction specific (rather than general	No major changes	Negatively worded questions to a positive form	No major changes	No major changes, except for languages necessary to switch between a generic provider reference and a specific

		attitude statements as in the original SERVQUAL				provider of medical services.
Original SERVQUAL item retained	22 items	Ranged from 10 to 17 across settings	All 22 items	15 pairs matching expectation perception items	All 22 items	All 22 items.
Response scale	Seven-point scale	Seven-point scale	Five-point scale	Five-point scale	Seven-point scale	Seven-point scale
Data analysis Procedure for assessing factor-structure	Principal-axis factor analysis followed by oblique rotation	Principal-axis factor analysis followed by oblique rotation	LISREL confirmatory factor analysis of five-dimensional measurement model	Principal-axis factor analysis followed by oblique rotation; LISREL confirmatory	Principal-axis factor analysis followed by oblique rotation; LISREL confirmatory	Principal-axis factor analysis followed by oblique rotation; LISREL confirmatory
Basis for initial number of factors extracted	PZB's (1988) Five-dimensional structure	Factors with eigenvalues greater than 1	PZB's (1988) five dimensional structure	PZB's (1988) five dimensional structure	PZB's (1988) five dimensional structure	Factors with eigenvalues of 1 or greater
Reliability Coefficients (Cronbach's alpha)	0.87-0.90	Mean 0.75 (across 35 scales derived through factor analysis)	0.59-0.84	0,89-0,97	0,67-0,83	0,58-0,77
Final number of dimensions	five	Between six and eight dimensions depending on setting	LISREL model fit for five-dimensional structure poor (no alternative factor structures examined)	Not clear five-dimensional factor structure; LISREL fit poor	Not clear	six
Validity	Convergent- Q (i.e. P-	Not examined	Not examined	Not examined	Convergent – total	Not examined

	E) scores on the five dimensions explain 0,57-0,71 of variance in overall quality on a ten-point scale. Concurrant – Q scores related to hypothesised to presence of service quality	Q scores (across all 22 items) correlatates 0,59 with overall quality scores on four-point scale. Concurrent – correlations of Q and P scares with satisfactory complaint solusion are 0.58 and 0.6

Table 3.3: Comparison of Parasuman et. al. (1985; 1988) studies with other SERVQUAL replication studies

Study	**Bowers et. al (1994)**	**Lytle and Mokwa (1992)**	**Cronin and Taylor (1992)**	**Brensinger and Lambert (1990)**	**O'Connor et. al. (1994)**	*McAlexander et. al. (1994)*
Data collection study sample(s)	Patients of an army hospital	Customers of health-care (fertility) services	Customers of banking, pest control, dry cleaning, fast food.	Purchasers of motor carrier services	Entire medical staff, administrative staff, patient-contact employees, and established adult patients of a physician-owned multispeciality group medical clinic	Patients of two independent general dental offices
Sample Size	298	559	660	170	775	346
Questionnaire format	Similar to PZB (1988)	Similar to PZB (1988)	Similar to PZB (1988)	Similar to PZB (1988)	Similar to PZB (1988)	Similar to PZB (1988) format and Cronin and Taylor (1992)
Major Wording Changes	No major changes	No major changes, except for language changes and several items added	No major changes, except normative expectation measure used for 22-attribute (what should be)	No major changes	No major changes	No major changes
Original SERVQUAL item retained	All 22 items, as well as items in Caring and	15 pairs of matching expectation-perception	All 22 items	All 22 items	All 22 items	All 22 items

	Outcomes	items				
Response scale	Seven-point scale	Five-point scale	Seven-point semantic differential scale	Seven-point scale	Seven-point scale	Seven-point scale
Questionnaire administration	Mail survey	Mail survey	In-home personal interviews	Mail survey	Mail survey	Mail survey
Data analysis procedure for assessing factor structure	Regression analysis	Principal-axis factor analysis followed by oblique rotation; LISREL confirmatory	Principal-axis factor analysis followed by oblique rotation; LISREL confirmatory	Principal-axis factor analysis followed by oblique rotation	Canonical discriminant functions	LISREL
Basis for initial number of factors extracted	Not examined	Factors with eigenvalues greater than 1	PZB's (1988) five-dimensional structure	PZB's (1988) five-dimensional structure	PZB's (1988) five-dimensional structure	PZB's (1988) five-dimensional structure
Findings reliability coefficients (Cronbach's Alpha)	Not examined	Overall high means scores for the observable variables	0.74-0.83	0.64-0.88	0.79-0.92	0.82 SERVQUAL to 0.91 SERVPERF
Final number of dimensions	Five	Seven	Five	Five	Five	Ten
Validity	Not examined	Not examined	Not examined	Convergent –Q scores on the five dimensions explain: 0.39 of variance in four-point overall quality scale	Not examined	Not examined

Table 1A.3 Comparison of Parasuman et. al. (1985; 1988) studies with other SERVQUAL replication studies

Study	**Taylor and Cronin (1994)**	**Walbridge and Delene (1993)**	**Licata et. al. (1995)**	**Clow et. al. (1995)**	**Fusilier and Simpson (1995)**	*Bebko and Garg (1995)*
Data collection study sample(s)	Individuals in shopping malls who had used hospital services within the last 45 days	Physicians on staff at two major teaching hospitals	Patients, primary care physicians, and specialists of a large regional hospital	Household who had used dental services recently	AIDS patients, social workers, and family members, who were involved with the hospitalisation and had observed the nursing care provided	Patients in hospital nursing units
Sample Size	116 Study 1 227 Study 2	212	558	240	27	262
Questionnaire format	Similar to PZB (1988) format	Similar to PZB (1988) format	Similar to PZB (1988) format	Similar to PZB (1988) format	Similar to PZB (1988) format	Similar to PZB (1988) format
Major Wording Changes	Modified slightly to reflect health care setting	Two other determinants were added to SERVQUAL items: core medical services and professionalism/skills	Modified slightly to reflect health care setting	No major changes	No major changes	No major changes
Original SERVQUAL item retained	22 items	22 items	15 pairs of matching-expectation-perception item	All 22 items	22 items	22 items
Response scale	Seven-point Likert	Ten-point scale	Five-point scale	Seven-point Likert	Seven-point scale	Seven-point scale

	scale			scale		
Questionnaire administration	Personal interview	Mail survey	Mail survey	Mail survey	Self-administered by respondent on site	Personal interview
Data analysis procedure for assessing factor structure	Factor analysis followed by oblique rotation, two-stage least square	Tabulations +*t*-tests, analysis of variance, reliability tests and correlations were conducted	One-way ANOVA, principal components factor analysis using varimax rotation, MANOVA	LISREL	Tapes and notes were transcribed for coding	Loglinear model-difference between perceived and actual bell response time (means and *t*-tests)
Basis for initial number of factors extracted	Five factors of expectation scale and four factors of performance scale	PZB's (1988) five-dimensional structure	PZB's (1988) five-dimensional structure	PZB's (1988) five-dimensional structure	PZB's (1988) five-dimensional structure	Not clear
Findings reliability coefficients (Cronbach's Alpha)	0.74-0.96 (study 1) 0.71-0.93 (study 2)	0.53-0.74	0.43-0.73	0.72-0.89	Interrater agreement was 0.99	Mean 0.69-317.29
Final number of dimensions	Five	Five from PZB, two from Harwood-Fourmer (1988) and Swartz and Brown (1988)	12	Seven	Five	Not clear
Validity	**Not examined**	**Not examined**	**Not examined**	**Not examined**	**Not examined**	**Not examined**

APPENDIX 1B

SERVQUAL: SERVICE QULITY MEASUREMENT QUESTIONNARIE

This questionnaire aims to measure the service quality delivered in both public and private hospitals in TRNC. This questionnaire is divided into four parts.

In the first part, based on your experiences as a consumer of health care services, please think about a kind of hospital that would deliver excellent quality of service think about a hospital that you would be pleased to receive health care service. Please show the extent to which you think such a hospital would possess the feature described by each statement. If you feel a feature *is not essential* for excellent hospital such as the one you have in mind, circle the number **1.** If you feel a feature is *absolutely essential* for excellent hospital, circle **5**. If your feelings are less strong, circle one of the numbers in the middle from 1-5.

In the second part, the following set of statements relates to your feelings about public and private hospitals. For each statement please show the extent to which you believe public and private hospitals, you preferred to choose, have the feature described by the statement. One again circling a **1** means that you strongly disagree that hospital has that feature, and cycling a **5** means that you strongly agree. You may circle any of the numbers in the middle that shows how strong your feelings are**.**

.

In the third part, there are five features pertaining to hospitals and services they offer. We would like to know how important each of these features is to you when you evaluate hospital's quality of service.

In the fourth and the last part, demographic questions related to the personal knowledge of the respondents' were asked.

Thanks for your personal attention and interest.

SECTION 1: EXPECTATIONS

This survey deals with your opinions of hospitals. Please show the extent to which you think the hospitals should posses the following features. What we are interested in here is a number that best shows your expectations about hospitals offering health care services.

Strongly Disagree **Strongly Agree**

1 2 3 4 5

TANGIBLES

1- Excellent hospitals will have modern looking equipment	1	2	3	4	5
2- The physical facilities at excellent hospitals will be visually appealing.	1	2	3	4	5
3- Employees at excellent hospitals will have neat appealing.	1	2	3	4	5
4- Materials associated with the service (such as pamphlets and statements) will be visually appealing at excellent hospitals.	1	2	3	4	5
RELIABILTY					
5- When excellent hospitals will tell patients exactly when services will be performed.	1	2	3	4	5
6- When a patient has a problem, excellent hospitals will show a sincere interest in solving it.	1	2	3	4	5
7- Excellent hospitals will provide a service right at the first time.	1	2	3	4	5
8- Excellent hospitals will provide a service at the time they promise to do so.	1	2	3	4	5
9- Excellent hospitals will insist on error free records.	1	2	3	4	5
RESPONSIVENESS	1	2	3	4	5
10- Employees of excellent hospitals will tell patients exactly when services will be performed.	1	2	3	4	5
11- Employees of excellent hospitals will give prompt service to patients.	1	2	3	4	5

12- Employees of excellent hospitals will always be willing to help patients.	1	2	3	4	5
ASSURANCE	1	2	3	4	5
14- The behaviour of employees in excellent hospitals will insist confidence in hospitals.	1	2	3	4	5
15- Patients of excellent hospitals will feel safe in their transactions.	1	2	3	4	5
16- Patients of excellent hospitals will be consistently courteous with patients.	1	2	3	4	5
17- Employees of excellent hospitals will have knowledge to answer patients' questions.	1	2	3	4	5
EMPATHY	1	2	3	4	5
18- Excellent hospitals will give patients individual attention.	1	2	3	4	5
19- Excellent hospitals will have operating hours convenient to all their patients.	1	2	3	4	5
20- Excellent hospitals will have employees who give patients personal attention.	1	2	3	4	5
21- Excellent hospitals will have their patient's best interests at heart.	1	2	3	4	5
22- The employees of excellent hospitals will understand the specific needs of their patients.	1	2	3	4	5

SECTION 2: PERCEPTION

The following statements relate to your feelings about particular public and private hospitals you choose. Please show the extent to which you believe public and private hospitals described in this statement. Here, we are interested in a number that shows the perceptions about public and private hospitals.

Strongly Disagree **Strongly Agree**

1 2 3 4 5

Items	**Public Hospital**	**Private Hospitals**
TANGIBLES	1 2 3 4 5	1 2 3 4 5
1- Excellent hospitals will have modern looking equipment	1 2 3 4 5	1 2 3 4 5
2- The physical facilities at excellent hospitals will be visually appealing.	1 2 3 4 5	1 2 3 4 5
3- Employees at excellent hospitals will have neat appealing.	1 2 3 4 5	1 2 3 4 5
4- Materials associated with the service (such as pamplets and statements) will be visually appealing at excellent hospitals.	1 2 3 4 5	1 2 3 4 5
RELIABILTY	1 2 3 4 5	1 2 3 4 5
5- When excellent hospitals will tell patients exactly when services will be performed.	1 2 3 4 5	1 2 3 4 5
6- When a patient has a problem, excellent hospitals will show a sincere interest in solving it.	1 2 3 4 5	1 2 3 4 5
7- Excellent hospitals will provide a service right at the first time.	1 2 3 4 5	1 2 3 4 5
8- Excellent hospitals will provide a service at the time they promise to do so.	1 2 3 4 5	1 2 3 4 5
9- Excellent hospitals will insist on error free records.	1 2 3 4 5	1 2 3 4 5

RESPONSIVENESS		
10- Employees of excellent hospitals will tell patients exactly when services will be performed.	1 2 3 4 5	1 2 3 4 5
11- Employees of excellent hospitals will give prompt service to patients.	1 2 3 4 5	1 2 3 4 5
12- Employees of excellent hospitals will always be willing to help patients.	1 2 3 4 5	1 2 3 4 5
ASSURANCE	1 2 3 4 5	1 2 3 4 5
14- The behaviour of employees in excellent hospitals will insist confidence in hospitals.		
15- Patients of excellent hospitals will feel safe in their transactions.	1 2 3 4 5	1 2 3 4 5
16- Patients of excellent hospitals will be consistently courteous with patients.	1 2 3 4 5	1 2 3 4 5
17- Employees of excellent hospitals will have knowledge to answer patients' questions.	1 2 3 4 5	1 2 3 4 5
EMPATHY	1 2 3 4 5	1 2 3 4 5
18- Excellent hospitals will give patients individual attention.	1 2 3 4 5	1 2 3 4 5
19- Excellent hospitals will have operating hours convenient to all their patients.	1 2 3 4 5	1 2 3 4 5
20- Excellent hospitals will have employees who give patients personal attention.	1 2 3 4 5	1 2 3 4 5
21- Excellent hospitals will have their patient's best interests at heart.	1 2 3 4 5	1 2 3 4 5
22- The employees of excellent hospitals will understand the specific needs of their patients.	1 2 3 4 5	1 2 3 4 5

SECTION 3: SERVQUAL IMPORTANCE WEIGHTS

Listed below are five features pertaining to public and private hospitals and services they offer. We would like to know how much of these features is important to patient. Please rank these five statements according to their importance.

Most Important = 1 ----------Least Important = 5

CHARACTERISTIC	**ORDER OF IMPORTANCE**
1. The appearance of hospitals physical facilities, equipment, personnel, and communication materials.	
2. The hospitals ability to perform the promised service dependently and accurately.	
3. The hospital's willingness to help patients and provide prompt service.	
4. The knowledge and courtesy of the hospital's employees and their ability to convey trust and confidence.	
5. The caring, individual attention the hospitals provide its patients.	

SECTION 4- DEMOGRAPHIC QUESTIONS

1. Gender: Man ☐ Women ☐

2. Age Groups:
- 18-20 ☐
- 21-30 ☐
- 31-40 ☐
- 41-50 ☐
- 51-60 ☐
- 61-70 ☐
- 71 and above ☐

3. Education Level:
- Illiterate ☐
- Primary School Graduate ☐
- Secondary School Graduate ☐
- High School Graduate ☐
- University Graduate ☐
- Master ☐
- Others ☐

4. Your Occupation ----------

5. Marital Status: Married ☐ Single ☐ Divorced ☐

6. Income Level:
- 500-750 Ytl ☐
- 751- 1,000 Ytl ☐
- 1,001-1,250 Ytl ☐
- 1,251-1,500 Ytl ☐
- 1,501-1,751 Ytl ☐
- 1,751 and above ☐

7. Where do you live? Nicosia ☐
Kyrenia ☐
Famagusta ☐
Morphou ☐

8. Did you receive any health care service in TRNC within the last six months? Yes ☐ No ☐

9. If you received any treatment, from where? Private Hospital ☐
Public Hospital ☐
Others ☐

10. If you received any treatment, who paid the fee? Myself ☐
Insurance ☐
Other ☐

11. Do you recommend the hospital that you had received health treatment to other people? Yes ☐
No ☐

12. Have you faced any problem during your treatment, if you received any?
Yes ☐
No ☐
I didn't receive any treatment ☐
Within the last six months

13. Where did you receive the health care service from South?
Public Hospital ☐
Private Hospital ☐
I didn't receive any service ☐
Both from public and private hospital ☐

14. Have you satisfied from the health care service, if you received, from the South?

Very Satisfied	☐
Satisfied	☐
Dissatisfied	☐
Very Dissatisfied	☐

15. Would you get Health Care Service from the Hospitals at the South in the future?

Yes, certainly	☐
Maybe	☐
Absolutely no	☐

SERVQUAL: HİZMET KALİTESİ ÖLÇÜM ANKETİ

Bu ankette, KKTC'nin özel ve devlet hastehanelerinde verilen sağlık hizmetinin kalitesinin ölçülmesi amaçlanmıştır. Anket dört ayrı bölümden oluşmaktadır;

İlk bölümde, hizmet alan bir hasta veya hasta yakını olarak tecrübelerinize dayanarak, hizmet almaktan memnuniyet duyacağınız bir hastahane düşününüz. Bu bölümde"mükemmel olarak nitelendireceğiniz bir hastahanede bu önermenin ne derece var olduğunu belirtiniz". Eğer bu önermenin mükemmel bir hastahane için "gerçekten gereksiz" olduğunu düşünüyorsanız "1" numarayı işaretleyiniz. Eğer bu önermenin mükemmel bir hastahane için "gerçekten çok gerekli" olduğunu düşünüyorsanız "5" numarayı işaretleyiniz. Bunların arasındaki tercihlerinizi "1" ve "5" arasındaki seçenekleri işaretleyerek belirtiniz.

İkinci bölüm, şu an hizmet almakta olduğunuz hastahane ile ilgilidir. Eğer hizmet almakta olduğunuz hastahanenin belirtilen önermeyi taşımadığını düşünüyorsanız "1" numarayı işaretleyiniz. Eğer hizmet almakta olduğunuz hastahanenin bu önermeyi taşıdığına tamamen katılıyorsanız "5" numarayı işaretleyiniz. Bunların arasındaki tercihlerinizi "1" ve "5" arasındaki seçenekleri işaretleyerek belirtiniz.

Üçüncü bölümde, hastahanelerden hizmet alan bir hasta veya hasta yakını olarak hizmet kalite özelliklerine verdiğiniz önemi derecelendirmeniz istenmektedir.

Dördüncü bölümde katılımcı ile ilgili, anketin değerlendirilmesinde yararlı olacak kişisel bilgileri doldurmanız istenmektedir.

İlginiz ve göstereceğiniz hassasiyetten dolayı teşekkür ederiz.

BEKLENİLEN HİZMET

Bu araştırma sizlerin KKTC'deki hastahanelerle ilgili görüşleriniz ile ilgilidir. Lütfen KKTC'deki devlet özel hastahanelerin size göre sahip olması gerekenleri işaretleyiniz. Burada önemli olan sizlerin gerek devlet gerekse özel hastahanelerden olan beklentilerini size göre olan önem sırasına göre işaretlemenizdir.

Kesinlikle Katılmıyorum				**Kesinlikle Katılıyorum**
1	**2**	**3**	**4**	**5**

FİZİKSEL ÖZELLİKLER

1- Mükemmel bir hastahane modern görünüşlü donanıma sahiptir.	1	2	3	4	5
2- Mükemmel bir hastahane'nin binaları ve ofisleri göze hoş görünür.	1	2	3	4	5
3- Mükemmel bir hastahane'nin çalışanları temiz ve düzgün görünüşlüdürler.	1	2	3	4	5
4- Mükemmel bir hastahane'nde hizmet verilirken kullanılan eşya ve malzemeler göze hoş görünür.	1	2	3	4	5

GÜVENİLİRLİK

5- Mükemmel bir hastahane verdikleri sözleri zamanında yerine getirir.	1	2	3	4	5
6- Müşterinin bir sorunu olduğunda, mükemmel bir hastahane sorunu çözmek için samimi bir ilgi gösterir.	1	2	3	4	5
7- Mükemmel bir hastahane doğru hizmeti ilk seferde verir.	1	2	3	4	5
8- Mükemmel bir hastahane bir hizmeti daha önceden söyledikleri zamanda verir.	1	2	3	4	5
9- Mükemmel bir hastahane kayıtların hatasız tutulması konusunda çok hassastır.	1	2	3	4	5

HEVESLİLİK 1 2 3 4 5

10- Mükemmel bir hastahane'nin çalışanları bir hizmetin tam olarak ne zaman verileceğini müşterilerine söylerler.	1	2	3	4	5
11- Mükemmel bir hastahane'nin çalışanları müşterilerine süratli hizmet verirler.	1	2	3	4	5
12- Mükemmel bir hastahane'nin çalışanları her zaman müşterilerine yardımcı olmak isterler.	1	2	3	4	5
13- Mükemmel bir hastahane'nin çalışanları hiç bir zaman müşterilerin isteklerini cevaplayamayacak kadar meşgul değillerdir.	1	2	3	4	5

GÜVEN	1	2	3	4	5
14- Mükemmel bir hastahane çalışanlarının davranışları müşterilerinde güven duygusu uyandırır.	1	2	3	4	5
15- Mükemmel bir hastahane müşterileri, muameleleri yapılırken kendilerini güvende hissederler.	1	2	3	4	5
16- Mükemmel bir hastahane'nin çalışanları müşterilerine karşı her zaman naziktirler.	1	2	3	4	5
17- Mükemmel bir hastahane'nin çalışanları müşterilerin sorularına cevap verecek bilgiye sahiptirler.	1	2	3	4	5
EMPATİ	1	2	3	4	5
18- Mükemmel bir hastahane her müşteriyle tek tek ilgilenir.	1	2	3	4	5
19- Mükemmel bir hastahane'nin çalışma saatleri tüm müşterilere uygun şekilde düzenlenmiştir.	1	2	3	4	5
20- Mükemmel bir hastahane, her müşteriyle kişisel olarak ilgilenen çalışanlara sahiptir.	1	2	3	4	5
21- Mükemmel bir hastahane müşterilerinin menfaatini her şeyin üstünde tutar.	1	2	3	4	5
22- Mükemmel bir hastahane çalışanları müşterilerinin özel isteklerini anlarlar	1	2	3	4	5

ALGILANAN HİZMET

Aşağıda belirtilen cümleler sizin devlet ve özel hastahaneler hakkındaki düşünceleriniz ile ilgilidir. Sizin düşüncenize göre devlet ve özel hastahanelerin nerede yer aldıklarını belirtiniz. Burada bizlerin esas olarak ilgilendiği sizlerin devlet ve özel hastahanelerden algıladığınız hizmettir.

Kesinlikle Katılmıyorum **Kesinlikle Katılıyorum**
1 2 3 4 5

Items	**Girne Akçiçek Devlet Hastahanesi**	**Girne Bölgesinde Hizmet alınan hastahane** **a. Çeliker** **b. Girne Özel**
FİZİKSEL ÖZELLİKLER	1 2 3 4 5	1 2 3 4 5
1- Modern görünüşlü donanıma sahiptir.	1 2 3 4 5	1 2 3 4 5
2- Binaları ve ofisleri göze hoş görünür.	1 2 3 4 5	1 2 3 4 5
3- Çalışanları temiz ve düzgün görünüşlüdürler.	1 2 3 4 5	1 2 3 4 5
4- Hizmet verilirken kullanılan eşya ve malzemeler göze hoş görünür.	1 2 3 4 5	1 2 3 4 5
GÜVENİLİRLİK	1 2 3 4 5	1 2 3 4 5
5- Verdikleri sözleri zamanında yerine getirir.	1 2 3 4 5	1 2 3 4 5
6- Hastalarının bir sorunu olduğunda, sorunu çözmek için samimi bir ilgi gösterir.	1 2 3 4 5	1 2 3 4 5
7- Doğru hizmeti ilk seferde verir.	1 2 3 4 5	1 2 3 4 5
8- Bir hizmeti daha önceden söyledikleri zamanda verir.	1 2 3 4 5	1 2 3 4 5
9- Kayıtların hatasız tutulması konusunda çok hassastır.	1 2 3 4 5	1 2 3 4 5
HEVESLİLLİK		
10- Çalışanları bir hizmetin tam olarak ne zaman verileceğini müşterilerine söylerler.	1 2 3 4 5	1 2 3 4 5
11- Çalışanları hastalarına süratli hizmet verirler.	1 2 3 4 5	1 2 3 4 5
12- Çalışanları her zaman hastalarına yardımcı olmak	1 2 3 4 5	1 2 3 4 5

isterler.		
13- Çalışanları hiç bir zaman hastalarının istekleriniceva plyamayacak kadar meşgul değillerdir.	1 2 3 4 5	1 2 3 4 5
GÜVEN		
14- Çalışanlarının davranışları hastalarında güven duygusu uyandırır.	1 2 3 4 5	1 2 3 4 5
15- Hastalar, muameleleri yapılırken kendilerini güvende hissederler.	1 2 3 4 5	1 2 3 4 5
16- Çalışanları hsatalarına karşı her zaman naziktirler.	1 2 3 4 5	1 2 3 4 5
17- Çalışanları hastalarının sorularına cevap verecek bilgiye sahiptirler.	1 2 3 4 5	1 2 3 4 5
EMPATİ		
18- Her hastayla tek tek ilgilenir.	1 2 3 4 5	1 2 3 4 5
19- Çalışma saatleri tüm hastalarına uygun şekilde düzenlenmiştir.	1 2 3 4 5	1 2 3 4 5
20- Her hastayla kişisel olarak ilgilenen çalışanlara sahiptir.	1 2 3 4 5	1 2 3 4 5
21- Hastalarının menfaatini her şeyin üstünde tutar.	1 2 3 4 5	1 2 3 4 5
22- Çalışanları hastalarının özel isteklerini anlarlar	1 2 3 4 5	1 2 3 4 5

3. BÖLÜM

Aşağıda hastahenelerin hastalarına sundukları hizmetlere ilişkin 5 özellik yer almaktadır. Bunlardan her birinin, bir hastahanelerin hizmet kalitesi açısından değerlendirilmesinde ne kadar önemli olduğunu öğrenmek istenmektedir. Lütfen, bu beş özelliği önem sırasına koyunuz.

En önemil = 1 ----------En az önemli = 5

1. Hastahenelerin bina ve ofisleri, donanımı, personeli ve iletişim malzemeleri	
2. Hastahenelerin söz verdiği hizmeti doğru ve güvenilir olarak yerine getirmesi	
3. Hastahenelerin hastalarına yardımcı olma ve süratli hizmet verme isteği	
4. Hastahane çalışanlarının bilgi ve nezaketleri ile güven telkin etme kabiliyetleri	
5. Hastahanelerin hastalarına gösterdiği dikkatli ve kişisel ilgi	

4. BÖLÜM

Lütfen sizi daha fazla tanımamıza yardımcı olunuz.

1. Cinsiyetiniz: Kadın ☐ Erkek ☐

2. Yaşınız:
- 18-20 ☐
- 21-30 ☐
- 31-40 ☐
- 41-50 ☐
- 51-60 ☐
- 61-70 ☐
- 71 ve Üzeri ☐

3. Eğitim Durumu :
- Okuma yazma bilmiyorum ☐
- İlkokul Mezunu ☐
- Ortaokul Mezunu ☐
- Lise Mezunu ☐
- Üniversite Mezunu ☐
- Master/Doktora ☐
- Diğer ☐

4. Mesleğiniz: _____

5. Medeni Haliniz: Evli ☐ Bekar ☐

6. Evinize giren aylık ortalama gelir düzeyi::
- 750 YTl ve altı ☐
- 751-1,250 Ytl ☐
- 1,251-1,750 Ytl ☐
- 1,751-2,000 Ytl ☐
- 2,001- 2,500 ytl ☐
- 2,501- 3000 ytl ☐
- 3001-3500 ytl ☐
- ☐

3,501-4000 ytl

4,001 and above ☐

7. Nerede Yaşıyorsunuz? Lefkoşa ☐

Girne ☐

Magosa ☐

Güzelyurt ☐

8. Son altı ay içerisinde KKTC'de herhangi bir hastahanede sağlık hizmet aldınız mı?

Evet ☐ Hayır ☐

9. Eğer yukarıdaki soruya cevabınız "evet" ise nerede aldınız? Özel Hastahanede ☐

Devlet Hastahanesi ☐

Diğer ☐

10. 8. soruya cevabınız "evet" ise tedavi ücreti, kim tarafından ödendi? Kendim ☐

Sigorta ☐

Diğer ☐

11. Tedavi gördüğünüz kurumu başkalarına tavsiye ediyor musunuz ? Evet ☐ Hayır ☐

12. Tedavi gördüğünüz süreçte herhangi bir problem yaşadınız mı?

Evet ☐

Hayır ☐

Son altı ay içerisinde herhangi bir hastahanede tedavi görmedim ☐

13. Güney Kıbrısta sağlık hizmeti aldınız mı?

Evet, Devlet hastahanesinde ☐

Evet, Özel hastahanede ☐

Hayır, almadım ☐

14. 13. soruya cevabınız evet ise, aldığınız sağlık hizmetinden ne derece memnun kaldınıuz? ☐

Çok memnun kaldım,

Memnun kaldım ☐

Pek memnun kalmadım ☐

Hiç memnun kalmadım ☐

15. Kendinizin veya yakınınızın bir sağlık problemi olduğunda Güney Kıbrıstaki hastahanelere başvurur musunuz?

Evet Kesinlikle ☐ Belki ☐ Kesinlikle Hayır ☐

APPENDIX 1C

Table 1C.1 Doctors and other personnel working in TRNC's private Hospitals

	DBNDH	FAMAGUSTA PUBLIC	KYRENIA AKÇİÇEK DH	CENGİZ TDH	BARIŞ RVSHH	OTHERS	TOTAL
DOCTORS	**152**	**39**	**26**	**16**	**5**	**48**	**286**
NURSES	**285**	**101**	**39**	**27**	**40**	**51**	**543**
OTHER	**256**	**75**	**58**	**43**	**13**	**84**	**529**
TOTAL	**693**	**215**	**123**	**86**	**58**	**183**	**1358**

Source: Ministry of Health, Statistical year Book, 2005, page 21.

Table1C.2 Bed Capacity of all Public Hospitals in TRNC

Bed Capacity						
	DBNDH	**Famagusta**	**Dr. Akçiçek**	**Cengiz Topel**	**Barış Sinir Ruh**	**TOPLAM**
Total bed	402	166	55	45	173	**841**
Men ward		36		15		**51**
Woen ward		36		15		**51**
Dahiliye	45	20	26			**91**
Noroloji- Noroşuroji	50					**50**
KBB-Göz	40	26				**66**
Ortopedi-Üroloji	50					**50**
Genal Cerrahi	51		22			**73**
Kadın Hast.-Doğum	40	16		11		**67**
Çocuk	32	24	5	4		**65**
İntaniye	7					**7**
Göğüs	18					**18**
Hematoloji-Onkoloji	10					**10**
Thallassaemia	12					**12**
Yoğun Bakım	8					**8**
Acil Servis	12	5	2			**19**
Dializ	13	3				**16**
Ayılma	8					**8**
Radyasyon-Onkoloji	6					**6**
Klinik Servis					54	**54**
Süreğen					66	**66**
Hostel					53	**53**
Yatak Sayısına Dahil Edilmeyenler						

Kuvez	14	4	1			**19**
Kroner Yatağı	5	4				**9**
İlaç Yatağı	6					**6**
Müşahade Yatağı	5					**5**
Kot Yatağı		7				**7**

Source: Ministry of Health, Statistical year Book, 2003, page 41.