Chapter- I – Introduction

1.1 Healthcare:

According to the world Health organization (WHO), health means a “state of complete physical, mental and social well-being and not merely the absence of disease (or) infirmity”. The impact of health shocks on the welfare of individuals and households has been a major concern for policy makers. Studies have shown that the occurrence of health shocks have significant negative impact on households welfare. An understanding of the complex relationship between the health shocks and welfare is crucial for policy intervention (Novignon, Nonvignon, Mussa, & Chiwala, 2012).

Good health is universally accepted as an integral element of economic development. The healthcare systems in India had a mixed development in the past few decades. The liberalization of economy has created new opportunities to generate more income there by reducing poverty. These things have changed the health seeking patterns of the people. People today are more health conscious and are ready to spend extra penny to avail quality services.

India is a paradox in its matter of healthcare facilities. On one hand it has got some world-class hospitals and at the same time have some of the least equipped clinics. Even though India has a population distribution dominated by young age people, given the sheer volume of population (over 1 billion people) the healthcare of old aged cannot be neglected (Mekoth et al, 2012).

With the increase in demand for healthcare services there are also inadequacies in the present systems. With the constant growth in per capita income and country’s population, the responsibility of the government to provide better and purposeful healthcare system has increased manifold (M. O. F. Health & Welfare, 2005b).

According to Bill gates, former-chairman of Microsoft “If there were one thing you could do to make India’s growth prospects even more spectacular, it would be to
invest in the health of all Indians” (Economic times, August 16, 2014). There is more India could do to advance health. Among the first is to improve the public spending on healthcare which is extremely low at 1.1% of GDP when compared to China’s 2.4% and 4.9% in Brazil. In India the vast majority of healthcare is provided by private sector.

At the start of 21st century the Indian healthcare stood significantly behind those of peer nations. The progress our country has made over the last decade is steady but requires more valiant effort to at least make it on par with the other emerging economies.

There should be more regulations in private sector healthcare so that people can get most out of them. Creating awareness finds an important place in public health. Providing proper education to families regarding poor sanitation, quality of drinking water, communicable diseases might help to reduce the disease burden and boost preventive healthcare methods (N. Health, Cell, & Welfare, 2005).

The key factors that affects the performance of Indian healthcare system are the poor resources management, centralized decision making, conflicting job roles, corruption and accountability problem (M. O. F. Health & Welfare, 2005b).

There is a real need to provide new human resource policies related to recruitment, training, promotion and transfer of employees in public healthcare. The neglect in enhancing required skills is hindering India from achieving national health goals (M. O. F. Health & Welfare, 2005b).

For improved quality of governance of healthcare systems, establishing institutional frameworks, investing more in technology, better information technology enabled healthcare services and recruiting skilled work force is essential (M. O. F. Health & Welfare, 2005a).

India, over the past two decades is witnessing a steady growth rate which helped it to create one of the biggest middle class segments in the world. With the demand over goods and services constantly increasing, marketing and differentiating them from competition becomes more than a necessity. Service industries which fail to understand
the importance of delivering customer satisfaction may be inviting possible extinction sooner or later (Gupta, Verhoeven, & Tiongson, 2002).

Service quality has become a much bigger issue in India as our economy is becoming more and more dependent on the contribution from services sector. In India the services industry is slow in recognizing the value of service quality and its implications on the customer satisfaction. Countries like United States of America and developed countries in Europe have already acknowledged the importance of enhanced service quality (Pakdil & Harwood, 2005).

There is huge surge in service quality research in the developed world over the past two decades which shows that the concept of quality improvement has become important year by year in the service industry.

Comparing healthcare expenditure data across countries help countries in identifying the best ways to allocate the limited resources towards improving health or to identify the optimum level of funding in epidemiological and demographic contexts. Healthcare spending depends upon the per capita income which approximately is the amount available with an individual for consumption of goods and services (Poullier, Hernandez, Savedoff, & Far, 2002).

Healthcare spending necessarily won’t rise with an increase in per capita income, it is found to be highly correlated with the per capita national income. The relationship between the percentage of GDP spent on health and income may not be as strong as the relationship between spending and income, but the relationship is positive and significant.

1.1.1 Definition of services:

Services are a type of activity that is intangible, is not stored and does not result in an ownership. A service is any act or performance one party can offer to another that is essentially intangible and does not results in an ownership of anything (Lovelock, 2011).
Its production may or may not be tied to a physical product. At times services are difficult to differentiate because they are closely associated to the product.

The customer’s evaluation of services varies from the attributes they use to evaluate the goods. Services tend to be rich in experience and credence qualities a customer go through while goods tend to be high in search qualities.

(a) Search qualities:

Search qualities are attributes that consumer can evaluate before making a purchase. These include things such as color, smell, style, price, fit and feel. Consumer goods such as vehicles, refrigerators, television etc. are high in search qualities. Customers can easily evaluate and compare the quality of goods before making a purchase.

(b) Experience qualities:

Goods and services that are high in experience qualities are repairing, laundry services, food, entertainment etc. In these the customer evaluation takes place only after the consumption of the service or during consumption.

(c) Credence qualities:

Some goods and services are difficult to evaluate even after the consumption. Services such as health care, financial services, education etc. comes under credence qualities. Few consumers have the technical knowledge to evaluate the services which are rich in credence qualities.

1.1.2 Nature of services:

A service has two components engulfed in it. They are Tradability and Merchantability. It is not necessary that every service should have these two in them. Tradability is the relative involvement of between the goods and services in the production of a service. Merchantability is the relative distance between the customer and
the service provider in the acquisition or performance of the service. Services which have high involvement of goods are higher in tradability for example: Ordering food in a restaurant has more tradability aspects in it whereas getting treatment in a hospital has more merchantability aspects Source: (Clow, Kurtz, 2003).

1.1.3 Consumer expectations in services:

Consumer expectations are pretrial beliefs a consumer has about a product, its performance that are as a standard measurement against which the actual performance is judged. Customers use to develop expectations even before they consume a service. Understanding the consumer expectations better will help a firm to ensure that such expectations are met. Consumer expectations consist of five different levels.

(i) Ideal service level:

The ideal service level is what a customer “whished- for”. For example a customer entering a premium restaurant hopes for better infrastructure, calm atmosphere, high quality food and on time delivery etc. If all these gets satisfied then the ideal service level is achieved.

(ii) Desired service level:

The desired service level is the level of performance a customer wants or hops for. For example a customer entering a restaurant wants for good quality food or a delivery by 30 minutes if not on time. In this case the customer expectation is lowered from the ideal service level to the desired service level.

(iii) Adequate service level:

The third level of expectations is the adequate service level. It is the minimum level of service a customer will tolerate and accept without getting dissatisfied. For example the customer may still be satisfied if the waiting time for delivery of food items extends by 10 to 15 minutes.
Zone of tolerance:

Zone of tolerance is the area in between the adequate service level and the desired service level. Services performed in this zone will be accepted by the consumer. Service provided below the adequate level of service and outside the zone will not be accepted.

Figure 1.1: Levels of customer expectations

Customer expectations are affected by factors such as individual’s personal philosophy of service, situational factors, tangible cues, firm’s image, and pre-service waiting. Higher the customer expectations, the greater the chances that the service firm may not be able to deliver the service as expected resulting in dissatisfied customers.

Managing customer expectations is a critical component in services business. Consumer expectations must be managed at each level during the pre-purchase phase, service encounter and the post-purchase phase. As the services possess some kind of intangibility it becomes hard to identify a standardized tool for measurement of service quality.
1.1.4 Definition of service quality:

Parasuraman et al. (1988) “Parasuraman et al (1988) defined perceived service quality as a global judgment (or) attitude, relating to the superiority of the service”. They stated four main qualities for services:

1. Service quality unlike goods quality is more complex and difficult to evaluate.
2. Service quality perceptions are the net effects from customer expectations with the actual service delivery process.
3. Service quality evaluations are not made only based upon the service outcome; they too involve the whole process of service delivery.
4. Service quality perceptions are the net effect of what customers expect from a particular service and the perceived level of service they receive.

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

Service quality has been increasingly identified as the major factor in distinguishing between services and building competitive advantage. Due to its very nature of complexity the health care services have a unique position among others.

Quality has been used to describe diverse phenomenon. Service quality is usually considered mostly as a cognitive construct while satisfaction has been considered as more complex concept that includes cognitive and affective components (Oliver,1997). The argument of taking service quality as a mere cognitive thing (or) having an emotional influence attached to it depends upon the service sector under study (Kettinger & Lee, 1997).

In the past few decades service quality has become a major area of attention to practitioners, managers and researchers a wing to its strong impact on business performance, lower costs, customer satisfaction, customer loyalty and profitability. For
an organization to remain competitive in the market it is necessary to grab and channelize information for the purpose of enhancing service quality (Kettinger & Lee, 1997).

Service quality needs to be monitored constantly in order to gain a competitive advantage. Service quality becomes even more important in sectors like healthcare where the information regarding technical aspect of the service offered is often limited or unknown to the patient. In these circumstances the functional aspect becomes more important because the patients evaluate the entire service based on how it was provided to them (Lockwood, 1994).

Hence it becomes increasingly important to identify the drawbacks in current healthcare system. This research hopefully is a way forward to analyze allocation of resources towards improvement of healthcare, the past performance of our healthcare system, and the quality of service provided to the patients and identifying the determinants which leads to customer satisfaction.

1.2 Literature review:

1.2.1 Studies relating to Healthcare/Healthcare Expenditure:

Steinwachs & Hughes (2010) defined Health Service Research (HSR) as a multi-disciplinary field of scientific investigation that studies how social factors, financial systems, organizational structures and processes, health-technologies, and personal behaviors which affects the access to healthcare, the quality and the cost of healthcare, and ultimately our health and wellbeing.

Its research domains are individuals, families, organizations, institutions, communities and population. HSR informs and evaluates innovations in health policy. The goal of the quality health care is to increase the likelihood of achieving desired health status.

Policy makers are interested in analyzing public spending especially on education and healthcare as these two avenues has the potential to increase economic growth, promote income equality and reduce poverty. Public spending in healthcare is directly
related to the disease reduction in developing countries. If governments make essential clinical services cost effective then the disease burden in developing countries may see a drastic change (World bank, 1993).

Health Expenditure data are broken down into public and private expenditures. In general low income economies have a higher share of private health expenditure than do middle and high income countries. High out of pocket expenditure may discourage people from accessing preventive (or) curative care. It further impoverishes households who cannot afford needed care.

The level of public health spending has been a widely discussed issue in India in recent times. Various research studies as well as policy documents have repeatedly highlighted the low level of spending in India. In particular public spending on health as a percent of GDP has been the focus of discussions as it is an indicator of the priority accorded to health in the planning process of the country (An Estimate of Public Expenditure on Health in India, 2012).

At a general level, capital formation requires that a high proportion of skilled labor force remains active for a number of years; experience is important for technical innovations to take place which will take years of investments in research and development (Bloom and Canning, 2000).

Many studies found that Infant mortality rate (or) Child mortality rate is either small (or) statistically insignificant to determine the health status, concluded that poverty and income are two crucial determinants (Bloom, Canning, & Sevilla, 2004). Bidari & Ravallion analyzing a large pool of 35 countries found that public spending has a beneficial impact on the health condition of the poor.

Gupta, Sanjeev concluded that the expenditure allocations for healthcare are to boost economic growth, upliftment of poor etc. these allocations are important medium for promoting equity and featuring secondary reforms (Gupta et al., 2002).
Bloom et al., (2004) found that increasing life expectancy by one year improves work productivity and raises economic output by 4%. The improved health might have direct impacts on labor productivity and also on the accumulation of capital.

To improve healthcare in India, household expenditure on total health spending has to be reduced considerably by increasing alternate models of healthcare spending specially enhancing health insurance and increase in public healthcare spending. The prevailing primary healthcare systems has to be revamped and to be made more accountable, increasing the allocation for preventive medicine especially in disease which require huge treatment costs (M. O. F. Health & Welfare, 2005a)

Healthier workers are physically and mentally more energetic and robust. They are productive and they earn higher wages. They are less likely to be absent from work. Illness reduces hourly wages substantially. This effect will be particularly pronounced in developing countries where more workforces are engaged in manual labor than the developed countries. Health, in the form of life expectancy is an important aspect as it has a significant impact on the rate of economic growth (Bloom & Canning, 2000).

Adequate and efficient health related spending is widely considered as inevitable in the improvement of health status. Good health not necessarily improves individual's consumption and production in the short period but also improves returns from investments in productive activities in the long run. The share of income spend on healthcare is greater in high income countries which ranges from 1.5% to 13%. The maximum share in health spending is normally found in regions of Europe and America. In Africa and some Asian countries, contributions were among the lowest (Bloom et al., 2004).

The concept of healthcare spending differs from region to region. The total health expenditure is the summation of public and private spending on all health related goods and services. Wagstaff and Clearson (2005) pointed that the effectiveness of public healthcare spending on health outcomes depends upon the effectiveness of policies and institutions governing it.
The eleventh and twelfth five year plans embarked their journeys with much emphasis on healthcare. There are lot of issues which needs to be addressed staring with increased government spending on healthcare. The healthcare infrastructure needs an uplift (Systems, 2012).

For India the investment in healthcare with respect to its GDP growth is -1.7% whereas for China its 1.3 %, Bangladesh 2.0%, Brazil 2.8%, Malaysia 2.6%. The twelfth plan draft defines the government's commitment to improve public health expenditure to at least 2% of GDP still lowest among all the emerging economies and the world average.

Table: 1.1: India’s Healthcare Expenditure and GDP for two different time periods:

<table>
<thead>
<tr>
<th>Total healthcare expenditure (India) in ‘000s of crores</th>
<th>GDP of the country (India) in ‘000s of crores</th>
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<tbody>
<tr>
<td>Year 2001</td>
<td>Year 2010</td>
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<td>106</td>
<td>304</td>
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Source: Gupta et al. (2002)

India lags behind LMIC (Low and Middle Income Countries) when it comes to Total healthcare Expenditure (THE) and Out Of Pocket (OOP) expenditure. It is unrealistic that India's health reforms journey can be achieved within a decade. However the next decade is too crucial to enable the country to transverse a significant portion of its longer term journey(Gupta et al., 2002).

In India, the public sector hospital beds have been increasing at a CAGR (Cumulative Annual Growth Rate) of 3 to 4 percent and private sector hospital beds at a CAGR of around 7 to 10 percent. However this private sector growth cannot be sustained on a high level of out of pocket spend. The total healthcare spending of India needs to move up from the current 4 percent of GDP to 6 percent of GDP by 2022. Within this, the government spending needs to move up to at least 3 percent of GDP.
Public health expenditure in India is mainly catered by three bodies namely

1. Central government
2. State government
3. Local bodies (includes Corporations, Municipalities, Gram panchayats etc.)

The Central government spends directly on healthcare and also provides grants to the state governments for incurring healthcare expenditure. The state governments while spending the grants received from the Centre also incur direct spending through the available financial resources. The State spending also includes transfers to rural and urban bodies for healthcare spending. Adding to these the local bodies incur healthcare expenditure from the resources available to them.

The total sum of all these three tiers of government provides an estimate of public spending on healthcare in India. Public healthcare spending accounts for less than a quarter of the total healthcare spending in India. Government plays a major role in planning, regulating and shaping the health care delivery systems.

The present public spending on healthcare is around 1% of GDP. Out of which the state’s contribution is around 0.68% of GDP. In India the healthcare is mainly a state issue. Planning commission in its twelfth plan hopes to increase the Central government: State government contribution towards healthcare from 30:70 ratios to 40:60 at the end of 2017 (Business line, 2012).

Private health expenditure by

1. Households (Out of pocket Expenditure).
2. Social insurance funds
3. NGO’s and others

Even though there are so many sources, 60% of the total healthcare expenditure is from the patient’s pocket (Murthy, Rout, & Nandraj, September, 2009). While the
economic development in the country has been gaining momentum over the past decade
our healthcare system is lagging behind (KV & Dileep, 2005).

Healthcare covers not only medical care but also all aspects of preventive care too.
In India private out of the pocket expenditure dominates the cost of financing healthcare.
Healthcare at its essential core is widely recognized to be a public good.

Healthier individuals might contribute towards the economy in four possible ways.

1. They tend to be more productive resulting in increased revenues.
2. The absence due to sickness and early retirement will be low.
3. The increased revenue may motivate them to invest more in education, which results in a
   knowledgeable society.
4. Savings will be more – savings leads to increase in the funds available for investment in
   the economy. Healthcare has close relationship with economic growth & sustained
   development (Bloom & Canning, 2003).

While public spending appears to explain a little regarding health outcomes, the
infant and child mortality are well explained by economic and social factors. The strong
association of health outcomes with that of mortality rate is well documented (World
bank, 1993).

The level of healthcare spending in India has been widely discussed in recent
times. The public healthcare spending has long been criticized for its low contribution
level. The report of the National Commission on Macroeconomics and Health (NCMH)
and the programme implementation framework of the National Rural Health Mission
(NRHM) have stressed the need to raise the public spending from around one percent to 2
to 3 percent of GDP (Choudhury & Nath, 2012). In the economic survey 2011-12 of the
government of India the public spending on health was around 1.35% of GDP (as per
Revised Estimates).
1.2.2 Studies relating to Service quality:

Health-care industry has registered one of the fastest growth in recent times. Nowadays many service providers have realized that achieving customer satisfaction is a key ingredient towards long term business viability and success. Past studies have identified that money is no more a constraint for better quality and satisfying customer needs. In today’s scenario with the customers becoming more and more empowered and financially sound the service providers are bound to look for quality over price (Andaleeb, 1998).

Delivery of services occurs mostly during an interaction between customer contact employees and the customers which is termed as service encounter. It can be said that the responsiveness shown by the customer contact employees is closely related to organizational culture of providing excellent customer care services. It is important for service based companies to enhance the participation of customer contact employees through motivational programs, improving selling skills, attitude training, clear role identification and knowledge about the service being provided (Kenneth, 1993).

Organizational productivity will be more as quality promotes higher productivity and lower cost especially with higher customer retention. It also provides improved environment within the organization and helps in retaining talented staff. Customer satisfaction reinforces positive attitude towards the brand, leading to a greater likelihood that the same brand will be purchased again (White C. J., 2010). Whereas the dissatisfaction leads to negative brand attitudes and lessen the likelihood of buying the same brand again (Zhou, 2004).

Satisfaction of customers also appears to be the cheapest form of promotion. It’s higher quality or lower price relative to competitors that helps suppliers create an “Incentive to purchase” (Naumann, 1995 cited in (Sharaful Alam, 2013)). Organizations do need to have regular access to the service quality determinants and the customer satisfaction attributes in order to address if any short falls in it (Krishnan, 2013).
Research in both manufacturing and services industries indicates that quality is a key determinant of market share and return on investment as well as cost reduction. Although there is general agreement that service quality has several dimensions there is no common consensus on the nature and content of these dimensions. Gronroos (1984) stated that the service has three dimensions: functional dimension, technical dimension, and image of the organization (Babakus & Mangold, 1985).

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

SERVPERF gave better results on Reliability, convergent validly and discriminant validity than SERVQUAL. SERVPERF has been used in diverse field such as higher education, retail sector, libraries, automobile repair industries and fast food restaurants.

The results showed consistency with prior exploratory research concerning service quality, a key determinant of overall service quality is the gap between performance and expectations. They concluded that disconfirmation explains larger proportion of variance in the overall service quality than performance.

The single most research area in services marketing till date is service quality. The interest in service quality parallels the focus on quality, total quality management, and satisfaction in business. Research on services marketing has grown in the past decade. Academicians and practitioners have exhibited high level of interest in issues such as measurement of service quality and conceptualizing the relationship between service quality and customer satisfaction (Brady, Cronin, & Brand, 2002).

The conceptualization and measurement of service quality has been dominated by the use of SERVQUAL scale. Cronin and Taylor (1992) discarded the usage of expectations in measuring service quality and they formed SERVPERF which is
performance only measurement. Cronin and Taylor (1992) provided empirical evidence to show the validity of SERVPERF over SERVQUAL. The usage of SERVPERF is suggested by Babakus and Boller (1992), Gotlieb et al. (1994), Zeithaml et al. (1996) and Hartline and Ferrell (1996) stated that one potential explanation for the increased usage of SERVQUAL is the lack of replication of study carried out by Cronin and Taylor (1992). Zeithaml & Berry (2013) emphasized the strong support for defining service quality as a discrepancy between customer’s expectations and perceptions.

The casual order of the relationship between service quality and customer satisfaction has been a matter of debate. Service quality has been identified as the antecedent to customer satisfaction. Satisfaction is described as the "post consumption evaluation of perceived service quality". Rust and Oliver (1994) defined quality as "one of the service dimensions factored into the customer's satisfaction judgment".

Parasuraman et al. suggested that service quality is an antecedent to customer satisfaction which was supported by Cronin and Taylor (1992). After Cronin and Taylor’s (1992) findings many came up with the same opinion that the performance only measure is superior to perception minus expectation measure. Service quality is in fact an antecedent to customer satisfaction. Research divides service quality into two categories, technical quality and functional quality (Gilmore, 2010).

A satisfied customer may maintain a long-term relationship with the firm. The satisfied customers who stays with the firm for a long period of time tend to impact the profitability of a firm in many ways (Olorunniwo, Hsu, & Udo, 2006).

(Olorunniwo et al., 2006) identified four factors which affect service quality; they are Tangibles, Recovery, Responsiveness and Knowledge. This study identified four factors which affect service quality; they are Tangibles, Recovery, Responsiveness and Knowledge.
The effect of service quality on behavioral intentions is significant, the indirect effect of service quality on behavioral intentions (through customer satisfaction) appears to be a strong driver for customer behavioral intentions in the service industry.

Primarily the long stay will create more revenues for the firm. Acquiring new customers’ costs higher due to advertising and promotional activities will be reduced due to existing satisfied customers. The satisfied and loyal customers often spread the good news and recommend the service to several others (Olorunniwo et al., 2006).

There has been consensus worldwide that service quality is regarded as a distinct construct, while discrepancies still revolve around over some issues regarding its measurement. There is no clear view about the causal effect of service quality and customer satisfaction, which one of these two constructs is a better predictor of behavioral intentions (Cronin and Taylor, 1992).

Some believe that service quality is an antecedent to customer satisfaction. They argue that service quality is a cognitive component whereas the customer satisfaction has both cognitive and affective components. A positive service quality perceptions can lead to customer satisfaction, which in turns lead to favorable behavioral intentions.

Providing excellent level of customer service is as important as the quality of products. Service marketers have experienced it for past few years that competition can well managed by differentiating through quality. Customer service is viewed as part of marketing mix in services marketing. Because of the inseparability and intangibility features of services, customer service in service business is usually more important than in manufacturing companies.

The distinction between these two aspects is extensively accepted, although diverse terminology is occasionally used. Many researchers came to a common consensus that it is service quality and customer satisfaction which will have a long term impact on customer relationship (Irfan, Ijaz, & Farooq, 2012).
Customer satisfaction is a leading criterion for determining the quality that is actually delivered to the customers (Vavra, 1997). According to Shierdan (1998) companies have a competitive advantage with better service quality as they can differentiate effectively from the competition with enhanced customer service.

Many researchers have recognized service quality as a strategic tool for attaining operational efficiency and improved business performance (Babakus & Boller, 1992). Quality has different interpretations from different authors. It is defined as the "Conformance to requirements ", "Fitness to use" or "one that provides customer satisfaction".

Carrillat et al., (2007) Identifies that a central topic for service research is service quality. One of the main reasons that service quality assumes significance is that service quality leads to customer satisfaction which in turns has a positive impact on the customer word of mouth, attitudinal loyalty and purchase intentions.

Cronin and Taylor (1992) and Parasuraman et al., (1985) expressed that service quality results from customer's evaluation of the service encounter while consuming a service. They further argued that service quality is best represented as an aggregate of discrete elements such as reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding and tangible elements.

H. Lee, Lee, & Yoo (2000) observed that performance only measure was able to explain ore variance in overall service quality than does the difference measure (difference between expectation and performance). The results are consistent with the findings of Cronin and Taylor (1992), Babakus and Boller (1992) and Bounding et al. (1993). Service managers should emphasize on the performance perceived by the customers rather than thinking about customers’ expectations.

Babakuus and Boller (1992) found that the expectations part of SERVQUAL scale provides no additional information beyond what is obtained from the performance only scale. Several authors have reported the difference scores cause reliability,
discriminant validity and variance restriction problems and stated that SERVQUAL appears to suffer from one or more of those deficiencies.

Brady et al. (2002) confirmed the superiority of performance only measure SERVPERF in measuring service quality. More replication studies on SERBVPERF has to be carried out in all service sectors to demonstrate the construct validity and reliability of the instrument (Wirtz & Bateson, 1999).

Parasuraman et al. (1985) stated that service quality is more difficult to define and measure because of its distinct features such as in tangibility, heterogeneous, inseparability and perishability. (Kenneth, 1993) questioned the discriminant validity of SERVQUAL instrument. He stated that the severe shortcomings in discriminant validity makes the perceptions minus expectations instrument a misleading indicator of customer perception of service quality.

Churchill, Brown and Peter (1993) argued that the difference scores (perceptions minus expectation scores) really contributed to the problems of reliability, discriminant validity and variance restriction. The distribution of SERVQUAL scores were non normal. The SERVPERF scale was found to explain great deal of variation in the service quality.

The performance items in SERVPERF instrument showed Unidimensionality and strong internal consistency. Further research is needed to find out the applicability of SERVPERF in different service settings (Burch, Louisiana, Rogers, & Underwood, 1995).

Service quality has become an important research topic mainly because of its relationship to costs, profitability, Customer satisfaction, customer retention and positive word of mouth.

Service quality is widely considered as the main driving force of corporate financial performance. SERVQUAL was framed on the view that the assessment of
service quality by customers is important. SERVQUAL has been widely used across all service sectors and highly valued (Buttle, 1996).

Analysis of SERVQUAL data can be done in different ways.

(i) Item by item analysis:

P1-E1, P2-E2 etc. where P1 is the first variable in perception scale and E1 is first variable in the expectations scale.

(ii) Dimension by dimension analysis:

\[ \frac{(P1+P2+P3+P4)}{4} - \frac{(E1+E2+E3+E4)}{4}, \]
where P1 to P4 are the variables in the first dimension of Perception scale and E1 to E4 are the variables in the first dimension of Expectations scale.

(iii) Computation of single measure of service quality:

\[ \frac{(P1+P2+P3+....+p22)}{22} - \frac{(E1+E2+E3+....+E22)}{22}. \]

This is called the service gap.

SERVQUAL is based on the disconfirmation model which is widely adopted in the customer satisfaction literature. Customer satisfaction is expresses in terms of the relationship between expectations and service outcomes.

If service outcomes matches expectations then customer satisfaction is achieved. If service outcomes exceed expectations then it may results in customer delight. If expectations exceeds service outcome then the customer may get dissatisfied. According to Cronin and Taylor (1992) perceived quality is best conceptualized as an attitude towards a particular service.

Cronin and Taylor (1994) stated “Researchers have attempted to differentiate service quality from customer satisfaction, even while using the disconfirmation format to measure perceptions of service quality... this approach is not consistent with the differentiation expressed between the constructs in the satisfaction and attitudes literatures”.

"Researchers have attempted to differentiate service quality from customer satisfaction, even while using the disconfirmation format to measure perceptions of service quality... this approach is not consistent with the differentiation expressed between the constructs in the satisfaction and attitudes literatures."
Cronin and Taylor (1994) further stated “Recent conceptual advances suggest that the disconfirmation-based SERVQUAL scale is measuring neither service quality nor customer satisfaction. Rather, the SERVQUAL scale appears at best an operationalization of only one of the many forms of expectancy-disconfirmation”.

Kenneth (1993) questioned the meaning of identified gaps. For example, there are six ways of interpreting the Perception (p) - Expectation gap of -1 (P=1, E=2; P=2, E=3; P=3, E=4; P=4, E=5; P=5, E=6; P=6, E=7). There are different formats for a same gap.

Cronin & Taylor (1994) pointed out that researchers can infer consumer disconfirmation through arithmetic means (P - E gap) but the "consumer perceptions, not calculations, govern behavior of consumers". Zeithamal herself has rejected the value of an expectations based, or gap model in finding that service quality was only influenced by perceptions.

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

1.2.3 Studies relating to service quality in healthcare services:

1.2.3 (A) International studies:

Raposo et al. (2008) analyzed patients' satisfaction levels in a set of four Portuguese primary healthcare centers in order to find out what dimensions of healthcare quality influences the satisfaction most. They used Partial Least Square technique to evaluate the conceptual framework.

The results showed that the patient satisfaction is moderate and the effects on satisfaction are linked to Patient/Doctor relationship, Quality of facilities and Interaction with the administrative staff. The conclusions from various studies found different
antecedents in the formation of satisfaction, namely, perceived image, perceived value, expectations and quality (both functional and technical) (Raposo, Alves, & Duarte, 2008).

Raposo et al. (2008) identified four major factors namely nursing care; hospital facilities, staff and medical care have significant impact on patient satisfaction. This study was done in US healthcare. Patients’ perceptions are significantly influenced by hospital support functions.

These determine Hospital reputation, Influence future patient demands. Research in healthcare reveals dynamic patterns in consumer behavior than services that are less professional. Patients often were not able to decide leaving the treatment choices to nurse or physician.

While assessing the level of customer satisfaction is important it is equally important to look after the factors which contribute towards customer satisfaction especially the quality of service. The results emphasizes that with increased patient involvement in decision making process better customer satisfaction can be achieved. The physical condition of the hospital (Tangibles) also have considerable effect on customer satisfaction (White & Yu, 2005).

Andaleeb (2001) did a study on Bangladesh hospitals. The factors used for measuring service quality are Responsiveness, Assurance, Communication, Discipline, Baksheesh and Satisfaction. All the five dimensions taken for the study have significant relation with customer satisfaction. The personnel, front line employees and the support staff are most important in providing better facilities there by enhancing customer satisfaction.

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

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

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

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

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

Das & Hammer (2007) pointed that doctors who graduated from government medical colleges at free of cost or at the expense of taxpayers’ money did not show any compassion to patients when it came to treating patients in government hospitals. Private sector is not glorified by any means as they make patients to buy avoidable medicines and make them undergo unnecessary medical procedures. This study came out with a model: procedure, interaction and outcome which are physician related, clinical staff related and non-clinical staff related and all these three converging towards patient satisfaction.
The quality of medical care is widely perceived to have direct impact on patient’s health status, and its perception is much lower in many low-income countries. Private sector healthcare providers are very responsive to customer’s expectations. The quality of care differs for poor and wealthy patients. The poor patients receive less quality of care as generally they visit government general hospitals and get the usual treatment without much interaction with the physician. The wealthier patients tends to see more competent service providers and have a strong interaction leading to better service (Das & Hammer, 2007).

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

In recent years the thrust on efficient customer service has increased manifold in the services because of increased competition from private players, improved technologies and growing customer satisfaction. Efficient usage of customer satisfaction and customer loyalty provides an excellent opportunity for a firm to maximize revenues. To date most attempts at measurement have focused on how external clients perceive the quality of services provided by organizations. In the healthcare industry, quality of care is more than a concept. It has become essential to patient wellbeing and financial survival.

Çaha (2004) did a study in Turkey private healthcare sector. He concluded that the patients prefer private hospitals because they believe that superior treatment is obtained only from private sector healthcare services. Even though there were pitfalls from private sector healthcare providers the demand for private healthcare services is expected to increase in near future. Satisfaction seems to be the single important determinant which pulls patients towards private healthcare services.
Table 1.2: Researchers who have taken modified SERVQUAL as their measurement tool to measure service quality across various service sectors.

<table>
<thead>
<tr>
<th>No</th>
<th>Author</th>
<th>Industry</th>
<th>Sample</th>
<th>Analysis</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Knuston et al. (1990)</td>
<td>Lodging industry</td>
<td>201</td>
<td>CFA</td>
<td>26 ITEMS, Perceptions – Expectations 7pt Likert scale</td>
</tr>
<tr>
<td>2</td>
<td>Saleh and Ryan (1991)</td>
<td>Hospitality industry</td>
<td>200</td>
<td>EFA</td>
<td>32 items – Hotel guests 33 items – Management staff Five point likert scale</td>
</tr>
<tr>
<td>3</td>
<td>Bouma&amp; vander wiere (1992)</td>
<td>Car service industry</td>
<td>226</td>
<td>EFA</td>
<td>40 items Perceptions – expectations Seven point likert scale</td>
</tr>
<tr>
<td>4</td>
<td>Vandamma &amp; lewis (1993)</td>
<td>Healthcare industry</td>
<td>70</td>
<td>EFA</td>
<td>17 items Perceptions – Expectations Seven point likert scale</td>
</tr>
<tr>
<td>5</td>
<td>Stevens et al. (1995)</td>
<td>Restaurant</td>
<td>200-Dinning 198-Quick service</td>
<td>CFA</td>
<td>28 items Perceptions only Seven point likert scale</td>
</tr>
<tr>
<td>6</td>
<td>Tomes &amp; Ng (1995)</td>
<td>NHS trust hospital services</td>
<td>132 patients</td>
<td>EFA</td>
<td>49 items Perceptions – Expectations Seven point likert scale</td>
</tr>
<tr>
<td>7</td>
<td>Dabholkar et al. (1996)</td>
<td>Retail service industry</td>
<td>227 customers</td>
<td>CFA</td>
<td>28 items Perceptions only Five point likert scale</td>
</tr>
<tr>
<td>#</td>
<td>Authors</td>
<td>Sector</td>
<td>Sample Size</td>
<td>Method</td>
<td>Measurement/Data</td>
</tr>
<tr>
<td>----</td>
<td>--------------------------</td>
<td>------------------------------</td>
<td>-------------</td>
<td>--------</td>
<td>------------------</td>
</tr>
<tr>
<td>8</td>
<td>Lam &amp; Zhang (1999)</td>
<td>Travel agents</td>
<td>209 users</td>
<td>CFA</td>
<td>Perceptions – Expectations</td>
</tr>
<tr>
<td>9</td>
<td>Mentzer et al. (1999)</td>
<td>Logistic service quality</td>
<td>531 Logistic agency users</td>
<td>CFA</td>
<td>Perceptions – Expectations</td>
</tr>
<tr>
<td>10</td>
<td>Shemwell &amp; Yavas (1999)</td>
<td>Hospital service quality</td>
<td>218 patients</td>
<td>CFA</td>
<td>Perceptions – Expectations</td>
</tr>
<tr>
<td>11</td>
<td>Engelland et al. (2000)</td>
<td>Careers service centers</td>
<td>262 UG students</td>
<td>EFA &amp; CFA</td>
<td>Perceptions – Expectations</td>
</tr>
<tr>
<td>12</td>
<td>Frochot &amp; Hughes (2000)</td>
<td>Service quality in historic houses</td>
<td>790 Visitors</td>
<td>EFA</td>
<td>Perceptions only</td>
</tr>
<tr>
<td>13</td>
<td>Cook &amp; Thompson (2001)</td>
<td>Library service</td>
<td>4407</td>
<td>EFA</td>
<td>Perceptions only</td>
</tr>
<tr>
<td>14</td>
<td>Sower et al. (2001)</td>
<td>Hospital service</td>
<td>663 patients</td>
<td>EFA</td>
<td>Perceptions only</td>
</tr>
<tr>
<td>15</td>
<td>Vaughan &amp; Shiv (2001)</td>
<td>Voluntary sector</td>
<td>72 disabled service users</td>
<td>EFA</td>
<td>Perceptions – Expectations</td>
</tr>
<tr>
<td>16</td>
<td>Aldaigan &amp; Buttle (2002)</td>
<td>Bank sector</td>
<td>975 Customers</td>
<td>EFA</td>
<td>Perceptions – Expectations</td>
</tr>
<tr>
<td>17</td>
<td>Janda et al. (2002)</td>
<td>Internet retail service quality</td>
<td>446</td>
<td>EFA</td>
<td>Perceptions only</td>
</tr>
<tr>
<td></td>
<td>Study Authors</td>
<td>Area</td>
<td>Sample Size</td>
<td>Method</td>
<td>Items</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------</td>
<td>--------------------------</td>
<td>-------------</td>
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</tr>
<tr>
<td>18</td>
<td>Suresh Chander et al. (2002)</td>
<td>Banking</td>
<td>277</td>
<td>CFA</td>
<td>41</td>
</tr>
<tr>
<td>19</td>
<td>Getty and Getty (2003)</td>
<td>Lodging industry</td>
<td>229</td>
<td>EFA</td>
<td>26</td>
</tr>
<tr>
<td>20</td>
<td>Khan (2003)</td>
<td>Eco tourism</td>
<td>324</td>
<td>EFA</td>
<td>29</td>
</tr>
<tr>
<td>21</td>
<td>Wolfbarger &amp; Gilly (2003)</td>
<td>Online retail quality</td>
<td>1013</td>
<td>EFA</td>
<td>14</td>
</tr>
<tr>
<td>22</td>
<td>Yoon &amp; Suh (2004)</td>
<td>Consulting service</td>
<td>86</td>
<td>CFA</td>
<td>36</td>
</tr>
<tr>
<td>23</td>
<td>Gounrajs (2005)</td>
<td>B-B service</td>
<td>515</td>
<td>CFA</td>
<td>22</td>
</tr>
<tr>
<td>24</td>
<td>Jabnan &amp; Khalifa (2005)</td>
<td>Banking service</td>
<td>115</td>
<td>EFA,CFA</td>
<td>29</td>
</tr>
<tr>
<td>25</td>
<td>Karapate et al. (2005)</td>
<td>Banking service</td>
<td>1220</td>
<td>EFA,CFA</td>
<td>20</td>
</tr>
<tr>
<td>26</td>
<td>Parasuraman et al. (2005)</td>
<td>Electronic service (Internet)</td>
<td>549</td>
<td>EFA,CFA</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Study</td>
<td>Sector</td>
<td>Sample Size</td>
<td>Method</td>
<td>Measure</td>
</tr>
<tr>
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<td>-------------</td>
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<td>---------</td>
</tr>
<tr>
<td>28</td>
<td>Markovik (2006)</td>
<td>Higher education</td>
<td>444</td>
<td>EFA</td>
<td>Perceptions only</td>
</tr>
<tr>
<td>29</td>
<td>Caro &amp; Garcia (2007)</td>
<td>Urban transport</td>
<td>375</td>
<td>EFA,CFA</td>
<td>Perceptions only</td>
</tr>
<tr>
<td>30</td>
<td>Wilkin et al. (2007)</td>
<td>Hospital service</td>
<td>664</td>
<td>EFA,CFA</td>
<td>Perceptions only</td>
</tr>
</tbody>
</table>

Source: compiled by the researcher

1.2.3 (B) Indian studies:

Bhatia & Cleland (2004) did a research among female patients (out patients) in both public and private sectors regarding service quality. The research focused on factors such as Diagnostic procedures, Clinical procedures, Dietary advice and Laboratory analysis. The quality of care appears to be much better in the private sector healthcare services than public sector healthcare services.

In public sector healthcare services where patients won’t pay for the treatment they are concerned more about the quality of the core product (i.e.) the technical quality of the service provided. The quality of physician and support staff impacts satisfaction whereas non clinic support staff doesn’t (Mekoth, George, Dalvi, Rajanala, & Nizomadinov, 2012).

Satisfaction or dissatisfaction in medical service represents a function of all experiences in the sub categories. This study portrays that for effective customer management hospital needs to develop strategies towards employees. This will help in making employees more customer centric and in turns helps to improve the firm's image (Baalbaki, Ahmed, Pashtenko, & Makarem, 2010)

In the modern highly competitive environment, to have a sustained competitive advantage is by ensuring high quality service that will produce satisfied customers.
Customer satisfaction is considered to be prerequisite for customer retention and loyalty, and also helps in realizing economic goals like profitability, market share, return on investment etc. There has been a common consensus among researchers that service quality and customer satisfaction are two distinct constructs but are closely related to one another (Sureshchandar, Rajendran, & Anantharaman, 2002).

Parasuraman, Zeithamal and Berry (1985) were among the early researchers who argued that the service quality which is applicable to the goods sector is not extendable to the services sector. The service sector needs a different treatment due to the inherent nature of services as they are intangible, heterogeneous, and perishable and cannot be separated from goods. Unlike goods sector the services sector only has few tangible cues and in cases like healthcare hardly any to evaluate they quality of services (Jain & Gupta, 2004).

Physicians form the pivotal role in influencing patient satisfaction. Three variables namely service provided by doctors, rating of personal doctor/nurse, rating of specialist shows high level of statistical significance in influencing satisfaction.

Amjeriya & Malviya (2012) used SERVQUAL instrument to measure service quality and customer satisfaction. Customer satisfaction is the key factor which determines the success of an organization in relationships with the customers. Indian hospitals lack in reliability and responsiveness factors. Significant gaps were associated to all the six factors taken for the study indicating big service quality gap. Customer satisfaction is one of the key elements which brings satisfaction to customers.

Ritu narang (2010) evaluated service quality in Indian healthcare setting by using 4 factors namely Health personal practices & conduct, Adequacy of resources & services, Healthcare delivery and Access to services. It is observed that as the socio-economic status improves the mere fulfillment of treatment is not sufficient. Policy makers need to consider the needs and wants of the customer before taking steps.
1.2.4 (A) Various models for measuring service quality.

There are various models developed by researchers over the past three decades for measuring service quality. This chapter looks into the frequently used 10 models of service quality, their theoretical framework and the factors used in measuring service quality.


Figure 1.2: Technical and functional service quality model

A firm to be successful needs to have a better understanding of consumer perceptions of service quality. Gronroos identified three components which affects overall service quality they are: Technical quality, Functional quality and Image of the organization.

Source: (Gronroos, 1984)
Technical quality is the outcome of a particular service and it involves what a customer receives from a service encounter. Functional quality refers to the way a service is provided to the customer. It emphasizes on the process of service delivery. The functional quality and the technical quality both affect the image of an organization. Image of an organization is often referred as corporate quality which is attributed by its current and potential customers.


The gap model was proposed by Parasuraman, Zeithamal and Berry. This model was based on gap analysis. There are five gaps visualized in this model they are

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

Gap 2: Difference between management perceptions of customer expectations and service quality specifications. Failure of management to translate customers’ expectations into correct quality specifications.

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

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

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

According to this model the overall service quality is measured by

\[
\text{Service Quality (SQ)} = \sum (P - E)
\]
Where,

\[ P = \text{Performance perception} \]
\[ E = \text{Service quality expectation} \]

The measurement scale based on the above gap model was named SERVQUAL. SERVQUAL measures both customers’ expectations prior to the service and their perceptions on performance once the service is delivered.

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

1. Physical facilities and processes: These includes the location of the firm, interior decoration, speed, range of services offered, size of the firm, capacity etc.

2. Behavioral aspects: This includes communication speed, courtesy, friendliness, warmth reception, attitude of employees, grievance handling, problem solving, politeness etc.

3. Professional Judgment: This includes professional competence, judgment, honesty, knowledge, innovation etc.

In this model each of the three attributes forms an apex of the triangle. Too much emphasis on one attribute and the exclusion of other two will eventually results in a disaster.

Figure 1.4: Attribute and service quality model

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

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

5. Performance only model: Cronin & Taylor (1991)

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


In various service quality studies expectation is a belief about having desired attributes. It is used as a standard for evaluation of the service offered. There are other standards such as experience based service expectations, ideal level of service, minimum tolerable level of service and desirable level of service. This value based service quality model suggests the usage of a perceived ideal standard against which the customer experience about the service is compared.
The figure 1.5 depicts that implicit negative disconfirmation on a pre-conscious level, is then hypothesized to determine satisfaction.

Figure 1.5: Ideal value model of service quality

<table>
<thead>
<tr>
<th>Value level</th>
<th>Attitude level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideal standard</td>
<td>Negative Disconfirmation</td>
</tr>
<tr>
<td>Experienced outcome</td>
<td>Satisfaction</td>
</tr>
</tbody>
</table>

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


Attribute and overall effect model was proposed for self service options as it is gaining increased presence due to increased labor costs. The author proposed two models for measuring service quality.

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

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

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

8. PCP attribute Model (Philip & Hazlett, 1997)

In this model there are three main classes of attributes: Pivotal, Core and Peripheral. According to this every model consists of these three attributes overlapping used to define service quality.
(i) The pivotal attributes are the core thing which is considered to be most determining influence on why a particular customer approaches a particular organization and exerts the great influence on satisfaction levels. They are the final output from a service encounter.

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

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

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

Figure 1.6: PCP attribute model

![Figure 1.6: PCP attribute model](image)

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


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

10. **Antecedents and mediator model** (Dabholkar, 1996)

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

Figure 1.7: Antecedents and mediator model

Reliability  
Personal attention  
Comfort  
Features  

Service quality  
Customer satisfaction

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

1.2.4 (b) **Deciding upon the model to be used for the study:**

The SERVQUAL instrument was used to measure service quality in large range of service industries which includes

1. Retail banks
2. Telephone company
3. Security brokerage
4. Appliance repair & maintenance firm
5. Credit card companies
6. Healthcare
7. Hospitality industry and so on
Parasuraman et al. came with a conclusion that consumers evaluate service quality by comparing expectations to performance on ten dimensions. The scale was developed by administering 100 questions. The customers were asked to evaluate the service delivery based on their expectations and the performance of the firm on each specific dimension.

Parasuraman et al. stated that focus groups captured not only the attributes of service quality, but also the basic underlying process which helps consumers to make quality judgments.

The 10 dimensions of service quality earlier adapted in SERVQUAL are


The initial 10 items for measuring service quality was later reduced to 5 items with 22 variables after repeated administration in various sectors for better parsimony.

The steps involved in modification of SERVQUAL

1. Identifying ten dimensions of service quality.
2. Generation of 97 items representing ten dimensions.
3. Administering it to customers who had recently used services such as banking, credit card, appliance repair (or) maintenance, long distance telephone and securities brokerage.
4. Reducing the overall items to 34 with seven dimensions.
5. Further refinement leading to more parsimonious 22 items scale representing five dimensions.
6. Assessing SERVQUAL validity, reliability and internal consistency.

Some studies have come out with more number of dimensions than what is specified in SERVQUAL (Babakus & Boller, 1992) while some other studies have come out with fewer than five dimensions (Caramen, 1990).

There are two types of expectations, normative expectations and predictive expectations. In SERVQUAL the expectations part was conceptualized as a normative
expectation Lee, Lee, & Yoo (2000). According to assimilation theory increasing predictive expectations will have a positive impact on the customer's perceptions. A service manager should look to manage customer's predictive expectations in order to increase the overall perceptions about service quality. (Anderson, 1973).

One possible explanation is that different studies employed different methods of data collection and analysis procedures. Another explanation may be that respondents may consider the SERVQUAL dimensions to be conceptually unique. In SERVQUAL expectations and perceptions are measured at the same time. Expectations scales will be affected by the actual offer and will not represent customer expectations before they consume the product (or) service.

Many authors including Caramen (1990) and Babakus and Boller (1992) have questioned the usage of net difference scores in subsequent analysis using SERVQUAL scale. Difference scores are less reliable than the non-difference score measures. There are many studies which replicated the SERVQUAL way of measurement but with different dimensions to measure service quality.

Babakus & Boller confirmed the suitability of SERVQUAL through preliminary discussions with customers and conducted interviews extensively with company executives and technical personnel. In studies which adapted SERVQUAL, several authors have questioned the usage of expectations in empirical analysis. The authors also have expressed concerns regarding the usage of difference of scores which is obtained by subtracting the expectations scores from the perception ones.

The validity measurements of SERVQUAL are not consistent with various studies. Factor analysis showed various items loading on different dimensions with high factor loadings there by questioning convergent validity.

**SERVPERF:**

Cronin and Taylor (1992) found that measuring service quality using service performance (SERVPERF) produced better results than SERVQUAL. Their
measurement scale consisted perceptions items used in measuring SERVQUAL and not the difference scale. This measure provided service quality measurement without taking the disconfirmation into account.

Methodologically the SERVPERF scale provides a marked improvement from the SERVQUAL measurement. The scale got more efficient by reducing the number of variables to be measured by half (50%). It also has been superior to SERVQUAL in terms of empirical power (Bolton & Drew, 1991), (Valarie, 1993). In spite of all these still SERVPERF scale is lagging behind SERVQUAL in terms of application in services sector (Jain & Gupta, 2004).

Zeithamal- one of the co-founders of SERVQUAL scale stated that “Our results are in compatible with the one-dimensional view of expectations and the gap formation of service quality. Instead, we find that perceived quality is directly influenced only by perceptions (performance) and not by expectations minus perceptions”.

This provides a testimony for the superiority of SERVPERF scale. The authors found that SERVPERF provided more convergent as well as discriminant valid explanation of service quality. While the number of variables in SERVPERF is only 22, the SERVQUAL scale has 44 items in it. Lengthy questionnaire and compounding data editing can have adverse effect on the response rates. Many respondents may hesitate to fill a lengthy questionnaire.

Lot of focus of the past studies was on the assessment of the psychometric and methodological soundness for the scales used to measure service quality, mainly in the developed world. Instead of asking the customers to fill two questionnaires as in the SERVQUAL scale, the customers can be asked directly about how they feel a given firm has performed in comparison to its expectations with respect to each service attribute. This will eliminate the tedious process of asking the expectations and perceptions individually as required by the SERVQUAL scale.
1.3 Research gap:

1. Even though SERVQUAL was used extensively in services sector, it has potential problems in it.
2. The SERVPERF instrument needs to be validated across services sector in order to understand its reliability and validity prospects.
3. SERVPERF appears to lack generalizable factor structure hence the service specific attributes should be included.
4. In healthcare services only very few researchers have taken the attendants perspective. But no one has provided the impact of service quality on overall satisfaction from both patients and their attendant’s perspective.
5. The Indian healthcare services sector is still in its nascent stage, so more research needs to be done to analyze the service quality in Indian healthcare.

1.4 Statement of the problem:

Even though SERVQUAL is the mostly used instrument in measuring the service quality it has several drawbacks. Mainly on the two types of instrument used for measurement and it’s timing of administration. Cronin and Taylor came up with SERVPERF mainly to addresses the issues pertaining to SERVQUAL. SERVPERF adaptation is slowly gaining prominence with more number of researchers adapting it for various service situations. SERVPERF measurement was tested in Fast food restaurants, Laundry services, Banking and Pest control.

Primarily the adaptation of SERVPERF instrument to measure service quality in Indian healthcare sector is yet to take off. Secondarily almost all the service quality related studies in healthcare were done with patient’s perspective only. Healthcare is one among very few service segments where the consumer and customer may be entirely different. In many situations the attendant who accompanies the patient will be in better position to analyze the service quality parameters.
1.5 Significance of the study:

Healthcare is one of the most important aspects in a country’s progress. Till the inception of twelfth five year plan, Indian government gave little importance to healthcare infrastructure which was evident from the low public healthcare spending. Only in the twelfth five year plan the planning commission chairman emphasized the need of doubling the public healthcare expenditure. Indian healthcare segment is a highly competitive one with vast presence of private players. Apart from some highly sophisticated corporate hospitals the quality of service offered by majority of private and public sector is generally below par.

The private sector healthcare services are dominated by private physicians and mini clinics. With the per capita income in India rising steadily the customers are in need of better quality of service (mainly functional quality). This study is intended to compare the service quality of both private and public sector healthcare services from patients and their attendant’s perspective.

While many had tabulated the patient’s perspective on service quality and customer satisfaction there are hardly any which has taken the attendant’s perspective and came out with models which captures both the respondents perspectives. Attendants in many hospitals were the decision makers and they often interact with the doctors and paramedical staff regarding the treatment and patient’s health.

Hence it is important to include their perspective and analyze the inadequacies faced by them. The study intends to take the attendant’s perspective also in order to measure their perception about service quality. This also attempts to capture the impact of service quality on overall satisfaction from both patients and their attendant’s point of view.
1.6 Objectives of the study:

This study contains four main objectives they are:

1. To study about the healthcare services in BRICS countries by comparing major health indicators.

2. To find out the service quality perceptions from the patients as well as their attendants perspective.

3. To identify the service quality determinants which contribute (in highest terms) towards overall satisfaction in private sector as well as public sector health care services.

4. To identify the relationship between service quality perceptions and overall satisfaction in private sector as well as public sector healthcare services.

1.7 Hypothesis framed:

This section deals with the major hypothesis farmed for the study.

Since the first objective was accomplished by graphical representation of health indicators, hypothesis was framed for the remaining three objectives.

1.7.1 Hypothesis for the second objective:

- $H_{01a}$: There is no significant difference in service quality perceptions between patients and attendants in private sector healthcare services.

- $H_{01b}$: There is no significant difference in service quality perceptions between patients and attendants in public sector healthcare services.

1.7.2 Hypothesis for the third objective:

1.7.2.1 Private sector healthcare services:

- $H_{02}$: Reliability is not an important contributing factor in private sector healthcare services towards overall satisfaction.
• $H_{0b}$: Responsiveness is not an important contributing factor in private sector healthcare services towards overall satisfaction.
• $H_{0c}$: Assurance is not an important contributing factor in private sector healthcare services towards overall satisfaction.
• $H_{0d}$: Empathy is not an important contributing factor in private sector healthcare services towards overall satisfaction.
• $H_{0e}$: Tangibility is not an important contributing factors in private sector healthcare services towards overall satisfaction.

1.7.2.2 Public sector healthcare services

• $H_{03a}$: Reliability is not an important contributing factor in public sector healthcare services towards overall satisfaction.
• $H_{03b}$: Responsiveness is not an important contributing factor in public sector healthcare services towards overall satisfaction.
• $H_{03c}$: Assurance is not an important contributing factor in public sector healthcare services towards overall satisfaction.
• $H_{03d}$: Empathy is not an important contributing factor in public sector healthcare services towards overall satisfaction.
• $H_{03e}$: Tangibility is not an important contributing factor in public sector healthcare services towards overall satisfaction.

1.7.3 Hypothesis for the fourth objective

1.7.3.1 Private sector healthcare services
• Patient’s perspective:
  • $H_{04a}$: There is no significant relationship between tangibility and service quality in private sector healthcare services from patient’s perspective.
  • $H_{04b}$: There is no significant relationship between reliability and service quality in private sector healthcare services from patient’s perspective.
- H0_{4c}: There is no significant relationship between responsiveness and service quality in private sector healthcare services from patient’s perspective.
- H0_{4d}: There is no significant relationship between empathy and service quality in private sector healthcare services from patient’s perspective.
- H0_{4e}: There is no significant relationship between assurance and service quality in private sector healthcare services from patient’s perspective.
- H0_{4f}: There is no significant relationship between service quality and overall satisfaction in private sector healthcare services from patient’s perspective.

Attendant’s perspective:
- H0_{5a}: There is no significant relationship between tangibility and service quality in private sector healthcare services from attendant’s perspective.
- H0_{5b}: There is no significant relationship between reliability and service quality in private sector healthcare services from attendant’s perspective.
- H0_{5c}: There is no significant relationship between responsiveness and service quality in private sector healthcare services from attendant’s perspective.
- H0_{5d}: There is no significant relationship between empathy and service quality in private sector healthcare services from attendant’s perspective.
- H0_{5e}: There is no significant relationship between assurance and service quality in private sector healthcare services from attendant’s perspective.
- H0_{5f}: There is no significant relationship between service quality and overall satisfaction in private sector healthcare services from attendant’s perspective.

1.7.3.2 Public sector healthcare services

Patient’s perspective:
- H0_{6a}: There is no significant relationship between tangibility and service quality in public sector healthcare services from patient’s perspective.
- H0_{6b}: There is no significant relationship between reliability and service quality in public sector healthcare services from patient’s perspective.
- H0_{6c}: There is no significant relationship between responsiveness and service quality in public sector healthcare services from patient’s perspective.
- H0_{6d}: There is no significant relationship between empathy and service quality in public sector healthcare services from patient’s perspective.
H0₆ₖ: There is no significant relationship between assurance and service quality in public sector healthcare services from patient’s perspective.

H0₆₇: There is no significant relationship between service quality and overall satisfaction in public sector healthcare services from patient’s perspective.

Attendant’s perspective:

H0₇ₐ: There is no significant relationship between tangibility and service quality in public sector healthcare services from attendant’s perspective.

H0₇₉: There is no significant relationship between reliability and service quality in public sector healthcare services from attendant’s perspective.

H0₇₇: There is no significant relationship between responsiveness and service quality in public sector healthcare services from attendant’s perspective.

H0₇₇: There is no significant relationship between empathy and service quality in public sector healthcare services from attendant’s perspective.

H0₇₉: There is no significant relationship between assurance and service quality in public sector healthcare services from attendant’s perspective.

H0₇₉: There is no significant relationship between service quality and overall satisfaction in public sector healthcare services from attendant’s perspective.

1.7.4 Hypothesis for bivariate statistical analysis

H0₈₆: There is no significant difference between Gender and overall satisfaction in private sector healthcare services.

H0₈₇: There is no significant difference between Gender and overall satisfaction in public sector healthcare services.

H0₉₆: There is no significant difference between different income groups and overall satisfaction in private sector healthcare services.

H0₉₇: There is no significant difference between different income groups and overall satisfaction in public sector healthcare services.

H0₁₀₆: There is no significant difference between number of previous visits and overall satisfaction in private sector healthcare services.
• \( H_{0_{10b}} \): There is no significant difference between number of previous visits and overall satisfaction in public sector healthcare services.

• \( H_{0_{11a}} \): There is no significant difference between district where the respondent belongs and overall satisfaction in private sector healthcare services.

• \( H_{0_{11b}} \): There is no significant difference between district where the respondent belongs and overall satisfaction in public sector healthcare services.

1.8 Methodology used:

1.8.1 Sample area:

Study was done in Pondicherry region as it has one of the highest public spending on healthcare in India and one of the best performers in healthcare segment (Indian healthcare: 2010). Two private hospitals were chosen based on similarity in respondent’s profile and specialty in treatments. With respect to public sector healthcare services the government general hospital and the government maternity hospital which is mainly for maternal healthcare and child healthcare were taken.

1.8.2 Sample size:

Table 1.3: Sample size

<table>
<thead>
<tr>
<th>Sector</th>
<th>Hospital</th>
<th>Total sample</th>
<th>Patients</th>
<th>Attendants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private sector</td>
<td>PIMS</td>
<td>183</td>
<td>100</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>MGMC</td>
<td>157</td>
<td>84</td>
<td>73</td>
</tr>
<tr>
<td>Public sector</td>
<td>IGGGH Government general hospital</td>
<td>180</td>
<td>104</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>Rajiv Gandhi Maternity hospital</td>
<td>150</td>
<td>88</td>
<td>62</td>
</tr>
</tbody>
</table>

Source: compiled by the researcher
Study was conducted in four major hospitals having compatibility in Pondicherry region. Total sample size was 670. Private sector – 340, public sector – 330, private sector had 2100 beds put together with an occupancy rate of 50%. Whereas public sector hospitals had 950 beds put together with 110% occupancy rate. Hence approximately one third of the population from each sector was taken as sample. Simple random sampling procedure was followed to draw samples.

1.8.3 Survey instrument:

Questionnaire was used to collect the primary data. The questionnaire contained two parts. The first one was to capture the demographic profile of the respondents. It contained 10 questions based on gender, age, district where the respondents belongs, occupation of the respondent (in case of house wife/child it’s the occupation of the husband/parent(s)) , monthly family income, number of previous visits to the same hospital, number of family members, name of the hospital and the respondent’s type.

The second part contained SERVPERF scale to measure the psychometric part.

1. **Tangibility** (Measured by 4 variables)

Tangibility represents the service physically. It is defined as the appearance of physical facilities, staff appearance and communication materials that are used to provide services for them. Often firms use tangibility to highlight their image and quality.

1. **Reliability** (Measured by 5 variables)

It is the ability to perform promised service accurately on time. It generally means the company delivers on its promises regarding delivery, service provision and problem resolution.
2. **Responsiveness** (Measured by 4 variables)

Being willingness to help, it is the willingness or readiness to help customers and to provide prompt service. This dimension emphasizes attentiveness and promptness in dealing with customer requests, questions, complaints and problems.

3. **Empathy** (Measured by 4 variables)

Treating customers as individuals is defined as empathy. Caring, individual attention a firm provides to its customers.

4. **Assurance** (Measured by 5 variables)

Inspiring trust and confidence is defined as Assurance. The employee’s knowledge, courtesy and the ability of the firm and its employees to inspire trust and confidence.

All the variables were measured on a five point Likert scale starting from strongly agrees to strongly disagree

**1.8.4 Analysis techniques:**

The statistical tools used for data analysis of primary data collected are

(1) **Multivariate analysis:**

- Exploratory Factor analysis (EFA)

  Exploratory factor Analysis (EFA) was used to explore the underlying factor structure among the 27 psychometric variables taken for the study.

- Confirmatory Factor Analysis (CFA)

  Once Exploratory Factor Analysis (EFA) was done, the factor structure derived has to be confirmed by using confirmatory factor analysis (CFA)
Multiple regression

Multiple regressions were used to analyze the effect of service quality determinants on overall satisfaction.

Structural Equation Modeling (SEM).

The Structural Equation Modeling (SEM) was used to identify the effect of service quality on overall satisfaction levels from both patients and their attendant’s point of view.

(2) Bi-Variate Analysis:

Bivariate techniques were used to identify whether there was any significant difference between the demographic groups on overall satisfaction levels. The bivariate analysis used were

- Independent sample T-Test and
- One way Analysis of Variance.

1.9 Limitations of the study:

1. The study focused only on the two private hospitals and two state run hospitals in Pondicherry region, having compatibility.
2. Only 30% of the population was taken as respondents. A study with whole population as respondents was not possible due to time constraints.
3. The SERVPERF scale used to measure service quality is not devoid of shortfalls. Hence improvement is needed to develop a scale that can be generalized across all service settings.
4. There are other antecedents to customer satisfaction namely price of the product, situation, personality of the buyer (Natalise & Subroto, 1998).
5. The variance explained by service quality on overall satisfaction is low in both private and public sector healthcare services, which indicates that there are many other factors which have impact on overall satisfaction which needs to be studied.
1.10 Presentation of the study:
The study was presented in six chapters

The first chapter gives the brief introduction about healthcare, introduction to services, nature of services and the definition of service quality. This was followed by review of literature. They were grouped as: studies relating to healthcare/healthcare expenditure, studies relating to service quality followed by studies relating to service quality in healthcare services. In the service quality in healthcare services section, the national and international studies were presented separately.

This was followed by identification of research gap, formulating the statement of problem, and then defining objectives for the present study. The objectives were followed by framing appropriate hypothesis which needs to be tested. The methodology part contains the area of the study, the size of sample and sampling technique, the survey instrument used and the tools for analyzing the data, and finally the limitations of the study.

The second chapter concerns with comparing health indicators among BRICS (Brazil, Russia, India, China and South Africa) nations. It shows the need for a comparative study, the health indicators chosen for comparison, brief profile of five emerging nations followed by graphical representation of health indicators and discussions based on them, with the help of secondary data.

The third chapter deals with demographic variables, describing their characteristics through descriptive statistics and understanding their impact through cross tabulations.

The fourth chapter was about analysis of service quality attributes. The psychometric variables were first tested for normality and reliability. This was followed by using multivariate techniques such as Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) in order to understand the underlying factor structure among psychometric variables, multiple regressions was done to identify the impact of service quality attributes on overall satisfaction levels.
The fifth chapter deals with the impact of demographic variables on overall satisfaction levels. This chapter also comes up with four SEM (Structural Equation Modelling) models each from patients and their attendant’s perspective in private and public sector healthcare services.

The sixth chapter presents the findings, discussion, conclusion, suggestions and the scope for future study. This also contains the bibliography and annexures.

1.11 Chapter conclusion:

The review of literature clearly states the existing state of Indian healthcare. The service quality studies on Indian healthcare were few when compared to international studies. Even though there are many models which can measure service quality, SERVQUAL and SERVPERF are the two scales widely used. SERVQUAL has been applied in various service sectors has issues in reliability and validity. The instrument also has 48 statements which makes it tedious and the time of administration of expectation and perception scale were also under severe criticism. On the other hand SERVPERF appears to have better reliability and validity results and also cuts the number of questions to half when compared to SERVQUAL scale. The need of healthcare study using SERVPERF scale is needed in order to generalize the scale usability across the services sector.