

A Comparative Study on the Service Quality Gaps of Public Sector and Private Sector Telecom Service Providers in Chennai City

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Abstract— The dominant role of the services sector in almost all countries of the world as a the major contributor to Gross Domestic Product (GDP), Employment and Personal incomes (PI) has led to the emergence of Service Marketing as a separate discipline. Within service marketing, the Service Quality concept has taken centre stage because of its sacrosance for customer satisfaction, customer loyalty and organizational profits. SERVQUAL Technique and the GAP Model have been acknowledged worldwide as time tested methodologies to measure and appraise service quality. The paper reports the results of a Research Study in which SERVQUAL technique was adopted to measure the magnitude of Service Quality Gaps for two major firms in telecom sector in Chennai city. One of the firms is a leading private sector telecom service provider and the other, a well established telecom giant in the public sector. Data was collected form 300 customers of mobile services of both companies belonging to various strata spread over Chennai city and 60 anonymous executives of both companies based in Chennai. “t” tests and “Paired t tests” were applied on the data. The test results indicated significant differences in Service Quality Gaps between the public sector service provider and the private sector service provider in mobile telecom sector in Chennai city, with regard to perception of service quality expected by the customers, setting of quality standards, implementing the quality standards and delivery of quality service as per customer expectation.

Index Terms— Private Sector, Public Sector, Telecom Service Providers. Service Quality, SERVQUAL, Service Quality Gaps

I. INTRODUCTION

The Late 20th century and the early 21st century have witnessed unprecedented changes in government policies, society and culture, business operations, information technology and consumer trends. These changed include privatization, growing affluence, concern for environment,

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consumer desire for buying experience and instant gratification, desire for leisure and beauty, need for security, globalization, growth of internet and information and communication technologies, expansion of travel and tourism, health consciousness and so on. These developments have spawned a whole new sector labelled as

the “Service Sector” (Lovelock, 2010). Differing from Industrial or goods sector in many ways, the service sector constitutes thriving businesses such as Road, Air, Shipping and Rail Transport, Hospitals and Health Care, Telecommunications and the Internet, Hotels, Restaurants and Bars, Beauty Parlours and Fitness Centres, Retailing, Laundry and Dry Cleaning, Municipal Services, Colleges, Schools and Research Centers, Police, Military and Security Services, Arts and Advertising, Cinema, Radio and Television, Banks, Insurance and Legal Services, Stock Broking, Software, ITES, Consulting and a plethora of newer services emerging every day. Services sector has pushed the other two sectors namely manufacturing and agriculture into the background and emerged as the most crucial sector contributing to more than 80% of GDP, employment and incomes in almost all developed countries of the world and is set to reach this milestone in other developing countries as well in the near future.

This has given birth, academically to the new discipline of “Services Marketing”. While traditional marketing is concerned with the four P’s namely product, price, place and promotion, and its manipulation, services marketing includes the four additional P’s of physical evidence, process, people, and productivity and quality to totally makeup the eight P’s of marketing mix.

Hence service quality as one among the eight P’s acquires a lot of importance as a concept. Studies such as the one by ASCI (American customer satisfaction index) and those by authors such as Claus Fornell (2005) clearly showed the American citizen’s scepticism of the quality delivered by most service firms, both in the public sector and in the private sector. Also studies by Fournier and Mick (1999) and the University of Michigan (2000) pinpointed the clearly established link between service quality, customer satisfaction, brand equity and profits. Though service quality was accepted as sacrosant, there were misgivings in definition and measurement of service quality. This was because services were mostly intangible in nature and physical parameters could not be juxtaposed to measure quality. Thus there is no tangible, concrete and measurable

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yardstick to assess the quality of a haircut or a recent movie or a classroom lecture or the advice given by a lawyer. Much like the proverb "Beauty lies in the eyes of the beholder", service quality lay in the minds of the customer.

SERVQUAL

In 1985, a pioneering research was conducted by Dr Parasuraman, Professor of Marketing at the University of Miami and his associates, Dr Valerie Zeithaml, Professor of Marketing of the University of North Carolina and Prof Leonard Berry, Professor of Retailing and Marketing at the Texas A & M University (Parasuraman et al. 1985). Using focus group of customers in four services namely Retail Banking, Credit Cards, Security Brokerage and Maintenance Services, the Authors probed into the question of the criteria used by customers to evaluate service quality. They found that service quality is essentially a matter of discrepancy between the expectations formed by customers before consumption of the service and their perceptions about the quality of service formed after consumption of the service. If Perception > Expectation, then service quality is positive and if perception < expectation then service quality is negative or poor. The authors found that customers form expectations/perceptions of service quality on ten dimensions. They are the following:

Reliability, Responsiveness, Competence, Credibility, Courtesy, Access, Communication, Security, Empathy and Tangibles.

Further applying Factor Analysis, the authors narrowed down the service quality dimensions to five dimensions. They are **Reliability** (dependable, accurate performance), **Assurance** (competence, credibility, courtesy, security), **Tangibles** (appearance of physical elements), **Empathy** (easy access, customer understanding, good communication), **Responsiveness** (promptness and helpfulness). Subsequently, the authors decided to convert theory into practice by designing and developing a scale to measure service quality. Thus Parasuraman, Zeithaml and Berry developed the instrument christened SERVQUAL in 1988 (Parasuraman et al., 1988). Servqual is developed based on the premise that customers can evaluate quality of a service by comparing their expectations with their perceptions or experience of the service. In its basic form the scale contains 22 expectation/perception items, reflecting the five dimensions of service quality described earlier. The customers record their expectation/perception on the scale items which are later on subject to mathematical and statistical analysis to arrive at a measure of comparison of service quality.

Since its invention in 1988, Servqual is seen as a generic measurement tool and has been applied to successfully measure and compare service quality across a broad spectrum of services including healthcare, hospitals, hotels and restaurants, higher education, travel and tourism, information technology, banking, sports organization, car repairs, local authority and government services, shipping police and many

others. These studies were carried out by authors in numerous countries including U.S.A., U.K., Malaysia, Singapore, Ireland, Turkey, Australia, Iran, India, Switzerland, China, Hong Kong, Holland and many others. The studies which adopted experimental designs, hypotheses testing methods and rigorous statistical analysis have clearly confirmed the appropriateness of Servqual dimensions as distinct and conceptually clear (Khan and Raghunandan, 2013).

SERVICE QUALITY GAP MODEL

Along with Servqual the Authors Parasuraman, Zeithaml and Berry (1985) created a GAP Model which describes shortfalls occurring during delivery of service as a series of Gaps. The authors postulated that the gaps arise because of the differences between the perception, understanding and expectation of customers of service on one side and the managers in the service organization who deliver the service on the other side. The authors identified five important Gaps. The presence of these Gaps denote failure in service quality and delivery and also failure in CRM (Customer Relationship Management). Gaps damage the relationship between the customer and the service firm leading to customer defections. The basic strengths of the Gap Model are:

- Deficiencies in service delivery and quality can be identified from both demand and supply side.
- The extent of Gaps or quality deficiencies can be measured and quantified.
- Strategies can be developed by the service provider to close the Gaps.
- Closing the Gaps leads to improvements in service quality and customer satisfaction.
- Gaps model offers generic insights and solutions that can be applied across all service industries in both public sector and private sector.

Parasuraman, Zeithaml and Berry identified the following five Gaps:

1. The Knowledge Gap: This is the Gap between what the service provider managers believe that customers expect from them vs the actual customer needs and expectations.

Company managers' perception of quality expected by customers

Minus (-----)

The actual quality expected by customers

2. The Standards Gap: This is the Gap between the service provider managers' perception of the required quality vs the quality standards established by the company.

The quality standards established by the company

Minus (-----)

The quality standards required by the company

- 3) The Delivery Gap: This is the Gap between the quality standards established by the service provider vs the

actual performance by the service provider on these standards.

The quality standards performed by the company

Minus (-----)

The quality standards established by the company

- 4) The Communication Gap: This is the Gap between the various promises made by the service provider in its external communication vs the actual implementation of the promises.

The implementation of the promises made by the company in its advertisements

Minus (-----)

The promises made by the company to the customer in its advertisements

- 5) The Service Gap or The Service Quality Gap: This is the Gap between the customer's perception of the quality of service experienced by him after consumption of the service vs the service quality expected by him before the service delivery.

The perception of the customers about the service quality delivered by the company

Minus (-----)

The service quality expected by the customer from the company.

SIGNIFICANCE OF THE STUDY

In these days of Liberalization, Privatization and Globalization (LPG), the role of the Public Sector has undergone a transformation. Originally Public sector in India was started with several socio-economic objectives such as employment generation, production in core industries, backward area development, equality of incomes and wealth, employment of weaker sections and other similar objectives. The public sector performed on a non-profit platform. But with increasing competition, resource scarcity and budget deficits, the role of public sector throughout the world is being redefined. Authors such as Rodriguez (1996), Curry and Herbert (2002), Brysland and Curry (2001), Mik Wisniewski (1996), Keith Snawley (1991), Carvana, Ramseshan and Ewing (1997) and Angus Laing(2003) and others have held that public sector in services must apply marketing tools and techniques similar to the private sector. This leads to profitability in public sector. The authors have proved that Servqual and Gap measurement can be ideally used in studies on the public sector. In India the public sector was once labelled as "white elephants" and was notorious for inefficiency, corruption, redtapeism, nepotism and mismanagement. But with the advent of the New Economic Policy (NEP) of 1991, the Government of India is encouraging profit making, efficiency and professionalism in the public sector. Navaratnas and mini-ratnas have been created. Shares of many public sector enterprises (PSE's)

have been offered to public as a part of disinvestment and more public accountability on the part of these enterprises.

The Telecom sector in India originally called as Post, Telegraph and Telephone Department (PTT) is one of the oldest in the world. The telecom sector has undergone technology upgradation and milestone development stage by stage since independence to emerge as one of the fastest growing and modernized sector in the world. Originally, the sector was dominated by the two public sector giants BSNL (Bharat Sanchar Nigam Ltd) and VSNL (Videsh Sanchar Nigam Ltd). The telecom sector deregulation started in 1991, when the then Govt of India introduced LPG Policies in the Indian Economy. The First National Telecom Policy announced in 1994 introduced radical and innovative policies of deregulation by allowing 49% FDI (Foreign Direct Investment) in the Telecom sector and dividing the country into telecom circles for which bids were invited from both public sector and private sector companies. These policies led to the rapid growth of the telecom sector, especially, mobile telephony. In 1999, the Govt of India announced a new telecom policy which became a remarkable success leading to a level playing field in the Telecom sector and rock bottom tariffs, spectrum and license fees. This led to rapid growth of private players such as Bharti Airtel, Vodafone Essar, PAFL, Idea cellular and others. This led to exponential growth of incomes, production and jobs in the telecom sector – twenty five times in ten years (2001-2011). Further implementation of progressive policies has led to a stage where the Indian telecom sector is emerging as the largest and fastest growing in the world and firmly perched on the Growth stage of the PLC (product life cycle) thereby extending the telecom growth story for a few more years as described by the authors Khan and Raghunandan (2014).

In the context of the growth story of Indian telecom sector it is found that the share of the private sector in the telecom industry in terms of growth and profits is increasing steadily while the share of the public sector is rapidly decreasing. Further the public sector telecom giants, though having an early lead are experiencing falling revenues and mounting losses. The market share of the public sector in telecom industry is also shrinking. The Govt. of India has also fallen in line with the rest of the world and is encouraging marketing orientation of the public sector in all sectors including telecom. The present study is a comparative study of the quality deficiencies or Gaps between the leading public sector telecom service provider GTCL (Government Telecom Company Ltd) and the leading private sector service provider in the mobile telecom industry PAFL (Private Airwave Company Ltd) in Chennai City-A major metropolitan city in India.

Thus the study throws light on the differences in strategies, approaches and emphasis between a public sector and a private sector firm. This furthers the development of a knowledge base aiding useful managerial interventions for both firms. Hopefully this can arrest the declining trend of public sector losses in the mobile telecom industry.

[Note: The real names of the companies have been changed to ensure the commercial confidentiality of the companies].

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OBJECTIVES

The Major objectives of the study are as follows:

- 1) To find out the existence of the service quality Gaps with reference to mobile services of GTCL and PACL in Chennai City.
- 2) To find out the magnitude of service quality gaps for the two firms namely GTCL and PACL.
- 3) To identify the differences between customer expectations and customer perceptions between GTCL and PACL with regard to service quality factors.
- 4) To identify the differences between GTCL and PACL Managers and GTCL and PACL customers with regard to service quality factors.
- 5) To identify the strengths and weaknesses of GTCL and PACL with regard to service quality factors.

HYPOTHESES

The following are the Null Hypotheses which are tested by statistical methods:

1. There is no significant difference between the expectation of GTCL customers and the expectation of PACL customers with regard to factors of service quality.
2. There is no significant difference between the perception of GTCL customers and the perception of PACL customers with regard to service quality factors.
3. There is no significant difference between the perception of GTCL managers and the perception of PACL managers with regard to factors of service quality..
4. There is no significant difference between the expectation of GTCL customers and the perception of GTCL customers with regard to factors of service quality.
5. There is no significant difference between the expectation of PACL customers and the perception of PACL customers with regard to factors of service quality..
6. There is no significant difference between the perception of GTCL managers and the expectation of GTCL customers with regard to factors of service quality..
7. There is no significant difference between the perception of PACL managers and the expectation of PACL customers with regard to factors of service quality.
8. There is no significant difference between the perception of GTCL managers on quality standards and the quality standards established by the company.
9. There is no significant difference between the perception of PACL managers on quality standards and the quality standards established by the company.

10. There is no significant difference between the quality standards established by GTCL and the quality standards performed by the company.
11. There is no significant difference between the quality standards established by PACL and the quality standards performed by the company.
12. There is no significant difference between the expectation of both GTCL and PACL customers combined and the perception of both GTCL and PACL customers combined with regard to service quality factors
13. There is no significant difference between the combined expectation of both GTCL and PACL customers and the combined perception and both GTCL and PACL managers with regard to service quality factors.
14. There is no significant difference between the combined perceptions of both GTCL and PACL managers on the quality standards required for both the companies and the quality standards established by both the companies.
15. There is no significant difference between the combined quality standards established by both GTCL and PACL and the combined quality standards performed by both the companies.
16. There is no significant difference between GTCL and PACL on the service quality standards established by the respective companies.
17. There is no significant difference between GTCL and PACL on the service quality standards performed by the respective companies.

METHODOLOGY

The study uses both primary data and secondary data. Secondary data was collected from various journals, textbooks and websites. Primary data was collected on the basis of questionnaires administered to the customers and managers / executives of the telecom companies namely GTCL and PACL. The respondents for the study comprised of 150 customers of GTCL and 150 customers of PACL. A proportionate sampling technique based on judgement and convenient methods were used for data collection. The respondents consisted of various categories including employees of state and central government, bank employees, teachers, employees of large firms, college faculty, employees of software firms and others in the organized sector and employees of small scale industry, tailors, shopkeepers, construction workers, priests, nursing home employees, lawyers, doctors, optical shop owners, textile shop employees, consultants, automobile shop workers, house-wives and students belonging to the unorganized and the service sector. All the respondents belonged to the various localities spread over Chennai City. The various proportions were culled based on the proportions in the Chennai population though strict quota norms cannot be applied since some sections such as slum dwellers , children and others were excluded due to difficulties in getting response. Data was also collected from 30

managers/executives belonging to GTCL and another 30 managers/executives belonging to PACL. This could be possible only after much persuasion and assurance of confidentiality.

QUESTIONNAIRE

Totally six questionnaires were administered. Questionnaires 1,2 and 3 deal with customer expectations, customer perceptions and manager perceptions which were administered to customers and managers of both companies. Totally 45 questions were divided into 9 factors of service quality. They are:

1. Tangibles: (Towers, Technology, infrastructure, information to customers, location of customer care centres, recharge centres, and maintenance and servicing).
2. Reliability: (Delivery of SMS, MMS, fulfilling promises made in advertisements, solving customer complaints, upgrading of technology and reliable service).
3. Responsiveness: (Accessibility of employees, getting customer opinion and feedback, advance information to customers on company policies , priority to customer interests over commercial interests).
4. Assurance: (Behaviour of employees, competence and capability of employees, knowledge and skills of employees).
5. Empathy: (Individual attention to customer, flexible working hours, convenient recharge system, product variety).
6. Economy: (Reasonable call charges, low denomination recharge, genuine discounts , no steep rise in call charges).
7. Technical Quality: (technical skills and specialization of employees, speed and clarity of network, coverage of network, avoidance of frequent network breakdown).
8. Image:(Leadership, image of company, quality and customer orientation, brand image, CSR initiatives).
9. Customer Relationship Management (CSR) :(Customized service and interactive websites, loyalty rewards and gifts, personal meetings with customers).

Questionnaires 4,5 and6 deal with quality standards required, quality standards established and quality standards performed by both the companies. Totally 19 questions were administered to the managers/executives of the companies .These were divided into 7 factors which are:

1. Tangibles: (Equipment including towers, infrastructure, operation of customer care centres, training of technical and other staff).
2. Reliability: (Delivery of messages to customers, fulfilment of promises made to customers, work maintenance, network connectivity and technology upgradation).

- 3) Responsiveness: (Employee accessibility to customers, information about policy matters to customers, periodic feedback from customers).
- 4) Assurance : (Employee behaviour and response to customer complaints, knowledge and competence of employees).
5. Empathy: (Quality standards in production, working of recharge centres).
- 6) Technical Quality: (Technical skills, qualification of employees, network clarity and coverage, handling network breakdown and restarting).
7. Image: (Pursuit and promotion of innovation).

Responses for the above questionnaires were collected on a standard 5 point Likert scale ranging from full agreement to full disagreement, with scores ranging from 5 to 1.

DATA ANALYSIS

Collected data was analysed with the help of SPSS software packages. Mean and Standard deviation values were obtained. The seventeen hypotheses were tested by means of Levene’s test for equality of variances, independent samples ‘t’ test and paired ‘t’ test.

RESULTS AND DISCUSSION

Table I

Gender	Category of Customer		Total (Count and %)
	GTCL (Count and %)	PACL (Count and %)	
Male	104 (59.1%) [69.3%]	72 (40.9%) [48.0%]	176 (100.0%) [58.7%]
Female	46 (37.1%) [30.7%]	78 (62.9%) [52.0%]	124 (100.0%) [41.3%]
Total	150 (50.0%) [100.0%]	150 (50.0%) [100.0%]	300 (100.0%) [100.0%]

Note: Table I describes the gender classification of respondents. Males constituted 69.3% of GTCL customers and Females 30.7%. Among PACL customers, males were 48.0% and females were 52%. Category wise among male respondents 59.1% were GTCL customers and 40.9% were PACL customers. Among female respondents 37.1% were GTCL customers and the rest PACL customers.

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Table II

Age (Years)	Category of Customer		Total (Count and %)
	GTCL (Count and %)	PACL (Count and %)	
< 30	38 (40.4%) [25.3%]	56 (59.6%) [37.3%]	94 (100.0%) [31.3%]
31-40	37 (46.8%) [24.7%]	42 (53.2%) [28.0%]	79 (100.0%) [26.3%]
41-50	33 (49.3%) [22.0%]	34 (50.7%) [22.7%]	67 (100.0%) [22.0%]
>50	42 (70.0%) [28.0%]	18 (30.0%) [12.0%]	50 (100.0%) [20.0%]
Total	150 (50.0%) [100.0%]	150 (50.0%) [100.0%]	300 (100.0%) [100.0%]

Table II describes the age profiles of GTCL and PACL customers. Among GTCL customers, 25.3% belonged to the < 30 age group, 24.75% belonged to the 31-40 age group, 22.0% belonged to the 41-50 age group, and 28% belonged to the >50 age group. The percentages for the same categories of PACL customers were 37.3%, 28.0%, 22.7%, and 12.0%. Within the <30 age group, 40.4% were GTCL customers and 59.6% were PACL customers. Among the 31-40 group, 46.8% were GTCL Customers and 53.2% PACL customers. The percentages are 49.3% and 50.7% for the 41-50 age group and 70.0% and 30.0% for the above 50 age group.

Table III

Number of Years Usage	Category of Customer		Total (Counts and %)
	GTCL (Count and %)	PACL (Count and %)	
< 3 Years	39 (43.3%) [26.0%]	51 (56.7%) [34.0%]	90 (100.0%) [30.0%]
4-6 Years	37 (40.2%) [24.7%]	55 (59.8%) [36.7%]	92 (100.0%) [30.7%]
7-9 Years	22 (46.8%) [14.7%]	25 (53.2%) [16.7%]	47 (100.0%) [15.7%]
> 9 Years	52 (73.2%) [34.7%]	19 (26.8%) [12.7%]	71 (100.0%) [23.7%]

Total	150 (50.0%) [100.0%]	150 (50.0%) [100.0%]	300 (100.0%) [100.0%]
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Note: Table III classifies respondents on the basis of no. of years of using the mobile service. Among GTCL customers 26.0% were using the service for < 3 years, 24.7% for 4-6 years, 14.7% for 7-9 years and 34.7% for more than 9 years. For PACL customers, the percentages for the same categories were 34.0%, 36.7%, 16.7%, and 12.7%. Among the <3 years users, 43.3% belonged to GTCL and 56.7% belonged to PACL. Among the 4-6 years users 40.2% belonged to GTCL and 59.8% belonged to PACL. Among the 7-9 years users the percentages of GTCL and PACL customers are 46.8% and 53.2% and among the >9 years users the percentages are 73.2% and 26.8%.

Table IV

Amount of Talk Time Used Per User Per month (Rs.)	Category of Customer		Total (Counts and %)
	GTCL (Count and %)	PACL (Count and %)	
<200	40 (54.8%) [26.7%]	33 (45.2%) [22.0%]	73 (100.0%) [24.3%]
201-400	59 (48.0%) [39.3%]	64 (52.0%) [42.7%]	123 (100.0%) [41.0%]
401-600	48 (57.1%) [32.0%]	36 (42.9%) [24.0%]	84 (100.0%) [28.0%]
>600	3 (15.0%) [2.0%]	17 (85.0%) [11.3%]	20 (100.0%) [6.7%]
Total	150 (50.0%) [100.0%]	150 (50.0%) [100.0%]	300 (100.0%) [100.0%]

Table V

Age (Years)	Category of Manager		Total (Count and %)
	GTCL (Count and %)	PACL (Count and %)	
< 30	8 (36.4%) [26.7%]	14 (63.6%) [46.7%]	22 (100.0%) [36.7%]
31-40	12 (50.0%) [40.0%]	12 (50.0%) [40.0%]	24 (100.0%) [40.0%]
>40	10 (71.4%) [33.3%]	4 (28.6%) [13.3%]	14 (100.0%) [23.3%]
Total	30 (50.0%) [100.0%]	30 (50.0%) [100.0%]	60 (100.0%) [100.0%]

RELIABILITY AND VALIDITY

Note: Table IV classifies respondents on the basis of amount of talk time used per month. Among the GTCL customers, 26.7% used less than Rs 200 talk time, 39.3% used between Rs 201-400 talk time, 32.0% used between Rs 401-600 talk time and Only 2% used > Rs 600 per month talk time. Among PACL customers, the percentages for the same talk time used categories are 22.0%, 42.7%, 24.0% and 11.3% respectively. Category wise among the < Rs 200 category, 54.8% belonged to GTCL and 45.2% to PACL. The corresponding percentages were 48.0% and 52.0% for the Rs 201-400 category, 57.1% and 42.9% for the Rs 401-600 category and 15.0% and 85.0% for the >Rs 600 category.

Note: Table V classifies manager/executive respondents on the basis of age. Among GTCL managers, 26.7% were less than 30 years of age, 40% belonged to the 31-40 age group, and 33.3% were above 40 years of age. Among PACL managers, 46.7%, were less than 30 years of age, 40% belonged to the 31-40 age group, and 13.3% were above 40 years of age. In the < 30 age category, 36.4% were GTCL managers and 63.6% were PACL managers. In the 31-40 age group of managers, 50% belonged to GTCL and 50% belonged to PACL. In the > 40 years category of managers 71.4% belonged to GTCL and 28.6% belonged to PACL.

Table VI

Experience in (Years)	Category of Manager		Total (Count and %)
	GTCL (Count and %)	PACL (Count and %)	
<15	19 (43.1%) [63.3%]	25 (56.9%) [83.3%]	44 (100.0%) [73.3%]
>15	11 (68.7%) [36.7%]	5 (31.3%) [16.7%]	16 (100.0%) [26.7%]
Total	30 (50.0%) [100.0%]	30 (50.0%) [100.0%]	60 (100.0%) [100.0%]

Table VI classifies the respondent managers on the basis of years of experience. Among GTCL managers, 63.3% had less than 15 years of experience, and 36.7% had more than 15 years of experience. Among PACL managers, 83.3% had less than 15 years of experience and 16.7% had more than 15 years of experience. Within the less than 15 years experience category, 43.1% belonged to GTCL and 56.9% belonged to PACL. Within the more than 15 years experience category, 68.7% belonged to GTCL and 31.3% belonged to PACL.

While applying Likert type scales in research, Cronbach's Alpha is used as a measure of reliability and validity. When Cronbach Alpha test was applied on the data, it was found that the score for all dimensions ranged between .86 to .95 for all the dimensions. This indicates very high levels of internal consistency in the scale thereby assuring reliability and validity of the scale. The Cronbach Alpha values are 0.934, 0.955, 0.877, 0.903, 0.860 and 0.918 for customer expectations, customer perceptions, manager perceptions, quality standards required, quality standards established and quality standards performed.

GAP VALUES

The Gap Values for both the companies are obtained based on calculating from the mean values obtained for each question. For every question, the score given by all the 150 customers of that particular company are added up to get the total score for that question. The total score is then divided by 150 to get the mean score / mean value for that question. The mean values are thus obtained for all the 45 questions in the questionnaires 1,2 and 3 related customer expectations, customer perceptions and manager perceptions for both GTCL and PACL. Similarly for Questionnaires 4,5 and 6 related to quality standards expected, established and performed, for each question the score given by all the 30 managers/executives of that particular company are added up to get the total score for that question. The total score is divided by 30 to get the mean score/mean value for that question. The mean values are thus obtained for all the 19 questions in the questionnaires 4,5 and 6 for both the companies.

Now with the mean values for every question obtained, we go to the next stage- which is calculation of Factor values. For each factor in a questionnaire we add up the mean values/mean scores for all the questions coming under the factor to get the Factor value. For ex: in Questionnaire 1, 2 and 3 we have totally 9 factors namely Tangibles, Reliability, Responsiveness, Assurance, Empathy, Economy, Technical quality, Image and CRM. Tangibles contains 7 questions : Q1 to Q7. The mean scores of each of these Questions no:1,2,3,4,5,6 and 7 are added up to get the Total Score for that Factor-Tangibles. Similarly Factor Scores are obtained for all the other eight factors. This method is used to obtain the **Factor scores for all Service Quality Factors in all the SIX Questionnaires.**

Next the Factor Scores are subtracted from one another to get the Gap score for that Factor. The subtraction is done based on the Gap formula. For example Gap5 formula is given by Customer perception scores (-) minus Customer expectation scores. For GTCL, for the Factor "Tangibles" the Total Customer Perception score obtained as per the above method is 26.367. The total Customer Expectation Score obtained is 29.697. The GAP5 value for GTCL for the factor "Tangibles" is thus --- 3.330. For PACL the Customer Perception Score for "Tangibles" is 27.052. The Customer Expectation Score is 29.600. The GAP 5 value is --- 2.548. Similarly the Gap 1

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value is given by the formula Managers' perception of quality expected by customers (---) minus the actual quality expected by customers. For example, for GTCL, for the factor "CRM" the total managers' perception score is 13.899. The actual customer expectation score is 15.992. The Gap 1 value is thus --- 2.093. Similarly for PACL the Gap 1 value for the factor

"CRM" is given by managers' perception score (---) minus actual customer expectation score which is 16.267---15.193 which is +1.074. **The Factor wise Gap values obtained on the above basis for all the Five Service Quality Gaps for GTCL and PACL are given in the Tables VII to Table XVI below.**

**Table VII
GTCL: GAP 1 VALUES**

Sl.No.	Factor	Gap 1 Value
1.	Tangibles	-2.731
2.	Reliability	-1.253
3.	Responsiveness	-2.827
4.	Assurance	-0.360
.	Empathy	-0.848
6.	Economy	-0.469
7.	Technical Quality	-1.354
8.	Image	-0.954
9.	Customer Relationship Management (CRM)	-2.093
10.	Overall Gap value	-12.889

**Table VIII
PACL: GAP 1 VALUES**

Sl. No.	Factor	Gap Value 1
1.	Tangibles	-2.833
2.	Reliability	-0.659
3.	Responsiveness	-0.201
4.	Assurance	+0.414
5.	Empathy	+0.354
6.	Economy	-0.347
7.	Technical Quality	-1.473
8.	Image	-0.287
9.	Customer Relationship Management (CRM)	+1.074
10.	Overall Gap value	-3.958

Note: The GAP 1 values for all service quality factors of GTCL are **Negative**. Responsiveness, Tangibles and CRM exhibit the Highest Negative Gaps. Assurance and Economy

exhibit the Lowest Negative Gaps. The Overall Gap value is Negative. In the case of PACL, **some** of the service quality factors exhibit **Positive Gaps** indicating excess quality perception by Managers and no shortcomings in the assessment of quality.. These factors are CRM, Assurance and Empathy. The other service quality factors of Tangibles and Technical Quality exhibit High Negative Gaps. The factors of Reliability, Economy, Image and Responsiveness also exhibit Negative gaps. The Overall Gap 1 value in the case of PACL is also **Negative**.

**Table IX
GTCL: GAP 2 VALUES**

Sl.No.	Factor	Gap 2 Value
1.	Tangibles	-1.767
2.	Reliability	-1.965
3.	Responsiveness	-1.566
4.	Assurance	-1.067
5.	Empathy	-1.266
6.	Technical Quality	-0.100
7.	Image	-0.367
8.	Overall Gap value	-8.098

**Table X
PACL: GAP 2 VALUES**

Sl.No	Factor	Gap 2 Value
1.	Tangibles	+0.335
2.	Reliability	-0.233
3.	Responsiveness	-0.334
4.	Assurance	-0.367
5.	Empathy	-0.167
6.	Technical Quality	-0.900
7.	Image	-0.234
8.	Overall Gap value	-1.900

Note: The Gap 2 values for all the Service Quality Standard Factors of GTCL exhibit **Negative** Gap Values, indicating shortfalls in the Quality Standards established by GTCL compared to the requirements. The factors of Reliability , Tangibles, Responsiveness, Empathy and Assurance exhibit High Negative Gap 2 values. The factors of Image and Technical quality exhibit low Negative Gaps. The Overall Gap 2 value of GTCL is negative. In the case of PACL, **one** of the factors exhibits a **Positive** Gap 2 Value, indicating excess Quality standards established by the company compared to the requirements. This factor is Tangibles. All other factors exhibit Negative Gaps. The factors of Technical Quality, Assurance and Responsiveness exhibit High Negative Gap Values while the other factors exhibit Low Negative Gap Values. The Overall GAP 2 Value of PACL is **Negative**. However, the Negative Gap 2 Value of PACL is far less than the Negative Gap 2 Value of GTCL.

**Table XI
GTCL: GAP 3 VALUES**

Sl.No.	Factor	Gap 3 Value
1.	Tangibles	-0.333
2.	Reliability	-1.561
3.	Responsiveness	-1.635
4.	Assurance	-0.200
5.	Empathy	-1.067
6.	Technical Quality	-0.800
7.	Image	-0.833
8.	Overall Gap value	-6.429

Table XII
PACL: GAP 3 VALUES

Sl.No.	Factor	Gap 3 Value
1.	Tangibles	-0.467
2.	Reliability	-0.433
3.	Responsiveness	+0.233
4.	Assurance	+0.033
5.	Empathy	-0.100
6.	Technical Quality	+0.400
7.	Image	+0.067
8.	Overall Gap value	-0.267

Note: The Gap 3 Values for all Factors for GTCL are **Negative** indicating shortfalls in the performance of the Quality standards which has been established in the company. The factors of Responsiveness, Reliability, Empathy, Image and Technical Quality exhibit High negative Gap 3 values. The factors of Tangibles and Assurance exhibit low negative Gap values. The Overall Gap 3 Value of GTCL is negative. In the case of PACL, **Four** of the Factors exhibit **Positive** Gap 3 Values indicating Excess Quality standards performed by the company in these factors compared to the established Quality standards. These factors are Technical Quality, Responsiveness, Image and Assurance. However the other factors of Tangibles, Reliability and Empathy exhibit negative gap values. The Overall Gap 3 value is **Negative**.

Table XIII
GTCL: GAP 4 VALUE

Question No.	Customer Perception	Customer Expectation	Gap 4 Value
9.	471.00	654.00	-183.00

Table XIV
PACL: GAP 4 VALUE

Question	Customer	Customer	Gap 4
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No.	Perception	Expectation	Value
9.	573.00	609.00	-36.00

Note: The Gap 4 values for both GTCL and PACL are **Negative**. However GTCL exhibits a large Gap 4 value which is substantially higher than PACL and is more than 5 times the GAP 4 value of PACL.

Table XV
GTCL: GAP 5 VALUES

Sl.No.	Factor	Gap 5 Value
1.	Tangibles	-3.330
2.	Reliability	-3.500
3.	Responsiveness	-5.421
4.	Assurance	-2.614
5.	Empathy	-3.701
6.	Economy	-2.134
7.	Technical Quality	-4.801
8.	Image	-2.341
9.	Customer Relationship Management (CRM)	-4.926
10.	Overall Gap value	-32.768

Table XVI
PACL: GAP 5 VALUES

Sl.No.	Factor	Gap 5 Value
1.	Tangibles	-.2.548
2.	Reliability	-0.939
3.	Responsiveness	-2.677
4.	Assurance	-0.793
5.	Empathy	-1.012
6.	Economy	-0.886
7.	Technical Quality	-1.940
8.	Image	-0.286
9.	Customer Relationship Management (CRM)	-1.793
10.	Overall Gap value	-12.874

Note: The Gap 5 values for all Factors of GTCL is **Negative** indicating shortfalls in delivery of service quality by the company compared to the expectation of the customers. All the service quality factors of GTCL exhibit High Negative Gap 5 Values. Especially, the Factors of Responsiveness,

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CRM, Technical Quality and Empathy exhibit high negative values. All the other factors of service quality also exhibit high negative values. The Overall Gap 5 Value of GTCL is **Highly Negative**. In the case of PACL too, **Negative Gap 5 Values** are exhibited by **all** the service quality factors. However the magnitude of the negative Gaps are not as large as in the case of GTCL. The Factors of Responsiveness, Tangibles, Technical Quality and CRM exhibit high negative Gaps. The negative Gap value is low in the case of Image and Assurance factors. The Overall Negative Gap 5 Value in the case of PACL is less than half of GTCL.

HYPOTHESES TEST RESULTS

The Seventeen Null Hypotheses given in the beginning of this Paper were tested by means of application of Levene's test for equality of variances, independent samples 't' test

and paired 't' test on the data. The output was got from SPSS software. The Hypotheses test results are discussed one by one below.

HYPOTHESIS 1

The Null Hypothesis states that there is no significant difference between GTCL and PACL customer expectations on service quality. In **SIX** factors of Reliability, Responsiveness, Assurance, Empathy, Economy and Technical Quality, **the Null Hypothesis is rejected** meaning that the differences between GTCL and PACL customer expectations on service quality are significant. In the **THREE** Factors of Tangibles, Image and CRM, **the Null Hypothesis is accepted** meaning that the GTCL and PACL customers' expectations on service quality do not reveal significant differences. Overall, the Null Hypothesis is **Rejected**. Thus both GTCL and PACL customer expectations on service quality **differ significantly**.

HYPOTHESES 2

The Null Hypothesis states that there is no significant difference between GTCL and PACL customers on their perception of service quality delivered by the companies. In **SEVEN** factors of Reliability, Responsiveness, Assurance, Empathy, Technical Quality, Image and CRM, **the Null Hypothesis is rejected** meaning that the differences between GTCL and PACL customers on perceptions of service quality delivered by the companies are significant. In **TWO** Factors of Tangibles and Economy, **the Null Hypothesis is accepted** implying no significant differences. Overall, the Null Hypothesis is **Rejected**. Hence the **differences** on quality perception between GTCL and PACL customers **are significant**.

HYPOTHESES 3

The Null Hypothesis states that there is no significant difference between GTCL and PACL Managers on perceptions on the service quality standards required by the Companies. In **ALL** the factors, **the Null Hypothesis is**

accepted meaning that there is no significant difference between GTCL and PACL managers on the service quality standards required for the companies. Overall, the Null Hypothesis that there is **no significant difference** between GTCL and PACL managers on the quality standards required by both the companies is **Accepted**.

HYPOTHESES 4

The Null Hypothesis states that there is no significant difference between GTCL customers' expectations on service quality **expected** from the company and GTCL customers' perceptions on quality of the service **delivered** by the company. The Null Hypothesis is **rejected for ALL THE NINE** factors meaning thereby that there is a **significant difference** between the expectation of GTCL customers on quality expected and the perceptions of GTCL customers on the quality delivered by the company. Overall too, the Null Hypothesis is **Rejected**.

HYPOTHESES 5

The Null Hypothesis states that there is no significant difference between the expectations of PACL customers on quality of service to be **offered** by the company and the perceptions of PACL customers on the service quality **delivered** by the company. The Null Hypothesis is **Rejected** for **EIGHT** among the **NINE** Factors and Overall. In only **ONE** Factor, namely Image, the Null Hypothesis is **accepted**. This means that excepting the Image aspect in which PACL customers perceive the quality of service delivered by the company as equal to their expectation, in all other factors the PACL customers perceive the quality of service delivered by the company as **significantly different** from their expectation

HYPOTHESES 6

The Null Hypothesis states that there is no significant difference between the actual expectation of GTCL customers on service quality and the perception of GTCL managers on the service quality which customers expect from the company. In **SIX** factors namely Tangibles, Reliability, Responsiveness, Technical Quality, Image and CRM, **the Null Hypothesis is rejected** meaning that the differences on quality expectations between customers and managers are significant. In only **THREE** factors, namely Assurance, Empathy and Economy, the Null Hypothesis is **accepted** indicating no significant differences. Overall, the Null Hypothesis is **Rejected**. Hence there are **significant differences** between GTCL customers and GTCL managers on the service quality expected aspect.

HYPOTHESES 7

The Null Hypothesis states that there is no significant difference between the customer expectations of PACL customers on service quality and the perceptions of PACL managers on service quality expected by PACL customers. In **FOUR** factors namely Tangibles, Reliability, Technical Quality and CRM, the Null Hypothesis is **rejected** implying significant differences between the customer expectations of

PACL customers and the manger perceptions of PACL managers. In the other **FIVE** factors, the Null Hypothesis is **accepted** meaning that there is no significant difference between the PACL customers and PACL managers on quality expected aspect. Overall, the Null Hypothesis is **Accepted**. Thus the differences between PACL customers and PACL managers on quality expectations are **not significant**.

HYPOTHESES 8

The Null Hypothesis states that there is no significant difference between the quality standards expected by GTCL managers and the quality standards established by the company with regard to factors of service quality standards. The Null Hypothesis is **rejected** for **SIX** of the **SEVEN** factors, meaning that there is a significant difference in these six factors between the quality standards expected by GTCL managers and the quality standards established by the company. In only **ONE** factor, namely Technical Quality, the Null Hypothesis is **accepted** indicating no significance. Overall the Null Hypothesis is **Rejected** meaning that the differences between the quality standards expected from GTCL and the quality standards established by GTCL are **significant**.

HYPOTHESES 9

The Null Hypothesis states that that there is no significant difference between the quality standards expected by PACL managers and the quality standards established by the company. In **ALL** the **SEVEN** factors, the Null hypothesis is **Accepted** meaning no significant difference between expected quality and established quality of PACL. Overall, the Null Hypothesis is **Accepted**. Thus there is **no significant difference** between the quality standards expected by PACL managers and the quality standards established by the company.

HYPOTHESES 10

The Null Hypothesis states that there is no significant difference between the quality standards established by GTCL and the quality standards performed by the company. In **FIVE** of the **SEVEN** factors, the Null Hypothesis is **rejected** indicating a significant difference between the quality established and the quality performed of GTCL. In **TWO** factors, namely Tangibles and Assurance, the Null Hypothesis is accepted meaning **no significant difference**. Overall, the Null Hypothesis is **Rejected**. Thus there is a **significant difference** between the quality standards established by GTCL and the quality standards performed by the company.

HYPOTHESES 11

The Null Hypothesis states that there is no significant difference between the **quality** standards established by PACL and the quality standards performed by the company. In **ALL** the **SEVEN** factors and also overall, the Null Hypothesis is **Accepted**. Thus in total there is **no significant difference** between the quality standards established by PACL and the quality standards performed by the company.

HYPOTHESES 12

The Null Hypothesis states that there is no significant difference between the expectation of GTCL and PACL customers taken together and the perception of GTCL and PACL customers taken together regarding service quality delivery of the companies. In **all the NINE** factors and Overall, the Null Hypothesis is **Rejected**. Thus totally there is a **significant difference** in all factors between the customer expectations of GTCL and PACL customers and the customer perceptions of the GTCL and PACL customers regarding the service quality delivered by both the companies vis-a-vis their expectations.

HYPOTHESES 13

The Null Hypothesis states that there is no significant difference in the quality expectation of GTCL and PACL customers taken together and quality perceptions of GTCL and PACL managers taken together. The Null Hypothesis is **rejected** in **FOUR** of the **NINE** factors namely Tangibles, Reliability, Responsiveness and Technical Quality meaning that there is a significant difference in the above four factors between the quality expectations/perceptions of customers and managers of both the companies. In the **other FIVE** factors, the Null Hypothesis is **accepted** indicating no significant difference in quality expected/perceived between the combined customers and the combined managers of both the companies. Overall the Null Hypothesis is **Rejected** implying that differences between GTCL and PACL customers combined and GTCL and PACL managers combined are **significant**.

HYPOTHESES 14

The Null Hypothesis states that there is no significant difference between the quality standards expected by GTCL and PACL managers taken together and the quality standards established by both the companies taken together. The Null Hypothesis is **rejected** in **FOUR** of the **SEVEN** factors meaning that there is a significant difference between the quality standards expected and the quality standards established by both the companies in the four factors. These factors are Reliability, Responsiveness, Empathy and Image. In the other **THREE** factors, the Null Hypothesis is **accepted** indicating no significant difference. Overall, the Null Hypothesis is **Rejected** thus indicating that there is a **significant difference** between the quality standards expected by GTCL and PACL managers combined and the quality standards established by the companies combined.

HYPOTHESES 15

The Null Hypothesis states that there is no significant difference between the quality standards established by GTCL and PACL taken together and the quality standards performed by both the companies taken together. The Null Hypothesis is **rejected** in **THREE** of the **SEVEN** factors namely Responsiveness, Empathy and Image meaning that there is a significant difference between the quality standards established by both the companies and the quality standards performed by both the companies in the above factors.. In the other **FOUR** factors, the Null Hypothesis is **accepted**,

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indicating no significant difference. Overall, the Null Hypothesis is **Rejected** meaning that there is a **significant difference** between the quality standards established by both GTCL and PACL taken together and the quality standards performed by both the companies taken together.

HYPOTHESES 16

The Null Hypothesis states that there is no significant difference between the quality standards established by GTCL and the quality standards established by PACL. In only **TWO** factors, namely Technical Quality and Image, the Null hypothesis is **accepted** meaning that there is no significant difference between GTCL and PACL on the quality standards established. In the other **FIVE** factors and Overall, the Null Hypothesis is **Rejected** indicating that there is a **significant difference** between the quality standards established by GTCL and the quality standards established PACL.

HYPOTHESES 17

The Null Hypothesis states that there is no significant difference between GTCL and PACL on the quality standards performed. The Null Hypothesis is **Rejected** for **ALL** factors and also Overall. This means that there is a **significant difference** between GTCL and PACL on the aspect of performance of the quality standards which have been established by the respective companies.

SIGNIFICANT FINDINGS OF THE STUDY

Findings Related to GTCL and PACL Customers:

1. GTCL Customers **have** the Highest Expectation from the Company on the following:

- **Network speed, and Smooth Network Functioning**
- **No Frequent increases in call charges**
- **Feedback from customers and prompt solution of grievances**

GTCL Customers **do not** have High Expectations from the Company on the following:

- **Rewards and gifts for brand loyalty**

PACL Customers **have** the Highest Expectation from the Company on the following:

- **Location of customer care centres**
- **Leadership and innovative image of the company**
- **Good towers and infrastructure**

The differences in expectation between GTCL and PACL customers are significant.

2. GTCL customers perceive that the **company performance is below par and below expectations on all Factors and especially in:**

- **Providing interactive websites**
- **Getting customer opinion and feedback**
- **Customer relations**
- **Introducing product variety**
- **Smooth network functioning**
- **Accessibility of employees**
- **Educating and informing the customers on changes in rules etc**
- **Prompt solution of customer grievances**

PACL customers perceive that the **company performance is below par and below expectation on all Factors and especially in:**

- **Telecom infrastructure**
- **Location of customer care centres**
- **Offering of starter pack**
- **Flexible working hours**
- **Network coverage**

Hence there is a **Huge Gap** between customer perceptions and expectations, leading to **Negative Gap 5 values for both the companies**. However the PACL GAP is **less than half** of GTCL. Thus PACL customers also emphasise the same shortcomings but with **less intensity**. **Hence the differences in Gap Values between GTCL and PACL customer perceptions are significant.**

Customers of both companies are less dissatisfied with both the companies performance on call charges which they feel is not too high and discounts which they feel are genuine.

3. In the matter of fulfilling the promises made in their advertisements, both companies are rated poorly by the customers. However the magnitude of the Gap is five times greater for GTCL compared to PACL. Thus GTCL fares poorly compared to PACL in Gap 4.
4. 't' tests indicate that the difference between GTCL customers' expectation and perception are **significant overall** and for all factors. Thus the below poor performance of GTCL is significant from customer point of view. Similarly for PACL the Gap between expectation and perception is indicated as **significant overall** and for all factors **except the Image factor**. Thus PACL customers are **satisfied with the image of leadership and innovation** maintained by the company which is not too badly below expectations.
5. Taken together and compared, there is a **significant difference** between the expectation and the perception of customers of both companies on service quality. Thus the Gap value of GTCL is so much more than PACL for all factors of service quality that it is considered significant.

Findings related to GTCL and PACL Managers:

6. GTCL Managers' Perception score of Service Quality Expectation by GTCL customers is **far lower** than the actual expectation score of GTCL customers. Thus GTCL Managers **underestimate** the expectation of GTCL customer on all factors leading to a Negative Gap 1 value for **all factors and overall**. Further there is a **variation in**

the expectation ranking given by GTCL Customers and GTCL Managers. Thus GTCL Managers Rank Towers infrastructure, problem solving and call charges as important, whereas the GTCL Customers Rank Network speed, clarity and customer feedback and opinion gathering as important. The 't test' results show a **significant difference** between GTCL Managers and Customers on **Six** factors and also Overall, making **Gap 1 values significant**. However in the **three** factors of Assurance, Empathy and Economy the Gap 1 value of difference between GTCL customers and managers is **not significant**.

7. In the case of PACL also the Perception of PACL Managers with regard to Customer Expectation is **lower** than the Actual Expectation Score of Customer Overall leading to a High Negative Gap1 value overall and a Negative Gap1 value for **SIX** factors. However in factors CRM, Assurance and Empathy there is Positive Gap1 value, indicating that the managers' expectation score is higher than customer expectations. Thus managers have **over estimated** the customer expectation by giving more importance to Customer loyalty, rewards and gifts, behaviour and competence of the employees and the need to develop product variety. The 't test' results show that the Gap1 values are **not significant** for almost all factors. Thus the difference between PACL Managers and PACL Customers are **not as severe** as in the case of GTCL and is insignificant overall.
8. In the aspect of GTCL Managers' vs PACL Managers' expectations in which customers scores are ignored and purely managers scores are taken up is it is found through 't test' that there is **no significant difference** in all factors and overall. Thus while there are some differences between GTCL and PACL Managers, these differences are insignificant. There is thus, a corroboration between the views of GTCL and PACL Managers with regard to factors of customers' expectation of service quality.
9. When the Expectations of GTCL and PACL Customers are combined and 't tested' with the Perceptions of GTCL and PACL Managers combined it was found that there was no significant difference in the factors Assurance, Empathy, Economy, Image and CRM. However there was a **significant difference overall** and in the factors of Tangibles, Reliability, Responsiveness and Technical Quality. When we consider the findings of the **earlier** 't test' wherein there is no significant difference between GTCL and PACL Managers and the **present** one where overall, for both the companies, **the managers' combined views are significantly different from views of customers** of both the **companies**, than the significant difference may be attributed to the large differences between the views of customers of both companies.
10. Gap 2 or the Gap between the Quality Standards Established and the Quality Standards Required/Expected is **negative** for **all** quality factors of GTCL and also **overall**. Thus the **Quality standards established by GTCL is far less than Quality standards required by the company/** expected by company management. While

the Gap value is high for Reliability, Tangibles, Assurance, Empathy and Responsiveness factors it is low for Image, and Technical Quality factors. This means the Company has been somewhat successful in establishing quality standards in innovation, technology, network coverage, technical skills and specialization, and competence of employees. But **Big Gaps** in other factors indicate **failure of the company to establish quality standards** in tower infrastructure, fulfilment of promises made to customers, employee accessibility, employee behaviour, providing information about changes in company policies to Customers, and obtaining periodic feedback from customers and operation of customer care centres. 't tests' indicate that the **negative Gap2 values** are **significant** for **all** factors except Technical Quality for GTCL and also **significant** overall.

11. The Overall Gap 2 value for PACL is **also negative** implying **failure of the Company to establish Quality standards required by the Company** and upto Management expectations. Gap2 value is also negative for all factors excepting Tangibles in which the value is positive. Thus PACL has succeeded to some extent in establishing Quality standards for towers and infrastructure. Still, PACL has failed to establish the required quality standards in the areas of network connectivity, technical skills and specialization of employees, employee accessibility to customers, location and operation of customer care centres and other factors. However the Gap 2 value of PACL **negligible** in some of the above factors and is around 1/4th of Gap 2 value of GTCL. 't tests' indicate that all **Gap 2 values** including overall value is **not significant**. Thus it can be said that though Gap2 values of PACL **are negative they are not significant** and **PACL is fairly successful** in establishment of quality standards.
12. The 't test' done on GTCL and PACL Quality Standards **required** taken together versus GTCL and PACL Quality Standards **established** together, only confirmed the findings given in 10. and 11. It was found that significant difference existed in Reliability, Responsiveness, Empathy, and the Overall difference was found to **be significant**. However differences were not significant in Tangibles, Assurance and Technical Quality factors.
13. When the Gap 3 values which denote the difference between Quality Standards Established by the companies' versus the Quality Standards Performed by the companies' are analysed, it is found that with regard to **GTCL** there existed a **Negative Gap 3** value in all factors and overall. Thus GTCL has failed to comply with all the quality standards established and **performed below par**. Especially in case of Responsiveness, Reliability and Empathy there were Big Gaps. Even in network connectivity GTCL could not comply with established quality norms. In case of PACL, there is a **Positive Gap3 value** in the factors of Assurance, Responsiveness, Technical Quality and Image. Thus **PACL's performance has exceeded** the established Quality Standards in the above factors. But in all other factors and

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overall PACL exhibited a **Negative Gap 3** value. Thus while PACL has not succeeded in establishing the required quality standards, it has somewhat succeeded in implementation of whatever quality standards which have been established. The Gap 3 value is largest for Tangibles or Tower Infrastructure. However, the Gap 3 value of GTCL is more than twenty times that of PACL. 't' tests indicate that while the overall **negative Gap 3 value of GTCL is significant**, the overall **negative Gap3 value of PACL is not significant**.

14. When the Quality Standards **Established** by both GTCL and PACL taken together was tested against the Quality standards **Performed** by both companies taken together, it was found that there was **significant difference** overall and in factors of Responsiveness, Empathy and Image. This means both the companies have failed in implementation of the quality standards, especially GTCL in the areas of employee accessibility to customers, providing information about changes in rules and regulations to customers and obtaining their feedback where the lacunae is severe. PACL has failed to implement the standards in location and timing of its recharge/customer care centres and providing services for niche markets.

OVERALL COMPARISON OF GTCL VS PACL:

15. **Overall** though **both** companies exhibit **Negative Gap values** for all the Gaps namely GAP1 to GAP 5 indicating service quality shortcomings. But the **Gap Values in GTCL are much larger than PACL**. The Gap values in GTCL range from a minimum of two times to a maximum of twenty times the Gap value of PACL. Further **PACL exhibits a positive value in many of the service quality factors** though not in all factors. Thus while the overall GAP value maybe negative in the case of PACL, it contains positive values in many of the service quality factors which are however less than the negative values of the other factors so that the overall Gap value is negative. Further in some of the Gaps of PACL, the overall negative Gap value is very small and negligible. Further in some cases, **especially related to quality standards and manager perceptions the negative Gap values of PACL are not significant**. Hence in those cases where Gap values of PACL are insignificant, such as those relating to management perceptions, quality standards establishment and performance, it can be maintained that **quality shortcomings are not severe**. Hence it can be said that PACL has been fairly successful in anticipating customer expectations on service quality, establishing quality standards vis-à-vis requirements and performance of quality standards which have been established. Though admittedly it has not been able to meet the expectations in some of the service quality factors, overall these failures are insignificant. But PACL has totally failed with respect to GAP 5 – The Gap between customer expectations and perceptions. Here except in the case of the image factor, PACL has exhibited large negative Gaps in all other factors, **which are also significant**. Hence PACL has failed severely to match customer expectations on quality. PACL has also failed severely to keep up with promises made to customers in its advertisements. In the case of GTCL positive values are not found for any service quality factor. This indicates that in **every service quality aspect, the company exhibits quality shortcomings**. Further in almost all service quality Gaps, **the Negative Gap values are significant**. Thus GACL has failed to anticipate customer expectations on service quality accurately and it has failed to establish quality standards upto company requirements. Further, the company has not been able to implement the quality standards already established. GTCL also exhibits **severe shortcomings** in matching customer expectations on service quality with matching service delivery. GTCL also exhibits severe shortcomings in keeping up with promises made to the customers in its advertisements. The shortcomings of the company are severe and significant especially when they are matched with PACL.
16. The shortcomings of GTCL could partially be attributed to the following factors:
 - TCL has more customers who are well placed in the organized sector and thus have higher quality expectations compared to PACL customers who are mostly in the unorganized sector.
 - TCL is more constrained by various governmental rules and regulations governing the telecom sector which hampers its functioning, especially in matters such as pricing, introduction of product variety, recruitment of experts, getting customer opinion and providing information to customers etc.
 - Further being a government entity, the establishment of standards may be more rigorous leading to difficulties in implementation and performance.
17. **Overall GTCL'S strengths** are in the areas of **Good tower infrastructure** and maintenance and maintaining quality standards in infrastructure. The other strengths include **a vast labour pool** of experienced, knowledgeable and competent employees. GTCL has a **vast network connectivity** covering every nook and corner of the country. Quick restart in case of network breakdown, reasonable call charges, **genuine discounts** and no frequent increases in call charges are other strengths of the company. The fact that GTCL Managers too emphasise the above factors leads to more strengths for the company in the above factors. However **GTCL'S Weaknesses** are clear in the areas of Responsiveness including accessibility in emergency situations, **gathering customer opinion and feedback**, and prompt information to customers on changes in rules and regulations. The other weaknesses are in employee accessibility and behaviour, giving individual attention

to customers, **introduction of product variety, network speed, clarity** and in CRM factors such as providing interactive websites, personalised grievance handling service, and rewards and gifts for customer brand loyalty. **PACL'S strengths** are in areas of a **sound image of leadership, innovation**, forward orientation and **reasonable call charges** without frequent increases. The other strengths include the importance given by management to employee behaviour and **variety of product offerings**. PACL Managers give more importance to CRM which is a sign of strength. However **in tower infrastructure, PACL'S weakness** arises due to non performance of quality standards. Further PACL'S weakness are in the areas of not offering a good starter pack, **not able to locate of customer care centres in widespread manner in all areas** and not maintaining service buildings with service staff for trouble shooting.

CONCLUSION

The paper reports the result of a pioneering study in which a comprehensive service quality comparison based on Servqual technique and Gap Model was done on a Public sector firm and a Private sector firm in Chennai city. The respondents included customers as well as managers/executives of both the companies. The study highlights various service quality shortcoming in both companies in specific service quality factors and also the significance aspect of the shortcomings. It is hoped that the decision makers in both companies and the government chalk out appropriate strategies and plans to overcome the shortcomings.



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