ABSTRACT

1. **Introduction**

In ancient times the most common methods of the long distance communication were fires, smoke, drum beats and even with birds. Continuous efforts are taken to explore better communication methods and improved media.

In India till 1850, the most common way for the long distant communication was postal communication, and it was followed by communication with telegraph. The telephone was invented in 1976, which was used as a media for voice communication at long distances.

In India the telecom network was restricted to metro cities and the tariff was too costly, hence telephone was considered as luxury and not necessity. The telecom was entirely under Govt. ownership and enjoyed monopoly.

In the year 1992 the telecom market was made open to the private operators by the Indian Govt. and subsequently in the year 2012; Foreign Direct Investment (FDI) was raised from 49% to 74%. Due to liberalized entry in the market for new entrants, and privatization, policies of the government many foreign companies invested in the Indian telecom market.

This led to competitive market. The increased competition in the telecom benefited the customers in many ways such as lower tariff rates, more service options and service providers. Along with the competition there were technological advancements and innovations in the telecom sector, mobiles were introduced in the market.

The needs of the customers did not limit to voice communication but went beyond to data transfer and sharing of data. The slow speed internet was introduced the market on wire line called as 'Dial up internet', followed by slow speed internet on the mobiles, to fulfill this need.

The needs and demands of the customers for sharing the data increased; to match with these needs the high speed broadband was introduced. The broadband was provided on two types of the technologies as on wire line and wireless.

There are few operators in the wire line broadband, of which the state owned BSNL and MTNL are leaders in the wire line with wire line customer base of 60.74% and

9.06%, (TRAI Report 2013). Next ten plus BSP's that are providing services on wire line have low customer base.

Most of the private operators are providing broadband services on the wireless technology. The leaders are Airtel, Vodafone, Reliance followed by BSNL, Tata.

As the broadband is used for various applications by the individuals, business organizations, companies for data transfer, data sharing, on line transactions, on line banking, on line payments, business, games, entertainments etc. in their day to day life, broadband has became the need of the individuals and dependence on the broadband is increasing day by day.

With the growing importance of knowledge, information technology and services in today's globalized economies across the world, broadband penetration becomes a mandatory infrastructure condition that aids economic growth.

Broadband is considered as a key to enhance competitiveness of an economy and sustaining economic growth (OECD-Economic Co-Operation and Development). Many Governments around the world are increasingly committed to extending broadband networks to their citizens as it is an emerging technology which will give maximum business to the service companies in coming future.

Finland has become the first country in the world to make broadband as a 'Fundamental Right' for all its citizens. According to Alain Dutheil, CEO of ST-Ericsson, Broadband becoming a 'basic human need' and it is an 'economic stimulant', as every 10% rise in broadband increases GDP by about 1.2%. In addition to it, Randell Lane [1] (2011) and Ericsson AB [2] (2013) in their report stated that United Nations Commission declared broadband as a 'Basic Human Right' of every individual due to its importance and need to the citizens.

Broadband has the power to transform business, not just through faster downloads of e-mails and attachments, but also by enabling companies to be more productive and competitive by using e-enabled applications. In India, broadband has already generated nearly 9 million direct and indirect jobs.

Indian broadband market holds immense potential to expand in terms of both number of subscribers and revenue. With present broadband penetration of about 6.5 % June in 2013 (TRAI Report 2012-13); there is tremendous scope for development of broadband market in India.

Broadband opens up a wide range of opportunities in number of businesses, which contributes to the socio-economic growth of the every individual. Telecom Regulatory Authority of India (TRAI) is targeting a 10-fold increase in broadband subscribers to 100 million by the end of 2014. The country has 21.6 million subscribers in June 2013. With these future expectations of the broadband in coming years BSP's have good opportunity to invest in the broadband infrastructure in Indian market.

National Telecom Policy (NTP) - 2012 defined the strategy by Indian Govt. to connect every small Indian village by optical fibre by 2014. Moreover, with the launch of 4G and Broadband Wireless Access (LTE- BWA) services, the country is expected to witness rapid surge in the broadband subscribers. Further, launch of advanced telecom services, such as Wi-Max, GPON, GEPON and IPTV will also drive growth in the Indian telecom subscriber base in coming years.

Hence all Broadband Service Providers have focus on the internet broadband either on the wire line or wireless technology, but more focused on wireless broadband. BSPs are trying to strengthen the existing wireless network through tower sharing, infrastructure sharing and media sharing such as Microwave/Satellite/Optical fibre with other service operators.

Due to 4I's of the services, it is a challenge to BSP's to market the broadband services efficiently and to satisfy the demands of the customers which are changing continuously with the time and technology. In present competitive market BSP's are investing in infrastructure to widen and improve existing network and broadband service quality to provide broadband services to satisfy needs and demands of the broadband customers.

Here the researcher finds scope for this study; whether the present BSP's irrespective of the technology (wire line or wireless), providing services to the respective broadband customers as per the needs and expectations and whether there is gap between the broadband services expected by the customers and the services delivered by the Broadband Service Providers.

2. **Significance Of The Study**

The present study is focused on understanding needs, wants and expectations of the broadband customers and their satisfaction with respect to broadband services. The

needs related to broadband are changing continuously due to growth in the field of IT, networking, communication, computerization and computer literacy. Today organizations are widely using e-commerce platform for the transactions. Intranet is required to work online for data transfer and data sharing among businesses to business, businesses to customers and between customers to customer.

It is expected that this study will help BSPs to improve the quality of the broadband services to match with the expectations of customers based on the service gaps observed in this study. Improvement in quality of the services, proficiency of employees results in profit maximization and customer satisfaction. The study will also help professionals, researchers for further research in this area.

3. <u>Research Methodology</u>

3.1. Statement Of The Problem

In the light of the above it was interesting for the researcher to understand the customer needs, expectations related to the broadband services provided by the service providers. After getting the insights in to the telecom sector, the economic policies and the growth of broadband users, the researcher has formulated following statement which best describes the statement of problem of the present study, "To analyze customer satisfaction related to broadband services in Pune city" based on needs wants and expectations of the customers related to broadband against the services delivered by BSP's.

3.2. Objectives Of The Study

Researcher was completely aware that for any study to be effective, it must have well defined objectives framed else it would be like a football field without goal posts. Based on the insights the researcher got about importance of customer needs which when satisfied with the value for money preposition, leads to customer satisfaction, customer loyalty and ultimately customer delight. Researcher was interested in analysing the gap between services expected by the customers and the services delivered by the BSP's. Therefore following objectives for the study were formulated.

    1. To study the various customer needs and expectations with respect to broadband services in Pune city.

2. To identify the gaps between the expectations of customers and service delivered related to broadband services in Pune city.

3. To analyze the customers' satisfaction, when utilizing the services provided by the service providers.

4. To examine the differences in the broadband services provided by Internet Service Providers on wire line and wireless technology.

3.3. Hypotheses

The researcher formulated following hypotheses related to study:

1. The Broadband service providers provide services as demanded by the customers.

2. 'Communication Gap' rather than 'Processes Gap' has stronger correlation with 'Overall quality Gap of broadband'.

3. Customer satisfaction of broadband users varies with the services provided through wire line and through wireless.

3.4. Methodology

3.4.1. Research Design

- The purpose of this study is to find out what were the various needs, wants and expectations of broadband customers with respect to broadband services in continuously and fast changing technology and whether the services delivered by the respective Broadband Services Providers matching with the expectations of the customers.

- Study also focused on evaluation of performance of the staff of the respective Broadband Service Providers from the customers' point of view who were involved in delivery of the broadband services. Thus this study intends to find out various service gaps between the customers' expectations about the broadband services and the actual services delivered by the broadband service providers as perceived by the customers.

- In order to arrive at concrete findings for the objectives stated above, research design which would be appropriate for the given type of the study was of 'descriptive research design', as the variables (broadband parameters) for this study

were well defined and it was possible to measure with the help of suitable scale. Further these would be used to find out the differences in the broadband services expected by the customers and actual services delivered by the Broadband Service Providers.

- Descriptive study is further categorized into survey, causal and relational study. As this study was based on the opinions, attitude and beliefs of the broadband users about the services and survey has specific advantages in such type of studies which are related to customer beliefs and expectations, researcher thought 'survey method' to be the most appropriate for this study collect the responses (data related to study in questionnaire form) from respondents.

3.4.2. Survey Method

- Survey method is the most popular method of gathering data from target participants in marketing research. In present study the researcher was interested in finding customer needs, their wants, and expectations which are intangible and could not be observed as they resided in the minds of the respondents. Researcher choose 'Survey method' along with questionnaire, as the population of the study was large and the data for the study could not be easily observed. The study demanded gathering of opinions, attitudes, beliefs and feeling of the respondent.

3.4.3. Pilot survey

- The objectives of the researcher in conducting pilot survey was to test whether the questionnaire 'Draft-1', designed was able to capture the required information as expected by the researcher to meet the objectives and hypothesis formulated. Pilot survey was conducted mainly to find out whether the questionnaire was understandable as well as whether there were any vague and confusing questions in the pilot questionnaire 'Draft-1'.

- The 'Draft-1' was pre tested by carrying out survey in the field with responses from broadband users. For pilot survey, total '150' questionnaire were distributed and of which 100 questionnaires of broadband users, were completed in all were used for for data analysis.

- The pilot study assisted researcher in :

- o Valuable suggestions from the broadband users related to broadband services.

  - o To design the final questionnaire.

- Based on the results of data analysis of pilot survey, Questionnaire 'Draft-1' was revised by understanding the appropriateness of questions where ever necessary with consultation with the Guide to arrive at 'Final Questionnaire'.

3.4.4. Tools for Data Collection

A. Primary data

- Primary data is often called first hand data that is collected by the researcher for the first time and is originated by researcher keeping in view the objectives of the study. Primary data collection requires the development and execution of the research plan. Accordingly the execution plan for this study was prepared, and decided to collect the primary data within time span. In this study primary data was collected through 'structured questionnaire' to elicit responses from the broadband customers about their preferences and expectations with regard to various aspects of broadband services.

- Researcher used structured 'Questionnaire' which focused on the objectives of the study, as an instrument to collect required primary data from broadband users.

- The purpose of the questionnaire was to have insight into customers' satisfaction with respect to broadband services provided by various Broadband Service Providers to find out the gaps between the services expected and the actual services delivered by the Broadband Service Providers.

- The final questionnaire consisted of three sections.

  Section I:

  It consists of total seven questions mainly related to the demographics of the respondents.

  Section II:

  It was related to processes involved in delivery of the broadband services and the behaviour and co-operation of the staff (people) involved in delivery of the broadband services. This section had 20 closed ended questions.

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<u>Section III:</u>

This section of the questionnaire consisted of 13 questions, representing 13 parameters identified by the researcher to constitute the quality gap measurement. Each question was divided in two columns for rating purpose. The respondents were requested to rate each parameter on a ten point scale, 'expected service quality' in 1st column and 'actual services delivery' in the second column separately.

Out of the total '1200' questionnaires distributed to the broadband users, researcher was able to collect '1020' completed in all aspects and selected for final data analysis, which amounts to 85% response rate.

B. The secondary data

- The researcher has gone through pool of secondary data available and reviewed number of thesis, journals & reports published at international and national level till date which was related to customer behaviour, customer expectations, services delivery, customer satisfaction, customer loyalty and customer retention from various service areas. Due care was taken to ensure that the data collected was reliable and authentic. The literature from other sectors of services like Banking, Automobile, Library, Insurance, Hospitality, Hotel, Telecom, Mobile, Internet, was also reviewed to have a greater understanding of intricacies involved in study of services marketing.

3.4.5. Sampling Technique

- Efforts were made to have verified, quantified and updated data, because of constraints raised by broadband operators, complete listing of the subscribers' data base (name, address, telephone numbers, e-mail ids) could not be had and as such sampling frame could not be put in place, which compelled the researcher to use 'non probability convenience sampling'. The total number of broadband subscribers in Pune city was estimated to be around four lakh. The sampling unit defined for this study was individual broadband users using wire line and or wireless broadband, for at least one year.

3.4.6. Defining Universe

The universe for the study was defined as individual broadband user, who has been using the broadband for at least one year and residing in Pune city.

3.4.7. Sample Size

- Final sample size of '1020' broadband users chosen irrespective of the broadband service providers and type of the broadband (wireless or wire line) to arrive at the findings of the study from different regions of Pune city. The sample of '1020' was thought to be sufficient for this type of study which had total population of estimated 4 lakh (Broadband users) to arrive at conclusive findings that could be generalised. (Krejcie V. Robert and Morgan Daryle [3], 1970)

4. Data Analysis and Hypothesis Validation

4.1. Data analysis:

- The data collected from '1020' respondents, recorded in excel sheet after coding checked for the correctness to avoid the errors in the data analysis. SPSS V.16 for Windows package was used to analyze the data for this study. The data was represented graphically and in tabular form wherever appropriate. Results of the statistical analysis were used to further triangulate findings and conclusions.

4.2. Testing of Hypotheses

The appropriate statistical quantitative data analysis tools were used for data analysis. The statistical tests to validate the hypothesis were identified based on the measurement of the variables.

A. **Hypothesis I**: **'The Broadband service providers provide services as demanded by the customers'.**

- Tests used: 'Paired Samples t-test'.

- H0= There is no difference in the 'mean score of expected services' and the 'mean score of actual services delivered' by BSP's.

    i.e. u1 = u2.

- H1: There is significant difference between the 'mean score of expected services' and the 'mean score of actual services delivered' by BSP's.

    i.e. u1 Not = u2.

- Since 't'=14.697, 'df'=1019 and 'p' value = 0.0001 which is less than 0.05.

- Hence, 'H0' Null Hypothesis rejected and Alternate Hypothesis, 'H1' is accepted.

B. **Hypothesis II: 'Communication Gap' rather than 'Processes Gap' has stronger correlation with 'Overall quality Gap of broadband'.**

- Tests used: Karl Pearson's correlation coefficient.

- H0= Karl Pearson's correlation coefficient 'r' between 'Overall quality Gap of broadband & Broadband Communication Gap' (r2) and 'Overall quality Gap of broadband & Broadband Processes gap' (r1) is same.

    i.e. r1 = r2.
- H1= 'r1' is not equal to 'r2'.

    i.e. r1 not = r2
- 'r2' = 0.874 and 'r1' = 0.786; shows 'r2' is not equal to 'r1'.
- 'H0' Null hypothesis rejected and Alternate Hypothesis, 'H1' accepted.

C. **Hypothesis III: 'Customer satisfaction of broadband users varies with the services provided through wire line and through wirelesses.**

- Tests used: 'Paired Samples t-test'.

- H0= The 'mean score of satisfaction of services provided by BSP's through wire line' is same as the 'mean score of satisfaction of services provided by BSP's through wireless'.

- H1= There is variation in the 'mean score of satisfaction of services' provided by BSP's through 'wire line' and 'wireless'.

- Since 't'=16.696, 'df'=1019, and 'p' value = 0.001 (Wireless broadband)
    't'= 4.052; 'df' =1019; and 'p' value = 0.001, (Wire line broadband);
        In both cases 'p' values less than 0.05.
- Hence, 'H0' Null Hypothesis rejected and Alternate Hypothesis, 'H1' accepted.

    Thus all the three hypotheses were tested and validated.

5. **Findings of the study**

    The key findings of the study are:

1. The percentage of Wireless broad band subscribers and wire line broad band customers was found to be 59% and 41% respectively.

2. There were total 10 BSP's in Pune city. Out of which five major BSP's and their overall customer base share is: BSNL (31.7%), TATA (15.5%), Airtel (14.5), Reliance (13.5%), and Vodafone (8.8%).

3. The leader in wireless broadband and their wireless customer base was: Reliance (19.9%), Tata (17.41%), Airtel (16.08%) and Vodafone (14.75%) whereas the leaders in wire line broadband were: BSNL (56.59%), Tata (12.7%) and Airtel (12.23%).

4. 37.3% of the customers who subscribed to wireless services, responded that they wanted to subscribe to wire line broadband services but could not do so due to non-availability of wired network and even if the wired network was available it was not satisfactory.

5. Broadband activations in case of the wireless broadband are quicker than wire line activations (< 2days: 51.9% Vs 28.7%); conversely more wireless customers were affected due to frequent faults as compared with wire line customers. (69.33% Vs 30.67%). It indicates even though the wireless broadband activations are quicker, frequency of the faults is the major cause behind dissatisfaction of wireless customers.

6. Overall services delivery and service performance in case of wireless services is much below than that expected by customers. As a result of it more customers from wire line category were satisfied with the broadband services provided by their respective BSP's as compared to wireless customers (91.6% Vs 84.1%).

7. Percentage of the customers from wireless category who were positively switching over to another BSP's and also percentage of customers who were planning to switchover is more in case of wireless if compared to wire line. (18.6% Vs 9.4% & 38.6% Vs 24.5%).

8. It is revealed that customers do not look for the range of the services offered (37.5%) but it is the 'Quick response to requests' (52.8%) and 'Quick after sales services & feedback' (57.7%) while choosing a particular BSP.

9. The respondents have opined that; BSP's should make available technical staff as per the convenience and timing of the broadband users, as many of the broadband users are busy with their own schedule during office hours and cannot take time out of their office schedule.

10. The researcher thought that what would be the customers' reaction when customer is deprived of his needs related to broadband services. Their responses in finding alternatives to satisfy their needs would be a major finding from the BSP's point of view. The broadband service could be of at most important if the customers did not 'let go' consuming the service. 44.6% of the customers responded that they would miss their routine and 31.6% responded that would feel lost, and may visit net café for internet activity. (46.8%)

11. The classification of 'broadband need' by the customers is: Online office related work (45.3%), Online information search (53.9%), Academic purpose (29.9%), Online business activities (29.8%) and Entertainment purpose (42.5%).

12. The salaried class was found to be using broadband for office related work. 38.7% of them belong to the income group '20K to 40K'as average monthly income.

13. 59.6% of Broadband customers expected higher security in password. But 77.2% did not want the facility to change the password as and when required by them.

14. As seen above, it may be interesting to note customers were not so much concerned towards password security and could be a reason that customers from Pune are not using internet as a mode of financial transactions. Only 31.1% using it for banking transactions & 20.8% for on line bill payments.

15. BSP's are delivering broadband services somewhat close to the expectations of customers in case of 'Initial activations of the broadband; and in case of 'Registering the complaints' the mean values are 0.616 and 0.901. Whereas services gap is bigger in case of 'Co-ordination between customer care and technical staff' and 'Download speed when in sharing with more than one computer' the mean values are 1.006 and 1.045.

16. Although wireless broadband has the convenience of using it all over only 35.39 % of the total respondents preferred wireless broadband. (33.17%) respondents from 'salaried' class and 'students' class (11.7%) preferred wireless broadband to use it all over. The no. of respondents from 'home maker' and 'self employed' classes had least no. of broadband customers (2.9% and 4.98%), who preferred wireless broadband to use it all over.

17. Based on overall performance and quality of service, customers of BSNL (17%) and Tata (13.3%) followed by Airtel (8.8%) were highly satisfied or satisfied. Whereas

Reliance (24.7%) had highest percentage of not satisfied and highly dissatisfied customers among the BSP's.

18. As consequences of this amongst the five major BSPs, of all the subscribers of the Reliance and Vodafone, 60% of them were switching to another BSP. Whereas BSNL and Tata have the least number of the customers who were planning to shift (32.2% and 42.4% respectively) to another service provider.

19. From the total customers (335) who were planning to switch, 36.42% (122) were from income group '20K to 40K and 28.66% (96) from 'more than 40K'. There were comparatively less number of customers switching over (9.93%) and planning to switch (8.66%) from lower income category 'less than 10K'.

20. Modem/USB dongle if supplied by BSP's were of good quality and most of the broadband customers were satisfied with their performance. (Wireless 97% and Wire line 86.6%).

21. The percentage of the frequent faults is more (69.33%) with wireless broadband services as '418' out of '603' customers came across frequent faults. Whereas this percentage was 52.52% (219 out of 417) in case of wire line services.

22. Out of 417 wire line customers, 91.6% (382) wire line customers were satisfied or highly satisfied, whereas out of 603 wireless customers only 84.1% (507) were satisfied or highly satisfied. The percentage of the customers who were not satisfied was more from wireless as compared to wire line services.

23. As a result of above findings 21 and 22, the percentage of the customers who were switching and planning to shift to another BSP was more from wireless category if compared to customers from wire line. (57.2% Vs 33.8%)

24. Irrespective of the type of the broadband (Wire line, wireless) the gaps were found to have positive sign in each case (E-A= positive), indicating that the BSP's were not providing services up to the expectations of the customers; and the services delivered were below the expectations.

5.1.   Gap Model of the study:

As stated earlier the researcher was interested to find out the gaps in broadband services by evaluating 'customer expectations' against the 'delivery of the services' by BSP's.

Customer satisfaction in case of broadband services can be measured based on the service quality model 'SERVQUAL' by Parasuraman, Zeithaml & Berry [4] (1985, 1988) as this model is used by many other researchers to measure service quality and customer satisfaction in various service industries. The various gaps observed were compared with the corresponding gaps of the SERVQUAL model to find out the gaps in the broadband services.

Table 01; shows the SERVQUAL model and the corresponding Broadband service Gaps.

Table 1

Gap as defined by SERVQUAL Gap		Broadband Service Gaps identified by researcher		Sr.	Broadband Service Parameters designed by the researcher
Gap 1	Consumer expectations-management perception Gap	BB Gap 1	Not in the scope of this study.	-	Not in the scope of this study
Gap 2	Service quality specification Gap	BB Gap 2	Broadband Processes Gap	1	Initial broadband activation.
				2	Fault booking process.
				3	Ease of access to Customer Care Centre.
				4	Process of resolution of usage/billing related complaints.
Gap 3	Service delivery Gap	BB Gap 3	Broadband Service Performance Gap	1	Expected broadband speed as per plan and actual speed delivered.
				2	Download speed when in sharing with more than one computer.
				3	Technical support from Service Provider.
				4	Overall assistance from the service provider.
Gap 4	External Communication Gap	BB Gap 4	BSP's Communication Gap	1	Consistency in the promised upload & download speed.
				2	Response given by the Customer Care Executive
				3	Transparency in billing.
				4	Co-ordination between customer care and technical staff.
Gap 5	Service Quality Gap	BB Gap 5	Customer Satisfaction Gap	1	Overall quality of broadband.

It is observed from the findings of the study that there exist gaps in the broadband services provided. The overall broadband services delivered by the BSP's are below the expectations of the broadband customers. To know which specific broadband service areas of which BSP's fall short of services expected by the customers and where the BSP's have to focus more to minimize the gaps to meet the customer needs, wants and expectations. Researcher revisited the PZB gap model and tried to align the model w.r.t. this study.

To know the expectations of broadband customers towards broadband; as like RATER dimensions, researcher identified total 13 parameters' of the broadband services (As per Table 1).

The corresponding gaps of the model are:

1. BB Gap 1: The corresponding 'Gap 1' from SERVQUAL model is not within the scope of the study as this study focuses on the understanding customer needs and expectations therefore survey of the customers was carried out and data from BSP's was not collected as it was thought be out of scope of this study.

2. BB Gap 2: Gap between the Customers' expectations and Processes involved in delivery of broadband services. (Broadband Processes Gap)

3. BB Gap 3: Gap between the Customers' expectations and the Performance of the BSP staff involved in the delivery of broadband services. (Broadband Performance Gap)

4. BB Gap 4: Gap between the customers' expectations and BSP's communication to customers. (BSP's Communication Gap)

5. BB Gap 5: Gap between the customers' expectations and the services delivery by BSP's. (Customer Satisfaction Gap).

A. Gap Analysis:

Table 2

Table showing Broadband services gaps and respective mean

Broadband Service Gaps corresponding to SERVQUAL Gaps	Mean of Gap
BB Gap 2	3.245
BB Gap 3	2.790
BB Gap 4	4.747

The values of the mean for corresponding gaps from table 02 show that there are significant differences in the services expected by the customers and the services delivered by the BSP's.

1. **BB Gap 2: Broadband Processes Gap.**

The mean value of 'BB Gap 2' was found to be 3.245, least amongst three gaps. It is the 'Broadband Processes Gap'; the gap created due to mismatch between processes involved in delivering broadband services against expectations of the customers. BSP's have focus on the broadband parameters (Sr. no. 1to4, shown against BB Gap 2; table 01) which are part of this gap and evaluate the reasons behind the gap, and accordingly plan for the processes improvements. BSP's have to standardize the processes involved in the delivery of the broadband services and manage the resources effectively to reduce this gap.

2. **BB Gap 3: Broadband Service Performance Gap.**

Table above 02 shows that the mean value for this gap is 2.7902, higher than 'BB Gap 2' but lower than 'BB Gap 4'. It is the Broadband Service Performance Gap, gap between services performances of the employees (people) involved in delivery of the broadband services against the expectations of the customers. BSP's have to focus on this gap and corresponding broadband parameters (sr no. 1 to 4 shown against BB Gap 3; table 01) and try to improve the performance delivered in case of each broadband service parameter to minimize the gap and to match with expectations.

Services are intangible and heterogeneous and cannot be separated; vary from person to person at all times at all levels of broadband service provisioning. BSP's should standardize the services delivery by the staff with behavioural training and performance analysis time to time. BSP's should evaluate the performance regularly on the basis standard techniques and feedback from customers to see how efficiently and effectively they are delivering broadband services, supporting & co-operating to customers at all service levels.

3. **BB Gap 4: BSP's Communication Gap:**

This gap is largest from all the three gaps identified by the researcher w.r.t broadband services in this study having highest mean value of 4.7471 if compared with other two gaps, where the BSP's delivering broadband services much below the

expectations of customers shows BSP's falls short while communicating with customers. BSP's have to plan strategies to reduce it by improvements in the broadband service areas (Sr. No.1to4, shown against BB Gap 4; from table 01) which forms this 'BB Gap 4'. Particularly by avoiding overpromising while communicating to customers and delivering as promised. Also by maintaining transparency in the billing which will build trust and long term association (Customer Loyalty). Discrepancy in bill should be avoided but if brought to the notice must be dealt with courtesy and the customer may be rewarded for the errors and omissions pointed out.

4. **BB Gap 5: Customer Satisfaction Gap.**

'BB Gap 5' is the overall gap of above three gaps. It had mean of 3.594. It shows there also exists overall service gap between the services expected and the actual services delivered by the BSP's. The services delivered by all the BSP's irrespective of (wire line and wireless) are below the expectations of the broadband customers. Mainly BSP's have to plan the strategies to reduce all gaps but particularly should have more focus on 'BB Gap 4' and 'BB Gap 3', as these are bigger gaps in broadband services observed in this study.

With these observations and findings, it is a challenge to BSP's to meet the needs and expectations of the broadband customers as these are changing continuously with time and technology. At every moment BSP's have to match service delivery with expectations of customers, for that BSP's has to undergo customer feedback and performance evaluation periodically to enhance 'overall quality of broadband'. As observed in this study 3P's of the services marketing plays important role on delivery of broadband services. Especially BSP's have to focus on improvement in performance of People, Processes, Services cape. Also plan for better Physical evidences along with better 'network coverage' and 'network quality and reliability' of the broadband services. It will help BSP's to improve overall services quality, which ultimately will result in to overall customer satisfaction of broadband customers by matching with the needs and expectations of the broadband customers. The recommendations and suggestions based on the findings of this study summarized in the next topic 'Recommendations'.

6. Recommendations

Based on data analysis and corresponding findings of the study, following are some of the recommendations made by researcher w.r.t gaps observed.

- There are bigger service gaps in case of 'Download speed when in sharing with more than one PC's and 'Coordination between the CSC staff and the technical staff'. BSP's should concentrate on these issues seriously as these are the main areas where one can take advantage of it by reducing these gaps which in turn help to satisfy the customers. Also there is gap in 'Consistency in the speeds delivered by BSP's'. These gaps can be reduced which will contribute to improve the quality of services (QoS) ultimately resulting in to customer satisfaction by:

    o Improving and strengthening quality of existing network. (Wire line or wireless).

    o Delivering quality and reliable services with good quality tangibles (Modem/USB).

    o Proper coordination between the CSC staff, technical staff and field staff which will reduce the time of restoration of broadband fault.

    o By legally sharing network of other BSP's.

- As actual speeds delivered are on lower side than the promised speeds as per the plan; BSP's should avoid over promising. BSP's have to deliver as promised so that customers will have trust. Also in coming future BSP's have to go for advanced technologies like 4G, Wi-Fi, Wi-Max, GPON and GEPON (Giga bits Passive Optical Network and Ethernet PON) which will boost the speeds to fulfil requirements of the customers.

- Extended P's of services marketing people, processes and physical evidence plays important role in delivery of the services. BSP's have to standardize the processes those involved in delivery of broadband services such as 'initial activation of broadband', 'registering complaints', 'restoration of faults' and 'billing complaint resolution' so that there will be ease to access the complaints.

- As observed the customers have expressed their opinion that the customer care executives were found to be friendly and supportive. This observation is of utter importance for the BSP's. It is an indication that people manning the

complaints/grievances centre have the right attitude and knows their job well. Due credit must also be given for the services cape for the well laid down processes. It is recommended that periodic evaluation and appraisals of the people at customer care centers along with processes audit be carried out to maintain the positive feedback.

- There is more delay in the initial activation time in case of the wire line broadband as compared to wireless. As wire line need more time to check the line condition up to customers premises, this time can be reduced by maintaining the existing cable network up to date by maintaining the external network time to time.

- If broadband was not available respondents miss their routine, feel lost and if it continues customer will be dissatisfied and may switch over to another BSP. BSP's should plan for minimizing frequency of faults by avoiding future breakdown/damage to the broadband network.

- The overall services gap is more in case of the wireless broadband as compared to wire line; wireless BSP's have to improve the overall service quality and reliability of the broadband network and services by strengthening and well maintaining tower sites, also by erecting additional towers wherever possible and by 'tower sharing' with other tower companies or BSP's.

- Laying of cables and maintaining them is an herculean task in Pune city. The best approach is prevention is better than cure. Therefore, BSP's may provide enough vigilance to monitor road diggings activities so that minimum interruption in the services may happen.

- Frequent broadband fault is the main cause of dissatisfaction in case of wireless type of broadband resulting in to maximum number of switching over of the customers; Wireless BSP's have to plan strategies to reduce the frequency of the faults by maintaining towers in good condition, so that customers will be least affected which will lead to customer satisfaction.

    o By routine check and replacement of power plants and batteries if faulty.

    o By arranging power supply backup in case of prolonged power shut down.

    o Also due care has to take with routine check whether the total tower area have required signal strength or not.

- 'Quick after sales services & feedback' and 'Quick response to requests' plays vital role while selecting the services of particular BSP. BSP's have to maintain promptness in services before purchase as well same promptness should be maintained for provisioning after sales and services too, which may lead to more satisfaction of the broadband customers.

- Many sectors including automobile, banking the service providers have extended their working hours to suit the needs, of the customers, they have not only extended their working hours but extended working days of the week. The BSP's too can take a clue and cater to the needs of the customers even if it means reaching to the customers homes even after the office hours.

- BSP's should design servicescape and create ambiance so that customer will feel the entire experience with BSP pleasurable to meet the customer requirements.

- The most critical finding of this study is: Overall there are gaps in the broadband services delivered by the BSP's and services expected by the customers. The broadband services delivered are below the expectations of customers. BSP's have to deliver services as close as possible to the expectations of the customers by:

    o Improving overall quality of existing networks.

    o With newly developments and expansions of quality network.

    o Matching delivery of services with customer expectations all the time with customer feedback.

7. **Limitations of the study**

There are some of the limitations with respect to this study as mentioned below:

- The scope was limited to the broadband users who were using broadband for more than one year only; this study does not include the users who were using broadband for less than one year.

- The scope was not extended to business and commercial broadband users as well to the point to point data circuit users.

- The study included only individual broadband users those using either wire line or wireless broadband, and not included the users who are using data circuits, leased lines and LAN base networks which are working on point to point basis.

- The geographical scope was limited to the broadband users from Pune city only and the scope not extended to customers who were from rural area of Pune district.

- There were constrains related to target population that every individual from every region could not be included in the survey because some of the military, ordinance factory, air force societies and such areas where the entry was restricted hence excluded.

- The scope was limited to the sampling technique "convenience sampling" only since the data collected from the respondents which were willing to give the feedback and easily accessible.

- Scope was limited to needs, expectations and expectations and satisfaction of the broadband customers but study not considered customer loyalty and customer retention which may be thought as an outcome of customer satisfaction.

- Included total wire line & wireless broadband users of all the Broadband Service Providers but customers selected don't have fixed proportion of percentage of individual BSP's.

8. **Conclusion of the Study**

Finally to conclude, the researcher feels that although a small step taken by the researcher to understanding the customer satisfaction related to broadband services is of great importance for the telecom industry more in particular to Broadband Service Providers. It is evident from the economic data that in spite of the turbulent hazy scenario of telecom sector in India, its growth is undoubted. Newer technologies changing the expectations and demands of the customers. Huge investments in technology will mandate BSP's to define, monitor and evaluate their marketing plan and actions. The findings of the study to at least some extent may be found to be beneficial for the BSP's in drawing their marketing plans.

There is wide scope to BSP's to improve broadband services and its performance. With these study findings and the recommendations the customers will be benefited with improved quality. The Broadband Service Providers will be in better position to provide the services that are demanded by the customers. Managers, BSP's can plan for the new strategies based on the results of the analysis and corresponding findings of this study, to reduce the respective gaps which will help BSP's to satisfy

customers. Also help to attract customers to increase the customer base and help generate more revenue and profits. Lastly it will help to increase customer base in broadband which is contributing to Indian GDP to improve the economy.

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