6 SUMMARY OF FINDINGS

6.1 Findings from Profile of BSNL Broadband Customer

1. About 50.8% of the respondents fall under 31-45 years of age group, 31% of the respondents to 21-30 years of age group, and 14.9% of respondents are of 46-60 age groups. Up to 20 Years and 60 years and above form only a little of 1.8% and 1.5% respectively.

2. 89.2% of men and 10.8% of women are included for this study.

3. With respect to the Education qualification of the respondents 40.5% people completed their Degree or Diploma, 31% completed their Professional Degree and 23.8% are having their Master’s Degree. Among the total sample population, only 1.3% constitutes of Doctorate holder and 3.3% are from High School.

4. With regard to occupation 67.4% of the respondents are Salaried Government servants and 16.4% comprises of salaried Private. 8.5% are Self Employed, and 5.4% are Student category. 1.3% forms, retired group and 1% are Housewife.

5. Almost 34.9% surveyed BSNL Broadband customer’s income fall under ₹ 36,000 to 50,000 and for 24.6% people it ranges from ₹ 51,000 to 75,000. While 15.6% earn 75,000 and above, 19.2% respondent’s monthly income is ranges from ₹16000 to ₹ 35000. Only 5.6% of the survey BSNL Broadband user group receiving monthly income up to ₹ 15000.

6. About the Locality of the survey population 84.4% are from Urban, 11.3 are from semi-urban and only 4.4% are from rural areas.
7. Almost 52.1% of the BSNL Broadband customers from the survey population pay ₹ 500-1000 for their Broadband connection in a month. Up to 37.4 % of customers pay maximum up to ₹ 500 for their Broadband usage, 6.4 % of customers monthly charges stands in the range of ₹ 1500-3000 and only 4.1% customers pay ₹. 3000 &above for their Broadband connectivity.

6.2 Findings from Quality of Service (Functional) aspects of BSNL Broadband services

1. Any Internet Service Provider (ISP) company operating in India need to follow the Telecommunication Regulation Authority of India (TRAI) guidelines for the quality of services it is provides for the customers. In order to deliver enhanced Customer Experience, organisations should take care of the Quality of Services as it falls under the Basic Functional characteristics of the Broadband delivery.

2. Among the six measurement factors designed for this variable, billing performance ranks in the top. Customers of BSNL are happy about the billing performance of BSNL. Being the Government of India enterprise the company maintains transparent and straightforward billing system while calculating the usage charges of Broadband services. This characteristic of the company made the customer’s feel good about it. It also shows that, the company has adequate infrastructure in executing the billing management tasks efficiently.

3. Next to the Billing Performance, Customers rank Connection speed of the BSNL Broadband system. Having the Number One market share company in the ADSL Broadband segment BSNL technical infrastructure is commendable, and this capability supports BSNL in delivering the expected Broadband connection speed.
4. The uptime and availability of the services took third place among the customer's mindset while considering the quality of service parameters. Uptime and availability are possible when Broadband Service Company has redundant backend systems to support customers. Significant share of investment created on installing adequate number of nodes and Network Monitoring centers make this possible.

5. In a comparison with billing performance, connection speed and uptime, the ranking for service activation parameters gets lower rank among the customer. It shows that, the subscribed customers are made to wait for getting their Broadband connection installed at their home. The secondary data of TRAI-performance indicators about BSNL Broadband services confirms the delay in activation of services. Wherein, the competitors of BSNL scores fall within the specified limits of TRAI regulation for service activation period.

6. Similar to the Activation time, the ranks for Quick response and Fault restoration received inferior ranks among customers of Broadband services. Again, the company fails in providing the essential services prescribed by the Telecommunication Authority of India, the ranks for quick response and fault restoration time is in line with the reports of TRAI.

7. Quality of service being the important factor in influencing the Customer Experience, 3 out of six parameters not meeting the requirement in Broadband service delivery scenario.

6.3 Findings from Business Process aspects (Functional) of BSNL Broadband Services

1. Under the Business Process aspects, six parameters are finalized for measuring the opinion of the customer. Among all parameters, Payment process and
Tariff & Plan charges, ranked high. It justifies the fact that, BSNL has the necessary infrastructure to receive and process the payments of customers.

2. Customers provided moderate scores for BSNL website and its usefulness in providing the information to the customers.

3. Application process received fourth ranking among all parameters under study. The lower rank communicate the message that, the perception about application process of BSNL Broadband services is not so pleasing in the mindset of customers.

4. Customer Care and after sales support is a prime quality, people consider while making purchase decisions. With the complexity nature of technical aspects in Broadband, services are prone to get disturbances and apart from that, customer may seek help from the company for their various technical queries. So for a company to provide enhanced customer experience and to create loyal customers it should have implemented the Customer care system in a robust way with high response rate. However, the survey results show that, the BSNL Broadband services customer care is not meeting the Expectations of the customers.

5. Among all the list of Business Process aspects selected for the study, Marketing & sales parameters of BSNL Broadband services received inferior rank.

6. When a service company is having enough supply for the customers, it should market the services in an efficient way, failing that the services are under-utilized, and the investment will not deliver the expected returns. However, the scores of Marketing & sales for BSNL Broadband services are the minimum among all other parameters in the Business Process category.
6.4 Findings from Mechanics, Humanics & Hedonics aspects of BSNL Broadband Services

1. In the Broadband service delivery scenario the Wiring & Installation, Website appeal, and Broadband modem are the mechanical elements which stimulate the emotional senses in the mindset of customers. The survey results show Low Mean scores for Product quality (4.82) and Wiring and Installation (4.87).

2. Among the Humanics aspects, Willingness to help Customer received high rank with the mean score of 5.11. Similarly, Front Desk Employee Response scored 2nd Rank followed by Employee Behavior and call center agents understanding and empathy.

3. The Service as enjoyable factor received top rank among the Hedonics parameters, followed by easy management and Creative Advertisement for BSNL Broadband services.

6.5 Findings from Brand and Knowledge Management aspects of BSNL Broadband Services

The Means scores of Brand aspects of BSNL Broadband services are high compared with the other parameters. Among all the Brand Familiarity took first rank with the mean score of 5.78, secondly the BSNL as a Brand for Broadband services took second rank with the mean score of 5.69. BSNL Brand being attractive and helpful took third place and got 5.18 Mean score.

1. Among the Knowledge Management parameters, the information availability in all touch points ranked first, followed by Information gets updated and customer & Company collaboration. However, the Mean score values are low for all the three parameters.
6.6 Findings from Customer Experience and Loyalty aspects of BSNL Broadband Services

1. The customer of BSNL Broadband services provided good scores for the Customer experience aspects. Among all Service, Satisfaction took first place with the mean score of 5.1 followed by Delighted with the services and better choice scoring 5.1 and 5.02 respectively.

2. Within the Loyalty aspects, reference to friends and family ranked first, followed by upsell and cross-sell and switching behavior stood second and third positions.

6.7 Findings from Testing Relationship between Customer Experience and Demographic Variable

Findings derived from testing relationship between Components of Customer Experience and age of the respondents.

1. ANOVA test results show significant relationship for age of the Respondents and their perception about BSNL Broadband services Business Process. Here up to 20 years and between 46-60 years customers rating high for Business Process. Business Process mainly refers the Application process of BSNL, Tariff, billing Performance, Payment options, customer care and multi-channel integration. Wherein the 21-30 years and 60 years and above customers demand more actions on this parameter from BSNL.

2. Test results of ANOVA confirms the relationship between Quality of Service and age, again here 60 years and above and 21-30 years age group Mean scores are low. That means their expectations of Quality of service parameters of BSNL is not meeting.

3. The quality of Modem, wiring and installation and Broadband website look and feel forms the Mechanics component of Broadband services. This factor
shows a direct relationship with the age of the Customer. Up to 20 years and 46-60 years feel good about the mechanic parameter where in 21-30 years and 31-45 years people demand high level quality in the mechanics aspects of BSNL Broadband services.

4. The test results of the analysis of variance between Humanics and age clearly shows that, there is no significant relationship between the humanics aspects and age of the customer. The results convey the message that, customers of all age group of members expect positive and pleasing interaction with the employees of BSNL.

5. Hedonics refers the enjoyable component of service utilization, This factor has significant relationship with age of the customer, the mean score values for up to 20 years is high, it means this segment of young customer consider BSNL Broadband services as enjoyable one.

6. Strong relationship found between the BSNL Brand and age of the customer through the Analysis of variance test. 46-60 years of people feel happy about BSNL as a Brand in Broadband services. There mean score is at 6.1 wherein 21-30 years customers mean score value is 5.1.

7. There is a relationship between Knowledge Management expectation and age of the Customer.

8. With respect to the Overall customer Experience, the mean value for 46-60 years is 5.8 and 31-45 years is at 5.02. Up to 20 years got the values of 5.0 and 4.8 is the mean value for 21-30 year's group. The customers belonging to 60 years and above have rated 4.6 for the overall customer experience.
9. Loyalty is another important parameter which got a strong relationship with the P value of 0.000 for age of the respondent. Among the various age categories, 46-60 years of customers are more loyal to BSNL and its services.

10. The T-statistics results confirm strong relationship only with Brand aspect of BSNL Broadband services; other parameters like functional, Emotional and Knowledge Management are not having relationship with the gender of the respondents.

11. The results of T-statistics confirm relationship between Martial status of respondents with Quality of services, Functional, Hedonics, Brand, Customer Experience, and loyalty.

12. ANOVA Results indicates a significant difference in the mean value among different group of Customer’s Educational Qualification for the Business process of BSNL Broadband services. The Higher qualification such as Doctorate, Master’s Degree and professional degree holder expectation are high, whereas the High school and Degree holders mean score values are high and comparatively they are satisfied with the Business Process of BSNL Broadband services.

13. Similarly, the Quality of Service parameters having strong relationship with Educational qualification of the customer.

14. There is no significant relationship found between Brand and Educational Qualification.

15. The test results of ANOVA confirms significant different exist among Occupation of Customer with Humanics and Knowledge Management aspects of Customer Experience.
16. The ANOVA test results show a significant difference between Income of the respondents and Quality of service, Mechanics, Humanics, Brand and Loyalty.

6.8 Findings of Causal Model and Hypothesis Testing

This research work conducted in Indian Telecommunication industry is attempted to test the casual relationship between factors of Customer Experience and its impact on Loyalty. The results clearly show that strong relationship exists between Functional, Emotional and Brand factors with Customer Experience. The other outcome from the study clearly indicates strong direct relationship between Customer Experience and loyalty. Only the Knowledge Management is not significant and does not create any impact for the Customer experience and loyalty. The message from the result is, if a company is interested to improve the loyalty and aim for higher profitability it should enhance the Customer experience first. The results of hypothesis testing with Structural Equation Model (SEM) indicate that, among the entire 10 hypothesis framed except Knowledge Management 8 were significant at the 0.01 level and one at 0.05 levels. The collected data is appropriately matching with the proposed conceptual Model.

6.9 Summary of Structural Equation Model Results

Path Analysis results of ten hypotheses framed based on collected data and review of the literature is given in the table 6.1.
Table 6.1  Findings of Structural Equation Model

<table>
<thead>
<tr>
<th>Path</th>
<th>Beta Value</th>
<th>Standard Error</th>
<th>T Statistics Value</th>
<th>Sig. Level</th>
<th>Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Experience -&gt; Loyalty</td>
<td>0.7706</td>
<td>0.0567</td>
<td>13.5898</td>
<td>0.01</td>
<td>Accepted</td>
</tr>
<tr>
<td>Emotional -&gt; Customer Experience</td>
<td>0.346</td>
<td>0.1495</td>
<td>2.3138</td>
<td>0.05</td>
<td>Accepted</td>
</tr>
<tr>
<td>Functional -&gt; Customer Experience</td>
<td>0.3407</td>
<td>0.123</td>
<td>2.7695</td>
<td>0.01</td>
<td>Accepted</td>
</tr>
<tr>
<td>Brand -&gt; Customer Experience</td>
<td>0.2483</td>
<td>0.0931</td>
<td>2.6677</td>
<td>0.01</td>
<td>Accepted</td>
</tr>
<tr>
<td>KM -&gt; Customer Experience</td>
<td>-0.0292</td>
<td>0.0884</td>
<td>0.331</td>
<td></td>
<td>Rejected</td>
</tr>
<tr>
<td>Business Process -&gt; Functional</td>
<td>0.4811</td>
<td>0.0212</td>
<td>22.7086</td>
<td>0.01</td>
<td>Accepted</td>
</tr>
<tr>
<td>QoS -&gt; Functional</td>
<td>0.5678</td>
<td>0.022</td>
<td>25.7866</td>
<td>0.01</td>
<td>Accepted</td>
</tr>
<tr>
<td>Mechanics -&gt; Emotional</td>
<td>0.3825</td>
<td>0.0276</td>
<td>13.8512</td>
<td>0.01</td>
<td>Accepted</td>
</tr>
<tr>
<td>Humanics -&gt; Emotional</td>
<td>0.5225</td>
<td>0.0354</td>
<td>14.7569</td>
<td>0.01</td>
<td>Accepted</td>
</tr>
<tr>
<td>Hedonics -&gt; Emotional</td>
<td>0.2607</td>
<td>0.0281</td>
<td>9.2624</td>
<td>0.01</td>
<td>Accepted</td>
</tr>
</tbody>
</table>
7 CONCLUSIONS

7.1 Introduction

The primary aim of this research was to identify the factors and to test the relationship between Customer experience and Loyalty in BSNL Broadband Services. The theoretical model and survey was developed based on extensive literature review. Based on the research, hypothesis were developed and tested in order to find the relationship between the influencing factors of Customer Experience & Loyalty.

7.2 Inferences drawn from the Study

The important inferences drawn from the study relating to the testing of hypothesis is shown in the Table 7.1.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Path</th>
<th>Beta Value</th>
<th>Std. Error</th>
<th>T Statistics</th>
<th>Sig. Level</th>
<th>Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Customer Experience -&gt; Loyalty</td>
<td>0.771</td>
<td>0.057</td>
<td>13.59</td>
<td>0.01</td>
<td>Accepted</td>
</tr>
<tr>
<td>H2</td>
<td>Emotional -&gt; Customer Experience</td>
<td>0.346</td>
<td>0.150</td>
<td>2.31</td>
<td>0.05</td>
<td>Accepted</td>
</tr>
<tr>
<td>H3</td>
<td>Functional -&gt; Customer Experience</td>
<td>0.341</td>
<td>0.123</td>
<td>2.77</td>
<td>0.01</td>
<td>Accepted</td>
</tr>
<tr>
<td>H4</td>
<td>Brand -&gt; Customer Experience</td>
<td>0.248</td>
<td>0.093</td>
<td>2.67</td>
<td>0.01</td>
<td>Accepted</td>
</tr>
<tr>
<td>H5</td>
<td>KM -&gt; Customer Experience</td>
<td>-0.029</td>
<td>0.088</td>
<td>0.33</td>
<td></td>
<td>Rejected</td>
</tr>
<tr>
<td>H6</td>
<td>Business Process -&gt; Functional</td>
<td>0.481</td>
<td>0.021</td>
<td>22.71</td>
<td>0.01</td>
<td>Accepted</td>
</tr>
<tr>
<td>H7</td>
<td>QoS -&gt; Functional</td>
<td>0.568</td>
<td>0.022</td>
<td>25.79</td>
<td>0.01</td>
<td>Accepted</td>
</tr>
<tr>
<td>H8</td>
<td>Mechanics -&gt; Emotional</td>
<td>0.383</td>
<td>0.028</td>
<td>13.85</td>
<td>0.01</td>
<td>Accepted</td>
</tr>
<tr>
<td>H9</td>
<td>Humanics -&gt; Emotional</td>
<td>0.523</td>
<td>0.035</td>
<td>14.76</td>
<td>0.01</td>
<td>Accepted</td>
</tr>
<tr>
<td>H10</td>
<td>Hedonics -&gt; Emotional</td>
<td>0.261</td>
<td>0.028</td>
<td>9.26</td>
<td>0.01</td>
<td>Accepted</td>
</tr>
</tbody>
</table>
From the results of Table 7.1 it is clear that, all formulated hypothesis have been accepted except Knowledge Management.

1. Emotional dimensions have got high impact on BSNL Broadband Services Customer experience. This includes Mechanics, Humanics and Hedonics aspects.

2. Next to Emotional, Customers choose Functional dimension as an important factor while recognizing the BSNL Broadband Customer experience. This dimension includes Quality of Service and Business Process.

3. Brand is another essential factor contributing to Customer Experience in the BSNL Broadband Service delivery.

4. Being the back end activity, Knowledge Management does not significantly affect the Customer Experience.

5. Customer Experience directly affects the Loyalty of the BSNL Broadband Customer.

### 7.3 Implications of the study

Given the benefit of Broadband growth for India in economic, social and healthcare segment, currently Government of India is taking many measures to improve the Broadband adoption and usage. Being the top market share company in fixed line Broadband services, Bharat Sanchar Nigam Limited has high responsibilities in terms of retaining, and growing the number of Customers for its Broadband Services. Since the company has got wide reach and capacity to serve the maximum Geography of this country. So it becomes primary reason for BSNL to understand about the Factors of Customer Experience, as Customer experience drives Loyalty which is the required outcome for retaining and growing its customers on urgent basis. The results of this
study will be very much useful for the Business Managers of BSNL to improve different dimensions of Customer experience at their respective divisions.

The critical aspect of the research is the development of carefully designed Conceptual model considering the telecommunication service delivery system, which matches the current requirement of Bharat Sanchar Nigam Limited Broadband Services. The conceptual model is well proven, as it has undergone rigorous reliability and validity test and it is based on the primary data, collected from the actual Customers of BSNL Broadband services in Bangalore Telecom District.

7.4 Contributions of this Research

- The scale developed for this study can be utilized in future research for both academic and industry to measure the dimensions of Customer Experience in terms of Functional, Emotional and Brand point of view.
- The conceptual model suggested in the study can be utilized by the Business Managers of BSNL to improvise their service delivery system.
- The research provides valuable contributions to the academic field to practically understand the Customer Experience Dimensions.
- The policy makers of Bharat Sanchar Nigam limited can refer the points to incorporate the Customer experience concept while designing any new services in the overall Telecommunication and specific to Broadband services.
- The results of the study provide opportunity for the decision makers to devise the required Customer experience component along with the process design itself.
7.5 Limitations of this study and Direction for Future Research

From the Structural Equation Model (SEM) path analysis results, it has been found that the loyalty factor of BSNL Broadband services is impacted by 77% through Customer Experience dimension. It gives the indirect message that, there are other components in the system equivalent to 23%, which also affects the Loyalty of the Customer in Broadband service scenario and is still unknown and could not be found through this research.

Next limitation is with the geography and nature of population selected for this study. Being the silicon valley of India, Bangalore house many of the top talents and their requirement for Broadband internet is high. Keeping this demand as reference, Bharat Sanchar Nigam Limited is focusing and developing this division with more attention, however this may not be the case for other locations. Customer’s perception about BSNL Broadband services may vary due to the Geography factor. Study conducted at Bangalore and opinion of the respondents from Bangalore at a particular point of time may not be applicable to other geographical area at all times.

Over a period of time, due to advancement in technology many services will be withdrawn because of better replacement and increased in efficiency, such as Pagers becomes obsolete after the growth and deployment of Cellular phone. Where, the later does the job of texting as well as communicating. Similarly, if the technical feasibility of Very High Speed internet availability through mobile phones will give severe threat to fixed line Broadband system, as deploying wireless or Mobile communication for internet is comparatively easier than laying Fixed Line Broadband System. This research is not covering the Mobile Broadband services.

Being the Government of India Enterprise, BSNL need to strictly adhere to the policy and guidelines of Department of Telecommunication (DoT) and Telecom
Regulatory Authority of India (TRAI). It also becomes a bottle neck for the organisation in quickly redesigning its Business process and policies towards improving the customer experience. This study can be extended to other private Broadband service providers in the Telecom industry.

7.6 Recommendations of the Study

Recommendations based on the findings from the research work are given below:

7.6.1 Strategic Framework for enhanced Customer Experience

Strategic framework for enhanced Customer experience has been developed from the proposed conceptual model and with the results of path analysis. The same is given in the Figure 7.1. As per the new framework,

1. It is very critical for the company to improve the Emotional aspects of Broadband service delivery, since emotional aspects highly affects the customer experience.

2. The service providers (employees) play a vital role in creating Emotional clues in the Broadband service delivery where interactions of service providers happen across all touch points of Broadband services, starting from application submission to bill payment system. Major interaction between customer and organisation happen with the help of employees of BSNL Broadband services. So the attitude and behavior of Employees are very important to meet the customer requirements and expectations.

3. In order to make the employees of BSNL to deliver superior customer experience to its customers, management has to treat them properly. Only happy employees can make a customer feel happy and delighted. Management of the
organisation should create appropriate corporate culture and conducive environment for its employees which results in building proper relationships with customers.

Figure 7.1 Strategic Framework for Enhanced Customer Experience

4. Appropriate customer experience can be ensured only with the help of trust between employees and customers. In order to build trust, employees have to share necessary information with the customers. Being the technology oriented nature of service and the importance of sharing information across multiple departments consistently, BSNL Broadband services requires a multi-dimensional Customer Relationship Management system for managing the customer preferences.

5. The Multi-dimensional CRM should integrate different internal Business units, channel partners, dealers, call centre, field personnel and customer Care to share information related to the service offerings for providing enhanced customer experience. Whenever the existing Landline customer approaches BSNL for getting
Broadband connectivity, again they are expected to submit the application with proof of document, and it severely impacts the customer experience. With the implementation of Multi-dimensional Customer Relationship Management application these pitfalls can be avoided.

6. The core functional aspects of Broadband services can be improvised by strictly adhering to the Service Level Agreements (SLA) between internal departments and third party vendors. The issue here is not technical capabilities but utilizing it to the fullest potential, since Bharat Sanchar Nigam Limited has huge technical infrastructure with latest technology.

7. The Business Process should be modified with the customer centric strategies with frequent update as per the changing need of contemporary market requirements. Also the marketing department of BSNL should find out the preferences and expectations of its targeted market segments. Marketing department should disseminate information about the preferences and expectations of its targeted market segments to all of its internal departments in order to make their employees to work, as per the requirements.

8. To enhance the clues related to Mechanics, the product development division needs to do more than just complying with the telecom standards. It should create experiences after observing how customers use the Broadband accessories and services (Eg. Broadband Modem, connecting wires etc.,) and to learn whether the existing products meeting their requirements or not.

9. BSNL should enhance the brand awareness and brand promotion in an effective way to reach the younger generations. Brand equity can augment customer experience in every aspect of customer life cycle starting from search, purchase, consumption and after sale phases of the experiences.
7.6.2 Value Analysis for Investment decisions

Though, all the components of Emotional, Functional and Brand aspects are important in delivering Customer Experience and Loyalty, the organisation has to ensure the maximum impact of the individual factors and its investment requirement for deciding the various phases of implementation. As per the model developed by (Malviya & Varma, 2012) the weightage of individual factors of customer experience against the investment cost for implementation is given in the Figure 7.2.

![Figure 7.2](image)

**Figure 7.2** Relationship between investment and its impact on Customer Experience

From the Figure 7.2, humanics located at low investment and high impact region. It means that with proper Employee interaction in all touch points of BSNL broadband services, high positive impact can be achieved in customer experience. Proper trainings for the employees and with integrated information availability through multi-dimensional customer relationship management system covering all department
of BSNL Broadband services (marketing, sales, order provisioning, accounts, billing and customer care) will facilitate employee’s interaction with the customers to ensure desired customer experience.

Next, to appreciate the results through Mechanics aspects, BSNL should strictly put the service level agreements and ensure standard practices with its third party vendors. By this practice, the quality of Customer Premises Modem, wiring and installation and other mechanics aspects will be improved.

Hedonics aspects get improved from each and every interaction of the customer with the company, if desired experience clues are staged in the customer interaction. Starting from allocation of adequate parking facility and providing proper environment in the customer care centre greatly improves the hedonics experiences of the customer.

Hence, organisations ability in providing enhanced customer experience depends on selecting the right factors, which are creating high impact in customer experience with reasonable investment.