



Special Issue - Innovative Commerce: Bridging Business and Computer Applications (ICBBCA-2026)

PG Department of Commerce with Computer Applications, Mannar Thirumalai Naicker College, Madurai – March 2026

A STUDY ON THE IMPACT OF BSNL COMMUNICATION AND INTERNET CONNECTION IN MADURAI CITY

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Abstract

This study examines the impact of Bharat Sanchar Nigam Limited (BSNL) communication and internet services on users in Madurai. As a government-owned telecommunications provider, BSNL plays a crucial role in extending connectivity to both urban and rural populations, contributing to digital inclusion and socio-economic development. The research aims to evaluate user perception regarding service quality, reliability, internet speed, affordability, and overall satisfaction with BSNL services. The study adopts a descriptive research design and is based on primary data collected through a structured questionnaire administered to 100 BSNL users in Madurai using convenience sampling. Secondary data were gathered from BSNL's official website, annual reports, journals, and related literature. Statistical tools such as percentage analysis, descriptive statistics

(mean, rank, standard deviation), frequency tables, and pie charts were used for analysis.

The findings indicate that while BSNL maintains strong coverage and affordability, particularly valued by students, households, and small businesses, users express concerns regarding internet speed, network reliability, and customer service efficiency when compared to private telecom providers. Despite increasing competition, BSNL continues to serve as a vital communication backbone in Madurai, particularly in areas prioritizing cost-effectiveness and service reach. The study concludes that although BSNL has significantly contributed to digital connectivity and socio-economic activities in Madurai, improvements in service quality, technological upgrades, and customer support are essential to enhance customer satisfaction and maintain competitiveness in the evolving telecom sector.



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Introduction

Telecommunication and internet services have become fundamental components of modern socio-economic development. In India, Bharat Sanchar Nigam Limited (BSNL), established in 2000 under the Department of Telecommunications, Ministry of Communications, plays a major role in providing affordable communication services across the country. In Madurai, a prominent cultural and commercial hub of Tamil Nadu, reliable communication infrastructure is essential for businesses, educational institutions, government offices, and households. BSNL offers landline, mobile (2G/3G/4G), broadband, and fibre internet services in the region. Despite competition from private telecom operators offering high-speed networks and modern infrastructure, BSNL continues to retain a substantial customer base due to its affordability and wide coverage, particularly in semi-urban and rural areas. This study investigates the effectiveness and impact of BSNL's communication and internet services on users in Madurai city, focusing on service quality, customer satisfaction, accessibility, and socio-economic influence.

Statement of the Problem

The rapid expansion of private telecom providers has intensified competition in the telecom sector. Customers in Madurai have reported mixed experiences with BSNL services, including concerns regarding call drops, slow internet speeds, network fluctuations, and delayed customer support. However, many households, small businesses, and educational institutions continue to rely on BSNL due to affordability and broader network reach. Therefore, it becomes necessary to systematically evaluate how BSNL's services influence customer satisfaction, usage behaviour, and socio-economic activities in Madurai city.

Objectives of the Study

- To assess the usage pattern of BSNL communication and internet services in Madurai.
- To evaluate customer perception of BSNL service quality.
- To measure customer satisfaction levels.
- To examine the impact of BSNL internet services on business, education, and employment activities.

Scope of the Study

This study focuses on evaluating the impact of Bharat Sanchar Nigam Limited (BSNL) communication and internet services in the urban and suburban areas of Madurai. It examines various BSNL services, including landline, mobile, broadband, and fibre



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internet, to understand their effectiveness and reach among users. The research primarily concentrates on key service-related factors such as reliability, internet speed, affordability, and overall customer satisfaction. In addition, the study explores the socio-economic benefits of BSNL services, particularly their role in promoting digital inclusion, facilitating access to online education, and supporting the growth of local businesses.

Furthermore, the research considers demographic variables such as age, gender, occupation, and income level to analyse differences in user experience and satisfaction levels across various sections of society.

Research Methodology

Research Design

The study adopts a descriptive research design to analyse the existing conditions of services provided by Bharat Sanchar Nigam Limited in Madurai. It focuses on understanding service quality, usage patterns, and customer satisfaction. The design helps in presenting factual and systematic findings.

Nature of the Study

The research is descriptive in nature and is based on survey data. It aims to describe users' experiences and perceptions regarding BSNL services. The study does not manipulate variables but observes existing conditions.

Sources of Data

Primary data were collected from 100 BSNL users through a structured questionnaire covering usage patterns, service quality, internet speed, tariff plans, and satisfaction levels. Secondary data were obtained from BSNL's official website, annual reports, books, journals, research articles, and newspapers. Both sources ensured reliability and relevance of information.

Sample Size

The study includes 100 respondents from Madurai city. This sample provides useful insights into user perceptions and service impact. However, it may not fully represent the entire BSNL customer population.

Sampling Technique

Convenience sampling was used to select respondents based on their availability and willingness to participate. This method allowed easy and quick data collection. It ensured participation from different demographic groups.

Statistical Tools Used

Statistical tools such as percentage analysis, descriptive statistics (mean, rank, and standard deviation), and frequency distribution were used for data analysis. Pie charts were applied for graphical representation of results. These tools helped in

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interpreting customer satisfaction and service performance effectively.

Data Analysis and Interpretation

In this chapter, we focus on the analysis and interpretation of the data collected from 100 (one hundred) respondents who currently use BSNL's telecommunications and Internet Services within Madurai City. The data that has been collected comprises primary data obtained (directly) through a structured questionnaire and secondary data analysed (by way of) percentage analysis of the frequency distribution of the data via SPSS (Statistical Package for the Social Sciences).

This chapter presents our results in relation to the demographic information for each respondent, and further analyses the respondents' perceptions of BSNL's Service Quality, Network Coverage, Internet Speed, Reliability, Customer Service, Value for Money, and Overall Satisfaction. Results will be presented in Tabular Form with Interpretation to determine the Impact of BSNL Services On the Respondent's Use of BSNL services in Madurai City.

Table Major Problems Faced by the Respondents

Particular	Responses	Percentage
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Poor customer service	28	28%
Frequent call drops	20	20%
Poor network coverage	22	22%
Slow internet speed	24	24%
No major problem	6	6%

Source: Primary Data

Interpretation

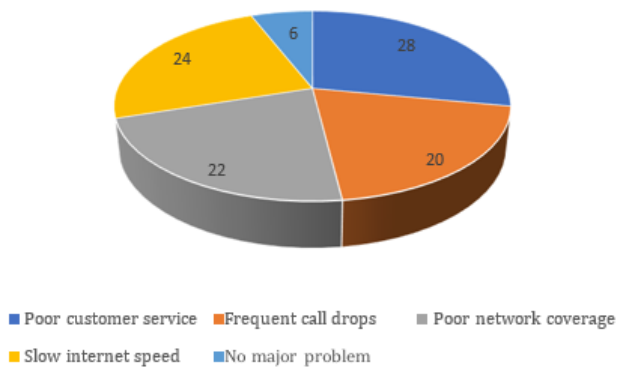
The data indicate that poor customer service is the most significant problem faced by users of Bharat Sanchar Nigam Limited in Madurai, with 28% of respondents reporting dissatisfaction in this area. Slow internet speed is the next major issue, affecting 24% of users, reflecting concerns about network performance.

Additionally, 22% of respondent's experience poor network coverage, while 20% report frequent call drops during communication. Only 6% of respondents stated that they face no major problems with the services. Overall, the findings suggest that service quality and customer support require improvement to enhance user satisfaction.

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Major Problems Faced by the Respondents



Findings and Suggestions

Findings

- Wide Usage Across Segments: BSNL services are widely used by students, households, and small businesses in Madurai, primarily for broadband and mobile internet access.
- Coverage Strengths and Speed Issues: While BSNL provides extensive network coverage, users report slower internet speeds compared to private operators.

Suggestions

- Upgrade Network Infrastructure: Enhance internet speed and network reliability, especially in high-demand urban and suburban areas.
- Improve Customer Service: Implement faster complaint resolution and improve support responsiveness to enhance user satisfaction.

Conclusion

The study reveals that Bharat Sanchar Nigam Limited plays a significant role in providing affordable and widespread communication and internet services in Madurai. Users value its coverage and cost-effectiveness, particularly for education and small business activities.

However, issues such as slow internet speed, network reliability, and customer service need attention. Enhancing infrastructure, upgrading technology, and improving support services can increase user satisfaction. Overall, BSNL continues to be an important contributor to digital inclusion and socio-economic development in the region.

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