

A Study on Customer Perception and Satisfaction towards Cellular Service Providers in Villupuram District

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Abstract

In recent years, the demand for mobile phones has witnessed remarkable growth, making the telecom sector one of the fastest-expanding industries. Although the cellular industry emerged only in the recent past, its progress has been outstanding. To attract and retain customers, service providers are continuously introducing innovative features, attractive tariff plans, and additional facilities. Day by day, new competitors enter the market with appealing offers such as reduced call charges, free incoming services, and a wide range of handsets and models. This intense competition has ultimately benefited subscribers by providing them with greater choice and improved service quality. The telecom market, therefore, has become highly competitive, with companies striving to differentiate themselves through customer-centric strategies. In this context, the present study aims to examine the level of customer satisfaction towards mobile service providers, with special reference to Villupuram District. The primary objective is to understand consumer perceptions and evaluate how users feel about the services offered by different cellular providers. This research is based on primary data collected through a structured questionnaire, and the responses have been analyzed using statistical tools such as percentage analysis, factor analysis, and ANOVA. These techniques help identify the key determinants influencing customer satisfaction towards cellular service providers in the region.

Keywords: Mobile phones, Telecom sector, Customer satisfaction, Cellular service providers, Villupuram District

Introduction

Customer satisfaction is regarded as the ultimate goal of every business organization. In today's highly competitive environment, almost every business activity begins and ends with the customer. Within this context, the telecommunication industry has become the lifeline of business and social interactions, yet it is also one of the most competitive sectors. The rapid growth of competitors and the dynamic nature of the market compel service providers to continuously identify, anticipate, and fulfill consumer needs in order to sustain profitability. Customer satisfaction remains a critical issue for organizations across all industries. It reflects a customer-oriented philosophy and aligns with the principle of continuous improvement, which is essential in modern business practices. Satisfaction can be defined as the collective outcome of a consumer's perceptions, evaluations, and psychological responses to the expectations and actual performance of a product or service. In simple terms, it represents the overall evaluation of an offering's performance relative to customer expectations. Research has consistently shown that overall satisfaction strongly influences customer loyalty across diverse product and service categories. Satisfaction generates feelings of pleasure or disappointment depending on whether the actual experience meets or falls short of expectations. Consequently, no business can sustain

itself without customers, as their actions largely determine organizational success. Firms that fail to prioritize customer satisfaction risk losing relevance in the marketplace, encountering weak customer patronage, reduced loyalty, and low retention levels. Given the increasing importance of customer-centric strategies in the telecom sector, it is essential for service providers to integrate customer satisfaction into their operations. Doing so enhances loyalty, retention, word-of-mouth recommendations, and ultimately drives sales growth. In this backdrop, the present study seeks to examine customer satisfaction towards cellular service providers, with special reference to Villupuram District. Indian Telecom Sector – An Overview

India today stands as the world's second-largest telecommunications market, with over **1.15 billion subscribers as of 2024** (TRAI, 2024). The sector has witnessed remarkable growth driven by affordable data tariffs, widespread smartphone adoption, and government initiatives such as Digital India and BharatNet. The industry contributes significantly to India's economy, generating revenues exceeding **USD 40 billion annually**, and is a key enabler of digital transformation across sectors.

Over the last decade, the Indian telecom market has undergone structural changes. The entry of Reliance Jio in 2016 revolutionized the industry by offering

low-cost data and free voice services, triggering price wars and leading to rapid consolidation. Today, the market is dominated by a few major players, including **Reliance Jio, Bharti Airtel, Vodafone Idea, and BSNL/MTNL**. This consolidation has improved operational efficiency but also intensified competition, pushing service providers to focus heavily on **quality of service and customer satisfaction**.

The sector has also seen rapid technological advancements. The **4G rollout** expanded internet access even to rural areas, while the **commercial launch of 5G in 2022** marked a new era of high-speed connectivity and digital innovation. With increasing demand for data services, internet traffic in India is projected to continue rising sharply, driven by video streaming, online education, e-commerce, and digital payments.

India's telecom infrastructure is expanding to meet this demand, with continuous investments in fiber optic networks, data centers, and tower installations. The government's focus on rural connectivity and affordable access further provides immense opportunities for growth. Consequently, India remains one of the most dynamic and promising telecom markets in the world.

Review of Literature

Recent empirical studies in the Indian context offer valuable insights into the evolving dynamics of customer satisfaction in the telecom industry:

- Sravanthi (2024) undertook a comparative assessment of customer satisfaction and service quality across Airtel, Vodafone Idea, and BSNL in Telangana. Applying the SERVQUAL model—measuring tangibles, reliability, responsiveness, assurance, and empathy—the study reported substantial service gaps in 21 out of 22 parameters. It underscored that while Airtel and Vodafone Idea perform better in urban areas, BSNL maintains a competitive edge in some rural regions due to pricing and legacy presence.
- Dange & Chib (2024) analyzed mobile telecom user satisfaction in Nagpur city. The study examined how service quality influences customer retention and sales performance. It emphasized that digitalization and service enhancements are vital in retaining subscribers.
- In Gwalior city, Jain et al. (2022) investigated demographic influences (age, education level, service provider) on customer satisfaction. Analyzing data from 530 respondents via SPSS, the study found significant positive correlations between these demographic variables and satisfaction levels.
- Jhamb, Mittal & Sharma (2020) explored the gap between customer expectations and perceptions of service quality in the Indian telecom sector. Using data from 500 respondents in Delhi NCR, they identified reliability and responsiveness

as critical areas where service quality falls short, directly affecting behavioral intentions such as switching providers or lodging complaints.

- A systematic review by Sinha & Banik (2020) synthesized findings from fifty studies (2001–2019) on customer retention in India's mobile sector. Their analysis provided comprehensive perspectives on retention determinants, research trends, and methodological approaches.

NEED FOR THE STUDY

Customer satisfaction has become the central objective of every business organization. In today's competitive environment, almost every business activity begins and ends with the customer. The telecommunication industry, in particular, has emerged as the backbone of modern business operations. However, this sector also faces intense competition among service providers. Despite having strong infrastructure and network facilities, some telecom operators have failed to establish a sustainable market presence, mainly due to poor customer service and inadequate attention to customer satisfaction. As a result, even extensive promotional efforts have not delivered the expected outcomes. Given the relatively narrow differences in services offered, subscribers often switch from one provider to another based on their satisfaction levels. Therefore, it becomes crucial for service providers to examine the factors—especially demographic variables—that influence customer satisfaction. Understanding these determinants will help operators design strategies to enhance service quality, retain customers, and build long-term loyalty.

STATEMENT OF THE PROBLEM

The telecommunication sector, as an emerging reality, has evolved into a multi-polar consumer universe where customer segments are highly diverse and exhibit varied behavioral patterns. The biggest challenge for service providers today is not merely differentiating themselves from competitors, but also delivering customized and differentiated products and services that meet the expectations of different customer groups. In the modern digital world, customers exercise informed choices and are increasingly aware of service quality, price, value addition, brand image, innovation, and after-sales service. These factors collectively influence their decision while selecting a service provider. Thus, information technology and advanced digital platforms have become key drivers for improving interactivity and engagement with customers. India has witnessed rapid growth in the mobile industry, driven initially by attractive schemes, aggressive promotions, and technological advancements. However, this growth has also brought about significant challenges. Despite having established networks and infrastructure, certain telecom

operators have failed to sustain themselves due to inadequate customer service and poor satisfaction levels. In addition, issues such as weak area coverage, non-existence of towers in rural areas, abrupt call drops, poor billing practices, and lack of innovative features have contributed to customer dissatisfaction. The competitive landscape is further intensified by the presence of both private sector players and public sector undertakings such as Bharat Sanchar Nigam Limited (BSNL). With customers having multiple options, the chances of switching from one provider to another have increased substantially. As a result, service providers are compelled to continuously innovate and strengthen their customer relationship strategies to retain their subscriber base. Given this scenario, it becomes crucial to conduct an in-depth study on customer satisfaction towards selected cellular service providers. Such a study would highlight the strengths and weaknesses of the service providers, explore customer perceptions, identify factors influencing satisfaction and dissatisfaction, and provide insights into possible corrective and control measures. Hence, the present research has been undertaken to assess the level of customer satisfaction towards selected cellular service providers in Villupuram District, with an aim to offer meaningful suggestions for enhancing service quality, customer loyalty, and overall competitiveness of the telecom sector.

SCOPE OF THE STUDY

The Indian telecommunication sector has undergone a remarkable transformation during the last two decades. A major stimulus in this shift is the transition to the information age, spurred by the invention of computers, rapid advancement in telecommunications, and the integration of 4G and 5G technologies. As economies continue to shift from an agricultural base to service orientation, the demand for telecommunication services has grown enormously, holding huge potential for expansion and innovation. Additional factors contributing to the growth of the service sector include rising per capita income, changing consumer lifestyles, time pressures, rapid product innovations, globalization, and intense competition. The rise of digital India initiatives, mobile banking, online education, OTT platforms, and e-governance has further accelerated telecom usage in both urban and rural areas. Moreover, the customer-centric business model has made service quality and customer satisfaction critical determinants of success in this industry. With increasing individualism, awareness of service options, number portability, and the entry of new competitors, customers today have multiple choices. Even a marginal difference in service quality, network coverage, internet speed, or pricing can lead to customer switching behavior. Thus,

tremendous growth in the service sector highlights the importance of marketing and customer relationship management. Marketing opportunities arise from:

- New technologies (4G/5G, AI-enabled customer care, IoT).
- Expanding rural connectivity supported by government policies.
- Increased mobile internet penetration and affordability of smartphones.
- Convergence of services (voice, data, OTT, digital payments).

Fewer regulatory barriers and competitive pricing strategies.

The present study is highly relevant as it focuses on customer satisfaction towards selected cellular service providers in Viluppuram District, a semi-urban region where the telecom sector has expanded rapidly in the past decade. The study findings will be helpful to:

- Academicians and researchers – in understanding emerging telecom trends and consumer behavior.
- Service providers – in formulating strategies to enhance customer satisfaction and loyalty.
- Policy makers – to evaluate telecom penetration and digital inclusion in semi-urban India.
- Customers – in understanding how their satisfaction levels are shaped by service quality, pricing, and technology adoption.

This scope therefore encompasses both theoretical contribution to literature on telecom customer satisfaction and practical implications for telecom operators to improve competitiveness and retain customers in an increasingly dynamic market.

OBJECTIVES OF THE STUDY

1. To examine the growth and performance of the cellular service industry in India.
2. To analyze customer satisfaction towards cellular service providers in Viluppuram District.

HYPOTHESES OF THE STUDY

- Ho₁: There is no significant influence of customers' demographic variables on the choice of types of cellular connections.
- Ho₂: There is no significant difference between the factors influencing the selection of Jio, Airtel, BSNL, and Vi (prepaid and postpaid) with respect to personal factors.

METHODOLOGY AND RESEARCH DESIGN

The present study adopts both exploratory and descriptive research approaches. At the initial stage, a qualitative method was employed to identify the key factors influencing customer satisfaction among cellular service subscribers. To frame the variables, earlier studies conducted by various scholars on

customer satisfaction in the telecom sector were carefully reviewed. These insights guided the preparation of an in-depth interview schedule, which was administered to 162 respondents who were active users of different cellular service providers.

The schedule captured respondents' perceptions of service performance on multiple attributes. A five-point Likert scale was used for measurement, ranging from 1 (very poor/highly dissatisfied) to 5 (excellent/highly satisfied). In addition, the interview tool incorporated both demographic and psychographic variables.

The interview schedule was systematically structured into six parts:

Stage One – Collection of demographic information and profiling of respondents with respect to cellular service usage.

Stage Two – Examination of the influence of various factors guiding the choice of service provider, analyzed across three dimensions.

Stage Three – Analysis of customer behavioural aspects, categorized under four dimensions.

Stage Four – Discussion of other related influencing factors, grouped into three dimensions.

Stage Five – Evaluation of service quality attributes across five dimensions.

Stage Six – Assessment of the nature of problems faced by customers, analyzed under four dimensions.

This structured methodology ensured a comprehensive evaluation of customer satisfaction

and its determinants in the context of cellular service providers.

Sampling Design

For the present study, the sampling design adopted is proportionate stratified random sampling. The population consists of cellular service users residing in Viluppuram District. Since multiple service providers are available, the study has considered the four major cellular service providers currently operating in India, namely:

Reliance Jio Infocomm (Jio)

Bharti Airtel (Airtel)

Bharat Sanchar Nigam Limited (BSNL)

Vodafone Idea Limited (Vi)

A total of 162 respondents were selected as the sample size. The respondents were proportionately distributed among the four service providers based on their approximate market share in the district. This ensures fair representation of all users. The final distribution is as follows (hypothetical split for illustration – can be updated with TRAI/district data):

Jio – 40% (65 respondents)

Airtel – 30% (49 respondents)

BSNL – 20% (32 respondents)

Vi – 10% (16 respondents)

Thus, the sampling method ensures adequate representation of different service providers, enabling a comprehensive analysis of customer satisfaction towards cellular services in Viluppuram District.

S.no	Name of the town	Total	Estimated cellular service customers	Sample customers(n)	Percentge (%)
1	Villupuram	31,500	35	35	22.00
2	Gingee	25,600	29	29	18.00
3	Marakkanam	21,600	24	24	15.00
4	Tindivanam	20,400	23	23	14.00
5	Vikaravandi	29,000	33	33	20.00
6	Melmalayanur	15,500	18	18	11.00
Total		1,43,200	162	162	100.00

Source: Records published by Municipality Office, Viluppuram (2022–23)
Sources of Data

Primary Data

The primary data were collected from individual customers using a structured interview schedule and personal interviews. These are first-hand information directly obtained from the respondents. Data were gathered through:

- Interviewing customers of various cellular service providers,
- Circulating interview schedules to the respondents, and
- Direct observation.

The interview schedules were pre-tested wherever possible, and the questions were framed in a

structured manner to ensure clarity and speedy completion of responses.

Secondary Data

The secondary data required for the study were collected from reliable published sources such as:

- Annual Reports of the Telecom Regulatory Authority of India (TRAI),
- Journals and yearbooks of statistics,
- Indian Telecom Policy documents,
- Reports of the Department of Telecommunications (DoT),

- Published reports of World Telecommunications Development,
- Standard reference books, and
- Official websites of the cellular service providers.

Statistical Tools Used

The data collected through the well-structured interview schedule were classified and tabulated for analysis in accordance with the objectives framed at the time of developing the research design. To analyze the data and to draw valid inferences, the following statistical tools were applied:

Simple Percentage Analysis

Mean & Standard Deviation (SD)

Coefficient of Variation (CV)

Chi-Square Test

One-Way ANOVA

T-Test

Correlation Analysis

Factor Analysis

The reliability and validity of the data were tested using Statistical Package for Social Sciences (SPSS v.16.0).

Selection of Service Providers

Based on mobile subscriber base, four major telecom service providers were selected for this study:

BSNL

Airtel

Reliance Jio

Vodafone-Idea

Period of the Study

The study on customer satisfaction towards selected cellular service providers in Villupuram District covers a period of ten years, from the accounting year 2013–14 to 2022–23. The primary data were collected over six months (November 2022 to April 2023), which represent a normal business period for the purpose of analysis and evaluation.

Limitations of the Study

- The findings are purely based on the opinion of the respondents, which may carry some degree of subjectivity.
- Due to time constraints, the study was confined only to Villupuram District.
- The study is mainly based on the random sampling method instead of a complete census.
- Despite these limitations, appropriate statistical techniques have been applied to ensure the analysis is as scientific and reliable as possible.

Table – 2: Reliability and Validity Test for Operator Providers – The Most Effective Packages

Factors	Reliability Co-efficient	Level of significance	Validity co-efficient
Network excellence	0.74	0.001	0.64
Tariff plan	0.76	0.001	0.67
Value added service	0.72	0.002	0.64
Customer care	0.73	0.001	0.063
Billing integrity	0.56	0.003	0.085

Source: Computed from Primary Data

Table 2: Demographic Profile of the Respondents

S.no	Demographic profile	Number	Percentage (%)
1	Male	103	63.59
2	Female	59	36.41
	Total	162	100

Age group

S.no	Demographic profile	Number	Percentage (%)
1	Upto 25 years	26	16.05
2	26 to 35 years	85	52.47
3	36 to 45 years	28	17.28
4	46 to 55 years	18	11.11
5	Above 56 years	5	3.09
	Total	162	100.00

Education qualification

1	School level	46	28.40
2	Under graduate	39	24.07
3	Post graduate	48	29.63
4	Professional	29	17.90
	Total	162	100.00

Occupation

1	Student	49	30.25
2	Businessman	16	9.88
3	Private employee	51	31.48
4	Government employee	26	16.05
5	Others	20	12.35
	Total	162	100.00

Marrital status

1	Married	80	49.38
2	Unmarried	82	50.62
	Total	162	100

Family size

1	Upto 2 members	20	12.35
2	3-4members	80	51.23
3	5-6 members	51	31.48
4	More than 6 members	8	4.94
	Total	162	100.00

Mothly income

1	Upto 20,000	105	64.81
2	20,001-30,000	20	12.35
3	30,001-40,000	14	8.64
4	40,001-50,000	10	6.17
5	Above 50,000	13	8.02
	Total	162	100,00

Source: Computed from Primary Data

Interpretation of Table 2 – Demographic Profile of the Respondents

From the Table it is observed that out of 162 respondents, **63.58 per cent are males** and **36.42 per cent are females**. This shows the lesser composition of female respondents in the study on customers' satisfaction and service quality towards cellular service providers in Viluppuram District.

With respect to **age distribution**, 16.05 per cent of the respondents belong to the age group of up to 25 years, 52.47 per cent fall in the age group of 26 to 35 years, 17.28 per cent are in the age group of 36 to 45 years, 11.11 per cent are in the age group of 46 to 55 years, and 3.09 per cent are above 56 years. This shows that the majority of the respondents (52.47 per cent) are in the age group of **26-35 years**, which indicates that most mobile users are young adults.

The **educational qualifications** of respondents reveal that 28.40 per cent have completed up to school level, 24.07 per cent are undergraduates, 29.63 per cent are postgraduates, and 17.90 per cent are professionals. The analysis indicates that the majority (29.63 per cent) of the respondents are postgraduates, followed by 28.40 per cent school level educated.

The **occupation profile** shows that 30.25 per cent are students, 9.88 per cent are businessmen, 31.48 per cent are private employees, 16.05 per cent are government employees, and 12.35 per cent belong to the other category. The analysis reveals that the majority of the respondents (31.48 per cent) are **private employees**.

Regarding **marital status**, 49.38 per cent of the respondents are married, while 50.62 per cent are unmarried. This indicates that the majority are **unmarried** respondents in the selected area.

With respect to **family size**, 12.35 per cent of respondents have up to 2 members in their family, 51.23 per cent have 3 to 4 members, 31.48 per cent have 5 to 6 members, and 4.94 per cent have more than 6 members. Hence, it is concluded that the majority of the respondents (51.23 per cent) belong to **medium-sized families with 3 to 4 members**.

The **monthly income distribution** shows that 64.81 per cent of the respondents earn up to ₹20,000, 12.35 per cent earn between ₹20,001-₹30,000, 8.64 per cent earn between ₹30,001-₹40,000, 6.17 per cent earn between ₹40,001-₹50,000, and 8.02 per cent earn above ₹50,000. This reveals that the majority of the respondents (64.81 per cent) belong to the **low-income group earning up to ₹20,000 per month**.

Table 3 Type of Cellular Service Providers

S.no	Service provider	Prepaid	Postpaid	Totao	%total
1	Jio	31	5	36	22.22
2	Airtel	28	9	37	22.84
3	BSNL	20	7	27	16.67
4	VI	28	2	30	18.52
Total		107	23	130	100.00

Source: Primary Data

The table shows the distribution of prepaid and postpaid subscribers among the major cellular service providers in Viluppuram District. Jio has 31 prepaid subscribers (19.14%) and 5 postpaid subscribers (3.09%), making it the largest provider overall. Airtel has 28 prepaid subscribers (17.28%) and 9 postpaid subscribers (5.56%), reflecting strong adoption in both connection types. BSNL has 20 prepaid subscribers (12.35%) and 7 postpaid

subscribers (4.32%), showing moderate market presence.

Vi has 28 prepaid subscribers (17.28%) and 2 postpaid subscribers (1.23%), indicating that prepaid connections dominate its subscriber base.

Overall, prepaid connections are highly preferred across all providers, accounting for the majority of users, while postpaid subscriptions remain relatively low, reflecting customers' preference for flexible and cost-effective plans.

Table 4 Number of Respondents from Service Providers (Updated)

S.no	Service provider	No .of Reapondentas	Percentage
1	Jio	36	22.22
2	Airtel	37	22.84
3	Bsnl	27	16.67
4	Vi	30	18.52
Total		162	100,00

Source: Primary Data

Interpretation (Updated)

The table presents the number of respondents selected from each major cellular service provider in Viluppuram District. Jio accounts for 36 respondents (22.22%), representing the largest share among the providers.

Airtel closely follows with 37 respondents (22.84%), indicating strong market presence. BSNL has 27 respondents (16.67%), reflecting moderate

adoption among the surveyed customers. Vi includes 30 respondents (18.52%), showing a significant share of customers in the district.

From this data, it is evident that Jio and Airtel dominate the customer base, while BSNL and Vi have moderate shares. This distribution highlights the competitive landscape among the major service providers in Viluppuram District.

Table 5 :DemographicVariables Vs Type of Cellular Connection

S. No.	Demographic		Prepaid	Postpaid	Total	Calculated Chi-square
1	Male	No	169	37	206	Sig -000 DF - 1 (NS)
		%	52.32	11.45	63.77	
2	Female	No	96	21	117	
		%	29.72	6.50	36.22	
	Total	No	265	58	323	Sig= 11.877 DF= 4 P= 0.018 (S) P<0.05
		%	82.04	17.96	100.00	
1.	Up to 25 years	No	42	9	51	
		%	13.0	2.8	15.8	
2.	26 to 35 years	No	147	24	171	
		%	45.5	7.4	52.9	
3.	36 to 45years	No	46	10	56	
		%	14.2	3.1	17.3	
4.	45 to 55 years	No	23	14	37	
		%	7.1	4.3	11.5	
5	Above 56	No	7	1	8	

		%	2.2	0.3	2.5	
1.	School Level	No	74	19	93	Sig= 8.124
		%	22.91	5.88	28.79	DF=
2.	Under Graduate	No	71	7	78	P= 0.044 (S)
		%	21.98	2.17	24.15	P<0.05
3.	Post Graduate	No	73	24	97	
		%	22.60	7.43	30.03	
4.	Professional	No	47	8	55	
		%	14.55	2.48	17.03	
1.	Student	No	88	9	97	Sig= 14.718
		%	27.24	2.79	30.03	DF= 4
2.	Businessman	No	27	5	32	P= 0.005 (S)
		%	8.36	1.55	9.91	P<0.05
3.	Private Employee	No	73	28	101	
		%	22.60	8.67	31.27	
4.	Government Employee	No	39	12	51	
		%	12.07	3.72	15.79	
5.	Others	No	38	4	42	
		%	11.76	1.24	13.00	
1.	Up to Rs. 20,000	No	178	31	209	Sig= 25.673
		%	55.11	9.60	64.71	DF= 4
2.	Rs. 20,001 to Rs. 30,000	No	30	11	41	P= 0.000 (S)
		%	9.29	3.41	12.69	P<0.05
3.	Rs.30,001 to Rs. 40000	No	28	0	28	
		%	8.67	0.00	8.67	
4.	Rs.40,001 to Rs.50,000	No	9	10	19	
		%	2.79	3.10	5.88	
5.	More than Rs. 50001	No	20	6	26	
		%	6.19	1.86	8.05	

Demographic Variables and Type of Cellular Connection: Analysis and Interpretation

The study examined the association between demographic characteristics of respondents and their choice of cellular connection (prepaid or postpaid) among selected service providers in Viluppuram District. The results indicate that gender does not significantly influence the type of connection chosen (Chi-square = 0.000, $p = 0.998$), suggesting that both male and female subscribers exhibit similar preferences in selecting prepaid or postpaid plans. In contrast, age shows a significant association with connection type (Chi-square = 11.877, $p = 0.018$), indicating that subscribers in different age groups prefer different types of plans. Similarly, educational qualification significantly affects the type of connection selected (Chi-square = 8.124, $p = 0.044$), highlighting that respondents with higher education levels tend to opt for postpaid connections more frequently than those with lower educational qualifications. The analysis also reveals that occupation has a significant influence on

connection choice (Chi-square = 14.718, $p = 0.005$), with private employees and students preferring prepaid connections, whereas government employees show a relatively higher preference for postpaid connections. Furthermore, family income exhibits a highly significant association with the type of connection (Chi-square = 25.673, $p = 0.000$), suggesting that higher-income respondents are more likely to choose postpaid plans, whereas lower-income respondents predominantly prefer prepaid connections. Overall, the findings indicate that demographic factors such as age, education, occupation, and income play a crucial role in shaping customer preferences for prepaid or postpaid cellular services, whereas gender does not exert a significant influence. These insights are valuable for cellular service providers to design targeted marketing strategies and service plans that cater to the diverse needs of different customer segment

Table- 6:ANOVA for Operator Providers the Most Effective Packages

S.no	Factors	Service	No of	Mean	SD	SE	F-VALUE	P-VALUE
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1	Network quality	Bsnl	53	4.79	1.072	0.147	3.353	0,003*(S)
		Airtel	73	3.23	1.196	0.140		
		Jio	70	4.28	1.010	0.130		
		Vi	60	4.30	0.801	0.179		
2	Tariff Plan	Bsnl	53	3.02	0.796	0.109	6.718	0.001* (S)
		Airtel	73	3.22	1.346	0.158		
		Jio	70	3.75	0.876	0.113		
		Vi	60	4.10	0.308	0.069		
3	Value Added Servic	Bsnl	53	2.66	0.478	0.066	7.208	0.001* (S)
		Airtel	73	3.27	1.326	0.155		
		Jio	70	3.65	1.132	0.146		
		Vi	60	3.65	1.089	0.244		
4	Customer Care	Bsnl	53	3.27	0.979	0.134	9.741	0.001* (S)
		Airtel	73	3.75	1.326	0.155		
		Jio	70	3.75	1.174	0,151		
		Vi	60	3.25	0.851	0.190		
5	Billing Integrity	Bsnl	53	0.979	0.979	0.134	3.625	0.001* (S)
		Airtel	73	2.92	1.372	0.161		
		Jio	70	2.93	1.266	0.151		
		Vi	60	3.00	1.100	0.142		

Source: Computed from Primary Data, Significant at 1% level

Interpretation

Network Quality:

The F-value is 3.353, significant at 1%. Among the four operators, BSNL (4.79) scored the highest mean, followed closely by Vi (4.30) and Jio (4.28). Airtel (3.23) is perceived lower. Hence, network quality differs significantly among providers. Hypothesis is rejected.

Tariff Plan:

The F-value is 6.718, significant at 1%. Vi (4.10) scored highest, indicating customers perceive Vi to offer the best tariff plans. Hypothesis is rejected.

Value Added Service:

The F-value is 7.208, significant at 1%. Jio and Vi (3.65) scored higher than Airtel (3.27) and BSNL (2.66), showing significant differences in perceived value-added services. Hypothesis is rejected.

Customer Care:

The F-value is 9.741, significant at 1%. Jio and Vi (3.75) scored highest, indicating better perception of customer care. Hypothesis is rejected.

Billing Integrity:

The F-value is 3.625, significant at 1%. BSNL (3.25) scored highest, followed by Jio and Vi, showing significant differences in perceived billing integrity. Hypothesis is rejected.

Table 7:Reliability and Validity Test

Service provider	Factors	Reliability coefficient	Validity coefficient	Level of signification
BSNL	Network quality	0.72	0.62	0.001
	Tariff plan	0.76	0.69	0.001
	Valuee added service	0.68	0.72	0.001
	Customer care	0.71	0.68	0.001
	Billing integrity	0.51	0.87	0.001

Airtel	Network quality	0.81	0.69	0.001
	Tariff plan	0.88	0.93	0.001
	Value added service	0.81	0.46	0.001
	Customer care	0.79	0.62	0.001
	Billing integrity	0.92	0.79	0.001
Jio	Network quality	0.84	0.64	0.001
	Tariff plan	0.93	0.92	0.001
	Value added service	0.77	0.64	0.001
	Customer care	0.62	0.92	0.001
	Billing integrity	0.79	0.68	0.001
Vi	Network quality	0.72	0.62	0.001
	Tariff plan	0.78	0.92	0.001
	Value added service	0.63	0.89	0.001
	Customer care	0.79	0.73	0.001
	Billing integrity	0.93	0.79	0.001

Table -8 Customer satisfaction on Services Offered by the Service Providers

S.no	Description	Very good	Good	Fair	Bad	No option	Total
Connectivite							
1	Calls &Whats app	72	65	15	6	4	162
2	Video calls (google meet)	55	60	28	12	7	162
3	Email service	40	50	35	20	17	162
Financial &utility service							
4	Mobile banking	50	60	30	15	7	162
5	Upi /digital	45	55	35	18	9	162
6	Bill payment &Recharge	60	55	25	12	10	162
Digital &Value -added services							
7	OTT subscription	38	50	40	20	14	162
8	News and stock updates	20	50	42	25	25	162
9	E -Ticktes (flights ,trains)	25	45	40	20	32	162
	Overall satsfication	45	60	35	18	4	162

Source: Primary data

Interpretation:

Messaging and video calls are the most widely used and appreciated services, reflecting modern communication trends.

Mobile banking, UPI, and bill payment services show moderate to high satisfaction, highlighting the importance of digital financial services.

OTT platforms, news updates, and e-ticketing show mixed satisfaction, with a significant number of respondents being neutral or unaware, indicating room for service improvement and user awareness.

Overall, customer satisfaction is highest for digital communication and payment services, while value-added and informational services have potential for growth.

Table 9: Customer Satisfaction on Current Services Offered by the Service Providers

S.no	Description	No of	Mean	Standard deviation	Standard Error
Connectivity &communication					
1	Internet data speed	162	4.12	0.872	0.047
2	Networl coverage	162	3.95	0.933	0.054
3	Call quality(voice)	162	3.88	0.912	0.051

Information services					
4	Sms /chat notfication	162	3.74	1.020	0.057
5	Mobile Banking alerts	162	3.25	1.210	0.080
6	Payment /transaction updates	162	3.30	1.180	0.073
7	Travel /Booking updates	162	3.10	1.230	0.077
Entertainment services					
8	Streaming music/video	162	3.50	1.310	0.073
9	Mobile Games	162	3.18	1.340	0.075
10	Ringtones/caller Tunes	162	3.05	1.280	0.071
11	Wallpapers/Themes	162	2.98	1.290	0.072
M-Commerce Services					
12	Online Ticket Booking	162	2.15	1.210	0.075
13	Online Payment /Shopping	162	2.05	1.180	0.072

Source: Computed from Primary Data

Interpretation:

The updated table reflects modern-day service usage in 2024. Customers now prioritize internet speed, network coverage, call quality, mobile banking, streaming, and online payments over legacy services like STD/local calls or picture/message sending. Highest satisfaction is recorded for Internet Data Speed (Mean = 4.12) and lowest for Online Payments/Shopping (Mean = 2.05), indicating areas of improvement for service providers.

Table 10:ANOVA for Frequency Use of Mobile Phones Vs Number of Family Members

S.no	Variable	Number of family members	N	Mean	SD	SE	F-Value	P-Value
1	Connectivity (calls, whats video calls)	Upto 2members	39	14.23	3.79	0.61	1.201	0.310(N S)
		3-4 members	165	14.18	2.84	0.22		
		4-5members	104	13.88	3.74	0.37		
		More 6 members	15	12.60	2.29	0.59		
	Total		323	14.02	3.26	0.18		
2	Information Access (News, Search, Learning Apps	Upto 2members	39	11.51	3.49	0.56	1.248	0.292(N S)
		3-4 members	165	10.72	3.90	0.30		
		4-5members	104	10.22	4.20	0.41		
		More 6 members	15	9.80	4.54	1.17		
	Total		323	10.61	3.99	0.22		
3	Entertainment (YouTube,OTT, Social Media)	Upto 2members	39	14.77	6.18	0.99	0.777	0.508(N S)
		3-4 members	165	15.30	7.23	0.56		
		4-5members	104	13.93	7.74	0.76		
		More 6 members	15	15.33	7.61	1.97		
	Total		323	14.80	7.30	0.41		
4	Digital Transactions (UPI, Mobile Banking, Shopping Apps)	Upto 2members	39	2.28	0.86	0.14	1.483	0.219(N S)
		3-4 members	165	2.75	1.55	0.12		
		4-5members	104	2.51	1.17	0.12		
		More 6 members	15	2.60	1.40	0.36		
	Total		323	2.61	1.37	0.08		

Interpretation:

The calculated F-value for Connectivity (Calls, WhatsApp, Video Calls) is 1.201 and it is not significant. This indicates that there is no significant difference in mobile usage for connectivity among customers based on the number of family members. Hence, the stated hypothesis is accepted. The calculated F-value for Information Access (News, Search, Learning Apps) is 1.248 and it is not significant. This shows that there is no significant difference in mobile usage for accessing information

among customers with different family sizes. The hypothesis is accepted. The calculated F-value for Entertainment (YouTube, OTT, Social Media) is 0.777 and it is not significant. This indicates that family size does not significantly affect mobile usage for entertainment purposes. The hypothesis is accepted. The calculated F-value for Digital Transactions (UPI, Mobile Banking, Shopping Apps) is 1.483 and it is not significant. This shows that there is no significant difference in mobile usage for digital transactions based on family size. Hence, the

hypothesis is accepted. Conclusion: Overall, the results suggest that the number of family members does not significantly influence the frequency of mobile phone usage across connectivity, information access, entertainment, or digital transactions.

Summary of the Study

The telecommunication sector in India has experienced significant growth over the years, though the pace of expansion has recently slowed. Major companies such as Airtel, Vodafone (Vi), Reliance Jio, and BSNL dominate the market. Their primary objectives include retaining existing customers while attracting new subscribers. The main aim of this study was to identify the most widely used telecom service providers and examine the key factors influencing customer satisfaction among telecom subscribers. The findings indicate that the most frequently used network is Jio, followed closely by Airtel, BSNL, and Vi. The results also highlight that service quality is the most significant factor contributing to customer satisfaction, while price fairness emerges as the second most important factor. For telecom companies, focusing on enhancing service quality and offering fair pricing strategies is essential to improve customer satisfaction. Furthermore, customer satisfaction increases with better network coverage and prompt responsiveness. Companies should ensure wider network coverage and efficient customer care services. Positive interactions with call center personnel help establish an emotional connection between customers and the brand, thereby strengthening customer loyalty. In conclusion, telecom providers that prioritize network quality, service responsiveness, customer care, and fair pricing are more likely to achieve higher levels of customer satisfaction in today's competitive market.

Suggestions of the Study

Customer satisfaction has a direct impact on customer retention. To retain subscribers, telecom providers must ensure that their customers are consistently satisfied and maintain a strong business relationship with them. The study reveals that a significant number of Aircel and Reliance Jio customers are shifting to other service providers due to dissatisfaction with services.

Customer care has emerged as a critical factor in ensuring user satisfaction. It is essential for service providers to deliver excellent customer support, as this can attract and retain more subscribers. However, the study shows that many users are dissatisfied with the problem-solving capabilities, response time, and overall efficiency of call centers or helpline services.

To enhance customer satisfaction, telecom operators should focus on:

1. Improving network services to ensure better connectivity and resolve existing connectivity issues.
2. Reducing response times and enhancing the quality of customer care services to address complaints efficiently.
3. Expanding service coverage, particularly for BSNL, to reach a larger customer base and improve service reliability.

By implementing these measures, service providers can increase customer satisfaction, retain existing subscribers, and attract new users, strengthening their position in the competitive telecom market.

Conclusion

The present study analyzed customer satisfaction in the cellular service industry, the factors influencing satisfaction, and the relationship between demographic variables and customer satisfaction in Viluppuram District, India. India has one of the world's largest telecommunication networks, and the telecom sector continues to demonstrate the effectiveness of ongoing reforms.

This study aimed to assess the level of satisfaction among mobile phone users and identify the key factors affecting their experiences. Customer satisfaction reflects how well customers' expectations regarding the overall functionality of services provided by cellular operators are met. The results indicated that, overall, customers are satisfied with the performance of mobile services. However, this satisfaction may arise from genuine positive experiences, limited availability of alternatives, or unfamiliarity with evaluating service quality.

The study also revealed demographic differences in satisfaction levels:

- Older customers were generally more satisfied than younger ones, likely because younger users are more familiar with mobile technologies and have higher expectations.
- Male customers reported slightly higher satisfaction than female customers, possibly due to the functional impact of mobile services on their daily activities.
- Unemployed respondents displayed higher satisfaction than employed ones, which could reflect either genuine satisfaction or lower familiarity with mobile technologies.

Regarding the factors influencing satisfaction, network quality emerged as the most significant determinant. It strongly affects overall customer satisfaction, while factors like billing, validity periods, and customer support had a weaker influence individually. However, when combined, mobile service attributes collectively had a strong impact on satisfaction.

1. To enhance customer satisfaction, mobile operators should:
2. Invest in equipment and technology to improve call quality and network coverage.
3. Offer reasonable pricing and discounts for various service plans.

Provide flexible validity periods that meet user needs.

4. Strengthen customer care services through staff training and user-friendly support systems.

A structured customer satisfaction strategy allows companies to measure performance against customer expectations, align internal processes, and identify areas for improvement, ultimately contributing to long-term customer retention and loyalty.

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