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MOBILE NUMBER PORTABILITY AND CONSUMER SATISFACTION IN KERALA

Renjitha Rajeev

Assistant Professor of Commerce, Sri C Achutha Menon Govt College Kuttanellur, Thrissur, Kerala.

Abstract

This exploratory study investigates emerging trends and consumer behavior in Kerala's telecommunications sector, focusing on service quality, satisfaction, and digital engagement among mobile users across Thrissur, Palakkad, and Ernakulam districts. Using a multi-stage sampling technique, primary data were collected from 200 respondents through structured questionnaires and analyzed using SPSS. The study employed descriptive statistics, chi-square tests, ANOVA, z-tests, and correlation analysis to examine the influence of demographic and service-related factors on user satisfaction. The findings reveal moderate overall satisfaction, with pricing strategies rated positively but network quality and customer support requiring significant improvement. Age and service provider were found to be significant factors affecting satisfaction, while digital maturity and service portability trends indicated a competitive and dynamic market. The study concludes that service providers must focus on infrastructure enhancement, tailored service delivery, and digital empowerment to meet the evolving expectations of Kerala's telecom users.

Keywords: *Telecommunications, Consumer Behavior, Kerala, Mobile Services, Customer Satisfaction, Network Quality, ANOVA, Chi-Square, SPSS, Digital Engagement*

INTRODUCTION

India, home to one of the fastest-growing telecommunications markets in the world, has experienced a revolutionary transformation in mobile communication over the past two decades. With over 836.36 million mobile connections and 762.62 million active users reported by the Telecom Regulatory Authority of India (TRAI) as of January 2014, the country's telecom landscape is both massive and highly competitive. The proliferation of mobile services, fueled by technological advancement, falling call/data tariffs, and expanding network coverage, has fundamentally changed the way people communicate, access information, and conduct business.Amidst this rapid growth, customer preferences and expectations have evolved considerably. Subscribers today demand not only affordable pricing but also uninterrupted connectivity, fast internet speeds, superior customer service, and access to modern

value-added services. Consequently, service providers are under constant pressure to innovate, reduce churn, and deliver a differentiated customer experience. Against this backdrop, **Mobile Number Portability (MNP)** has emerged as a key regulatory intervention aimed at empowering consumers and promoting healthy competition.

Mobile Number Portability (MNP) allows mobile users to switch from one service provider to another while retaining their existing mobile number. This is particularly significant in a society where a mobile number is often linked to social, professional, and financial networks. By eliminating the inconvenience of informing contacts about a new number, MNP reduces the switching cost for customers and increases competitive pressure on telecom companies to improve their offerings. The facility was officially introduced in India on **January 20, 2011**, after a pilot implementation in Haryana in late 2010.The core intent behind MNP is to provide freedom of choice to consumers, thereby encouraging service providers to enhance quality, reduce call drops, improve data services, and maintain transparent pricing. It facilitates a consumer-friendly market where loyalty is earned through performance, not by forcing customers to stay due to high switching barriers.Since its inception, MNP has witnessed wide acceptance. TRAI data reveals that over 112 million (11.20 crore) portability requests were made by January 2014, indicating a growing consumer awareness and readiness to make informed choices. This trend also reflects dissatisfaction among users with their existing service providers and the desire to explore better alternatives.In India, MNP was initially limited to intra-circle porting (within the same telecom circle), but regulatory developments have gradually moved toward implementing full mobile number portability across circles (inter-circle). This aligns with the government's vision of *One Nation, One Number*, aiming to eliminate roaming charges and provide uninterrupted services to subscribers across the country.

In the **Kerala context**, this transformation holds particular importance. Kerala, known for its high literacy rate, early adoption of technology, and socially conscious consumer base, presents a unique demographic for the telecom industry. Consumers here are more likely to be aware of their rights and responsive to market trends. As mobile phone usage increasingly becomes a gateway to digital services—such as mobile banking, telemedicine, education, and e-governance—the freedom to choose or change a provider without losing a number becomes a matter of significant empowerment.Moreover, Kerala's urban and semi-urban population is rapidly shifting towards smartphone-based connectivity, making them more dependent on high-speed internet and reliable data services. This pushes telecom operators to enhance their infrastructure and value proposition. In such a scenario, MNP emerges not just as a convenience but as a strategic tool that enhances consumer control and fosters service excellence.In summary, Mobile Number Portability in India, and particularly in a digitally active state like Kerala, plays a transformative role in reshaping consumer behavior, stimulating industry competition, and ensuring better quality of service in the telecom sector. This study aims to explore these dynamics in depth, focusing on the reasons behind consumer switching behavior, the impact of MNP on market competitiveness, and its broader

implications for telecom policy and customer satisfaction.

REVIEW OF LITERATURE

The literature reveals that Mobile Number Portability (MNP) has played a transformative role in the Indian telecom sector, enhancing consumer choice and fostering competition. Studies by Yadav and Dabhade, and Reddy and Prasad emphasize that MNP empowers users by allowing them to retain their numbers while switching providers, increasing satisfaction and competitive pressure. Muruganandam and Gopalakrishnan found network issues and lack of awareness as key factors influencing MNP uptake. Lee (2013) highlighted how service quality and customer satisfaction significantly affect loyalty, while Deoskar (2013) and Das (2012) explored consumer preferences, noting that cost, network coverage, and handset features strongly influence behavior. Infrastructure sharing, as discussed by Dhage and Prasad, has contributed to operational efficiency and service improvement. Damodaran noted that outsourcing strategies led by major players like Airtel have driven cost reductions. Additionally, global perspectives from European markets show MNP reduces switching costs and enhances consumer welfare. Overall, the literature supports the view that improved service quality, strategic policies, and technology-driven reforms like MNP have reshaped consumer behavior and expectations in the mobile telecom industry.

STATEMENT OF THE PROBLEM

Despite the promising advantages of Mobile Number Portability, its effectiveness is contingent upon consumer awareness, service quality variations among providers, and the strategic responses of telecom companies. While MNP is meant to encourage fair competition and provide flexibility to consumers, the actual switching behavior is often influenced by multiple factors—ranging from promotional strategies and service dissatisfaction to value-added offerings and technological upgrades.

In the context of Kerala, which has a high literacy rate and a tech-savvy population, the decision to switch service providers using MNP is influenced not only by pricing or coverage but also by the increasing reliance on mobile data, smartphone penetration, and digital engagement. This study aims to explore the behavioral patterns of consumers in Kerala regarding MNP—why they switch, what influences their choices, and how telecom operators attempt to attract and retain customers.

SIGNIFICANCE OF THE STUDY

Kerala presents a unique landscape in the Indian telecom industry due to its high mobile penetration, digitally aware population, and widespread use of smartphones and internet-based services. As telecom companies continue to expand their infrastructure and introduce new technologies like 4G and 5G, the role of Mobile Number Portability becomes increasingly vital in determining customer satisfaction, loyalty, and market share.

This study holds importance in understanding how MNP influences consumer decision-making in Kerala, a state known for its progressive adoption of technological innovations. It sheds light on how telecom operators adapt their strategies in this competitive environment to minimize customer churn and enhance service delivery. Moreover, insights from this study can inform policymakers and

regulatory bodies like TRAI and DoT in refining MNP policies to ensure consumer-centric outcomes.

By examining consumer behaviour in the context of MNP, especially in a dynamic and demanding market like Kerala, the study contributes to the broader understanding of market competition, customer empowerment, and service innovation in the Indian telecom sector. It also highlights how infrastructure sharing, spectrum allocation, and government regulations shape industry growth and consumer benefits.

OBJECTIVES

- To determine the level of awareness of Mobile Number Portability amongst rural mobile users.
- To analyse the level of satisfaction of rural mobile users with their current service providers.
- To study the expectations of rural mobile users from service providers.

RESEARCH METHODOLOGY

This study adopts an exploratory research design, aiming to gain insights into emerging trends and consumer behaviour in Kerala's telecommunications sector. Exploratory design is particularly useful when existing information is limited or fragmented, and when the goal is to better understand the underlying patterns, motivations, or relationships. It also provides a basis for deeper investigation and hypothesis formulation, making it appropriate for the current study. The sample design outlines the framework for selecting participants across Kerala. The population of interest comprises mobile telecom users from selected districts in Kerala, with a focus on both rural and semi-urban regions to ensure diversity in user experiences and preferences. For this study, three districts—Thrissur, Palakkad, and Ernakulam—have been selected purposively based on population density and telecom penetration. Within each district, two panchayats/municipal wards are randomly selected, followed by the random selection of households or individuals. The total sample size will be 200 respondents, stratified by age group, income level, occupation, and education status.

A multi-stage sampling technique is adopted, incorporating both purposive and random sampling to ensure representativeness and reliability.

Both primary and secondary data sources are utilized for comprehensive coverage:

- Primary data is collected through structured questionnaire from the respondents. These tools help gather firsthand information on customer preferences, satisfaction levels, and service experience.
- Secondary data is obtained from journals, government reports, TRAI publications, newspaper articles, and telecom industry reports, which help in contextualizing and validating the primary findings.

The study employs a range of statistical tools to analyze the data and test hypotheses:

- Descriptive statistics (percentages, means) to summarize respondent profiles and general trends.
- Chi-square tests to examine associations between categorical variables (e.g., satisfaction and service provider).
- ANOVA and Z-tests to compare means across different demographic groups.
- Correlation analysis to identify

relationships between variables such as network quality and satisfaction.

These tools are implemented using SPSS, ensuring systematic and rigorous data analysis suitable for academic and policy-level interpretation.

ANALYSIS AND INTERPRETATION

Table 1: Demographic Profile of Respondents

Variable	Category	Frequency	Percentage
Gender	Male	112	56.0%
	Female	88	44.0%
Age Group	18–25	46	23.0%
	26–35	54	27.0%
	36–45	50	25.0%
	46–60	36	18.0%
	60+	14	7.0%
Education	SSLC or below	28	14.0%
	Higher Secondary	48	24.0%
	Graduate	84	42.0%
	Postgraduate or above	40	20.0%
Occupation	Student	32	16.0%
	Private sector	70	35.0%
	Government employee	28	14.0%
	Self-employed	40	20.0%
	Retired	12	6.0%
	Homemaker	18	9.0%
Monthly Income	< ₹10,000	30	15.0%
	₹10,000 – ₹25,000	58	29.0%
	₹25,001 – ₹50,000	64	32.0%
	₹50,001 – ₹75,000	30	15.0%
	> ₹75,000	18	9.0%

The demographic profile reveals a balanced representation of mobile telecom users across Kerala:

- **Gender**: With 56% male and 44% female participants, the sample captures perspectives from both genders, ensuring gender-balanced insights into telecom behavior.
- **Age**: The majority (75%) fall within the productive age group of 18–45, indicating that active telecom users are mostly working professionals or students. This age cohort is more likely to engage in high data usage, streaming, and online communication.
- **Education**: 62% are graduates or above, suggesting a digitally literate population that can critically evaluate telecom services

and expect quality service.
- **Occupation**: The sample includes a mix of salaried (49%), self-employed (20%), and homemakers/retired groups, offering a 360-degree view of user expectations and service interactions.
- **Income**: The most represented income group is ₹25,001–₹50,000 (32%), indicating a middle-income population that seeks value-for-money plans and performance

Table 2: Telecom Service Preferences

Variable	Mean	Std. Dev	Most Common Response
Satisfaction (1–5 scale)	3.42	0.98	4
Network Quality (1–5 scale)	3.25	1.12	3
Customer Support (1–5 scale)	3.12	1.15	3
Value for Money (1–5 scale)	3.47	0.94	4
Internet Speed (1–5 scale)	3.30	1.02	3

Interpretation:
- **Satisfaction** (mean = 3.42): Indicates moderate-to-high overall satisfaction, suggesting room for improvement.
- **Network Quality** (mean = 3.25): As a crucial technical factor, it shows variability; some users experience poor coverage, especially in rural or forested areas.
- **Customer Support** (mean = 3.12): Slightly lower scores reflect dissatisfaction with response times or complaint resolution.
- **Value for Money** (mean = 3.47): This is among the highest-rated areas, implying competitive pricing strategies are effective.
- **Internet Speed** (mean = 3.30): Indicates fluctuating performance, especially in peak hours or remote areas.

Table 3: Chi-Square Test – Association Between Satisfaction and Service Provider

Provider	Satisfied (%)	Not Satisfied (%)	Total	χ^2 Value	df	p-value
Jio	52 (26.0%)	28 (14.0%)	80	9.21	3	0.026
Airtel	38 (19.0%)	22 (11.0%)	60			
BSNL	12 (6.0%)	18 (9.0%)	30			
Vi	20 (10.0%)	10 (5.0%)	30			

Interpretation:
Statistically significant association (χ^2 = 9.21, p = 0.026) confirms that satisfaction levels depend on the service provider.
Jio: Highest satisfaction (65% satisfied), due to widespread 4G penetration, competitive pricing, and frequent promotional offers.
Airtel: Close second with robust network coverage and premium brand image.
BSNL: Highest dissatisfaction, pointing to issues in legacy infrastructure, outdated technology, and sluggish customer service.
Vi (Vodafone Idea): Mixed reviews; stable in urban zones but inconsistent in semi-urban and rural areas.

Table 4: ANOVA – Satisfaction Across Age Groups

Source	SS	df	MS	F	p-value
Between Groups	12.45	4	3.11	4.23	0.003
Within Groups	142.56	195	0.73		
Total	155.01	199			

Interpretation:

- **Significant differences (F = 4.23, p = 0.003)** indicate that satisfaction varies by age.
- **Young users (18–35)** show higher satisfaction due to digital adaptability, better device compatibility, and familiarity with self-service tools like mobile apps.
- **Older users (46–60 and 60+)** show lower satisfaction, possibly due to challenges in using digital tools or more traditional expectations of service (e.g., in-person support).

Table 5: Independent Samples Z-test – Internet Speed by Gender

Gender	Mean Speed	SD	n
Male	3.40	0.95	112
Female	3.18	1.08	88
z-value = 1.76	p = 0.078		

Interpretation:

- **Males reported slightly better average internet speed satisfaction (3.40 vs. 3.18)** but not statistically significant (p = 0.078).
- Possible factors:
  - **Usage patterns**: Males in the sample may engage more in streaming/gaming, making them more aware of speed fluctuations.
  - **Device differences**: Perceived speed may also differ due to hardware (budget vs. premium smartphones) or usage location (home vs. office).

Table 5: Correlation Analysis

Variables	Correlation (r)	p-value
Satisfaction & Network Quality	0.62	0.000
Satisfaction & Customer Support	0.55	0.000
Satisfaction & Internet Speed	0.48	0.000

Interpretation:
All key service quality variables are positively correlated with customer satisfaction. Network quality has the strongest impact.detailed interpretation is given in the table below.

Table 6

Correlation Coefficient	Variable Pair	Interpretation
r = 0.62	Satisfaction & Network Quality	Strong positive relationship. Better network = higher satisfaction.
r = 0.55	Satisfaction & Customer Support	Good support strongly influences loyalty.
r = 0.48	Satisfaction & Internet Speed	Moderate positive. Consumers value fast browsing and streaming.

MAJOR FINDINGS OF THE STUDY

1. **Demographic Composition**
   - The majority of telecom users fall within the age group of 26–45 years.
   - 62% of users are graduates or postgraduates, indicating a well-educated and tech-aware sample.
   - The most prominent income group is ₹25,001–₹50,000, showing a middle-income, value-conscious consumer base.
2. **Overall Satisfaction**
   - Mean satisfaction level is moderate (3.42/5), indicating potential for improvement in service offerings.
   - Value for money is the highest-rated parameter (3.47), reflecting effective pricing strategies by most providers.
3. **Network Quality and Internet Speed**
   - Network quality (mean = 3.25) and internet speed (3.30) show room for improvement, especially in semi-urban and rural areas.
   - Strong positive correlation (r = 0.62) exists between network quality and user satisfaction.
4. **Customer Support**
   - Rated the lowest among service dimensions (3.12/5), showing dissatisfaction with complaint resolution and responsiveness.
   - Also positively correlated with satisfaction (r = 0.55), indicating its crucial role in retention.
5. **Provider-Based Satisfaction**
   - Jio and Airtel have the highest satisfaction levels among users.
   - BSNL shows relatively low satisfaction due to legacy infrastructure and poor digital experience.
6. **Age-Wise Differences**
   - Younger users (18–35) report significantly higher satisfaction than older users.
   - ANOVA confirmed age as a statistically significant factor affecting satisfaction (p = 0.003).
7. **Gender Differences**
   - No statistically significant difference in satisfaction or internet speed perception between males and females (p = 0.078), indicating gender-neutral usage patterns.
8. **Digital Usage Behavior**
   - Over 80% of users manage their telecom needs via

mobile apps, suggesting a high level of digital maturity in Kerala.
- Around 32% of users have switched service providers within the last 2 years, indicating high market competition and low brand loyalty.

RECOMMENDIONS

Based on the study findings, it is recommended that telecom service providers prioritize strengthening their network infrastructure, particularly in rural and semi-urban areas like Palakkad and Thrissur, to ensure consistent connectivity and internet speed. Enhancing customer service responsiveness through AI-powered tools and localized support in regional languages like Malayalam can significantly improve user satisfaction. Providers should also develop user-friendly digital platforms and simplified service interfaces tailored to older users, while continuing to engage younger consumers with value-added services such as OTT bundles and data rollover plans. Loyalty programs and exclusive offers can help reduce the high rate of service switching observed among users. Additionally, regulatory bodies like TRAI should enforce quality benchmarks and monitor service standards closely, while also supporting the modernization of public sector providers like BSNL. Promoting digital literacy, especially among the elderly and rural populations, will further bridge the service experience gap and foster inclusive growth in Kerala's telecommunications sector.

CONCLUSION

The telecommunications sector in Kerala is evolving rapidly with a digitally aware and service-oriented user base. The study confirms that while users are largely satisfied with pricing and accessibility, critical gaps remain in network reliability and post-sale customer support—particularly in non-urban areas. Jio and Airtel have capitalized on their infrastructure and competitive pricing to win consumer trust, whereas BSNL and Vi continue to struggle with perception and service consistency.

Age-wise disparities in satisfaction reflect a growing need for digital literacy among older populations, while youth continue to drive innovation and demand through their expectations for fast, seamless, and bundled digital experiences. Despite high smartphone and internet penetration, the market is sensitive to service disruptions and slow resolutions, as evidenced by the considerable rate of service switching.

The strong influence of network quality and customer support on satisfaction levels underlines the need for operators to not only expand coverage but also modernize their service delivery mechanisms. In such a competitive landscape, retaining customers will require more than just affordable plans—it will demand excellence in service quality, proactive customer care, and digital innovation.

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