ISSN 0974-763X
UGC-CARE Listed Journal

SOUTH ASIAN JOURNAL OF MANAGEMENT RESEARCH (SAJMR)

Special Issue

Volume 15, Issue No.2

April, 2025

CHHATRAPATI SHAHU INSTITUTE OF BUSINESS EDUCATION AND RESEARCH (CSIBER), KOLHAPUR, MAHARASHTRA, INDIA

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Published by

CSIBER Press, Central Library Building

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Chhatrapati Shahu Institute of Business Education and Research (CSIBER)

South Asian Journal of Management Research (SAJMR)

Special Issue

Volume 15, Issue No. 2, April 2025

Editor: Dr. Pooja M. Patil

Publisher
CSIBER Press
Central Library
Chhatrapati Shahu Institute of
Business Education & Research (CSIBER)
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Editorial Note

South Asian Journal of Management Research (SAJMR), is a scholarly journal that publishes scientific research on the theory and practice of management. All management, computer science, environmental science related issues relating to strategy, entrepreneurship, innovation, technology, and organizations are covered by the journal, along with all business-related functional areas like accounting, finance, information systems, marketing, and operations. The research presented in these articles contributes to our understanding of critical issues and offers valuable insights for policymakers, practitioners, and researchers. Authors are invited to publish novel, original, empirical, and high quality research work pertaining to the recent developments & practices in all areas and disciplined.

Cross-functional, multidisciplinary research that reflects the diversity of the management science professions is also encouraged, the articles are generally based on the core disciplines of computer science, economics, environmental science, mathematics, psychology, sociology, and statistics. The journal's focus includes managerial issues in a variety of organizational contexts, including for profit and nonprofit businesses, organizations from the public and private sectors, and formal and informal networks of people. Theoretical, experimental (in the field or the lab), and empirical contributions are all welcome. The journal will continue to disseminate knowledge and publish high-quality research so that we may all benefit from it.

Dr. Pooja M. Patil
Editor

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University Road Kolhapur, Maharashtra - 416004, India.

ISSN: 0974-763X
Price: INR ₹ 1,200/-
Editor: Dr. Pooja M. Patil

Distributed By
CSIBER Press
Central Library
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Business Education & Research (CSIBER)
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(SAJMR)
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Volume 15, Issue No. 2 **April, 2025**

C O N T E N T S

Determinants of Customer Satisfaction in Indian Telecom: A Multivariate Analysis of Uttar Pradesh

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Abstract

The Indian telecom industry serves as a cornerstone for economic growth and connectivity. Despite its rapid expansion, ensuring customer satisfaction remains a persistent challenge, particularly in densely populated regions like Uttar Pradesh. This study investigates the key determinants of customer satisfaction within the Indian telecom sector, focusing specifically on Uttar Pradesh. Data were collected from a diverse group of telecom users and analyzed using SPSS 22.0. Employing multivariate techniques, particularly Factor Analysis through Principal Component Analysis (PCA), the study reduces 22 service-related variables to identify the underlying determinants of customer satisfaction. The findings indicate that service quality and network reliability are the most influential predictors of customer satisfaction, followed closely by competitive pricing and responsive customer support. This research offers actionable insights for telecom operators to develop customer-centric strategies, enhance service delivery, and improve customer retention. Additionally, the study provides important implications for policymakers seeking to address regional disparities and strengthen the telecom infrastructure in Uttar Pradesh.

Keywords: Customer Satisfaction, Indian Telecom Industry, Determinants of Satisfaction, Service Quality, Factor Analysis.

Introduction

Mobile network providers play a vital role in modern life by enabling voice calls, text messaging, and data transfer, facilitating connectivity for both personal and professional purposes. India's strong GDP growth of 9.5% in 2021 and 8% in 2022 underscores its position as one of the fastest-growing economies globally, driving an increasing demand for affordable and reliable communication services to support development (Saxena et al., 2022). Initially, communication in India relied predominantly on one-to-one calls or SMS. However, technological advancements and the proliferation of mobile networks have expanded their role significantly, transforming how individuals and organizations operate on a daily basis. (Kar, A., & Goyal, K. 2020)

The Digital India initiative has been pivotal in prioritizing internet and broadband penetration across the country, recognizing mobile platforms as the primary medium for internet access. This initiative aligns with the rapid growth of mobile network providers, creating a synergy between government policies and technological breakthroughs. Such developments are critical for promoting long-term economic growth and ensuring equitable access to the benefits of digital connectivity (Olczyk & Kuc 2022; Kumari, S., et al. 2024). This collaboration has spurred efforts to bridge the digital divide, empowering citizens in urban and rural areas alike with enhanced access to education, healthcare, and economic opportunities. (Agarwal & Panda, 2018).

Customer satisfaction remains a key factor for the success of service providers. It fosters client loyalty, driving repeat business and positive word-of-mouth recommendations, which are vital in the competitive telecom industry (Islam, T., et al. 2015; Wilson et al., 2016). Akpoyomare, O. B. E., et al. (2014) emphasize that retaining and delighting existing customers is more cost-effective than acquiring new ones. As the telecom industry has evolved with the introduction of 5G technologies, mobile providers now offer baseline services such as free internet and calling. However, it remains unclear whether these features alone drive customer satisfaction or whether other factors also play a significant role.

This study explores this question by examining customer satisfaction in Uttar Pradesh (India), a state with over 200 million residents and a competitive telecom market. Since the liberalization of the telecom industry in the 1990s, major operators such as Bharti Airtel, Vodafone-Idea, Reliance Jio, and BSNL have made substantial

investments in network infrastructure, expanding coverage and making smartphones more affordable. This growth has significantly improved access to education and healthcare while enhancing the quality of life for millions.
Research indicates that service quality, brand image, pricing, and network quality are crucial determinants of customer satisfaction. Shah (2012) highlighted these factors as key influencers in the selection of mobile service providers. Abd-Elrahman (2023) identified elements such as honesty, assurance, cellular quality, empathy, and assistance as having a significant impact on customer satisfaction. In Bangladesh, Hafez & Akther (2017) found that value-added services (VAS) significantly boost customer loyalty and usage, with perceived value, quality, and brand image serving as critical drivers. Yulisetiarini & Prahasta (2019) emphasized the importance of price, service quality, customer value, and brand image in shaping customer satisfaction.
Recent studies reinforce these findings. Haq et al. (2023) explored the performance of 3G and 4G services in Pakistan, identifying their impact on customer satisfaction and telecom operators' revenue. Similarly, Balaji and Senthilkumar (2024) conducted an empirical study on user satisfaction with various services provided by mobile operators, providing insights into customer perceptions and expectations.

Objectives of the Study
Understanding the factors influencing customer satisfaction and loyalty is critical for the growth and success of the telecom sector, especially in competitive and diverse markets like Uttar Pradesh. By examining user demographics, service quality, and usage patterns, this study aims to uncover actionable insights that can help service providers tailor their offerings. The primary aims of the study are listed below:

- To identify the key factors influencing customer satisfaction and loyalty in the Indian telecom sector, with a focus on Uttar Pradesh.
- To analyze the impact of demographic variables such as age, gender, education, and occupation on mobile usage patterns and preferences.
- To evaluate the role of service quality elements, including network coverage, data speed, and pricing, in shaping customer satisfaction.
- To provide actionable insights and recommendations for mobile service providers to enhance user experience and foster customer loyalty.

Literature Review
Customer satisfaction has been a widely researched topic in the telecommunications industry due to its critical role in fostering customer loyalty and enhancing business performance. In the dynamic telecom market, where technological advancements and intense competition shape customer expectations, understanding the determinants of satisfaction is pivotal for sustaining market share and profitability.

Service Quality and Customer Satisfaction
The quality of service offered by mobile network providers is one of the most critical determinants of customer satisfaction. Parasuraman et al. (1988) introduced the SERVQUAL model, identifying reliability, responsiveness, assurance, empathy, and tangibles as the core dimensions of service quality. These dimensions have been validated in various studies within the telecom sector. Shah (2012) found that network coverage, call quality, and customer support are crucial factors influencing customer satisfaction in India's telecom market. Recent studies by Goyal, K. & Kar, A. (2019) highlight that advanced network infrastructure, seamless internet services, and effective complaint resolution significantly impact customer satisfaction and loyalty.

Role of Pricing and Value Perception
Pricing strategies also play a pivotal role in shaping customer satisfaction. Competitive pricing combined with value-added services has been shown to enhance customer loyalty (Dubey & Srivastava, 2016). For instance, the introduction of bundled plans offering free data and calls has transformed consumer expectations in the Indian telecom market. Yulisetiarini & Prahasta (2019) emphasized that perceived value, which combines price fairness and quality of service, directly influences customer retention. Furthermore, affordability has been a key focus of providers like Reliance Jio, contributing to their dominance in the Indian market (Olczyk & Kuc, 2022).

Impact of Technological Advancements
The advent of 4G and 5G technologies has reshaped the telecommunications landscape, offering higher speeds and improved reliability. According to Balaji and Senthilkumar (2024), the transition to advanced technologies necessitates better network infrastructure and customer education to maximize satisfaction. Mobile operators must continuously invest in upgrading their networks to meet evolving customer expectations. Similarly, Haq et al. (2023) identified the performance of 4G services as a significant driver of customer satisfaction, indicating the importance of keeping pace with technological advancements.

Demographic and Regional Influences

Demographics and regional factors also play a crucial role in determining customer satisfaction. Abd-Elrahman (2023) observed that demographic variables such as age, gender, and income level influence the perception of service quality. In the Indian context, the diverse socio-economic and cultural landscape amplifies the need for localized strategies. Recent studies by (Olczyk & Kuc, 2022; Asrani, 2020). emphasize the importance of bridging the urban-rural digital divide to enhance customer satisfaction in states like Uttar Pradesh.

Customer Loyalty and Retention

Customer satisfaction is a precursor to loyalty, which translates into long-term profitability for service providers. Johnson & Gustafsson (2000) highlighted that retaining existing customers is more cost-effective than acquiring new ones. The introduction of value-added services and personalized offerings has been shown to foster loyalty (Dubey & Srivastava, 2016). Providers that invest in understanding and addressing customer pain points are better positioned to build lasting relationships with their clientele.

Research Gap

While existing literature provides insights into various determinants of customer satisfaction, there is limited research focusing on the regional variations and unique customer needs in Uttar Pradesh. Moreover, with the rapid deployment of 5G technologies, the impact of these advancements on customer satisfaction remains underexplored. This study aims to address these gaps by identifying the key factors influencing customer satisfaction in Uttar Pradesh's telecom sector, offering actionable insights for both practitioners and policymakers.

Materials and Methods

This study employed a structured research methodology to uncover the determinants of customer satisfaction and loyalty in the Indian telecom sector. A quantitative approach was adopted, utilizing a questionnaire to collect primary data from mobile users in Uttar Pradesh.

Research Instrument

A well-structured questionnaire was developed, consisting of 22 service-related characteristics along with several variables pertaining to customer satisfaction and loyalty. The instrument was divided into two sections. Section 1 focused on gathering demographic information, including age, gender, education, occupation, mobile network name, and monthly usage. Section 2 addressed questions related to service quality, customer satisfaction levels, and customer loyalty. To ensure clarity, relevance, and reliability, a pilot survey was conducted with a small sample before finalizing the questionnaire. All questions were measured using a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Data Collection

The data was collected through multiple channels, including email, social media platforms, and personal contacts. Google Forms was used to disseminate the questionnaire, enabling wide accessibility and convenience for respondents. A total of 319 valid responses were received and analyzed, providing a robust sample size for the study.

Sampling Design

The respondents were selected from various regions across Uttar Pradesh, ensuring geographic diversity. The sampling strategy aimed to include users of different telecom operators and varying monthly usage patterns, making the results broadly representative.

Data Analysis

The data was analyzed using SPSS 22.0. Factor analysis was employed to reduce the 22 service-related variables and identify underlying determinants of customer satisfaction. The statistical methods used ensured robust results and meaningful insights.

Factor Analysis Model

Factor analysis aims to represent each variable in the original dataset as a linear combination of a few underlying factors, thereby explaining the relationships and dimensionality of the data. The process involves several steps: first, normalizing the original data matrix $V = (V_{ij})_{nXm}$; then computing the correlation matrix R from the standardized data using the formula

$R = \frac{1}{n-1} V^T V.$

Principal Component Analysis (PCA) is performed on this correlation matrix to identify the eigenvalues λ and corresponding eigenvectors α. Common factors are extracted based on the eigenvalues, selecting p factors such that $\lambda_1 \geq \lambda_2 \geq \ldots \geq \lambda_p \geq 0$.

These factors are used to derive the loading matrix $A = (a_{ij})_{pXm}$, which is then rotated for better interpretability using methods such as varimax rotation, transforming $A\ to\ A^*$. Factor scores f_i for each common factor for each sample are calculated using various estimation methods, such as the regression method or the Bartlett method. Finally, a comprehensive evaluation index *(y)* is determined by combining the factor scores and corresponding eigenvalues in a linear manner.

$$y = \sum_{i=1}^{p} \frac{\lambda_i}{\sum_{j=1}^{p} \lambda_i} f_i.$$

The variables n, m, and p in these formulas stand for the number of samples, indicators, and common factors, respectively.

Ethical Considerations

The study adhered to ethical research practices, ensuring participant confidentiality and informed consent. Data collection and analysis were conducted responsibly to maintain the integrity of the research process.

By employing this structured approach, the study effectively identified critical factors influencing customer satisfaction and loyalty in the telecom sector. The methods ensured the reliability and validity of the findings while providing actionable insights for mobile service providers.

User Demographics and Service Usage Insights

This section provides an overview of the demographic characteristics and usage patterns of mobile network users based on survey data. Key demographic factors include age group, gender, educational qualification, profession, mobile operator preferences, and monthly expenditure on mobile services.

The survey revealed a balanced gender distribution among respondents, with 50.8% female and 49.2% male participants. Age-wise, a significant proportion (74%) of the respondents belonged to the 20–25 age group, highlighting the predominance of younger users in the dataset. These youthful demographic points to a strong demand for data-driven and technology-oriented services. Regarding educational qualifications, 62.4% of the respondents were postgraduates, indicating a well-educated user base, which could influence their expectations and preferences for advanced mobile services.

The analysis of mobile operator preferences revealed that Reliance Jio dominated the market with a 56% share, followed by Bharti Airtel (29%), Vodafone Idea (13%), and BSNL (2%). This dominance reflects Jio's competitive strategies and strong market positioning. Monthly expenditure on mobile services was primarily concentrated in the INR 200–300 range, indicating moderate spending patterns among users. A noteworthy finding was that 91.5% of respondents preferred prepaid connections, while 59.9% used multiple SIM cards, showcasing a trend of leveraging various network providers for optimal benefits.

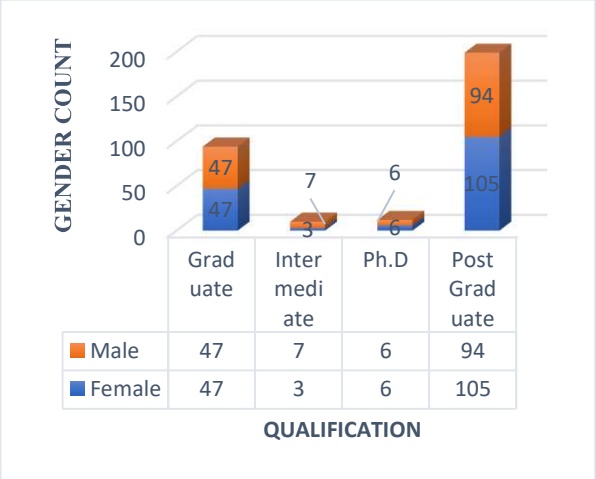
From a technological perspective, 4G networks were the most prevalent, with 87.5% of respondents utilizing 4G services. 5G adoption remains nascent at 7.8%, while older technologies like 3G and 2G are nearing obsolescence with minimal usage rates of 2.8% and 1.3%, respectively. This highlights a rapid shift toward advanced network technologies and a growing reliance on high-speed internet connectivity.

Customer satisfaction levels, as detailed in Figure 5, indicated that over 60% of respondents were satisfied with critical service features such as network coverage, data speeds, Value-Added Services (VAS), customer support, and payment systems. However, satisfaction with added benefits and promotional offers was lower, at just over 45%, suggesting an area for improvement. A major pain point identified was network availability during travel, with only 41.7% of respondents expressing satisfaction, underlining a key service gap.

Customer loyalty trends, illustrated in Figure 6, emphasize the importance of service features in operator selection. Over half of the respondents acknowledged the competitiveness of operators and their ability to meet customer needs. However, while 53% were willing to recommend their operator, only 45.8% expressed a willingness to repurchase from their current provider. This indicates that although general satisfaction exists, there is a need for operators to strengthen customer loyalty by addressing service gaps and offering more value-driven packages.

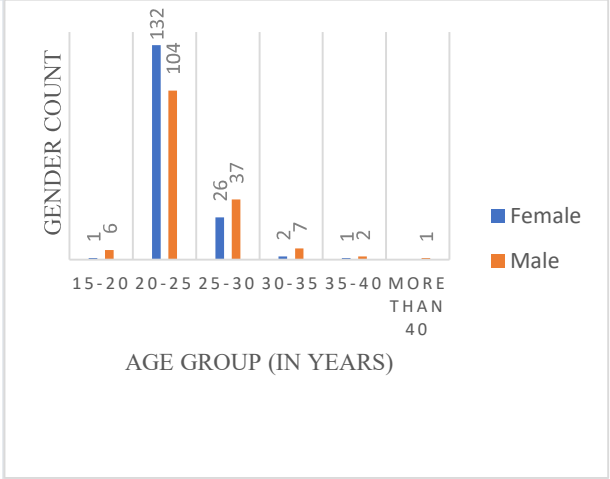
Finally, advertisements had a moderate influence, with 41.4% of respondents admitting they were impacted by marketing efforts. Additionally, nearly half of the respondents emphasized the need for operators to reduce operational costs, reflecting a preference for cost-efficient services that could translate into more competitive pricing. Collectively, these insights provide a clear roadmap for mobile network providers to enhance their offerings and improve customer retention strategies.

Figure 1: Count of Gender according to qualification



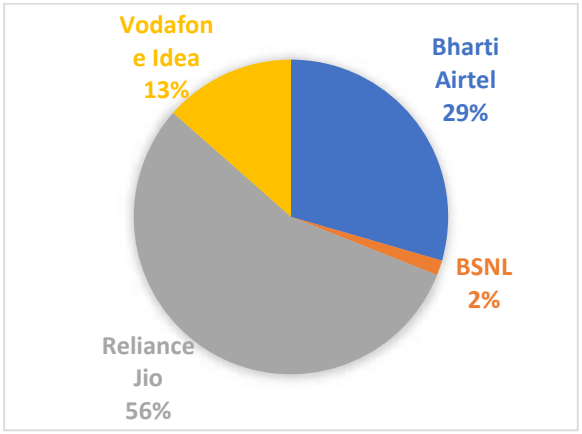
Source: Primary Data

Figure 2: Count of Gender in each age group



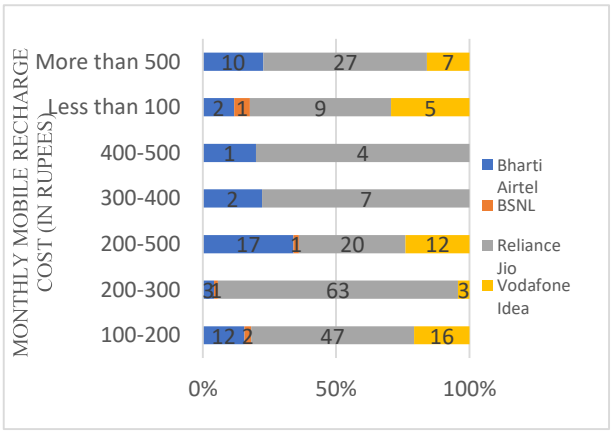
Source: Primary Data

Figure 3: Percentage division of usage of particular mobile network



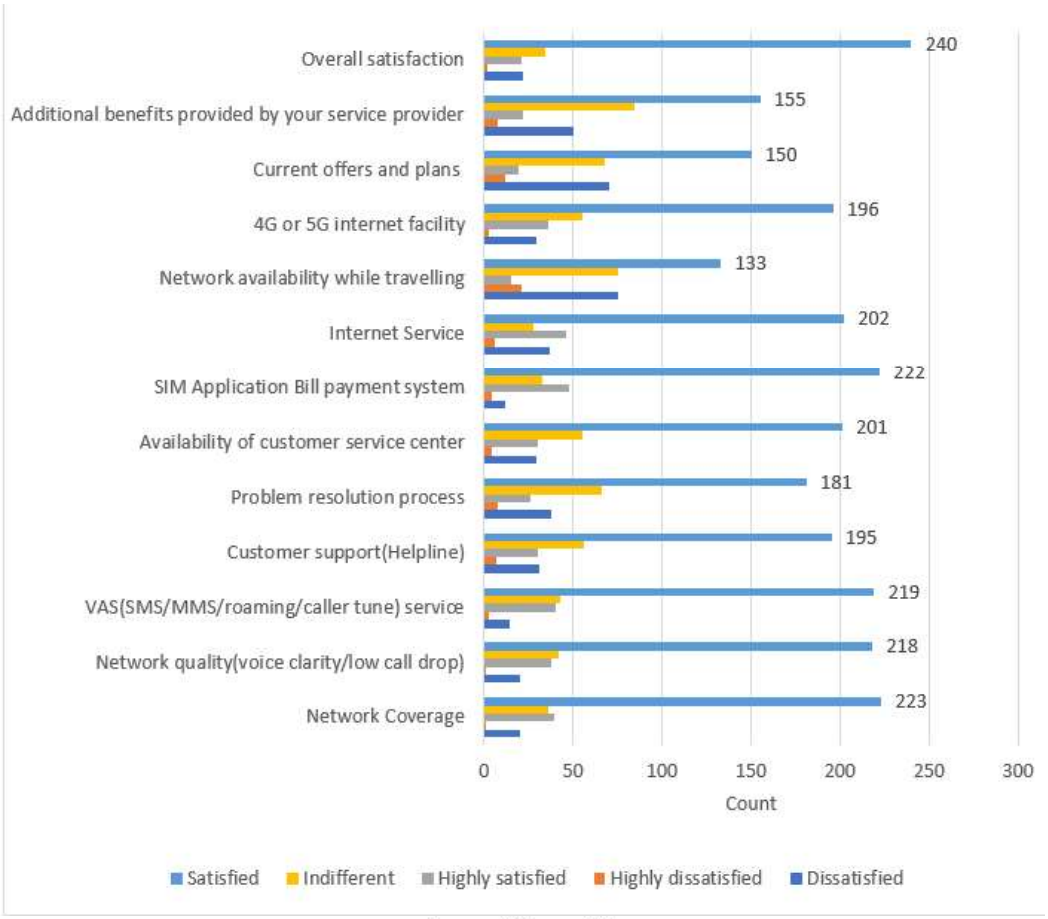
Source: Primary Data

Figure 4: Monthly Mobile Recharge Cost (in Rupees) under each Mobile Network Providers



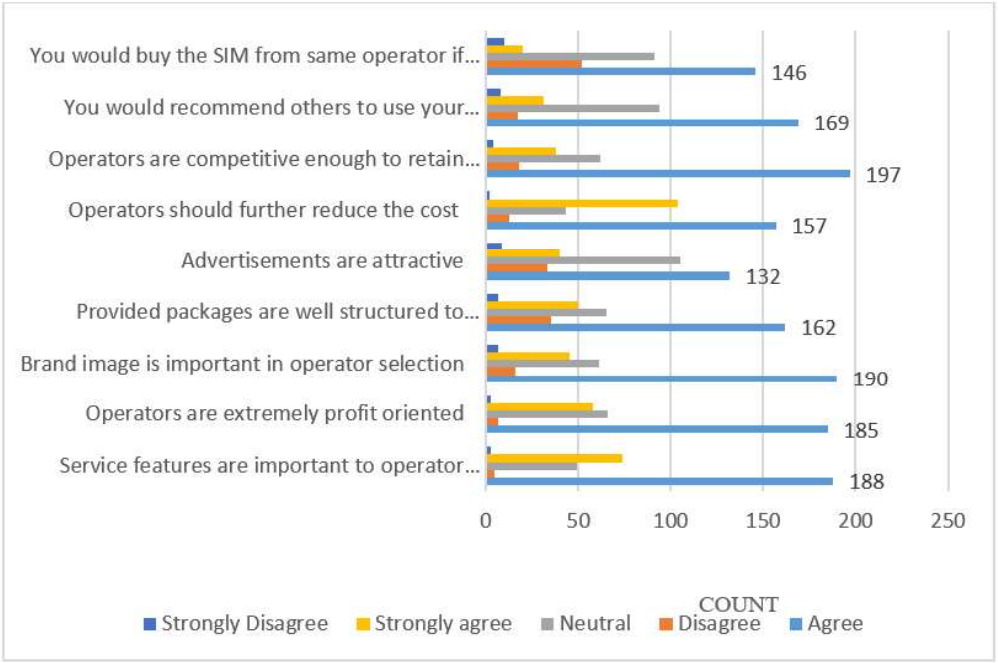
Source: Primary Data

Figure 5: Customer Satisfaction level towards Service Quality



Source: Primary Data

Figure 6: Customer Satisfaction level and loyalty



Source: Primary Data

Multivariate Analysis: Factor Analysis

In this section, Principal Component Analysis (PCA) combined with the Varimax rotation method using Kaiser normalization was applied. The selection criterion for significant factors was based on eigenvalues greater than 1, as detailed in Table 3. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy indicated a robust value of 0.875, while Bartlett's Test of Sphericity confirmed the dataset's suitability for factor analysis. The analysis was conducted on 22 variables encompassing customer satisfaction, customer loyalty, and service attributes.

This rigorous approach facilitated the extraction of five significant factors. These factors were identified through PCA and further clarified via Varimax rotation with Kaiser normalization, adhering to the eigenvalue threshold of greater than 1, as shown in Table 3.

Table 3: Total Variance Explained

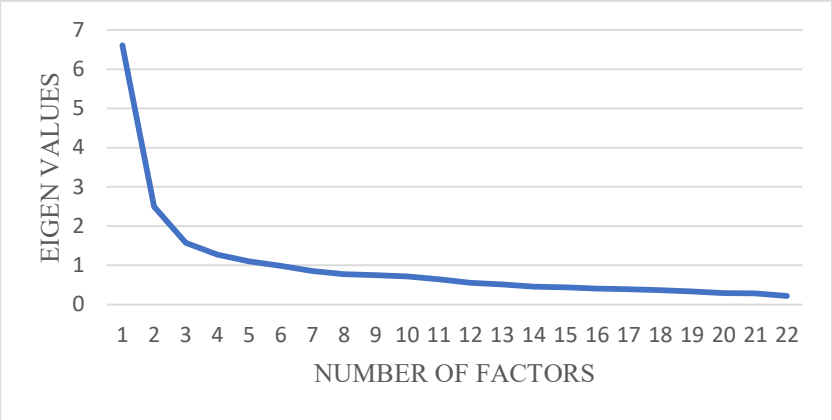
Items	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.610	30.047	30.047	6.610	30.047	30.047	3.185	14.480	14.480
2	2.493	11.331	41.378	2.493	11.331	41.378	3.143	14.287	28.767
3	1.574	7.155	48.532	1.574	7.155	48.532	2.745	12.479	41.246
4	1.268	5.764	54.296	1.268	5.764	54.296	2.006	9.116	50.362
5	1.097	4.986	59.282	1.097	4.986	59.282	1.962	8.920	59.282
6	.988	4.489	63.772						
7	.855	3.885	67.657						
8	.769	3.497	71.154						
9	.750	3.408	74.562						
10	.712	3.235	77.797						
11	.644	2.927	80.724						
12	.551	2.504	83.228						
13	.513	2.332	85.561						
14	.457	2.078	87.639						
15	.439	1.995	89.633						
16	.408	1.853	91.487						
17	.391	1.779	93.266						
18	.364	1.654	94.920						
19	.329	1.498	96.418						
20	.293	1.330	97.747						
21	.281	1.278	99.025						
22	.215	.975	100.000						

Source: SPSS 22.0 (Extraction Method: Principal Component Analysis)

The Principal Component Analysis reveals that five components were significant (eigenvalues > 1). Factor 1 accounted for 14.480% of the total variance post-rotation, followed by contributions of 14.287%, 12.479%, 9.116%, and 8.920% by the remaining factors. Together, they explained 59.282% of the total variance. The rotation of components distributed the explained variance more evenly, enabling a more interpretable structure. This analysis effectively reduced dimensionality and uncovered key underlying factors in the dataset.

The scree plot "elbow" identified through the scree test marks the natural cutoff for significant components. Factors to the left of the elbow are deemed significant and retained for further analysis. As depicted in Figure 7, the first five principal components sufficiently describe the dataset. Beyond the fifth component, eigenvalues drop sharply, indicating diminishing importance of subsequent components.

Fig 7: Scree Plot



Source: SPSS 22.0

Principal Component Analysis (PCA) was used as the extraction method to reduce dimensionality and uncover the underlying structure of the dataset. This was followed by Varimax rotation with Kaiser Normalization to achieve clearer and more interpretable factors. The results, as shown in Table 4, highlight significant loadings for variables within each factor. For example, the first factor showed significant loadings on variables X1 to X5, the second on X6 to X8, and so on. This rotation method maximized the variance of squared loadings, effectively reducing cross-loadings and enhancing interpretability.

Table 3: Rotated Component Matrix

Variable	**Component**				
	1	2	3	4	5
Network Coverage (X_1)	0.747				
Network quality (voice clarity/low call drop) (X_2)	0.783				
VAS (SMS/MMS/roaming/caller tune) service (X_3)	0.666				
Internet Service (X_4)	0.603				
Overall satisfaction (X_5)	0.572				
Customer support (Helpline) (X_6)		0.827			
Problem resolution process (X_7)		0.843			
Availability of customer service center (X_8)		0.718			
Network availability while travelling (X_9)			0.783		
4G or 5G internet facility of your service provider (X_{10})			0.713		
Current offers and plans provided by your service provider (X_{11})			0.814		
Additional benefits provided by your service provider (X_{12})			0.777		
Brand image is important in operator selection (X_{13})				0.568	
Provided packages are well structured to fulfill customer needs (X_{14})				0.711	
Advertisements are attractive (X_{15})				0.695	
Service features are important to operator selection (X_{16})					0.610
Operators are extremely profit oriented (X_{17})					0.736
Operators should further reduce the cost (X_{18})					0.819

Source: SPSS 22.0

The Varimax method, an orthogonal rotation technique, was employed for factor loading rotation. This method optimized the variance of squared loadings, reducing cross-loadings and ensuring clearer interpretability. The results demonstrated high convergent validity, and the absence of significant cross-factor loadings confirmed discriminant validity. Coefficients below 0.5 were suppressed to refine clarity, and a scree plot was generated to visualize factor significance. Rotated factor loadings above 0.7 were achieved for most variables, demonstrating a robust fit for factor analysis and supporting construct reliability.

Table 4: Average Variance Extracted (AVE) and Composite Reliability (CR)

Construct	**Variable**	**Loadings Squared**	**Error Variance**	**CR**	**AVE**
	X_1	0.558009	0.441991		
	X_2	0.613089	0.386911		

Output Quality (F_1)	X_3	0.443556	0.556444	0.80832	0.46108
	X_4	0.363609	0.636391		
	X_5	0.327184	0.672816		
Problem Oriented Solutions (F_2)	X_6	0.683929	0.316071	0.83954	0.63670
	X_7	0.710649	0.289351		
	X_8	0.515524	0.484476		
Flexibility (F_3)	X_9	0.613089	0.386911	0.85529	0.59694
	X_{10}	0.508369	0.491631		
	X_{11}	0.662596	0.337404		
	X_{12}	0.603729	0.396271		
Consumer Behaviour (F_4)	X_{13}	0.322624	0.677376	0.69764	0.43705
	X_{14}	0.505521	0.494479		
	X_{15}	0.483025	0.516975		
Perceived value (F_5)	X_{16}	0.3721	0.6279	0.76806	0.52818
	X_{17}	0.541696	0.458304		
	X_{18}	0.670761	0.329239		

Source: SPSS 22.0

The table presents the Average Variance Extracted (AVE) and Composite Reliability (CR) for all variables across the five constructs: Output Quality (F1), Problem-Oriented Solutions (F2), Flexibility (F3), Consumer Behavior (F4), and Perceived Value (F5). All constructs exhibit AVE values exceeding 0.5, except for Output Quality (F1) and Consumer Behavior (F4), indicating acceptable levels of convergent validity.

Problem-Oriented Solutions (F2) had the highest AVE at 0.63670, followed by Flexibility (F3) at 0.59694, Perceived Value (F5) at 0.52818, Output Quality (F1) at 0.46108, and Consumer Behavior (F4) at 0.43705. Additionally, all constructs displayed CR values above the threshold of 0.70 recommended by Hair et al. (2009), signifying high internal consistency. The model's robust reliability and validity underscore its utility for examining the dataset's underlying constructs.

This analysis provided valuable insights into the relationships among variables related to customer satisfaction and service aspects. The methodological rigor ensured reliability and validity, establishing a strong foundation for further exploration and interpretation of the extracted factors.

Results and Discussion

This study investigates the demographic characteristics, usage patterns, customer satisfaction, and loyalty of mobile service users in Uttar Pradesh, India. The analysis, based on a dataset of 319 respondents, sheds light on key trends and actionable insights for service providers to enhance their offerings.

The demographic analysis highlights variations in network usage based on age, gender, education, occupation, and monthly expenditure. Younger users predominantly favor data-centric services, driven by their reliance on the internet for social and professional activities, while older users prioritize network reliability for communication. Educational and occupational differences further influence operator preferences, with affordability, network quality, and brand perception emerging as critical factors. Notably, the market penetration of major providers such as Jio, Airtel, Vodafone-Idea, and BSNL varies significantly across demographic groups, emphasizing the importance of tailored service offerings.

Customer satisfaction is strongly linked to service quality dimensions such as network coverage, data speed, and customer support. While promotional offers like unlimited calling and free data initially attract users, long-term retention depends on the consistent delivery of high-quality services. Pricing strategies also play a pivotal role; respondents consistently favored providers that balance affordability with robust network performance.

Factor analysis revealed five core components influencing customer satisfaction and loyalty: network quality, pricing and value for money, customer service, brand reputation, and innovative offerings. These findings suggest that operators must invest in infrastructure to improve network reliability and speed, particularly in underserved rural and semi-urban regions. Furthermore, targeted marketing strategies such as cost-effective data plans for younger users and premium-quality plans for professionals can help providers cater to the diverse needs of their customer base.

The study underscores the critical role of customer satisfaction in fostering loyalty and driving growth in the competitive telecom market. By focusing on consistent service quality, personalized offerings, and proactive customer support, service providers can better meet the evolving expectations of consumers. These insights offer a strategic roadmap for operators aiming to enhance user experiences and achieve sustained success in the dynamic telecommunications landscape.

Conclusion

This study provides an in-depth exploration of demographic characteristics, usage patterns, and satisfaction levels of mobile users, offering critical insights into the factors driving customer satisfaction and loyalty in the Indian telecom sector. Variables such as age, gender, education, profession, mobile operator, and monthly usage revealed distinct consumer behavior patterns. Multivariate analysis identified five key determinants of satisfaction: service reliability, network coverage, pricing, customer support, and value-added services.

The findings emphasize the importance of tailored services, competitive pricing, and investments in network infrastructure to enhance satisfaction and loyalty. Providers should prioritize expanding rural connectivity and leveraging personalized marketing strategies to reduce churn and foster deeper customer relationships.

Despite its contributions, this study is geographically limited to Uttar Pradesh and does not account for emerging technologies like 5G and IoT-enabled services. Future research should address these gaps by expanding the scope and exploring technological advancements' role in satisfaction. Longitudinal studies could also capture how satisfaction evolves with changing market dynamics.

Ultimately, this study offers actionable insights for telecom operators, emphasizing adaptability and innovation to meet evolving consumer expectations and achieve sustainable growth in a competitive industry.

Declaration of Competing Interest

The authors hereby declare that there are no financial interests, personal relationships, or other conflicts of interest that could have influenced or biased the findings, analysis, or interpretations presented in this research paper. All efforts have been made to ensure the objectivity and integrity of the study.

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