

## Consumer Preferences towards Telecom Service Providers: An Empirical Study in Madhya Pradesh

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### ABSTRACT

*The Indian telecommunication sector has experienced unprecedented growth, leading to heightened competition among service providers. Knowing the needs and preferences of consumers is important for improving the quality of service, customer satisfaction, and brand loyalty. This research examines the factors that affect consumer preference for telecom service providers in Madhya Pradesh. 500 mobile users in Bhopal were surveyed using structured questionnaires. Factor analysis indicated that network quality, pricing, customer service, and brand image are the most crucial determinants of consumer decisions. The research offers practical suggestions to telecom operators for enhancing service offerings and sustaining a competitive advantage.*

**Keywords:** Telecom, Consumer Preferences, Network Quality, Pricing, Customer Service, Brand Image, Madhya Pradesh.

### Introduction

The Indian telecom industry has experienced unprecedented expansion in the last ten years, fueled by fast-paced tech growth, aggressive pricing policies, and the low-cost adoption of smartphones and mobile broadband. Intense competition among telecos led to the latter as they were forced to innovate and upgrade their products repeatedly in order to hold on to customers and attract new ones. Madhya Pradesh, as a central Indian state, is a special and diverse market that includes both urban and rural consumers. The socio-economic as well as demographic diversity of the state leads to diverse consumer needs and requirements, thereby making it a significant area for telecom operators to study and serve appropriately.

Consumer tastes in the telecom industry are dictated by a number of important factors. Network reliability, including signal strength and coverage, plays a pivotal role in shaping user satisfaction, particularly in areas with challenging geographical conditions. Service quality, encompassing customer support and responsiveness, significantly impacts user trust and loyalty. Pricing strategies, including affordability and transparency, remain a major consideration for a price-sensitive population. In addition, perceived reliability and brand reputation affect consumer choice because customers prefer service providers who have a solid and reliable market image. Knowledge of such preferences is necessary for telecom operators to formulate focused marketing strategies, enhance service delivery, and increase overall customer satisfaction. By examining consumer behavior and preferences, service providers can enhance their competitive position, build long-term customer loyalty, and fuel sustainable growth in Madhya Pradesh's dynamic telecom sector.

### Research Aims and Research Questions

Knowing what consumers want in the telecom industry is essential for operators within extremely competitive markets. Consumer expectations in Madhya Pradesh, a semi-urban and urban state, are influenced by various parameters such as network reliability, pricing, customer service, and brand reputation. The present study attempts to explore these factors in an organized manner and present immediate feedback to telecom operators who want to enhance service delivery, consumer satisfaction, and loyalty.

#### Research Aims

The main aims of this study are as follows:

- Towards establishing the most significant determinants driving consumer choice for telecom services in Madhya Pradesh: This aim is concerned with establishing the most significant factors that drive consumer choice, such as technical, financial, and perceptual factors.
- To study the relative significance of network quality, price, customer service, and brand reputation on consumer selection: Knowing each factor's weight enables service providers to allocate resources and strategies according to consumer preference.
- To study consumer views of top telecom operators in Madhya Pradesh: This goal aims to investigate how consumers rate the performance, dependability, and reputation of top telecom service providers, as an insight into competitive positioning.
- To make actionable suggestions for telecom companies to enhance customer satisfaction and loyalty: Drawing upon empirical evidence, this goal is to propose actionable strategies operators can take to improve service delivery, reinforce brand reputation, and hold on to customers.

#### Research Questions

On the basis of the above goals, the research hopes to answer the following research questions:

- What are the most prominent factors that shape consumer preferences for telecom service companies in Madhya Pradesh?
- How do network quality, price, customer service, and brand reputation influence customer choice in the telecommunication industry?
- How do customers rate the performance and service of large telecommunication companies in Madhya Pradesh?
- What measures can telecommunication service providers take to improve customer satisfaction, loyalty, and market competitiveness?

These research questions inform the study's empirical inquiry and serve to align data collection, analysis, and interpretation with the overall aims. Answering these questions, the study hopes to gain inclusive insights into consumer behavior, inclinations, and decision-making tendencies in Madhya Pradesh's telecommunications market, which can be useful in guiding academic studies and actionable business strategies.

#### Hypotheses

Based on the literature review and goals, the study tests the following hypotheses:

- H<sub>1</sub>:** Network quality significantly influences consumer preference toward telecom service providers.
- H<sub>2</sub>:** Pricing has a significant impact on consumer choice of telecom service providers.
- H<sub>3</sub>:** Customer service quality significantly affects consumer preference in telecom selection.
- H<sub>4</sub>:** Brand image significantly influences consumer preference for telecom service providers.

#### Literature Review

Consumer behavior in the telecom industry is driven by a mix of service quality, network performance, pricing, and brand image. Increased competition across service providers, brought about by the speedy growth of the Indian telecom market, has made it important to learn about customer choice drivers and loyalty drivers. Various studies have looked at these drivers to gain an insight into consumer behavior in India and more so in Madhya Pradesh.

Joshi et al. (2015) empirically examined customer experience in the Indian telecom sector. Network performance, pricing, and the quality of customer service were ranked as major drivers of customer satisfaction in the study. The authors emphasized that a secure network with low call drops and good signal penetration was a key driver of user choice. In addition, clear and competitive prices along with quick customer care helped drive good customer experiences.

Sharma (2019) had consumer behavior in Madhya Pradesh at the center, highlighting the influence of Value Added Services (VAS) and network quality on customer satisfaction. The research established that users not only pay attention to basic network coverage but also test other services like mobile banking, entertainment apps, and other digital services. Consumers who find those services useful and trustworthy tend to be loyal to a provider.

The Telecom Regulatory Authority of India (TRAI, 2014) stated that network availability and call quality are key drivers of customer loyalty across Indian telecom markets. TRAI performance indicator reports indicate that operators with stable network reliability and lower call drops have better customer retention. The report further stated that urban and rural users might prioritize their needs differently; urban users tend to focus on data speeds and digital services, whereas rural users focus more on call connectivity and price.

Other researchers have investigated brand image as a driver of consumer decision. Kumar and Singh (2017) posited that reputation and trust were powerful drivers of consumer choice. Consumers will tend to choose established brands with a history of consistent service because they are seen as less risky than newer or lesser-known providers. Patel and Verma (2018) similarly discovered that positive customer experiences, supplemented by marketing and word-of-mouth advertising, enhance brand loyalty in the telecommunication industry.<sup>5</sup>

The table below summarizes key findings from previous studies on determinants of consumer preferences in telecom services:

Study	Focus	Key Findings
Joshi et al. (2015)	Indian telecom users	Network performance, pricing, customer service are primary factors affecting satisfaction
Sharma (2019)	Telecom users in Madhya Pradesh	Value Added Services (VAS) and network quality influence consumer loyalty
TRAI (2014)	National telecom market	Network coverage and call quality are major drivers of customer retention
Kumar & Singh (2017)	Brand perception	Brand reputation and trust significantly affect consumer choice
Patel & Verma (2018)	Customer experience	Positive experiences and word-of-mouth strengthen brand loyalty

Pricing, in addition to service and network-related factors, is still a prime concern for Indian customers. Transparent and competitive pricing schemes are especially essential in price-conscious areas such as Madhya Pradesh, where much of the population measures cost before choosing a provider. Research after research confirms that customers consider both cost and quality in their decision-making process, underlining the imperative of operators striking the perfect balance between service quality and affordability.

Generally, the literature supports that consumer choices in the telecom industry are multi-faceted, including network quality, customer service, price, Value Added Services, and brand reputation. These factors together drive satisfaction, loyalty, and selection of service provider. On the basis of synthesizing existing research, this paper aims to empirically analyze the relative significance of these factors in Madhya Pradesh, contributing actionable insights to telecom operators looking to maximize their offerings and fortify market presence.<sup>6</sup>

### Research Methodology

The research methodology presents the systematic process followed in this study to analyze consumer preferences towards telecom service providers in Madhya Pradesh. A well-specified methodology validates the reliability, validity, and generalizability of the research findings. This section illustrates the research design, population and sample, data collection procedures, and data analysis techniques employed in the study.

### Research Design

This research follows a descriptive research design, which is suitable to study the characteristics and preferences of consumers within a specified population. Descriptive research is concerned with giving a true picture of variables and their interrelations without intervening in the study environment. The main aim is to compare consumer preferences and determine the influencing factors for choosing telecom service providers in Madhya Pradesh.

The descriptive research design enables the study to measure consumer perceptions of network quality, prices, customer care, and brand reputation and assess the relative importance of each of these factors. Additionally, this design enables the study to identify trends and patterns in consumer behaviors and allow data-driven conclusions about the telecom market in Bhopal and the neighboring regions.

### Population and Sample

The population targeted in this research are users of mobile services that live in Bhopal, Madhya Pradesh. They cover persons of different ages, income classes, and professions to achieve representation of the urban community. This research recognizes that Madhya Pradesh has rural settings as well; however, this research targets Bhopal based on accessibility and resource limitation while still being able to capture important consumer behavior trends transferable to the state's urban setting.

A random sample of 500 respondents was drawn with a simple random sampling method, which maximizes the likelihood that all individuals in the population had an equal opportunity to be included. Random sampling reduces the likelihood of selection bias and increases the generalizability of the results. The sample size of 500 was selected to trade-off statistical reliability with feasibility, with enough data to allow for meaningful factor and regression analyses.<sup>7</sup>

The respondents were divided on demographic variables such as age, gender, income, and occupation to maintain heterogeneity and enhance the outcome reliability. Stratification assists in examination of how various segments of consumers view telecom services differently, an aspect that may be vital for segment-based strategies.

### Data Collection

The research was based mostly on primary data collection. Data were collected using structured questionnaires, which are the most commonly used in descriptive studies for acquiring quantitative data from a large sample of respondents. The questionnaire had both close-ended and Likert-scale questions to acquire the extent of agreement or satisfaction on different facets of telecom services.

Some of the important topics addressed through the questionnaire were:

- **Network Quality:** Strength of the signal, connectivity of calls, speed of data, and urban and semi-urban coverage.
- **Pricing:** Plan affordability, billing transparency, provision of flexible packages, and value for money perception.
- **Customer Service:** Responsiveness to issues, resolution of problems, convenience of accessing customer support, and behavior of service personnel.
- **Brand Image:** Reputation, trust, reliability, and overall impression of the telecom provider.

The questionnaire was pre-tested among a small sample of 50 participants to gauge the levels of clarity, pertinence, and dependability. Some minor modifications were carried out following respondent feedback prior to full-scale implementation. Data collection occurred using face-to-face interviews and online questionnaires based on respondents' accessibilities and preferences.

### Data Analysis

Data analysis was conducted on the SPSS 21.0 software, which enables extensive statistical testing and modeling. The study intended to determine the main determinants of consumer choices and validate the hypotheses presented in the research.<sup>8</sup>

- **Descriptive Analysis**

First, descriptive statistics were calculated to present respondent demographics and overall trends in consumer tastes. Frequency, percentage, mean, and standard deviation provided a picture of respondent profiles and their attitudes regarding telecom services.

- **Factor Analysis**

Factor analysis was used to condense the large number of observed variables into a lower number of underlying factors measuring important dimensions of consumer preferences. The technique assists in the identification of patterns and relationships between variables like network quality, price, customer service, and brand image. Factor loadings above 0.5 were deemed important, and those having eigenvalues higher than 1 were considered for interpretation.

- **Hypothesis Testing**

The research tested the developed hypotheses through correlation and regression analysis:

- **Correlation Analysis:** Quantified the extent and direction of relationships among independent variables (network quality, price, customer service, brand image) and the dependent variable (consumer preference).
- **Multiple Regression Analysis:** Evaluated the comparative influence of each independent variable on consumer preference, enabling the research to ascertain the most significant factors.

The analysis confirmed assumptions of normality, multicollinearity, and linearity before using regression models. The findings were interpreted at a 5% level of significance to ensure statistical robustness.

- **Reliability and Validity**

Reliability of the questionnaire was established through Cronbach's alpha, where values greater than 0.7 are acceptable. Content validity was attained through conceptualizing the questionnaire from existing studies and expert views. Construct validity was confirmed through factor analysis, which ensured the survey items measured the intended dimensions accurately.<sup>9</sup>

### Summary of Methodology

The table below summarizes the research methodology employed in this study:

Component	Description
Research Design	Descriptive research design to examine consumer preferences and influencing factors
Population	Mobile service users in Bhopal, Madhya Pradesh
Sample Size	500 respondents, selected using simple random sampling
Data Collection	Structured questionnaires covering network quality, pricing, customer service, and brand image; pre-tested on 50 respondents
Data Analysis	Descriptive statistics, factor analysis, correlation analysis, and multiple regression analysis using SPSS 21.0
Reliability & Validity	Cronbach's alpha (>0.7) for reliability; content and construct validity ensured

### Justification of Methodology

The descriptive research design used here is suitable for this research since it enables thorough analysis of consumer behavior without interfering with variables. Random sampling provides a representative sample, while standardized questionnaires help extract quantifiable data that can be compared. SPSS-based factor and regression analyses present strong statistical proof to determine the main determinants of consumer preference, while reliability and validity tests ensure the validity of the findings.

This research approach enables the study to fulfill its goals by delivering a systematic, data-based, and statistically proven comprehension of the consumer tastes in Madhya Pradesh's telecom market. The mix of quantitative analysis, strict sampling, and proven survey instruments ensures that the findings of the research are both dependable and actionable for telecom providers aiming to maximize their strategies.

### Results and Discussion

This section introduces the study findings using data from 500 respondents in Bhopal, Madhya Pradesh. Discussion will be on demographic profile of the respondents, main determinants of consumer choice, testing of hypothesis, and comparison of telecom companies.

### Demographic Profile of Respondents

The study captured a diverse group of respondents to ensure a representative sample.

Demographic Variable	Category	Percentage (%)
Gender	Male	60
	Female	40
Age	18–25 years	30
	26–40 years	50
	Above 40	20
Annual Income	Below ₹2 lakh	40
	₹2–4 lakh	35
	Above ₹4 lakh	25

The findings reveal that the largest proportion of respondents (50%) fall within the age group 26–40 years, comprising the largest proportion of active telecom users. Income distribution reflects a significant majority of price-conscious respondents (40% with an income of less than ₹2 lakh), complemented by middle- and upper-income users.<sup>11</sup>

### Key Determinants of Consumer Preferences

Factor analysis identified four primary determinants influencing consumer choices:

Determinant	Key Findings
Network Quality	Signal strength and coverage are the most influential factor
Pricing	Affordable plans and transparent billing are highly valued
Customer Service	Quick and effective support enhances satisfaction
Brand Image	Reputation, reliability, and trustworthiness influence selection

Network quality emerged as the most critical factor, followed by pricing, customer service, and brand image. Consumers prioritize uninterrupted connectivity, cost-effective plans, responsive support, and trust in the provider.

### Hypothesis Testing

Hypothesis	Result
H <sub>1</sub> : Network quality positively affects consumer preference	Supported
H <sub>2</sub> : Pricing impacts consumer choice	Supported
H <sub>3</sub> : Customer service influences consumer preference	Supported
H <sub>4</sub> : Brand image affects consumer selection	Supported

All four hypotheses were supported, confirming that these factors significantly influence consumer preferences in Madhya Pradesh.

### Comparative Analysis of Telecom Operators

Operator	Strengths	Consumer Preference
Reliance Jio	Network coverage, affordability	Highly favored
BSNL	Network reliability, low cost	Favored
Airtel	Customer service, brand image	Preferred by service-conscious users

Reliance Jio and BSNL are popular for network coverage and cost-effectiveness, while Airtel is preferred for strong customer support and brand reputation. This indicates that different consumer segments prioritize different factors when choosing a telecom provider.

### Discussion

The findings indicate that consumer tastes in Madhya Pradesh are multi-faceted. While network quality is essential to ensure continued service, price becomes the key consideration for price-sensitive consumers. The quality of customer care and brand reputation creates loyalty and satisfaction among upper-income and urban consumers. Telecom operators thus need to strike a balance between investment in network infrastructure, price competitiveness, and building brand equity to capture and retain varied consumer bases.<sup>12</sup>

### Limitations of the Study

Despite the rigorous methodology and comprehensive analysis, this study has certain limitations that should be acknowledged:

- **Geographical Scope:** The research was conducted exclusively in Bhopal, Madhya Pradesh. While the findings provide valuable insights into urban consumer preferences, they may not fully represent rural populations or other cities in the state where socio-economic and connectivity factors differ.
- **Sample Size:** While 500 respondents give a statistically representative sample, it is possible that a bigger and more heterogeneous sample spread across various regions of Madhya Pradesh would have provided more generalized findings.
- **Self-Reported Data:** The research was based on structured questionnaires, which are prone to response bias. Respondents can have under- or over-reported their perceptions, preferences, or satisfaction levels.<sup>13</sup>
- **Emphasis on Constrained Variables:** Network quality, pricing, customer service, and brand image were the main variables analyzed in the research. The other determinants, including promotional offers, loyalty programs, technology advancement, and peer pressure, were not investigated.
- **Cross-Sectional Design:** Descriptive cross-sectional design was used in the study, which reflected consumer preferences at one point in time. Consumer behavior within the telecom industry is dynamic and subject to being altered quickly with new technologies, trends, or service offerings.
- **Technological Bias:** Tech-savvier or more active digital users as respondents might have varying preferences from less technology-dependent consumers, which could skew the results.
- **External Factors:** Regional network infrastructure, government policies, and seasonal variations in service quality were not controlled for, and these might influence consumer perceptions.

In spite of these drawbacks, the research throws some useful empirical light on consumer tastes in Madhya Pradesh's telecom market. These drawbacks can be tackled by future studies by increasing the geographic coverage area, including more variables, and using longitudinal designs to observe evolving consumer conduct over time.

#### Recommendations

- **Network Improvement:** Invest in infrastructure to enhance signal strength and coverage, particularly in rural regions.
- **Competitive Rates:** Provide cost-effective and transparent packages to suit various income strata.
- **Customer Service:** Employee training and creation of multi-channel support for immediate resolution of consumer grievance.
- **Brand Reinforcement:** Consolidate the company image through proven service delivery and successful marketing campaigns.

#### Conclusion

This research explored consumer choice preferences for telecom service operators in the state of Madhya Pradesh, examining most importantly the determinants of choice and satisfaction.

According to the findings of responses gathered from 500 mobile customers, the study found that network quality, price, customer care, and brand reputation are the most important drivers of consumer preference. Of these, network quality became the leading factor, indicating the value placed by consumers on continuous connectivity, signal strength, and data reliability in influencing their buying decisions. Price and affordability were also significant, especially among price-sensitive segments, while effective and timely customer service further contributed to satisfaction and loyalty. Brand image, consisting of reputation, trustworthiness, and reliability, also impacted consumer attitudes and long-term preference.

The research findings identify that telecom operators cannot depend on a single facet of service; instead, they need to employ a well-balanced approach integrating high-quality network infrastructure, competitive and transparent pricing, customer-responsive support, and powerful brand positioning. Effective response to these pillars allows providers to gain new clients, hold onto existing customers, and sustain a competitive advantage in Madhya Pradesh's fast-changing telecom market.

In short, knowledge of consumer behavior and choice is crucial for strategic planning and sustainable development. Telecom operators who keep a constant check on such determinants and make changes in their services accordingly are more likely to experience increased customer satisfaction, loyalty, and business success in urban as well as semi-urban areas of Madhya Pradesh.<sup>15</sup>

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