

## **Exploring Customer Retention: An Empirical Analysis in the Indian Telecommunications Industry**

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### **Abstract:**

In any industry, customer satisfaction is paramount to achieving success, and this is particularly crucial in the telecommunications sector. With profit margins shrinking and the expense of acquiring new customers rising, telecom companies face significant challenges. The accessibility of information and a plethora of service options make it effortless for customers to switch providers. In this intensely competitive environment, telecom providers are constantly innovating to attract, retain, and expand their customer base. Providing top-notch service is vital for both attracting and retaining customers. This paper aims to explore the factors influencing customer churn in the telecom industry.

**Key words:** customer churn, customer satisfaction, telecommunications, customer acquire.

### **1. INTRODUCTION:**

The telecommunications industry in India has achieved the remarkable feat of being the world's second-largest, boasting an impressive subscriber base of 12.44 billion as of December 2023, covering both wireless and wireline connections. This growth is evident in the nation's overall tele-density, currently standing at 84.23%. Notably, while rural areas exhibit a tele-density of 58.56%, urban areas surpass with 133.76%. Alongside the surge in subscribers, India has witnessed a substantial rise in internet usage, with the total number of internet subscribers reaching 904.54 million by December 2023, including both narrowband and broadband users. Rural regions accounted for 44.34% of these subscribers, highlighting the widespread digital connectivity across the country. Additionally, the average monthly data consumption per wireless data subscriber surged from 61.66 MB in March 2014 to 17.86 GB in December 2023, reflecting evolving digital consumption patterns. This growth is propelled by factors such as affordable tariffs, wider availability, Mobile Number Portability (MNP), expanded 3G and 4G coverage, and governmental initiatives to boost domestic telecom manufacturing and regulatory environment. Moreover, to accelerate digital connectivity, the government approved the auction of IMT/5G spectrum, grossing \$18.77 billion by July 2022, highlighting investor confidence. The telecommunications sector, ranking fourth in FDI inflows, contributes 6% to total FDI and supports 2.2 million direct and 1.8 million indirect jobs. With 100% FDI allowed, India remains an attractive destination for telecom investments, driving further growth and innovation.

### **2. REVIEW OF LITERATURE**

The literature review delves into the significant management challenge faced by businesses in the new millennium of liberalization and globalization, emphasizing the imperative of serving and maintaining robust customer relations. In the past, customers were often taken for granted due to limited alternatives and lower demands. However, the contemporary business landscape, shaped by economic liberalization, heightened competition, and consumer empowerment, has necessitated a paradigm shift from traditional to modern marketing practices. Modern marketing entails more than mere product development and promotion; it requires building trust, fostering value-added relationships, and prioritizing customer satisfaction. Scholars such as Sheth and Parvatiyar (1995a) underscore the growing importance of customer relationships in contemporary business, highlighting the shift towards managing customer equity and assets. They emphasize the economic benefits of customer retention over constantly acquiring new customers. Technological advancements have facilitated affordable engagement and maintenance of customer relationships, driving greater marketing productivity. The literature also addresses the emergence of relationship marketing as a core activity for businesses operating in competitive environments. Gruen (1997) notes the trend towards prioritizing relationships with existing customers to increase their share of purchases. Similarly, Sheth and Parvatiyar (1995b) observe the resurgence of

direct marketing, signalling a shift towards relationship-oriented strategies. Moreover, scholars like Winer (2001) highlight the transformative potential of information technology, particularly the World Wide Web, in facilitating better customer relationships. The adoption of customer relationship management (CRM) practices has become imperative for businesses seeking to enhance revenues and profitability by developing, maintaining, and enhancing successful company-customer relationships. Additionally, Agrawal (2001) emphasizes the importance of understanding customer needs and building long-term relationships, while Mahfooz (2005) underscores the role of CRM in adapting to the rapidly changing business environment. Furthermore, Prasad (2008) emphasizes the necessity of managing change, operating within a global environment, and exhibiting ethical integrity in modern management practices. The review also highlights the significance of effective communication in nurturing enduring customer relationships, as advocated by Tauni et al. (2014). And Meera Arora (2017) conducted an empirical study titled "Building Customer Loyalty" focusing on the Indian telecom industry. Overall, the literature underscores the pivotal role of customer relationship management in contemporary business strategies, emphasizing its potential to drive customer retention, enhance profitability, and ensure long-term organizational success.

### **3. MAIN FACTORS FOR CHURN A CUSTOMER**

Our investigation delved into the main factors impacting customer churn in the telecommunications sector. This analysis offers valuable insights to managing churn effectively.

**Network Quality:** Reliable network connectivity is crucial for customers. Issues such as dropped calls, poor signal strength, or slow internet speeds can lead to frustration and prompt customers to switch to competitors with better network quality.

**Price and Plans:** Affordability and flexibility in pricing plans are key factors influencing customer decisions. Customers are likely to churn if they find better-priced plans or packages offering more value for money elsewhere.

**Customer Service:** Efficient and responsive customer service is essential for addressing customer queries, complaints, and technical issues promptly. Poor customer service experiences can lead to dissatisfaction and drive customers away.

**Promotional Offers and Incentives:** Telecom companies often use promotional offers and incentives to attract new customers and retain existing ones. Lack of attractive offers or incentives compared to competitors may result in customers switching providers.

**Technological Advancements:** Advancements in technology drive changes in consumer preferences and expectations. Telecom companies must stay updated with the latest technological trends and innovations to remain competitive and retain customers.

**Brand Reputation and Trust:** A telecom company's reputation and trustworthiness play a vital role in customer retention. Negative publicity, scandals, or a lack of transparency can erode customer trust and loyalty, leading to churn.

### **4. PREVENTIVE ACTIONS TAKEN BY COMPANIES**

We discovered proactive approaches utilized by telecom firms to mitigate customer churn, offering effective tactics for decreasing churn rates in the industry.

**Offering attractive discounts and promotions:** Telecom companies strategically provide discounts and promotions to incentivize customers to stay with their services. By offering discounted rates, special deals, or bonus features, they aim to enhance the value proposition for customers and discourage them from switching to competitors.

**Proactive outreach and personalized communication:** Telecom companies engage in proactive communication with customers to understand their needs and preferences better. By personalizing communication through targeted messages, tailored offers, and proactive support, they aim to build stronger relationships with customers and address potential issues before they lead to churn.

**Providing loyalty rewards and incentives:** Telecom companies implement loyalty programs to reward long-term customers and incentivize them to continue using their services. These rewards may include discounts on monthly bills, bonus data or minutes, exclusive access to promotions, or priority customer service, encouraging customers to remain loyal to the company.

**Offering improved service quality and network coverage:** Telecom companies invest in enhancing service quality and expanding network coverage to provide customers with a better experience. By minimizing service disruptions, improving call quality, and extending coverage to underserved areas, they aim to increase customer satisfaction and reduce the likelihood of churn.

**Actively seeking and acting upon customer feedback:** Telecom companies actively solicit feedback from customers through surveys, feedback forms, or customer service interactions. By listening to customer concerns and addressing them promptly, they demonstrate responsiveness and commitment to customer satisfaction, ultimately reducing the likelihood of customers switching to competitors.

**Implementing customer retention programs tailored to individual needs:** Telecom companies develop retention programs that cater to the specific needs and preferences of individual customers. By analysing customer data and behaviour patterns, they identify opportunities to personalize offers, provide targeted recommendations, and address unique pain points, effectively increasing customer loyalty and reducing churn rates.

## 5. OBJECTIVE OF THE STUDY

As the telecom industry in India matures and faces saturation with high customer turnover, telecom providers focus on improving customer satisfaction through quality service delivery for long-term viability. The primary aim of this study is to identify the underlying factors driving customers to switch to alternative telecom providers and to assess the effectiveness of measures implemented by telecom companies to mitigate customer churn.

## 6. RESEARCH METHODOLOGY

**Sample Size:** Determine the sample size necessary to estimate the customers likely to churn the existing from telecom service in India with 95% confidence, and a margin of error ( $\epsilon$ ) of 5%. Assume a population proportion ( $p$ ) of 0.5, and unlimited population size. Remember that z value for a 95% confidence level is 1.96. Refer to the table provided in the confidence level section for z scores of a range of confidence levels.

Then the formula for sample size calculation is

$$n = \frac{z^2 p(1-p)}{\epsilon^2}$$
$$n = \frac{(1.96)^2 \times 0.5(1-0.5)}{(0.05)^2}$$
$$n \cong 385$$

To minimize the missing value error, we are collecting 400 samples with simple random sample procedure. To examine the objective, we use TOPSIS method and CATPA.

## 7. RESULT ANALYSIS

We collected data from customers across India and limited our study to analysing 440 samples.

Table-1: Gender wise customer churn

| Gender | Exist | Churn | Total |
|--------|-------|-------|-------|
| Female | 10%   | 17%   | 27%   |
| Male   | 25%   | 48%   | 73%   |
| Total  | 35%   | 66%   | 100%  |

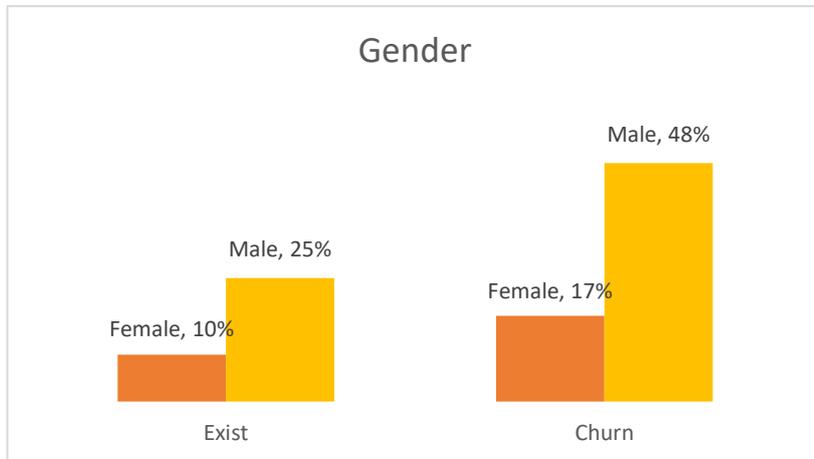


Fig-1: Gender wise customer churn

Table-2: Service Tenure wise customer churn

| Service Tenure     | Exist | Churn | Total |
|--------------------|-------|-------|-------|
| Less than 5 years  | 25%   | 46%   | 71%   |
| 5 to 10 years      | 7%    | 18%   | 24%   |
| 10 to 15 years     | 2%    | 2%    | 4%    |
| More than 15 years | 1%    | 0%    | 1%    |
| Total              | 35%   | 66%   | 100%  |

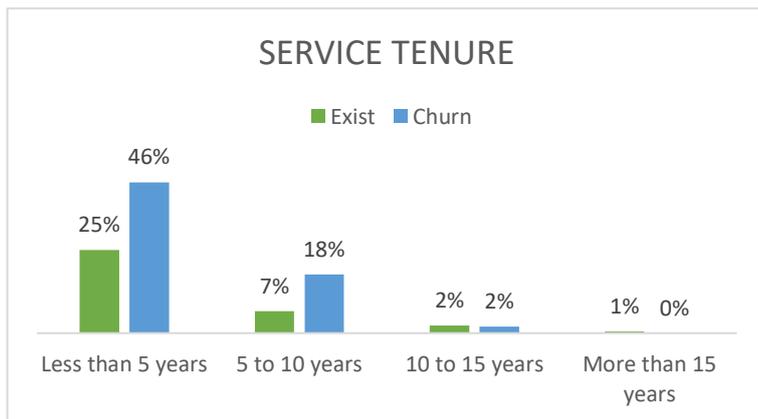


Fig-2: Service Tenure wise customer churn

Table-3: Service Contact Frequency wise customer churn

| Service Contact Frequency | Exist | Churn | Total |
|---------------------------|-------|-------|-------|
| Never                     | 27%   | 17%   | 44%   |
| 1-2 times                 | 6%    | 29%   | 35%   |
| 3-5 times                 | 1%    | 12%   | 13%   |
| More than 5 times         | 1%    | 7%    | 8%    |
| Total                     | 35%   | 66%   | 100%  |

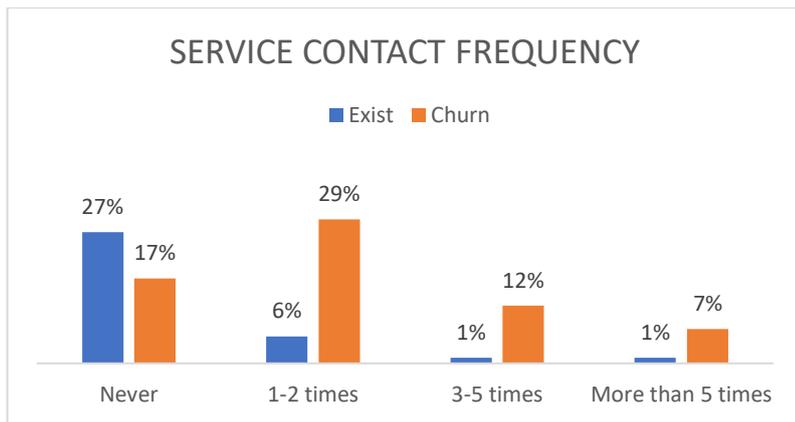


Fig-3: Service contact frequency wise customer churn

Table-4: Preferred plan wise customer churn

| Preferred Plan | Exist | Churn | Total |
|----------------|-------|-------|-------|
| Monthly        | 11%   | 25%   | 35%   |
| 2 months       | 2%    | 5%    | 8%    |
| Quarterly      | 14%   | 24%   | 38%   |
| Yearly         | 8%    | 12%   | 19%   |
| Total          | 35%   | 66%   | 100%  |

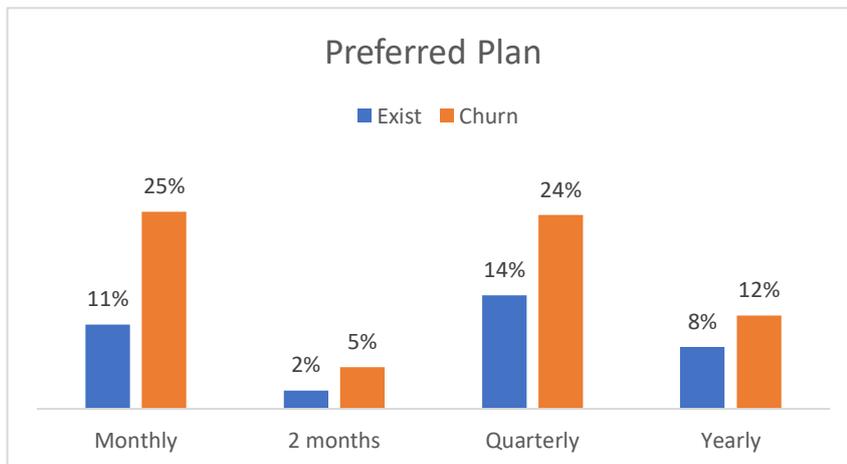


Fig-4: Preferred plan wise customer churn

**Reliability test:** The reliability of the variables was assessed by calculating the Cronbach Alpha coefficient, which evaluates the internal consistency of the items. A coefficient of Cronbach Alpha above 0.6 is considered reliable. Table 1 indicates that all alpha coefficient values fall within the range of 0.61 to 0.93, demonstrating strong consistency among variables within each dimension.

Table 5: Reliability test statistic.

| Cronbach's Alpha | N of Items |
|------------------|------------|
| 0.804            | 6          |

The reliability test yielded a value of 0.804, indicating strong consistency among variables within each dimension of the data.

**TOPSIS method:** The Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) is a multi-criteria decision-making method used to determine the best alternative from a set of options based on their proximity to the ideal solution. It involves calculating the Euclidean distance between each alternative and the ideal and anti-ideal solutions, then normalizing these distances. The relative closeness of each alternative to the ideal solution is assessed by comparing its normalized distances. The alternative with the shortest distance to the ideal solution and the longest distance from the anti-ideal solution is considered the best choice. TOPSIS aids in ranking alternatives efficiently in decision-making processes

Table 6: TOPSIS scores for Influences on Customer Churn.

| Influences on Customer Churn      | Score  | Rank |
|-----------------------------------|--------|------|
| Network Quality                   | 0.6626 | 1    |
| Promotional Offers and Incentives | 0.4109 | 2    |
| Technological Advancements        | 0.4030 | 3    |
| Brand Reputation and Trust        | 0.3980 | 4    |
| Customer Service                  | 0.3899 | 5    |
| Price and Plane                   | 0.2966 | 6    |

**CATPCA:** The CATPCA (Categorical Principal Component Analysis) is a statistical technique used for analysing categorical data with multiple variables. It extends the traditional PCA method to handle categorical variables by converting them into indicator variables or dummy variables. CATPCA identifies underlying patterns or relationships among variables, reducing dimensionality while retaining as much original information as possible. It is particularly useful for analysing survey responses, customer preferences, or any data with categorical variables. By summarizing complex data into fewer dimensions, CATPCA aids in interpretation and visualization, facilitating insights and decision-making processes in various fields such as market research, social sciences, and customer analytics.

Table 3: Components loading using CATPCA

| Components  | Dimension |      |
|---|-----------|------|
|   | 1         | 2    |
| Offer attractive discounts and promotions   |           | 0.69 |
| Proactive outreach and personalized communication   | 0.77      |      |
| Provide loyalty rewards and incentives  |           | 0.67 |
| Offering improved service quality and network coverage                                    | 0.77      |      |
| Actively seek and act upon customer feedback to address concerns and enhance satisfaction |           | 0.65 |
| Implementing customer retention programs tailored to individual needs                     | 0.81      |      |

The component loading table reveals meaningful insights: The first-dimension highlights factors indicating areas of good functioning, with high positive scores above 0.6. Conversely, the second-dimension indicates factors that require attention to raise customer awareness.

**Conclusions:**

In our study, we found that 48% of male customers switched their telecom providers, compared to 31% of female customers. Additionally, 46% of all customers changed their telecom network within a span of five years. Interestingly, 29% of customers made contact with their service providers at least twice before switching. Moreover, approximately one-fourth of customers showed interest in quarterly plans, followed by monthly plans. These findings underscore the gender disparity in switching behaviour and highlight the significance of customer engagement strategies in the telecommunications industry. In our study, we found that network quality is the most significant factor influencing customers to switch networks, followed by promotional offers and incentives. Price and plan were identified as the least influential factors. Our study reveals telecom operators' adept implementation of churn reduction strategies, including proactive outreach, personalized communication, and bespoke customer retention programs. Additionally, tactics like offering attractive discounts, loyalty rewards, and actively addressing customer feedback enhance satisfaction and mitigate churn. However, heightened customer awareness is crucial to amplify the effectiveness of these strategies.

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