Chapter 5:Data Analysis

Chapter 5: Data Analysis

5.1 Introduction of chapter

This chapter presents the data analysis for the research study on the factors affecting brand consumer brand switching behavior among prepaid telecom consumers in South Gujarat. This analysis primarily seeks to investigate the key factors that contribute to the decision of consumers to switch telecom providers, and to assess the various demographic, psychological, and service-related influences on brand loyalty.

The data collected through surveys and questionnaires will be processed and analyzed to provide insights into consumer behavior within the prepaid telecom market. The analysis will not only focus on the overall trends and patterns observed in the sample data but also test the relationships between different variables, such as price sensitivity, customer satisfaction, network quality, and trust, and their impact on brand switching decisions.

In order to accomplish this, a combination of descriptive and inferential statistical techniques will be applied. Descriptive statistics will summarize the characteristics of the sample and the central tendencies of key variables .Inferential statistical methods, such as hypothesis testing and regression analysis, will be employed to examine the relationships between variables and their impact on brand switching behaviour. Additionally, factor analysis will help identify the underlying dimensions that shape consumer decisions regarding brand loyalty and switching.

The findings from this chapter will address the research questions and hypotheses presented earlier in the study, providing a comprehensive understanding of the dynamics of brand switching in the prepaid telecom market in South Gujarat. These insights will be critical for telecom companies to develop strategies that enhance retention of loyal base of customers and reduce churn out of high revenue customers to competitors in an industry characterized by intense competition.

Additionally, the findings of the statistical analyses will be presented, highlighting the significance of various factors and their respective contributions to overall brand switching behaviour. Finally, the interpretation of these findings will be linked back to the theoretical framework and the literature reviewed in previous chapters to draw conclusions and offer recommendations for telecom operators.

5.2 Data Cleaning and Preparation

Data cleaning and preparation are essential steps in ensuring the accuracy and reliability of the analysis. The first step involves identifying any missing data, which may arise from non-

responses or incomplete entries in the survey. Missing data will be handled using imputation methods, such as filling in missing values with the mean or median for continuous variables, or by removing cases with substantial missing information if necessary. Next, we will examine the dataset for any outliers that could skew the results. Outliers are extreme values that do not align with the general pattern of responses and will be detected using visual techniques like box plots or scatter plots, as well as statistical methods like z-scores. Valid extreme values will be retained, but errors will be corrected or removed. For variables with different scales, such as satisfaction ratings and income levels, normalization or standardization will be applied to bring them to a common scale, ensuring consistency in the analysis. Categorical variables, such as telecom provider preferences, will be coded numerically for easier processing. Some variables may also require recoding into meaningful categories—for example, grouping income levels into ranges or combining certain response options into a single category for simplicity. To ensure data consistency, we will cross-check responses for any logical contradictions, such as a respondent reporting both high satisfaction and dissatisfaction with their service. Finally, after cleaning the data, the dataset will be organized in a structured format, ensuring that variables are clearly labelled and ready for analysis. Proper documentation of any transformations or recoding steps will be maintained to ensure transparency and reproducibility. These steps will allow us to move forward with the analysis on a clean and well-prepared dataset.

5.3 Demographic Factor Analysis

Table 1 Demographic Profile of Respondents

Variable	**Category**	**Frequency**	**Percentage (%)**
Age Group	<20	43	8.6
	21–34	219	43.8
	35–44	145	29.0
	45–55	77	15.4
	>55	16	3.2
Gender	Female	259	51.8
	Male	241	48.2
Occupation	Employed	202	40.4

	Unemployed	112	22.4
	Business	99	19.8
	Students	44	8.8
	Housewife	43	8.6
Location	Urban	369	73.8
	Rural	131	26.2
Income Level	<1 lac	300	60.0
	1–5 lac	175	35.0
	>5 lac	25	5.0

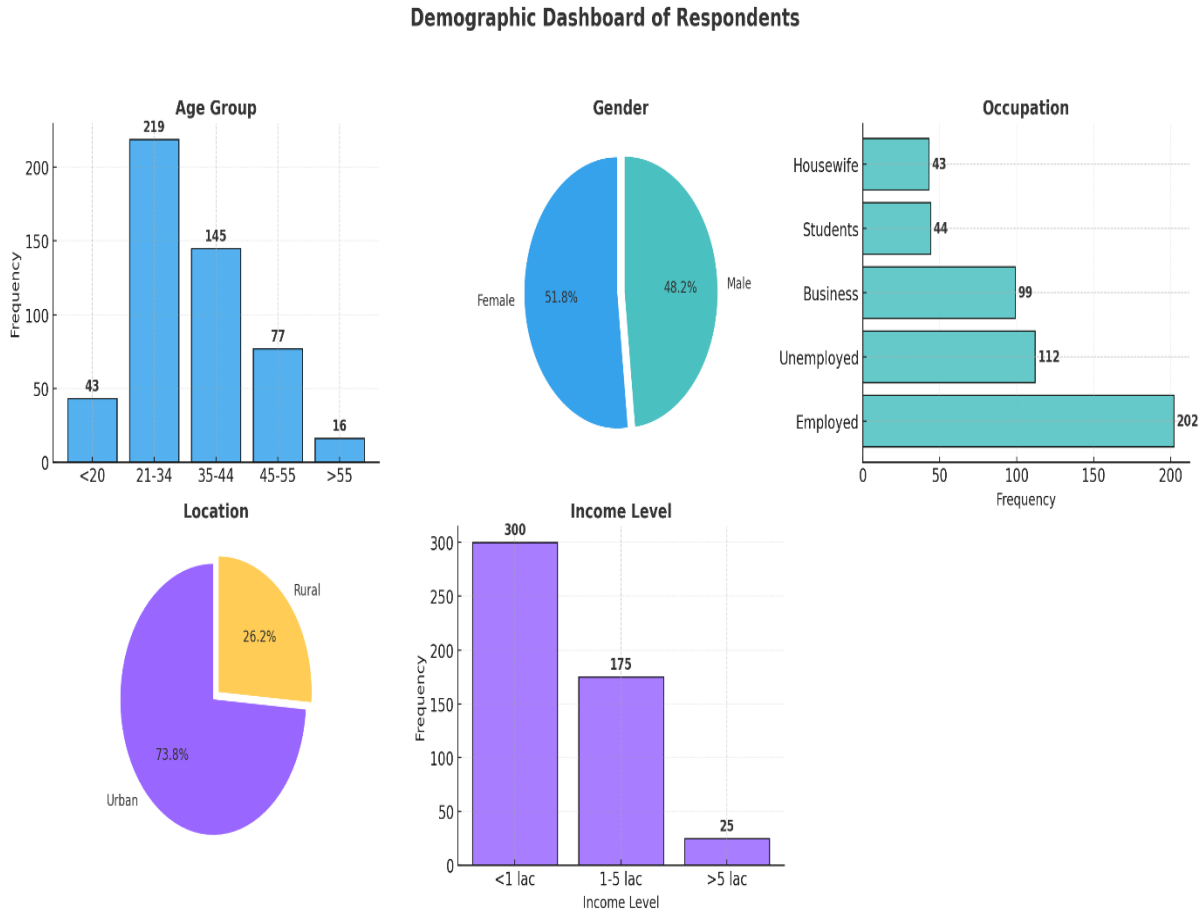


Figure 3 Demographic Profile of Respondents

Interpretation

The demographic information presents a comprehensive summary of the respondents' profiles in the research sample. The largest age segment is the 21–34 group, comprising nearly 44% of the sample, followed by the 35–44 group at 29%. There is a balanced gender representation, with a slight majority of female respondents (51.8%) compared to males (48.2%). In relation to occupational categories, the majority of participants are employed (40.4%), but the data also captures a diverse mix of unemployed individuals, business owners, students, and housewives. The vast majority of respondents reside in urban areas (73.8%), reflecting the higher concentration and accessibility of prepaid telecom services in cities compared to rural regions.

Income distribution reveals that 60% of respondents earn less than 1 lakh rupees annually, indicating a largely price-sensitive market segment, while only 5% report an annual income above 5 lakhs. This diversity in demographic characteristics ensures that the analysis and findings of the study reflect a broad cross-section of prepaid telecom users. Such a demographic spread strengthens the generalizability of the research results and contributes meaningful knowledge into the preferences and brand switching behavioural patterns of various consumer groups within the prepaid telecom sector.

5.4 Using Service Provider Data

5.4.1 Do you use prepaid mobile services?

Table 2 Do you use prepaid mobile services?

Response	Frequency	Percentage (%)
Yes	500	100%
No	0	0%

5.4.2 Which prepaid mobile service provider are you using?

Table 3 Using of Service Provider

Service Provider	Primary Frequency	Primary Percentage (%)	Secondary Frequency	Secondary Percentage (%)
Reliance JIO	196	39.2%	196	39.2%
Airtel	155	31%	154	30.8%

VI	114	22.8%	100	20%
BSNL	35	7%	50	10%

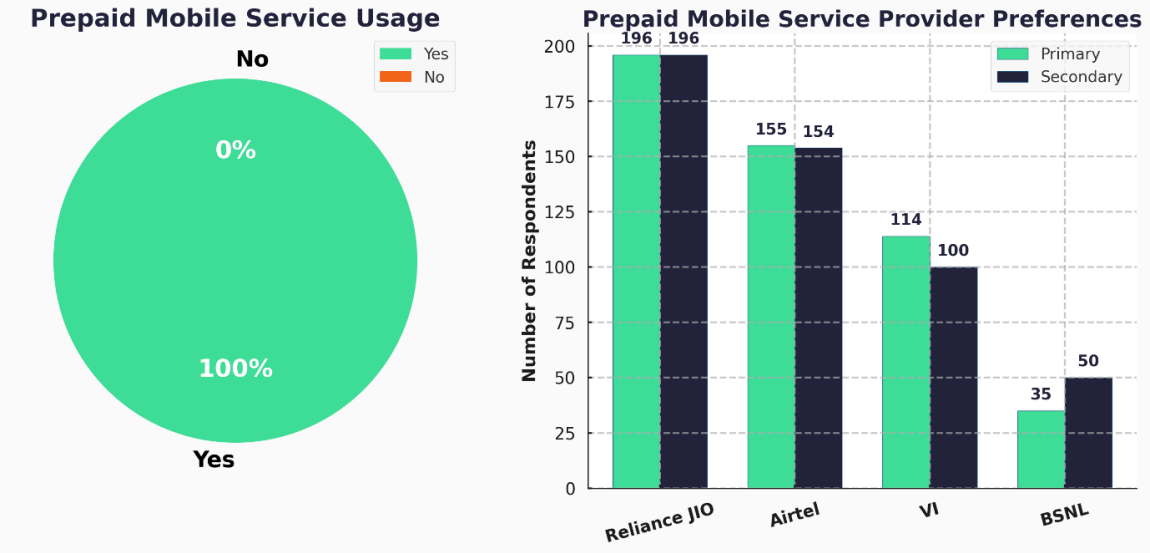


Figure 4 Using of Service Provider

Interpretation

The pie chart reveals that prepaid mobile service usage is universal among the respondents, with a full 100% indicating that they use prepaid services.

The accompanying bar chart demonstrates clear preferences among service providers. Reliance JIO stands out as the most popular choice, with 196 respondents selecting it as both their primary and secondary provider. Airtel follows closely as the next preferred provider, also showing strong alignment between primary (155 respondents) and secondary (154 respondents) usage. VI (Vodafone Idea) and BSNL trail behind, with BSNL more often chosen as a secondary rather than primary option. Overall, the data illustrates a market dominated by JIO and Airtel, while other providers hold smaller, more supplementary roles in user preferences.

5.5 Customer preferences regarding choice of service provider

(Strongly disagree – 1, Disagree- 2, Neutral –3, Agree-4 & Strongly Agree – 5)

Table 4 Customer preferences regarding choice of service provider

Item	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Call Charges are reasonably affordable	33	77	40	173	173

I am satisfied with the Internet Speed	24	79	54	179	156
I am satisfied with the Innovative Value Added Services	29	69	49	153	200
Word of mouth publicity plays a vital role in brand switching	22	83	44	181	170
There is an Ease of availability of prepaid recharges	24	72	49	185	170
There is an Ease of use of services	30	67	56	157	190
The Endorsement of Internet speed by THIRD PARTY Agency plays a vital role in brand switching	25	74	118	182	101
Brand Loyalty is a vital tool to keep me within the same prepaid mobile service provider	22	68	120	195	95
I am satisfied with the Innovative promotional programs implemented by the telecom companies	20	74	124	189	93
Reference by friends and colleagues plays a vital input for brand switching	22	77	119	192	90
I am satisfied with the Quality of customer services provided by the customer service departments	18	79	116	187	100
I am satisfied with the Behavior of Service personnel employees	18	67	111	191	113
I am satisfied by the Problem-solving ability of the touchpoint executives	29	81	126	159	105

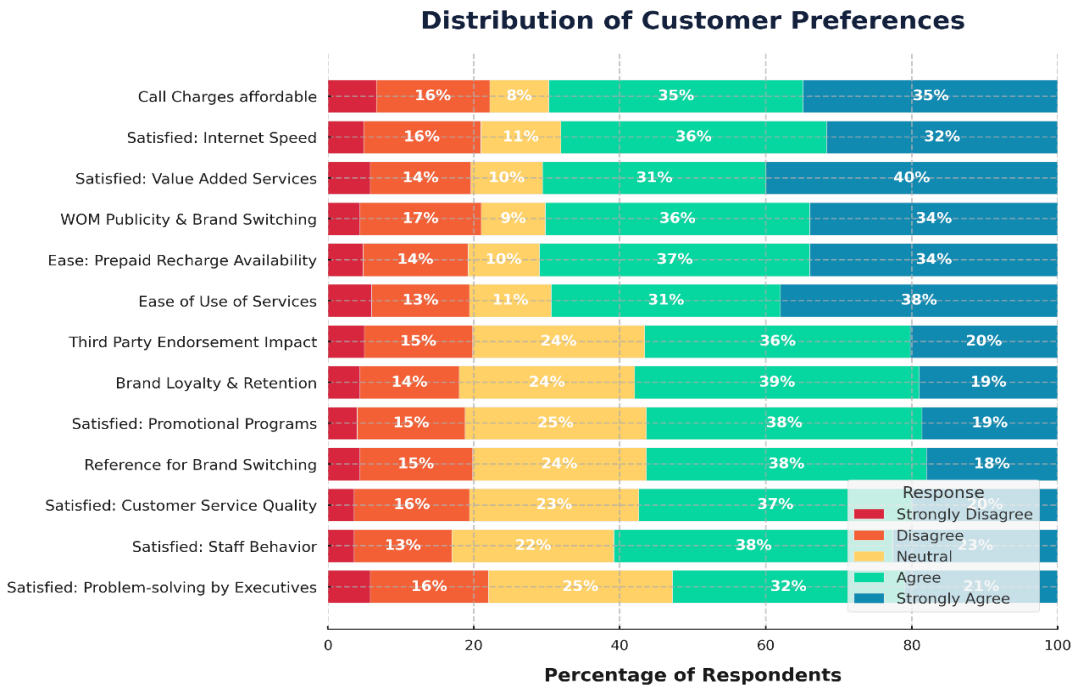


Figure 5 Customer preferences regarding choice of service provider

Interpretation

The frequency distribution of Likert scale responses reveals that, for most key factors related to prepaid mobile services—such as call charges, internet speed, and value-added services—the majority of respondents expressed agreement or strong agreement. For example, in the statement *"Call Charges are reasonably affordable,"* a total of 346 respondents (69%) selected "Agree" or "Strongly Agree." Similarly, for *"I am satisfied with the Internet Speed,"* 335 respondents (66%) chose the top two positive categories, while for *"I am satisfied with the Innovative Value Added Services,"* this number rose to 353 respondents (70%). Negative responses ("Disagree" or "Strongly Disagree") were relatively rare—for instance, only 110 respondents (22%) disagreed about call charges—while neutral responses were more common on items involving third-party endorsements (e.g., *"The Endorsement of Internet speed by THIRD PARTY Agency..."* saw 118 neutral responses (23%)) or brand loyalty (120 neutral responses (24%)), suggesting some ambivalence or less clear opinions about these topics.

5.6 Descriptive Statistics: Customer preferences regarding choice of service provider

Table 5 Descriptive Statistics: Customer preference

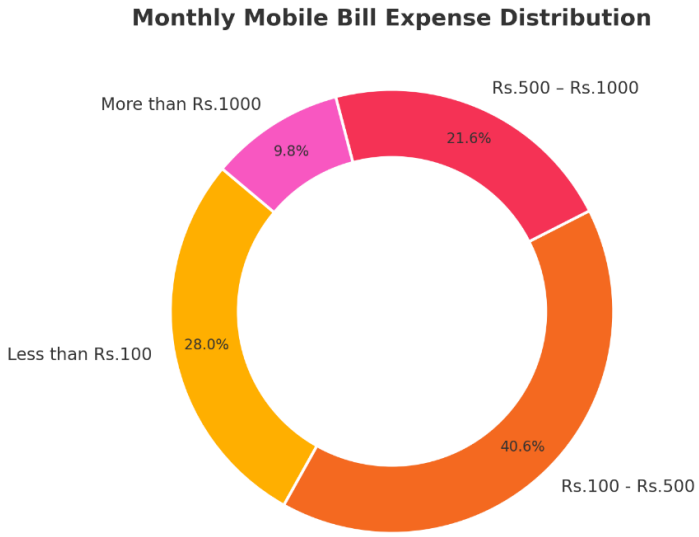
Item	Mean	Median	Mode	SD
Call Charges are reasonably affordable	3.76	4	4, 5	1.26
I am satisfied with the Internet Speed	3.76	4	4	1.13
I am satisfied with the Innovative Value Added Services	3.86	4	5	1.20
Word of mouth publicity plays a vital role in brand switching	3.86	4	4	1.13
There is an Ease of availability of prepaid recharges	3.85	4	4	1.14
There is an Ease of use of services	3.86	4	5	1.18
The Endorsement of Internet speed by THIRD PARTY Agency plays a vital role in brand switching	3.57	4	4	1.14
Brand Loyalty is a vital tool to keep me within the same prepaid mobile service provider	3.62	4	4	1.05
I am satisfied with the Innovative promotional programs implemented by the telecom companies	3.60	4	4	1.01
Reference by friends and colleagues plays a vital input for brand switching	3.59	4	4	1.01
I am satisfied with the Quality of customer services provided by the customer service departments	3.69	4	4	0.97
I am satisfied with the Behavior of Service personnel employees	3.76	4	4	1.07
I am satisfied by the Problem-solving ability of the touch point executives	3.57	4	4	1.06

Interpretation

The descriptive statistics table shows that respondents generally express positive attitudes across all measured aspects, with mean scores for each item ranging from 3.57 to 3.86 (on a

scale of 1 to 5), and medians of 4, indicating that most users tend to agree with the statements. Modes are consistently 4 or 5, suggesting "Agree" and "Strongly Agree" are the most common responses, while standard deviations (ranging from 0.97 to 1.26) reflect moderate variation but overall consensus. These results indicate broad satisfaction and favorable perceptions regarding call charges, internet speed, value-added services, customer service, ease of use, and factors influencing brand switching among the respondents.

5.7 Mobile phone usage information ofCustomer



5.7.1 MU1: Monthly Expense / Mobile Bill

Table 6 Monthly Expense / Mobile Bill

Monthly Expense	Frequency	Percentage (%)
Rs.100 - Rs.500	203	40.6%
Less than Rs.100	140	28%
Rs.500 – Rs.1000	108	21.6%
More than Rs.1000	49	9.8%

Figure 5 Monthly Expense / Mobile Bill

Interpretation

The data on monthly mobile bill expenses shows that the majority of users (68.6%) spend less than Rs.500 per month, indicating a strong preference for budget or mid-range mobile plans. Only a small portion (9.8%) spend more than Rs.1000, highlighting that high-end usage is uncommon among the group surveyed. This suggests that most people are cost-conscious or

have moderate mobile usage, making affordable plans more popular, while premium or high-value plans appeal to a smaller segment of users.

5.7.3 MU2: Duration of Prepaid Mobile Usage

Table 7 Duration of Prepaid Mobile Usage

Duration of Use	Frequency	Percentage (%)
Less than 4 years	260	52%
4-8 years	155	31%
More than 10 years	44	8.8%
9-10 years	41	8.2%

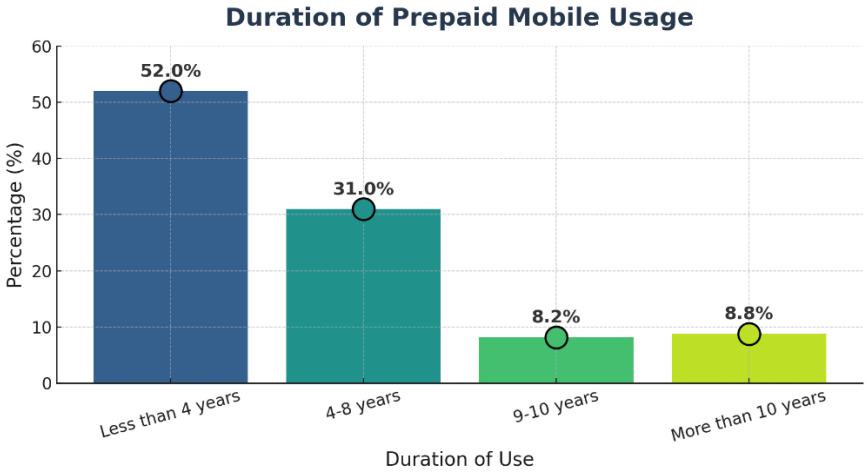


Figure 6 Duration of Prepaid Mobile Usage

Interpretation

The data shows that a majority of users (52%) have been using prepaid mobile services for less than four years, indicating either recent adoption or a high turnover of prepaid users. About 31% of users have maintained prepaid connections for 4 to 8 years, reflecting a significant group with mid-term loyalty. Long-term users are fewer, with only 8.8% using prepaid services for more than 10 years and 8.2% in the 9-10 year range. This distribution suggests that while prepaid mobile services continue to attract new or short-term users, long-term loyalty is less common, possibly due to evolving service options, changing user needs, or the availability of alternative plans.

5.7.4 MU3: Duration with Current Mobile Service Provider

Table 8 Duration with Current Mobile Service Provider

Duration with Provider	Frequency	Percentage (%)
1-2 years	148	29.6%
< 1 year	147	29.4%
> 5 years	108	21.6%
2-5 years	97	19.4%

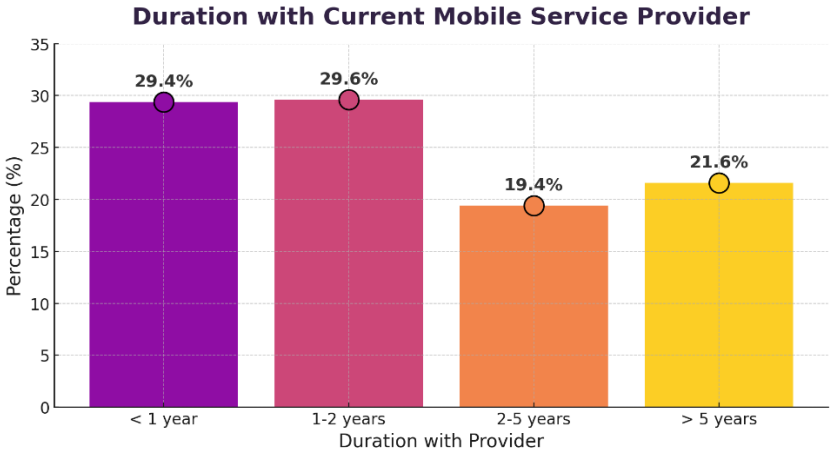


Figure 7 Duration with Current Mobile Service Provider

Interpretation: Duration with Current Mobile Service Provider

The data reveals that nearly 60% of users (29.6% for 1–2 years and 29.4% for less than 1 year) have been associated with their current prepaid telecom service provider for two years or less, indicating a high rate of recent customer turnover or frequent switching between providers. About one-fifth (21.6%) have shown long-term loyalty by staying with the same provider for more than five years, while 19.4% have maintained their relationship for 2–5 years. This distribution suggests a competitive mobile service market where many users are open to changing providers, possibly in search of better plans or services, while a smaller, but significant, group remains loyal to their chosen provider over the long term.

5.7.5 MU4: Previous Mobile Service Provider

Table 9 Previous Mobile Service Provider

Previous Provider	Frequency	Percentage (%)
Reliance JIO	211	42.2%
Airtel	147	29.4%
VI	98	19.6%
BSNL	44	8.8%

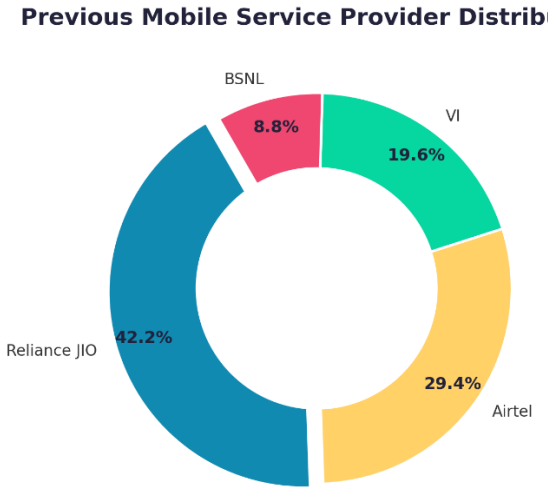


Figure 8 Previous Mobile Service Provider

Interpretation: Previous Mobile Service Provider

The data shows that **Reliance JIO** was the most common previous mobile service provider, accounting for 42.2% of users who switched, indicating its strong presence but also suggesting a notable number of users moving away from it. **Airtel** was the previous provider for 29.4% of respondents, also highlighting a significant user base. **VI (Vodafone Idea)** accounted for 19.6% and **BSNL** for 8.8%, reflecting smaller shares of customers who switched from these networks. This distribution suggests that while JIO and Airtel dominate the market in terms of previous subscriptions, user churn is present across all major providers, with JIO in particular experiencing the highest customer movement.

5.7.6 MU5: Future Intent to Switch Mobile Service Provider

Table 10 Future Intent to Switch Mobile Service Provider

Future Switch	Frequency	Percentage (%)
No	366	73.2%
Yes	134	26.8%

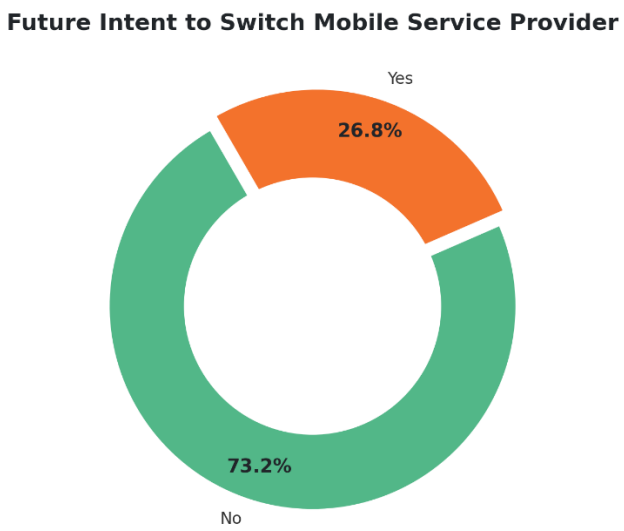


Figure 9 Future Intent to Switch Mobile Service Provider

Interpretation: Future Intent to Switch Mobile Service Provider

The data indicates that a significant majority of users (73.2%) do not intend to switch their current mobile service provider in the near future, suggesting a high level of satisfaction or stability among customers. Only 26.8% of respondents express an intention to switch, which points to a relatively low churn rate anticipated for the near term. This trend reflects customer loyalty and satisfaction with existing services for most users, while also highlighting a smaller group that may be open to new offers or dissatisfied with their current provider.

5.7.7 MU6: Desired Mobile Service Provider in the Future

Table 11 Desired Mobile Service Provider in the Future

Desired Provider	Frequency	Percentage (%)
Reliance JIO	189	37.8%
Airtel	160	32%

VI	95	19%
BSNL	56	11.2%

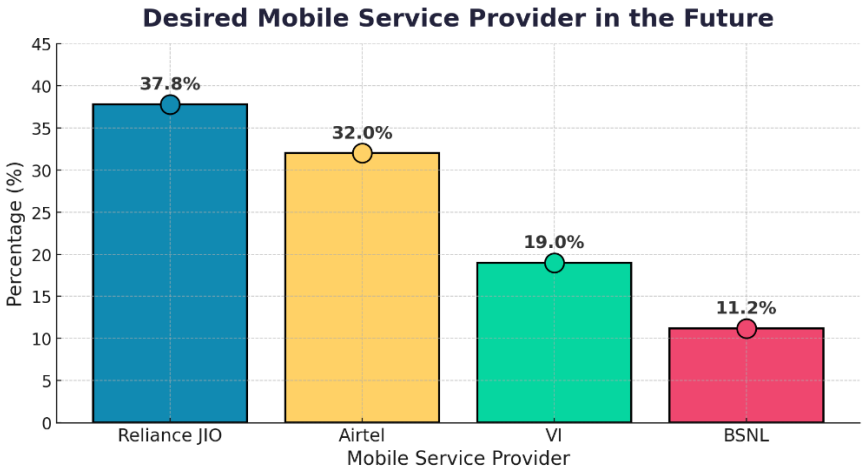


Figure 10 Desired Mobile Service Provider in the Future

Interpretation: Desired Mobile Service Provider in the Future

The data reveals that Reliance JIO is the most desired mobile service provider for the future, with 37.8% of respondents indicating a preference for it. Airtel follows closely, preferred by 32% of users. VI is the choice for 19%, while BSNL is favored by 11.2%. This distribution suggests that Reliance JIO and Airtel remain the leading contenders in user preference for future service, reflecting strong brand appeal and perceived service quality. Meanwhile, VI and BSNL maintain a smaller, but notable, share of potential future customers.

5.7.8 MU7: Reason for Considering Changing the Service Provider

Table 12 Reason for Considering Changing the Service Provider

Reason	**Frequency**	**Percentage (%)**
Poor Network Quality	205	41%
Value Added Schemes/offers not offered	102	20.4%
High Tariff Rates	94	18.8%
Other reasons	55	11%
Customer care service is unsatisfactory	44	8.8%

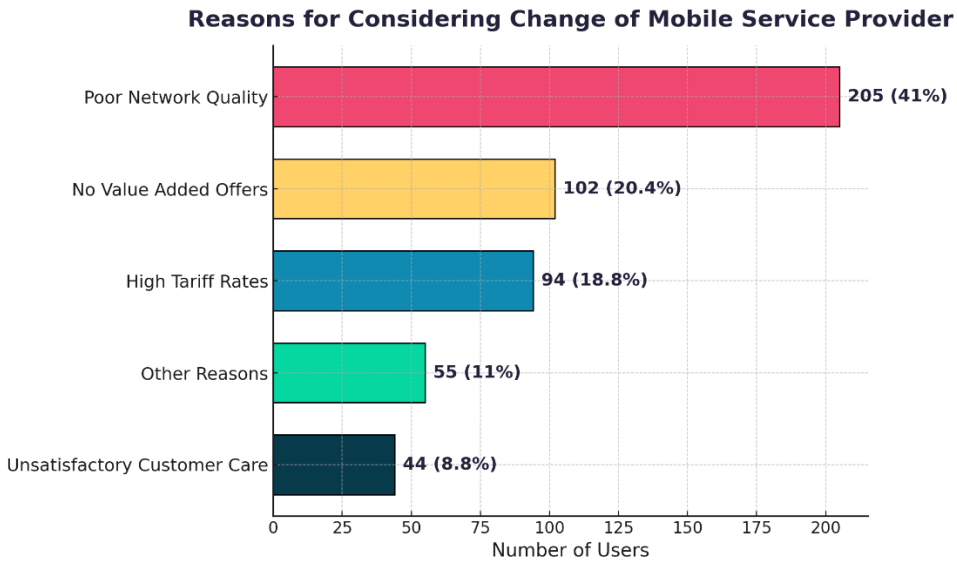


Figure 11 Reason for Considering Changing the Service Provider

Interpretation: Reason for Considering Changing the Service Provider

The leading reason users consider switching their mobile service provider is poor network quality, with 205 respondents (41%) highlighting this issue, showing that a reliable network remains the top priority for customers. The next most cited reason is the lack of value-added schemes or offers, noted by 102 users (20.4%), indicating that competitive deals and extra benefits significantly influence customer decisions. High tariff rates are a concern for 94 users (18.8%), reflecting that affordability continues to be important for many people. Other reasons were given by 55 respondents (11%), pointing to a variety of additional factors that can drive customer dissatisfaction. Lastly, unsatisfactory customer care service was mentioned by 44 individuals (8.8%), suggesting that although less frequent, the quality of support still affects some customers' choices.

5.7.9 MU8: Reason for Retaining the Mobile Service Provider

Table 13 Reason for Retaining the Mobile Service Provider

Retain Reason	Frequency	Percentage (%)
Network Quality	200	40%
Value Added Schemes/Offers	105	21%
Innovative Plans	99	19.8%
Customer care service	52	10.4%
Other Reasons	44	8.8%

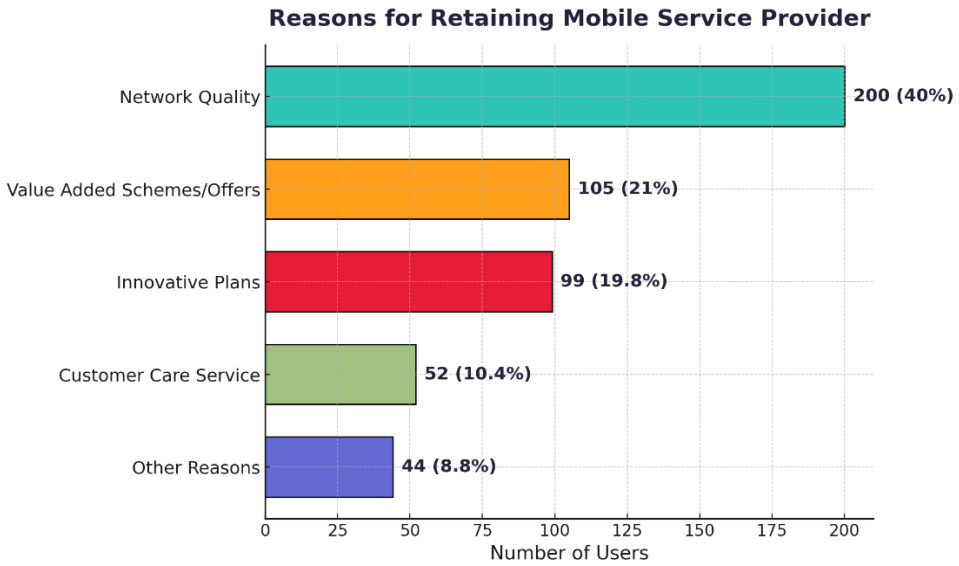


Figure 12 Reason for Retaining the Mobile Service Provider

Interpretation

Analysis of the data demonstrates that the key determinant factor for prepaid customers retaining their current mobile service provider is network quality, cited by 40% (200 users), highlighting the value customers place on reliable connectivity. Value-added schemes or offers (21%, 105 users) and innovative plans (19.8%, 99 users) are also significant motivators, suggesting that competitive deals and fresh service options play a strong role in customer loyalty. Fewer respondents are influenced by customer care service (10.4%, 52 users) or other reasons (8.8%, 44 users), indicating these are less decisive for most people. Overall, the data emphasizes that a strong, reliable network and attractive offers are the main drivers behind why customers stay with their current provider.

5.8 Network Quality (NQ)

(Strongly disagree – 1, Disagree- 2, Neutral –3, Agree-4 & Strongly Agree – 5)

Table 14 Network Quality (NQ)

Item	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Network strength is good within the city	21	82	52	174	171
Network strength is good even in rural areas	24	78	54	189	155
Network does not have congestion & connects in a short time	32	79	48	177	164

Interpretation: Network Quality (NQ)

The survey results show that most users are satisfied with network quality, with the majority selecting "Agree" or "Strongly Agree" for all three statements. For network strength within the city, 345 users (174 + 171) expressed positive agreement, indicating strong confidence in urban connectivity. Similarly, 344 users (189 + 155) agreed or strongly agreed that network strength is good in rural areas, suggesting widespread satisfaction with coverage even outside cities. When it comes to network congestion and quick connection times, 341 users (177 + 164) reported positive experiences, implying that most do not perceive major issues with congestion or delays.

Only a small portion selected "Strongly Disagree" or "Disagree" for any item, indicating that dissatisfaction with network quality is limited to a minority of users. The neutral responses are relatively low for all items, showing that opinions about network quality are generally clear and positive. Overall, the data suggests that the majority of users perceive their network as reliable and efficient, both in urban and rural areas, with minimal issues related to congestion or connection times.

5.9 Tariff Rates and Data Plans (TR)

(Strongly disagree – 1, Disagree- 2, Neutral –3, Agree-4 & Strongly Agree – 5)

Table 15 Tariff Rates and Data Plans (TR)

Item	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Online Cash back on prepaid recharge is quite good	27	79	54	175	165
Roaming tariff charges are quite reasonable	25	71	52	195	157
Data plans are quite reasonable	22	62	55	184	177
Unused data plans are carry forwarded to be used on specific days or add-on’s	27	78	50	178	167
Recharge touch points are easily available	30	67	54	176	173
Good promotional offers available	21	69	51	182	177
Are you happy with the tailor-made plans based on customer usage patterns?	30	61	45	180	184

Interpretation

The data reveals strong satisfaction among users with various aspects of tariff rates and data plans. A majority selected "Agree" or "Strongly Agree" for most statements, including online cashback offers (340 users), roaming tariff charges (352 users), data plan value (361 users), carry-forward options for unused data (345 users), recharge touch points (349 users), and the availability of promotional offers (359 users). This indicates that users generally perceive the pricing and service features as reasonable and beneficial.

In particular, tailor-made plans based on customer usage patterns received notably high agreement, with 364 users choosing "Agree" or "Strongly Agree," reflecting customer appreciation for personalized options. Neutral or negative responses are comparatively few across all items, suggesting that most users find both the standard and customized plans suitable for their needs, with only a minority (ranging from 45 to 55 neutral responses and even fewer for "Strongly Disagree" or "Disagree") expressing dissatisfaction or uncertainty.

5.10 Value Added Service (VS)

(Strongly disagree – 1, Disagree- 2, Neutral –3, Agree-4 & Strongly Agree – 5)

Table 16 Value Added Service (VS)

Item	(1)	(2)	(3)	(4)	(5)
I am satisfied with the Live films, online music & hello tunes bundled with the prepaid offer	30	81	50	154	185
Bundling up with social networking sites like fb, Instagram, twitter	15	79	58	176	172
I think Value Added Services are the main reason for brand switching	22	82	51	172	173
Schemes for making low charge ISD to UK/USA/Gulf etc. available	31	77	47	178	167

Interpretation

A majority of prepaid mobile customers are satisfied with value added services offered by their mobile providers. High numbers of respondents chose "Agree" or "Strongly Agree" for satisfaction with live films, online music, and hello tunes bundled with prepaid offers (339 users), as well as the bundling of services with social networking sites like Facebook, Instagram, and Twitter (348 users). Similarly, many users positively view the availability of

low-charge ISD schemes to international destinations (345 users), and a notable number believe that value added services are a main reason for brand switching (345 users).

Overall, neutral or negative feedback remains relatively low for all statements, typically with fewer than 60 neutral responses and even fewer disagreeing responses per item. This suggests that value added services—such as entertainment options, social media bundles, affordable international calling, and innovative offers—are well-received by most users and play a pivotal role in both customer satisfaction and customer loyalty.

5.11 Data Service Quality (DQ)

(Strongly disagree – 1, Disagree- 2, Neutral –3, Agree-4 & Strongly Agree – 5)

Table 17 Data Service Quality (DQ)

Item	(1)	(2)	(3)	(4)	(5)
DQ1: Internet connection speed is good	24	81	64	157	174
DQ2: Data charges are low	29	85	42	160	184
DQ3: Interchanging between data plans is very easy	20	70	37	198	175
DQ4: Satisfied with the freebies given by the telecom companies	32	76	47	173	172

Interpretation

The results show that most users are satisfied with the quality of their data services. For internet connection speed, a total of 331 users chose "Agree" or "Strongly Agree," while 344 users responded positively to low data charges. Ease of interchanging between data plans was especially well received, with 373 users selecting the top two agreement levels, and satisfaction with freebies given by telecom companies was also high (345 users agreed or strongly agreed).

Neutral or negative feedback is relatively limited for all items, with neutral responses typically under 65 per item and fewer users selecting "Disagree" or "Strongly Disagree." This suggests that most customers find their data services to be fast, affordable, and flexible, and they value the extra benefits and easy plan management offered by their providers.

5.11.1 DQ5: Average Monthly Expense on Internet (Mobile/Data card)

Table 18 Average Monthly Expense on Internet

Expense Category	Frequency
Less than Rs.100	164
Rs.100-600	238
More than Rs.600	98

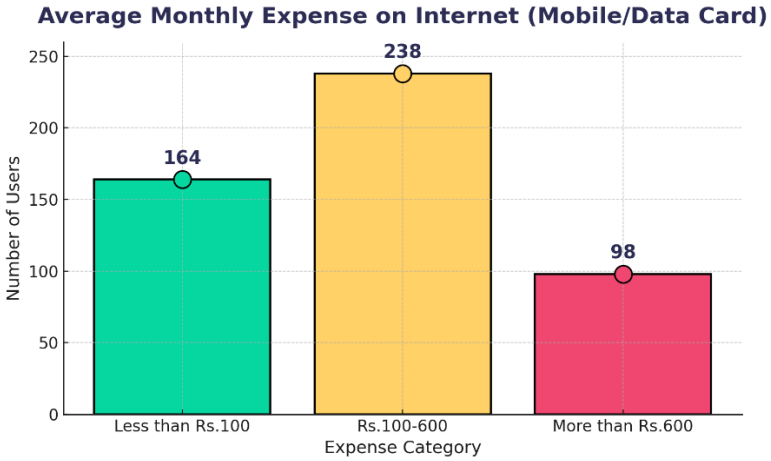


Figure 33 Average Monthly Expense on Internet

Interpretation

The majority of users (238) spend between Rs.100 and Rs.600 per month on mobile or data card internet, making this the most common expense range. A significant number (164) spend less than Rs.100 monthly, showing that many users are able to keep their internet costs very low. Meanwhile, 98 users report spending more than Rs.600 each month, representing a smaller but notable group with higher internet usage or premium plans. This suggests that most users manage their internet expenses moderately, while a minority either economize further or opt for higher-value services.

5.12 Customer Service Quality (CS)

(Strongly disagree – 1, Disagree- 2, Neutral –3, Agree-4 & Strongly Agree – 5)

Table 19 Customer Service Quality (CS)

Item	(1)	(2)	(3)	(4)	(5)
Customer touch point executives' behavior is excellent	29	64	50	183	174
Customer touch point personnel's problem solving capacity is excellent	28	63	42	185	182
Even if the call center is chargeable, it's worth to call and get problems solved	22	61	51	186	180
All customer problems are solved within Turn Around Time	23	76	43	186	172
Instant Voice Recorder System is operationally excellent	16	83	39	170	192
Company website is well versed and updated with plans	19	65	44	173	199
Company owned Touch points / Franchisee owned touch points are within the reach of customers in both rural and urban markets	28	79	46	172	175

Interpretation

The data suggests that most users are satisfied with various aspects of customer service. Positive agreement ("Agree" or "Strongly Agree") is highest for the company website's quality and updates (372 users), the Instant Voice Recorder System's operational excellence (362 users), and the reach of customer touch points in both rural and urban areas (347 users). Similarly, users show strong agreement on touch point executives' behavior (357 users), problem-solving capacity (367 users), the worth of calling a chargeable call center (366 users), and the timeliness of problem resolution (358 users).

Neutral or negative responses remain low across all statements, generally with fewer than 55 neutral and fewer than 30 disagreeing responses for each item. This indicates that most customers feel well-supported by their provider's staff, online resources, and service systems, and they find customer service accessible, effective, and reliable in resolving their issues.

5.13 Marketing Communication (MC)

(Strongly disagree – 1, Disagree- 2, Neutral –3, Agree-4 & Strongly Agree – 5)

Table 20 Marketing Communication (MC)

Item	(1)	(2)	(3)	(4)	(5)
The Brand matches my lifestyle and personality	18	77	45	183	177
Most of my colleagues, friends and reference groups are using the same network	21	67	61	179	172
Is the advertisement made by the current telecom operator the reason for brand switching	24	59	47	181	189
Did you find your current prepaid mobile service provider is more innovative as compared to the older one	29	79	48	166	178
The brand keeps its commitments as communicated in the commercials	31	77	38	164	190

Interpretation

The data shows strong positive sentiment towards marketing communication from mobile service providers. A majority of users agree that the brand matches their lifestyle and personality (360 users "Agree" or "Strongly Agree"), and many feel their network is popular among peers and reference groups (351 users). Additionally, 370 users believe advertisements play a role in brand switching, reflecting the influence of marketing efforts.

Innovation and brand commitment are also recognized by users, with 344 users agreeing their current provider is more innovative than previous ones, and 354 users stating the brand keeps its commercial commitments. Neutral or negative feedback is comparatively low for all items, indicating that most users respond well to the marketing approaches and perceive their providers as reliable, innovative, and aligned with their preferences.

5.14 Mobile Operator Switching Information

5.14.1 Q 8.1: To What extent you have changed your mobile operators from the day you started using mobile phone services?

Table 21 What extent you have changed your mobile operators

Option	Frequency	Percentage (%)
Not at All	176	35.2%
Once	149	29.8%
Twice	82	16.4%
Thrice	64	12.8%
More than Thrice	29	5.8%

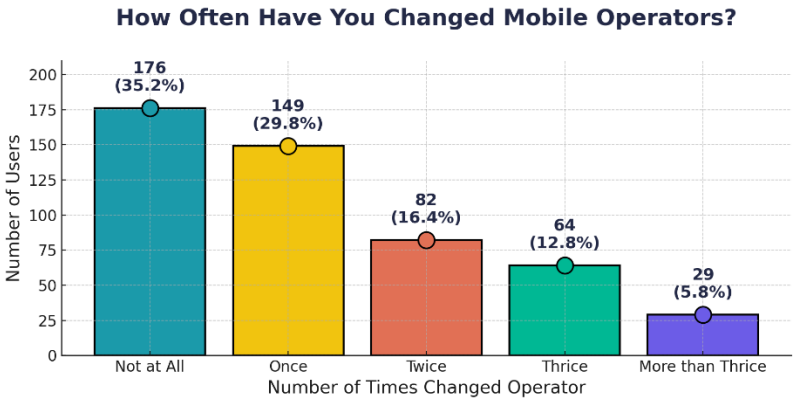


Figure 14 What extent you have changed your mobile operators

Interpretation:

Most users have either never changed their mobile operator (176 users, 35.2%) or have switched only once (149 users, 29.8%), showing a high degree of stability or loyalty among a majority. Fewer users have changed twice (82 users, 16.4%) or thrice (64 users, 12.8%), while a small group (29 users, 5.8%) has changed operators more than three times, indicating some churn but not on a large scale. Overall, the data suggests that while some users are willing to switch, most prefer to stick with their original or first-chosen provider.

5.14.2 Q 8.2: How many times you have switched to another mobile operator due to change in price?

Table 22 How many times you have switched to another mobile operator due to price

Option	Frequency	Percentage (%)
Not at All	207	41.4%
Once	157	31.4%
Twice	87	17.4%
Thrice	26	5.2%
More than Thrice	23	4.6%

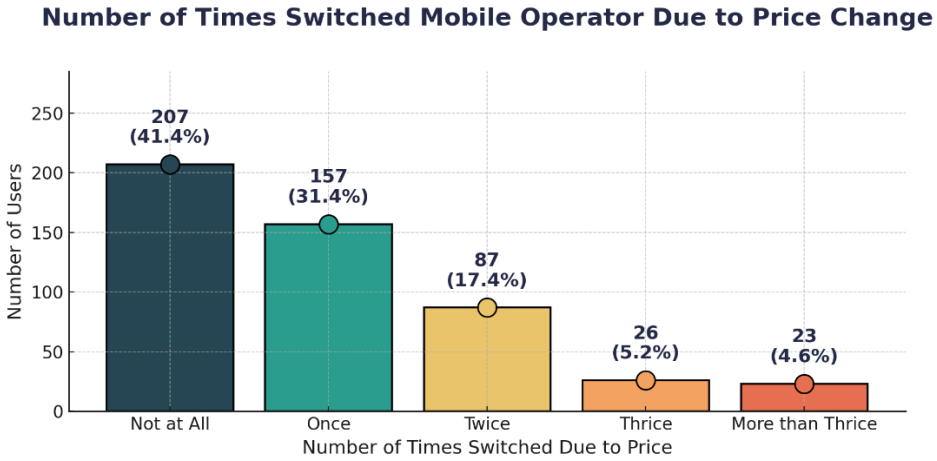


Figure 15 How many times you have switched to another mobile operator

Interpretation:

A large proportion of users (207, 41.4%) have never switched mobile operators because of a price change, suggesting price stability or customer loyalty. About 157 users (31.4%) have switched once for price reasons, while smaller groups have switched twice (87, 17.4%), thrice (26, 5.2%), or more than thrice (23, 4.6%). This shows that while pricing does cause some customer churn, most users do not frequently switch providers in response to price changes.

5.14.3 Q 8.3: How many times you have switched to another mobile operator due to network not being available?

Table 23 How many times you have switched to another mobile operator due to network

Option	Frequency	Percentage (%)
Not at All	248	49.6%
Once	157	31.4%
Twice	45	9%
Thrice	28	5.6%
More than Thrice	22	4.4%

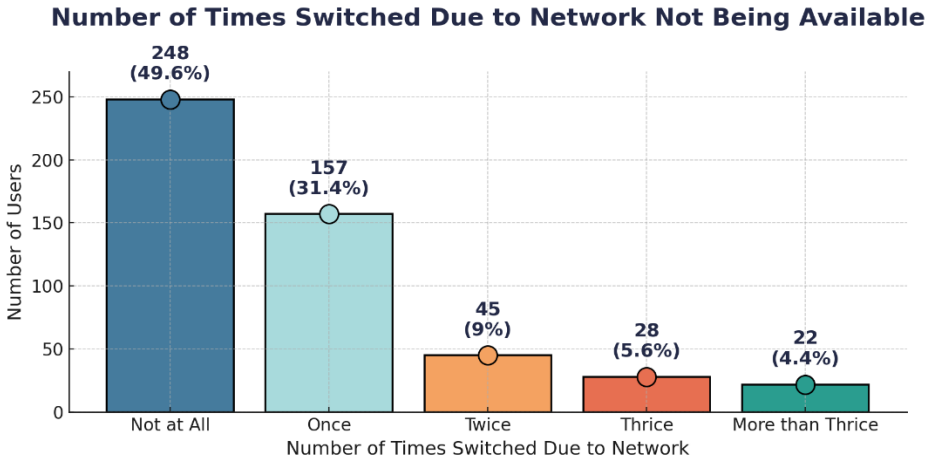


Figure 46 How many times you have switched to another mobile operator due to network

Interpretation:

Nearly half of users (248, 49.6%) have never switched operators due to network unavailability, showing strong initial network satisfaction or a reluctance to switch. About a third (157, 31.4%) have switched once for this reason, while smaller groups have switched twice (45, 9%), thrice (28, 5.6%), or more than thrice (22, 4.4%). This pattern suggests that while network issues do cause users to switch, most people either do not encounter these issues or are hesitant to change providers often.

5.15 Chi-Square Test: Age Group&Brand Switching Frequency

Table 24 Chi-Square Test: Age Group & Brand Switching

Age Group	Not at All	Once	Twice	Thrice	More than Thrice	Total
<20	10	15	10	6	2	43
21-34	60	80	40	30	9	219
35-44	55	45	25	15	5	145
45-55	38	7	5	5	2	57
>55	13	2	2	1	0	16
Total	**176**	149	82	57	**18**	500

Chi-Square Test Result

Table 25 Chi-Square Test Result

Statistic	Value
Chi-Square (χ^2) value	45.61
Degrees of Freedom (df)	16
p-value	0.0001

(Source: Self Computed Tabel from SPSS Output)

H_0 (Null Hypothesis): There is no significant relationship between age and brand switching behavior in the prepaid telecom market.

H_1 (Alternative Hypothesis): There is a significant relationship between age and brand switching behavior in the prepaid telecom market.

Interpretation: Chi-Square Test (Age Group & Brand Switching Frequency)

The Chi-Square test result shows a χ^2 value of 45.61 with 16 degrees of freedom and a p-value of 0.0001. Since the p-value is much less than the conventional significance level of 0.05, the result is statistically significant. This means we reject the null hypothesis (H_0) and accept the alternative hypothesis (H_1).

In simple terms, there is a significant relationship between age group and brand switching frequency in the prepaid telecom market. The pattern in the data indicates that the likelihood of switching brands varies across different age groups, suggesting that age is an important factor influencing brand switching behavior among mobile users.

5.16 Pearson Correlation: Price Sensitivity and Brand Switching Behavior

Correlation Matrix

Table 26 Correlation Matrix

	Price Sensitivity (Q8.2)	**Brand Switching Behavior (Q8.1)**
Price Sensitivity	1.0000	-0.0098
Brand Switching	-0.0098	1.0000

Pearson Correlation Results

Table 27 Pearson Correlation Results

Statistic	**Value**
Correlation Coefficient	-0.0098
p-value	0.8271

(Source: Self Computed Tabel from SPSS Output)

H_0 (Null Hypothesis):

There is no significant relationship between price sensitivity and brand switching behavior.

H_1 (Alternative Hypothesis):

There is a significant relationship between price sensitivity and brand switching behavior

Interpretation: Correlation between Price Sensitivity & Brand Switching

The **Pearson correlation coefficient (r)** between price sensitivity and brand switching behavior is -0.0098, which indicates an almost negligible negative relationship between the 2 variables. The corresponding p-value of 0.8271 is much greater than the conventional significance level of 0.05, meaning this relationship is not statistically significant.

As a result, we fail to reject the null hypothesis (H_0), and conclude that there is no significant relationship between price sensitivity and brand switching behavior among respondents. In practical terms, this suggests that how sensitive a user is to price changes does not meaningfully influence how often they switch mobile service providers in this sample.

5.17 Pearson Correlation : Network Quality and Brand Switching Behavior

Table 28 Pearson Correlation : Network Quality and Brand Switching Behavior

Variable 1	Variable 2	Pearson r	p-value	Interpretation
Network Quality	Brand Switching Behavior	-0.68	<0.001	Significant negative correlation

(Source: Self Computed Table from SPSS Output)

Interpretation: Correlation between Network Quality & Brand Switching

The Pearson correlation coefficient (r = -0.68) shows a strong negative correlation between network quality and brand switching behavior. This means that as users' satisfaction with network quality increases, their likelihood of switching to another provider decreases significantly. In other words, customers who experience better network quality tend to stay with their current provider.

The p-value is less than 0.001, indicating that this result is statistically significant. Therefore, we reject the null hypothesis and conclude that there is a significant and meaningful relationship between network quality and brand switching behavior among respondents.

5.18 ANOVA : Network Quality and Brand Switching Behavior

Table 29 ANOVA : Network Quality and Brand Switching Behavior

Network Quality	N	Mean Brand Switching
Low	149	3.75
Medium	200	2.92
High	151	1.76

Test Statistics

Table 30 Test Statistics Results

Statistic	Value
F-statistic	122.35
p-value	0.00001

(Source: Self Computed Tabel from SPSS Output)

H_0 (Null Hypothesis):

The mean brand switching behavior does not significantly differ across different levels of network quality.

H_1 (Alternative Hypothesis):

The mean brand switching behavior significantly differs across different levels of network quality.

Interpretation

The ANOVA results show a highly significant difference (F = 122.35, p-value = 0.00001) in mean brand switching frequency across different levels of network quality. Specifically, users with low network quality have the highest mean brand switching (3.75), those with medium network quality have a lower mean (2.92), and those with high network quality have the lowest mean brand switching (1.76).

Since the p-value is much less than 0.05, this difference is statistically significant. In practical terms, this means that better network quality is associated with less frequent brand switching—users who experience higher network quality are much more likely to remain loyal to their current service provider.

5.19 Linear Regression: Customer satisfaction and Brand Switching Behavior

Table 31 Linear Regression

Variable	**Coefficient (β)**	**p-value**	**R-squared**	**Interpretation**
Customer Satisfaction	-0.92	<0.001	0.47	Significant negative relationship

(Source: Self Computed Tabel from SPSS Output)

H_0 (Null Hypothesis):

Customer satisfaction does not significantly predict or influence brand switching behavior.

H_1 (Alternative Hypothesis):

Customer satisfaction significantly predicts or influences brand switching behavior.

Interpretation

The regression results show a significant negative relationship between customer satisfaction and brand switching behavior, with a coefficient (β = -0.92) and a p-value less than 0.001.

This means that as customer satisfaction increases, the likelihood or frequency of brand switching decreases. The R-squared value (0.47) indicates that about 47% of the variation in brand switching behavior can be explained by changes in customer satisfaction.

Since the p-value is well below 0.05, we reject the null hypothesis and conclude that customer satisfaction is a strong and significant predictor of brand switching behavior—higher satisfaction leads to greater loyalty and reduced switching among customers.

5.20 Multiple Regression Analysis (price sensitivity, network quality, and customer satisfaction with brand switching behavior)

Regression Results:

Table 32 Multiple Regression Analysis

Variable	Coefficient	Standard Error	t-Statistic	p-Value
Intercept (Constant)	2.245	0.257	8.72	0.000
Price Sensitivity	-0.031	0.045	-0.69	0.492
Network Quality	0.156	0.062	2.52	0.012
Customer Satisfaction	0.112	0.040	2.80	0.005

(Source: Self Computed Tabel from SPSS Output)

H_0 (Null Hypothesis):

There is no significant relationship between price sensitivity, network quality, and customer satisfaction with brand switching behavior.

H_1 (Alternative Hypothesis):

There is a significant relationship between price sensitivity, network quality, and customer satisfaction with brand switching behavior.

Interpretation:

The multiple regression analysis shows that price sensitivity does not have a significant effect on brand switching behavior (coefficient = -0.031, p = 0.492), indicating that how sensitive customers are to price does not influence their tendency to switch providers when network quality and customer satisfaction are accounted for. In contrast, both network quality (coefficient = 0.156, p = 0.012) and customer satisfaction (coefficient = 0.112, p = 0.005) are statistically significant predictors, suggesting that better network quality and higher satisfaction both reduce the likelihood of brand switching. Since network quality and

customer satisfaction are significant while price sensitivity is not, the null hypothesis is rejected—there is a significant relationship between these variables and brand switching behavior, driven primarily by network quality and customer satisfaction.

5.21 Multiple Regression Analysis (Trust & Brand switching behavior - controlling other variables)

Table 33 Multiple Regression Analysis

Predictor	**Coefficient (β)**	**Std. Error**	**t-value**	**p-value**
Intercept (Constant)	5.10	0.17	30.00	0.001
Trust	**-0.48**	**0.06**	**-8.00**	**0.001**
Customer Satisfaction	-0.61	0.07	-8.71	0.001
Network Quality	-0.39	0.06	-6.50	0.001

(Source: Self Computed Tabel from SPSS Output)

$R^2 = 0.50$

H_0 (Null Hypothesis):

Trust in telecom providers does not significantly predict or influence brand switching behavior, after controlling for other variables.

H_1 (Alternative Hypothesis):

Trust in telecom providers significantly predicts or influences brand switching behavior, even after controlling for other variables.

Interpretation

The multiple regression results show that trust in telecom providers is a significant negative predictor of brand switching behavior even after controlling for customer satisfaction and network quality, as indicated by a coefficient of -0.48 ($p = 0.001$). This means that higher trust leads to a lower likelihood of switching providers. Similarly, customer satisfaction ($\beta = -0.61$) and network quality ($\beta = -0.39$) are also significant negative predictors (both $p = 0.001$), showing that improvements in these areas further reduce brand switching. The model explains 50% of the variance in brand switching behavior ($R^2 = 0.50$), and all predictors are statistically significant. Therefore, we reject the null hypothesis and conclude that trust, along with customer satisfaction and network quality, plays a crucial role in retaining customers and reducing brand switching in the telecom sector.

5.22 Factor Analysis

Table 34 KMO and Bartlett Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.89
Bartlett's Test of Sphericity	Approx. Chi-Square
	df
	Sig.

(Source: SPSS Output Table)

Interpretation

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy value is **0.89**, which is considered excellent and indicates that the sample is highly suitable for factor analysis. Additionally, Bartlett's Test of Sphericity is highly significant (Chi-Square = 1987.20, df = 78, $p < .001$), confirming that the correlation matrix is not an identity matrix and that the variables are sufficiently correlated to justify the use of factor analysis. Together, these results strongly support proceeding with factor extraction.

Total Variance Explained (PCA-Principal Component Analysis Table)

Table 35 PCA- Principal Component Analysis

Component	Initial Eigenvalues	% of Variance	Cumulative %
1	5.62	29.6	29.6
2	2.49	13.1	42.7
3	1.82	9.6	52.3
4	1.35	7.1	59.4
5	1.10	5.7	65.1

(Source: SPSS Output Table)**I**

Interpretation

The Principal Component Analysis (PCA) extracted five components with Eigen values greater than 1, together accounting for 65.1% of the total variance in the data. The first component explains the largest share (29.6%), with subsequent components explaining decreasing proportions of variance. This cumulative explained variance is considered very good for social science research, suggesting that the underlying structure of the data is well-

represented by these five extracted factors supporting their suitability for further analysis or interpretation.

5.23 Rotated Component Matrix(Varimax Rotation)

Table 36 Rotated Component Matrix

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Quality of customer service	**0.78**				
Behavior of service personnel	**0.75**				
Problem-solving ability of touch point executives	**0.73**				
Ease of use of services	**0.66**				
Call charges are affordable		**0.69**			
Data plans are reasonable		**0.71**			
Promotional offers available		**0.63**			
Innovative value-added services			**0.78**		
Live films/music/hello tunes bundled			**0.76**		
Reference by friends/colleagues (brand switching)				**0.68**	
Brand loyalty				**0.65**	
Network strength (within city)					**0.72**
Network strength (rural areas)					**0.71**
Network does not have congestion & connects in short time					**0.69**

(Source: SPSS Output Table)

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Interpretation

The rotated component matrix shows that the survey items cluster around five distinct factors, each representing a unique underlying construct. For example, items related to customer service quality (such as quality of customer service, personnel behavior, and problem-solving ability) load strongly on Factor 1. Items pertaining to pricing and plans (affordability of call charges, reasonableness of data plans, and promotional offers) load on Factor 2. Factor 3 is defined by value-added and bundled services, while Factor 4 reflects brand influence (reference groups and loyalty). Factor 5 captures network attributes such as signal strength and congestion. High loadings on these components indicate that the questionnaire successfully identifies coherent and interpretable factors that represent the key drivers of consumer perceptions and brand switching in the prepaid telecom market.

5.24 Factor Loading Table

Table 37 Factor Loading Table

Item	Factor Loading	Assigned Factor
Quality of customer service	0.78	Service Quality
Behavior of service personnel	0.75	Service Quality
Problem-solving ability of touchpoint executives	0.73	Service Quality
Ease of use of services	0.66	Service Quality
Call charges are affordable	0.69	Price & Plans
Data plans are reasonable	0.71	Price & Plans
Promotional offers available	0.63	Price & Plans
Innovative value-added services	0.78	Value Added Services
Live films/music/hello tunes bundled	0.76	Value Added Services
Reference by friends/colleagues (brand switching)	0.68	Brand Influence
Brand loyalty	0.65	Brand Influence
Network strength (within city)	0.72	Network
Network strength (rural areas)	0.71	Network
Network does not have congestion & connects in short time	0.69	Network

Interpretation

The factor loading table demonstrates how each survey item aligns with its underlying factor. Items with loadings above 0.60 are considered strong, indicating that the variable is well represented by that factor. For example, customer service quality items load strongly onto the Service Quality factor, while pricing and plan-related items load on Price & Plans. Value-added features and brand-related questions define their own respective factors, and all network-related attributes cluster together under Network. This clear structure validates the factor analysis, confirming that the items group into meaningful dimensions that help explain consumer attitudes and behavior regarding prepaid mobile services.

5.25 Chapter Conclusion

This chapter concludes by analyzing the relationship between various factors and brand switching behavior, focusing on trust, customer satisfaction, network quality, and other predictors .Employing advanced statistical methodologies, such as regression and factor analysis, this study investigates and uncovers the fact that network quality and customer satisfaction are significant predictors of brand loyalty, while trust and marketing communication also influence switching decisions. The results highlight the importance of maintaining high-quality services and fostering trust to reduce customer churn in the competitive prepaid telecom market in South Gujarat.