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Factors considered by customers while selecting mobile service provider - A study of Amritsar city

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ABSTRACT

The phenomenon of choice criteria, customer satisfaction and loyalty measurement has great importance for the manufacturers as well as for marketers, because choice criteria will help the companies to better understand the needs of the consumers. This paper examines the factors considered by customers while selecting a mobile service provider. To achieve this objective a survey was conducted with the sample size of 151 respondents in Amritsar city. Three factors were found by applying the factor analysis technique namely 'efficient customer service', 'connectivity and speed' and 'economically viable'. The factor 'efficient customer service' found to be the most important factor followed by 'connectivity and speed' and 'economically viable'.

Keywords: Mobile, Service Provider, Customers and Telecom.

INTRODUCTION

Telecommunication sector is now universally recognized as one of prime movers of the modern economy. The availability of adequate infrastructure facilities is critical for acceleration of the economic development of any country. The government of India recognizes that the provision of a world class telecommunications and information infrastructure is the key to rapid economic social development of the country. Telecommunications is critical not only for the development of information technology but also has widespread implication for the entire economy of the country. The telecom infrastructure in India has grown at a rapid pace after 1994 when the new Telecom policy, 1994 came into force (Kathuria and Jain, 2009).

India has the fastest growing telecom network in the world with its high population and development potential. Airtel, Vodafone, Idea, Uninor, Reliance, Tata DoCoMo, BSNL, Aircel, Tata Indicom, MTNL and Loop Mobile are the major operators in India. However, rural India still lacks strong infrastructure. India's public sector telecom company BSNL is the 7th largest telecom company in world.

Telephone was introduced in India in 1882. The total number of telephones in the country stands at 904.56 million, while the overall tele-density has increased to 73.32% as on 31 October 2013 and the total numbers of mobile phone subscribers have reached 875.48 million as on October 2013. The mobile tele-density had increased to 70.96% in October 2013. In the wireless segment, 4.90 million subscribers were added in October 2013. The wire line segment subscriber base stood at 29.08 million.

Indian telecom operators added a staggering 227.27 million wireless subscribers in the 12 months between March 2010 and March 2011 averaging at 18.94 million subscribers every month. To put this into perspective, China which currently possesses the world's largest tele-communications network added 119.2 million wireless subscribers during the same period - averaging 9.93 million subscribers every month (a little over half the number India was adding every month). So, while India might currently be second to China in the total number of mobile subscribers, India has been adding nearly twice as many subscribers every month until March 2011. Mobile tele-density increased by almost 18.4 percent from March 2010 and March 2011 (49.60% to 67.98%) while wireline subscriber numbers fell by a modest 2.2 million. This frenetic pace of monthly subscriber additions means that the Indian mobile subscriber base has shown a year on year growth of 43.23%. Subscriber number hit a peak in June 2012 but has declined. The decline in telecom user base after June 2012 has been primarily due to the removal of inactive mobile telephone connections by the service providers[1]. Table 1 provides the data regarding annual additions in mobile subscribers in India.

Table 1: Annual Additions in Mobile Subscribers in India

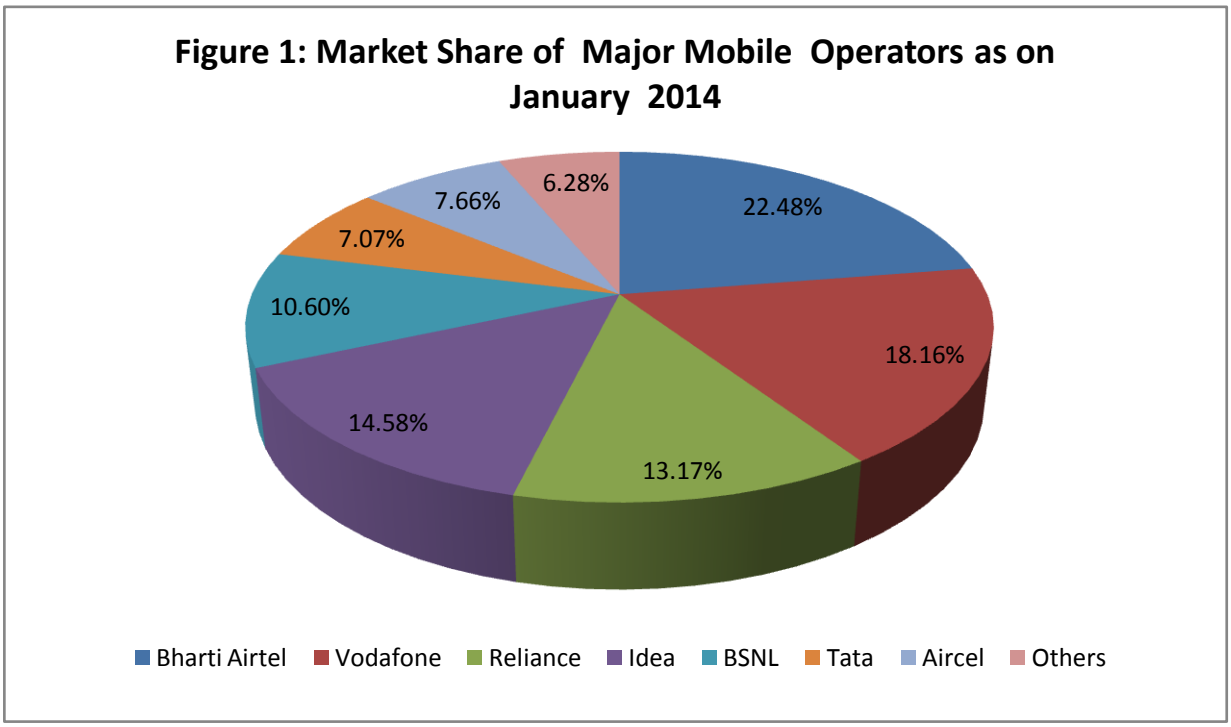
[1] http://en.wikipedia.org/wiki/Telecommunications_statistics_in_India

Year	Annual Additions(in millions)
2002	5.23
2003	17.49
2004	19.49
2005	27.86
2006	64.14
2007	85.27
2008	113.26
2009	178.25
2010	227.12
2011	148.32
2012	29.13
2013	9.07

Source: http://en.wikipedia.org/wiki/Telecommunications_statistics_in_India

I. MARKET SHARE OF MAJOR MOBILE OPERATORS IN INDIA

It is evident from the figure 1 that Bharti-Airtel leads the wireless market with 28.49 per cent market share followed by Vodafone (22.91 percent), IDEA (18.74 percent), BSNL (14.31 percent), others (9.69 percent) and Reliance (5.86 percent).



Source: http://trak.in/tags/business/2014/03/13/mobile-subscriber-additions-jan2014/

II. REVIEW OF LITERATURE

In order to identify and fill up the gap which has been left by previous researcher, the literature produced by them is reviewed. The review of available studies relevant to the field of present research is given below:

Sharma (2005) determined the factors affecting the choice of customers for a particular mobile phone service provider and satisfaction level of users from their existing mobile phone service provider. The survey was conducted on 100 respondents the research design used in this research was descriptive in nature. For the purpose of analysis of

dichotomous, checklist and multiple choice questions percentage method and ranking questions were analyzed as per ranks and scaling questions were analyzed on the basis of weightage. For that purpose a five point scale was used. The study concluded if any new mobile phone service provider has to enter into the market, it has to take following points into the consideration- 1. Connectivity 2.Coverage 3. Tariff 4. Value Added Services 5. Customer Care. The study found that majority of the existing mobile phone users were satisfied from the services of the existing Mobile Service Providers.

Kathuria and Jain (2009) identified the factors influencing the selection of mobile phone service provider by rural consumers. This study states that there has been unhindered growth in the Indian Telecom market. Smaller towns and rural areas have been pushing the demand for mobile services. In comparison to a tele density of nearly 33 percent in urban areas, it is barely 5 percent in the rural areas, thereby indicating huge scope for growth. The population for the study consisted of all the mobile phone users of rural areas of Ludhiana district. Multistage sampling technique was used to select the sample. The study was conducted on 120 respondents. A self administered, structured and non disguised questionnaire was used and data were analyzed with the help of statistical tools like frequency distribution, percentage, mean score, standard deviation, Z-test and one way ANOVA. The study highlighted that respondents considered network coverage, price, value for money, billing integrity, recommendations from family and friends, customer service and company image as relatively important factors influencing the selection of a mobile phone service provider. The study revealed that friends and relatives were the most important source of information, the company should rely on word of mouth publicity for prompting their offerings in rural areas. Also, the respondents relatively perceived comprehensive network coverage as most important factor than other factors. Also, the service providers should minimize their billing inaccuracies in order to retain their customers. Customer service was found to be relatively more important factor influencing the choice of mobile phone service provider for the respondents having annual family income of more than Rupees three lakhs.

III. NEED OF THE STUDY AND OBJECTIVES

Exchange of information becomes the necessity of life to a common man. In the modern world an individual tends to communicate anything to everything right from the place where he/she stands. Even while riding vehicle he / she wants communication within a fraction of second at quick speed with clear voice, without any disturbance. Like line crossing, out of order, etc. most of which lack in the connection given by the department of tele-communication. Mobile call tariffs in India are the lowest in the world. Competition is intense among the players to attract the customers. Every now and then, a new scheme with low service charges and tariff plan pop ups and gets superseded by another new scheme within no time. The main interest lies in the fact that what are the important factors which affects the users while selecting telecom service.
The present study is conducted with the objective to examine factors affecting the choice of customers for a particular mobile phone service provider.

IV. RESEARCH METHODOLOGY

Universe of the study

The universe of the study is Amritsar city. The target population was the consumers having mobile phones.

Sample Plan

❖ Sampling unit

Sampling unit was all those consumers having mobile phones.

❖ Sample size

Convenience sampling method was used and 175 questionnaires were distributed and 151 were used to interpret the results. Table 2 provides the demographic profile of customers selected for the study.

Table 2: Demographic profile of the respondents

Demographic Variable	Category	Frequency	Percent	Cumulative Percent
Gender	Male	76	50.3	50.3
	Female	75	49.7	100

	Total	**151**	**100**	
Occupation	Student	53	35.1	35.1
	Professional	48	31.8	66.9
	Business- Self employed	31	20.5	87.4
	House wife	19	12.6	100
	Total	**151**	**100**	
Age	18-30 years	80	53	53
	31-40 years	42	27.8	80.8
	41-60 years	29	19.2	100
	Total	**151**	**100**	
Marital Status	Married	81	53.6	53.6
	Unmarried	69	46.4	100
	Total	**151**	**100**	
Education	Undergraduate	32	21.2	21.2
	Graduate	40	26.5	47.7
	Postgraduate	76	50.3	98
	Any other	3	2	100
	Total	**151**	**100**	
Income	Up to Rs 10000	45	29.8	29.8
	Rs 10001-20000	43	28.5	58.3
	Rs 20001-30000	28	18.5	76.8
	Rs 30001-40000	10	6.6	83.4
	Above Rs 40000	25	16.6	100
	Total	**151**	**100**	

V. DATA COLLECTION

Sources of data

Data sources are classified as being either primary sources or secondary sources. A source is primary if the data collector is the one using the data for analysis. A source is secondary if one organization or individual has compiled the data to be used by another organization or individual. In the present study, primary data source has been used. The instrument used was structured questionnaire which was constructed with the help of literature reviewed.

Scaling Procedure

The likert scale was used as a rating scale that requires the respondents to indicate the degree of agreement or disagreement with each of the statement related to Choice criteria of mobile phone service users.

VI. TOOLS FOR DATA ANALYSIS

For the purpose of data analysis, besides descriptive statistics (i.e. frequencies and percentages) Factor analysis has been applied.

- **Factor Analysis**: Factor analysis is a general name denoting a class of procedures primarily used for data reduction and summarization. In marketing research, there are large numbers of variables, most of which are correlated and which must be reduced to a manageable level. Relationships among the sets of many interrelated variables are examined and represented in terms of a few underlying factors. Factor analysis is an interdependence technique in that an entire set of independent relationships is examined. Thus, this technique seeks to resolve a large set of measured variables in terms of relatively few categories, known as factors (Malhotra, 2006, p.639-640).
- **Frequency Distribution:** In a Frequency distribution, one variable is considered at a time. The objective is to obtain a count of the number of responses associated with different values of the variable. The relative occurrence, or frequency, of different values of the variable is expressed in percentages. A frequency distribution for a variable produces a table of frequency counts, percentages, and cumulative percentages for all the values associated with that variable (Malhotra, 2008, p.455).

VII. DATA ANALYSIS AND INTERPRETATION

This part deals with the method of analyzing the data and deriving information out of it, which will help in solving the market research problem. Various questions were asked to respondents.

VIII. NETWORK OPERATOR PREFERRED BY RESPONDENTS

The table 3 and figure 2 demonstrates the network operator selected by the respondents.

Table 3: Network Operator Preferred by Respondents

Network Operator	Number of Respondents	Percentage of Respondents
Airtel	53	35.1
BSNL	24	15.9
Vodafone	37	24.5
IDEA	22	14.6
Tata Indicom	6	4.0
Reliance	9	6.0

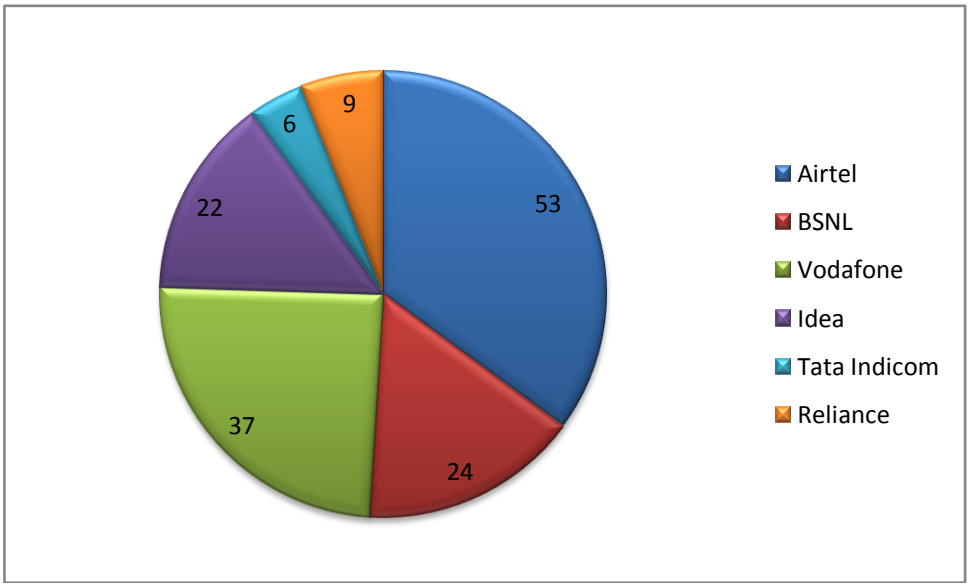


Figure 2: Network Operator preferred by Respondents

Table 3 and figure 2 depicts that Airtel (35.1 percent) is most preferred by respondents followed by Vodafone (24.1 percent), BSNL (15.9 percent), IDEA (14.6 percent), Reliance (6 percent) and Tata Indicom (4 percent).

IX. TYPE OF CONNECTION CURRENTLY USED BY RESPONDENTS

Table 4 and figure 3 represents type of connection used by respondents.

Table 4: Type of Connection

Connection	Number of Respondents	Percentage of Respondents
Prepaid	102	67.5
Postpaid	49	32.5

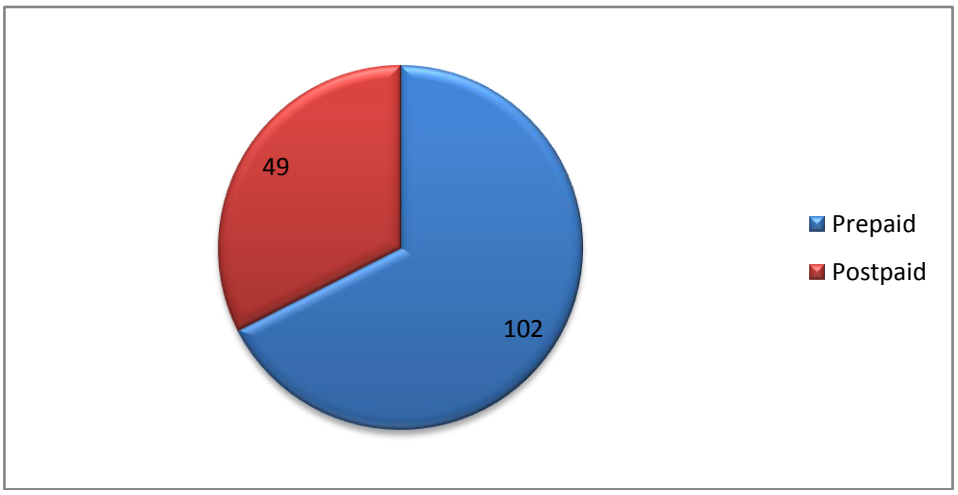


Figure 3: Type of Connection

Table 4 and figure signifies that most of the respondents (67.5 percent) have chosen prepaid connection while only few (37.5 percent) have opted for postpaid connection.

X. DURATION WITH CURRENT SERVICE PROVIDER

The table 5 and figure 4 represents the duration of respondents with current service provider.

Table 5: Duration

Duration	Number of Respondents	Percentage of Respondents
Less than 1 year	19	12.6
1-2 years	24	15.9
2-4 years	46	30.5
More than 4 years	62	41.1

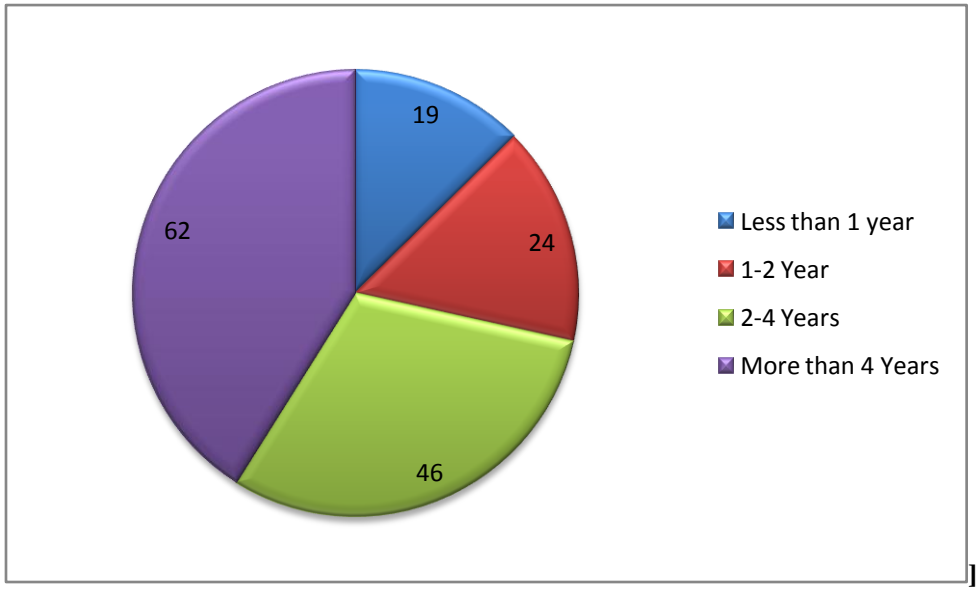


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Figure 4: Duration

Table 5 and figure 4 shows that most of the users (41.1 percent) using telecom services from more than four years while only 12.6 percent respondents using telecom services from less than one year.

XI. PURPOSE FOR WHICH MOBILE PHONE IS USED

Table 6 and figure 5 depicts the purpose for which mobile phone is used by respondents.

Table 6: Purpose of Using Mobile Service

Purpose	Number of Respondents	Percentage of Respondents
Business Use	10	6.6
Personal use	72	47.7
Both	69	45.7

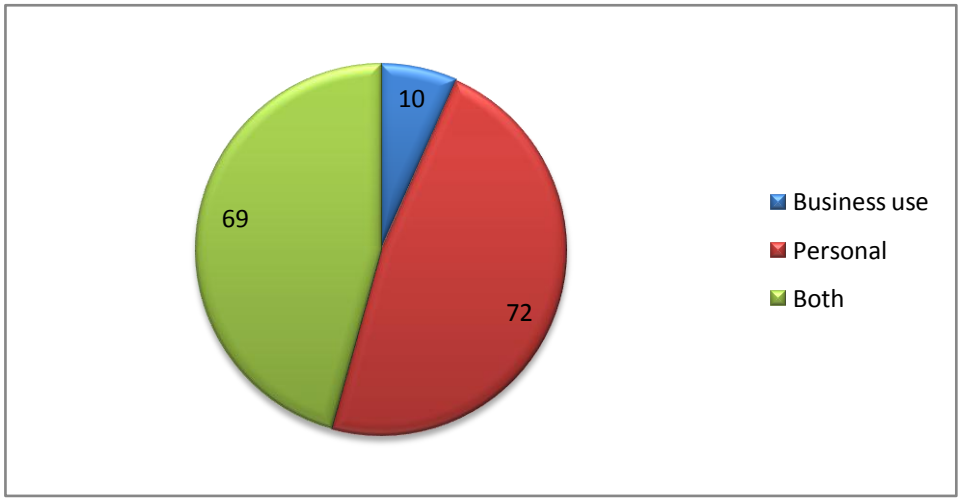

Figure 5: Purpose of Using Mobile Service

Table 6 and figure 5 shows that 47.7 percent respondents use mobile phone for personal purpose, 45.5 percent users use the mobile both for business and personal motive while only 6.6 percent users use mobile only for business purpose.

XII. FACTORS CONSIDERED WHILE SELECTING A TELECOM SERVICE

To find out the factors, the respondents were obtained on a five-point scale range from 5, 'Very Important' to 1, 'Not at all important'. In order to know the customers' importance toward selection variables, the first step is to check the appropriateness of the data that has been examined by using various measures such as:

1. Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA) has been found to be 0.784 (as shown in table 7) thereby indicating that the sample taken to process the factor analysis is statistically significant. KMO statistic for each variable has also been studied from the diagonals of anti-image correlation matrix shown in table 7. This is found to be significant for all variables varying from 0.511 to 0.832.
2. Anti-image correlations have also been examined as shown in anti-image correlation matrix (Table 7). It can be seen from the table that partial correlations are low thereby indicating that the true factors exist in the data.

3. Bartlett's test of sphericity is the next statistical test applied in the study for verifying the appropriateness of the data. In the present study, test value has been found to be 326.977 which is highly significant at 1% level ($p < 0.000$), shown in the table 7 indicating that data is appropriate for factor analysis.

4. The correlation matrix has been computed as shown in table 8. The correlation varies from –0.049 to 0.685 with a range of 0.734, which revealed that there is enough correlation among the variables justifying factor analysis.

Hence, all the above requirements revealed that data set was fit for factor analysis. The nine variables scale has been subjected to factor analysis using Principal Component Method with Varimax Rotation to extract the factors influencing the decision of respondents while selecting telecom service.

Table 7

Anti-image Matrices; Sampling Adequacy Analysis (Kaiser-Meyer-Olkin measure; Bartlett's Test)

Variables	V-1	V-2	V-3	V-4	V-5	V-6	V-7	V-8	V-9
V-1	0.755*	-0.307	-0.32	-0.164	0.136	-0.100	-0.18	-0.254	.008
V-2		.777*	-.005	-0.134	-0.076	-0.037	0.034	-.042	-.031
V-3			0.584*	-0.171	0.072	-0.128	-0.125	.084	.093
V-4				0.756*	-0.120	-0.070	0.054	-0.026	0.015
V-5					0.511*	-0.092	0.100	-0.121	-0.013
V-6						0.788*	-0.160	-0.173	-.506
V-7							0.826*	-0.304	-.0240
V-8								0.832*	-0.111
V-9									0.774*

*Measures of Sampling Adequacy(MSA)
Overall KMO value = .784
Bartlett's Test of Sphericity: $\chi^2 = 326.977$, d.f. = 36 ($p < .000$)

Table 8: Correlation Matrix

Variables	V-1	V-2	V-3	V-4	V-5	V-6	V-7	V-8	V-9
V-1	1	0.410	0.118	0.284	-0.013	0.361	-0.281	0.431	0.286
V-2		1	0.073	0.256	0.101	0.241	0.141	0.252	0.197
V-3			1	0.197	-0.049	0.163	0.155	0.049	0.056
V-4				1	0.134	0.209	0.089	0.178	.128
V-5					1	0.140	0.003	0.141	0.102
V-6						1	0.527	0.532	0.685
V-7							1	0.526	0.537
V-8								1	0.495
V-9									1

Annexure I i.e. rotated factor matrix shows the loadings of nine variables on the three factors extracted. Higher the absolute value of the loading more the variable contributes to the factor. The gap on the table represents loadings that are less than 0.5. All the loadings less than 0.5 have been suppressed. The communalities of the nine variables are shown in last column of table. These are varying from 0.522 to 0.710

Table 9 gives a summary of results of the factor analysis presenting factor loadings for the various variables, eigen values, percentage of variance explained and mean importance of the various factors. Different factors have been assigned descriptive labels based on the factor loading of the variables loaded on the particular factor. The various factors have been described as below:

(F_1) Efficient Customer Service

This factor accounts for 48.82 % of the variance and has the highest eigen value of 3.189. Four variables are loaded on this factor. The highest loading is for the variable 'Employee Behaviour' with a loading of 0.837 followed by 'Availability of Outlets' with a loading of 0.812, 'Brand Image' with a loading of 0.804 and 'Wide range of schemes' with a loading of 0.742.

Table 9

Mean Importance, Percentage of Variance Explained and Eigen Values of Extracted Factors

Factor wise Dimensions		Mean Importance	Factor Loading	Eigen Value	%age of Variance Explained
F_1 – Efficient Customer Service		**3.81**		3.189	35.430
a.	Employee Behaviour	3.83	0.837		
b.	Availability of Outlets	3.73	0.812		
c.	Brand Image	3.78	0.804		
d.	Wide range of Schemes	3.90	0.742		
F_2 - Connectivity and Speed		**4.66**		1.261	14.013
a.	Speed of Service	4.56	0.749		
b.	Network Coverage	4.75	0.700		
c.	Connectivity	4.69	0.606		
F_3 - Economically Viable		**4.22**		1.088	12.090
a.	Call Charges	4.61	0.778		
b.	Value Added Services	3.83	-0.643		

(F_2) Connectivity and Speed
This factor explains 14.013 % of variance with an eigen value of 1.261. This factor covers three variables. The highest loading is for the variable 'Speed of Service' with a loading of 0.749 and is followed by 'Network Coverage' with a loading of 0.700 and 'Connectivity' with a loading of 0.606.

(F_3) Economically Viable
This factor explains 12.09 % of variance has an eigen value of 1.088 and covers two variables. The highest loading is for the variable 'Call Charges' with a loading of 0.778 followed by 'Value Added Services' with a loading of -0.643.
Mean wise comparison of factors reveals that 'Efficient Customer Service' factor with a score of 3.81 comes at first place in terms of significance for choosing telecom service. The mean score of other factors namely 'Economically Viable' and 'Connectivity and Speed' are 4.22 and 4.66 respectively.

XIII. LIMITATIONS OF THE STUDY

- Any study based on a primary survey through a predesigned questionnaire suffers from the basic limitation of the possibility of difference between what is recorded and what is the truth, no matter how carefully the questionnaire has been defined and the field investigation conducted. For the present study also, bias responses have been stated by the respondents.
- The study is confined to Amritsar city. Thus, the findings may not be applicable to other parts of the country. The study suffers from regional bias since it covers only Amritsar in view of time and resource constraint.
- Results would be more appropriate if the sample size could be large.

XIV. CONCLUSION

The phenomenon of choice criteria, customer satisfaction and loyalty measurement has great importance for the manufacturers as well as for marketers, because choice criteria will help the companies to better understand the needs of the consumers. In this study an endeavour is made to find out the factors considered by customers while selecting mobile service provider. To achieve this objective a survey was conducted with the sample size of 151 respondents in Amritsar city. Three factors were found by applying the factor analysis technique namely 'efficient customer service', 'connectivity and speed' and 'economically viable'. The factor 'efficient customer service' found to be the most important factor followed by 'connectivity and speed' and 'economically viable'.

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Annexure I

Rotated Component Matrix

Variables	Component			Extraction
	1	2	3	
V-1	0.837			0.528
V-2	0.812			0.522
V-3	0.804			0.535
V-4	0.742			0.562
V-5		0.749		0.675
V-6		0.700		0.709
V-7		0.606		0.674
V-8			0.778	0.623
V-9			-0.643	0.710

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 4 iterations.