

Antecedents of Customer Satisfaction for Users of Post-Paid Mobile Services in Indore Region

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ABSTRACT

The purpose of this study is to determine the factors influencing customer satisfaction for users of post-paid mobile services in Indore region. The study gives insights into what customers perceive as key determinants for customer satisfaction from service providers. Based on data collected from 197 users in Indore, the important attributes are identified. Exploratory Factor Analysis was used to identify the underlying dimensions. The findings are discussed to draw conclusions on designing an appropriate strategy for customer satisfaction.

Keywords: Post-paid Mobile Services, Customer Satisfaction, Telecom Industry, Indore, Factor Analysis.

INTRODUCTION

Indian industrial growth has witnessed an accelerated growth in telecom sector. China, USA, and India have the largest telecom networks in the world. Indian telecom industry has the highest growth rate in the world, because of the unharnessed semi-urban and rural markets. The growth in Asia Pacific Wireless Telecommunication Market can be owed to the increasing demand of telecom services in India and China. Thus, Indian customers' increasing demand for mobile offers immense opportunity to the telecommunication companies. At the same time, it is pertinent for mobile companies to retain their existing customers. Mobile service providers have two types of services viz., pre-paid and post-paid services. In post-paid services model, a customer benefits from unlimited amount of service usage, for which the customer will be charged in the subsequent month. However, the pre-paid services model facilitates customers with a pre-usage credit of a certain amount to their account that sets the maximum limit of service usage.

The Indian Constitution includes telecommunications (or telecom) services in the Central Government's List. Hence, all policies for promotion, development, regulation (including licensing and pricing) of telecom services are formulated and implemented for the nation as

a whole. Since 1991, focused telecom reforms have been introduced for privatization, diversification, competitive provisioning of services, globalization of trade and capital by liberalization of imports and foreign direct investment envisioned under the establishment of Telecom Regulatory Authority of India (TRAI). Through the formulation of National Telecom Policy 1994 and 1999, and corporatization of Bharat Sanchar Nigam Limited (BSNL), the public provider of telecom services in India, telecom services presently constitute a remarkable share in India's GDP in communication and ICT services.

A customer is the recipient of goods, services, or ideas obtained from a seller, vendor, or supplier in exchange for money. In tough markets where product differentiation is scarce, companies are increasingly shifting their focus on the customers (Crosby and Johnson, 2004). According to the Relationship Marketing theory, a stable customer base is a core business asset that can yield consistent profits for an organization. A stable customer base can be created only through customer satisfaction. The mobile service operators in India must focus not only on expanding their market share, but also on consistently maintaining and increasing the customer satisfaction levels.

An important factor of any marketing activity is customer satisfaction. Customer satisfaction is generally described as the fulfillment of one's overall expectations (Oliver,

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1980). Satisfaction is a feeling or an attitude of a customer towards a service after it has been availed. A customer's future purchase intentions are based on the customer's satisfaction with the present services (Taylor and Baker, 1994). Customer satisfaction is the customer's assessment on the performance of a product or a service. The extent to which a product or a service's performance has matched a customer's prior expectations determines his satisfaction level towards a product or a service. The ultimate aim of all organizations is customer retention to generate profits. Customer satisfaction leads to customer retention that can accrue its own benefits to a service provider through:

- ◆ Lower customer price sensitivity
- ◆ Reduced expenditure on attracting new customers
- ◆ Improved organizational profitability

Previous researchers have found that satisfaction of the customers can help the brands to build long and profitable relationships with their customers (Eshghi et al., 2007). Organizations must strategize their resources to generate a loyal set of customers for profitability (Anderson et al., 2004).

LITERATURE REVIEW

Literature abounds with studies on service quality and customer satisfaction in the telecommunication industry and the implications of customer value on their future service behaviour.

According to Rengarajan (2000), the consolidation of the telecom industry is driven by factors like increasing customer demands, falling tariffs, fast changing technologies, and a shift in competitive strengths. According to his observation, the global telecom market is undergoing a paradigm shift. In such a dynamic environment, the proactive companies that can capture and retain customer base will be have an advantage in the long run.

In a telecom sector study conducted for China market, service quality, customer satisfaction, and customer value have emerged as important factors for the success of the manufacturers and service providers. SERVQUAL model forms the basis of study on service quality in China's mobile phone market using the focus group discussion technique, in order to analyze the specific industry

Table 1: Item-Total Correlation Values

<i>Item No.</i>	<i>Item name</i>	<i>Correlation value</i>
1	Mobile Number Portability	-0.03
2	No Technical Failure	.382
3	Network is Available in Interior Region	.314
4	Vast Network Coverage	.316
5	No Hidden Costs in Bills	.237
6	Special Talk-Time Facilities	.091
7	Usually There is No Response from Customer Care	.119
8	Flexible Tariff Rate	.454
9	Low Subscription Price	.505
10	Suitable Action Taken for Customer Complaints	.381
11	Getting the Queries Resolved Must Be Fast	.389
12	No Server Down Issues from Service Provider	.319
13	Value Added Services	.234
14	Network Quality	.264
15	Free Talk-Time Schemes	.260
16	Good Value for Money	.505
17	Good Internet Support Service	.302
18	Anti-Theft Measures	.397
19	Personalized Attention	.260
20	Accurate Billing	.365

Table 2: KMO and Bartlett's Test

<i>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</i>		.509
Bartlett's Test of Sphericity	Approx. Chi-Square	343.819
	df	66
	Sig.	.000

Table 3: Reliability Statistics

Cronbach's Alpha	0..578
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attributes and the special culture of China (Yonggui and Hing-Po, 2002).

Roos et al (2005) highlight a customer club's role in the customer relationships of a telecommunications company. They find an umbrella concept for the club regarding loyalty: the affective role in loyalty prevents customers from switching over to other companies and a calculative role can be inferred from the loyalty function. According to Aydin and Ozer (2006), customers display switching behavior in the telecommunications industry due to the presence of multiple service providers. There is a significant relationship between customer loyalty, customer satisfaction, trust and switching costs in the telecom services sector. Jahanzeb and Jabeen (2007) posit that telecom services are a fiercely competitive industry, and hence the subscribers demand tailored products and better services at lower prices.

Debnath and Shankar (2008) emphasize the importance of efficiency and quality of service. Technological modernization is necessary for the economic and industrial growth of any country. Rapid advances in technology and its absorption by all players has accelerated the growth in telecommunications sector. The policy maker's biggest challenge arises due to the variation in the relative performance of the different service providers. The prime focus of the service providers is to create a loyal customer base. Service providers benchmark their performances to increase customer retention in order to have regular profits. The paper aims to address the above issues.

Singh (2008) estimates that there will be 71 mobile phones per 100 inhabitants in India by the years 2015–2016. The number of mobile phones will exceed the number of people in the country by 2022–2023. On an average, mobile phone demand in India will increase at the rate of 15.7% per year between 2015 and 2016. As a

result, total mobile phone demand is projected to increase from 90 million in 2005–2006 to nearly 900 million in 2015–2016. Such a rapid expansion of mobile services will provide economic, logistic, and strategic challenges for the operators. The high growth expected in the number of mobile subscribers also projects increased business opportunities for other associated industries.

Kuo and Yen (2009) study the behavioural intentions of Taiwanese users towards usage of 3G mobile value-added services and infer that users can easily adopt high-speed data transmission through the 3G system. However the usage rate of current 3G value-added services is still low. Hence, consumers are still unwilling to spend much time and money on these value-added services, and service flow cannot be augmented to create revenue. The research concludes that consumers with higher level of proficiency find it easy to use the value-added services. To enhance consumer's behavioral intention, service providers must focus on implementing strategies that can improve consumer attitudes.

In a subsequent study, the work of Roos et al (2009) emphasizes on emotions and stability in telecom-customer relationships. The authors infer that customers do not sever their emotional ties with the previous service provider when they avail the service of new ones. However in the initial period, they are still mentally evaluating the relation which they are about to establish, which is indicated in the various emotional expressions they use. The study presents insights into the various emotional reactions of customers during their relationship with the service providers.

Studies on customer satisfaction of the telecom industry of the Pakistani subscribers emphasize the impact of positive words that helps in the establishment of good reputation of a brand. Satisfied customers establish stronger bonds

Table 4: Total Variance Explained Table

Component	Initial Eigen Values			Extraction Sums of Squared Loadings			
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Cumulative %
1	2.294	19.116	19.116	2.294	19.116	19.116	13.689
2	1.714	14.284	33.400	1.714	14.284	33.400	27.340
3	1.268	10.565	43.965	1.268	10.565	43.965	40.307
4	1.253	10.444	54.408	1.253	10.444	54.408	52.989
5	1.113	9.273	63.682	1.113	9.273	63.682	63.682

with the service which proves to be profitable for the brand in the long run. Other factors that have emerged as significant are price fairness, good services, fulfillment of commitment by the brands which fosters the emotional attachment of the customers with their brand of cellular company (Hanif et al, 2010)

Rajamanickam and Vadivalagam (2011) identify the billing system and customer service offered by the BSNL as the most important factors that attract customers to retain their landline connections. Customers are sensitive towards the billing component. 'Line /technical fault' has emerged as a recurring problem. Such technical faults experienced by customers while using the landline result in dissatisfaction and its recurrence poses a threat to the service provider. Two factors i.e., call rate and cross talks were rated as the fourth most discouraging factors in the usage of landline amongst customers in Salem, Tamil Nadu.

Geetha and Kumari (2012) study revenue and customer churn patterns in the telecom sector and provide a detailed analysis of the usage pattern of non-revenue earning customers (NREC). These are the customers who are responsible for irregular patterns of revenue generation in the company and may even incur loss in the near future. These NREC customers were analyzed to determine the causes of switching-over. This would help telecom companies to create proactive strategies in order to prevent customer churn. The authors conclude that prior to the customer churn there is a variation in the usage of services of the current service provider and this behavior is termed as revenue churn. This revenue churn will have negative impact on the service provider.

RATIONALE OF STUDY

The present scenario is a battlefield for a large number

of private telecommunication companies, where deregulation has increased competition. There is an increasing growth in the number of telecom subscribers. With the advent of advanced technologies like 3G, the customers are increasingly provided with a lot of choices. This has simultaneously increased the expectations of the customers. Thus in the new technological scenario, there exists a need to undertake a study on customer satisfaction for mobile phone services, in the context of the Indian telecommunications market.

This paper attempts to identify the various factors that affect customer satisfaction for post-paid services of telecom subscribers.

METHODOLOGY

The Study: This exploratory study aims at identifying the various factors that affect customer satisfaction of post paid services of telecom subscribers.

The Sample: The sample constitutes 197 respondents of post-paid telecom services comprising a profile of students, professionals, self-employees and housewives. The sample represents a cross-section of the socio-economic population of Indore. The respondents were selected through non-probabilistic convenience sampling method, as the same is appropriate for exploratory studies. Through convenience sampling, researcher is able to select respondents in the right place at the right time; convenience sampling is not recommended for descriptive or casual research, but it can be used in exploratory research for generating ideas

The Tools for Data Collection: Data was collected through a self-developed questionnaire. The questionnaire was validated by 20 judges who comprised of academicians and corporates. Respondents were required to indicate

the responses on a 5-point Likert scale where 1 stood for strongly disagree and 5 stood for strongly agree.

The Tools for Data Analysis: The quantitative data was analyzed by using factor analysis technique through SPSS software version 17.0. The survey was conducted between February 2012 and March 2012.

RESULTS AND DISCUSSION

Exploratory factor analysis is used to identify the various factors that affect customer satisfaction of post-paid subscribers of telecom services. To identify the factors, the following steps were taken:

- ◆ The correlation matrices were computed using item total correlation technique. It revealed that there are a few items that are weakly correlated. Accordingly the weakly correlated items viz., item 1, 5, 6, 7, 13, 14, 15 and 19 have been dropped from further consideration towards the determination of the antecedents.(see Table 1)
- ◆ Kaiser-Meyer-Olkin Measure of Sampling Adequacy (MSA) for individual variance was studied. The value was 0.509, which tests the sampling adequacy and indicates that the sample is good enough for sampling (see Table 2).
- ◆ The overall significance of correlation matrices is tested with Barlett Test of Sphericity providing support for the validity of factor analysis of the data set (see Table 2).

Post item-total correlation, the above standards indicate that the data is suitable for factor analysis. Principal Components Analysis technique was employed for extracting the data, which allowed determining the factors that affect customer satisfaction of post-paid services of telecom subscribers. The Total Variance Explained table (see Table 4) suggests that the 5 factors extracted account for 63.68% of the total variance.

The Rotated Component Matrix (see Table 5) indicates the loading on each factor that can be positive or negative. A negative loading indicates that this variable has an inverse relationship with the rest of the factors. The rotation of factors is designed to give an idea of how the factors initially extracted, differ from each other, and to provide a clear picture of which item loads on what factor.

There are five factors extracted in this research, each having an Eigen value exceeding 1. The Eigen values for these five factors are 2.29, 1.71, 1.27, 1.25 and 1.11 respectively (see Table 4). The percentage of variance explained by factor one to factor five as an antecedent in predicting customer satisfaction are 19.12, 14.28, 10.57, 10.44 and 9.27 respectively. The five factors that have emerged are as follows:

Factor	No. of Items
Product Pricing and Billing:	3 items
Value Added Services:	3 items
Technical Support:	2 items
Customer Support Services:	2 items
Network Coverage:	2 items

Description of the Factors

Factor 1 is named Product Pricing and Billing. This factor explains 19.12% of variance. It comprises of the items Subscription Price, Flexible Tariff Rate, and Accurate Bills, each having a factor loading of 0.760, 0.748 and 0.482 respectively. This indicates that customers perceive the Subscription Price, i.e. price at which the post-paid services are subscribed, to be the most important attribute of product pricing and billing. Further, customers require flexibility in the tariff plans to suit their individualized needs.

Factor 2 is named Value Added Services and explains 14.28% of variance. It comprises of the items Good Internet Support (factor loading of 0.848), Good Value for Money (0.745), and Anti-Theft Features (0.394). With the advent of 3G technology, customers want mobile services with good internet connectivity and good speed for faster downloading of applications. This item is given the highest factor loading. Another new item that has emerged as an attribute affecting customer satisfaction is the anti-theft features of a service provider. All of the above are the value-added services that customers seek in order to be satisfied from their service provider.

Factor 3 is named Technical Support and explains 10.57% of variance. It comprises No Server Down Issues and No Technical Problems, with factor loading of 0.756 and 0.738 respectively. Customers purchase mobile services for convenience and to stay-in-touch with people round the clock. A service provider has to ensure that there are

Table 5: Rotated Component Matrix^a

	<i>Component</i>				
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
Low Subscription Price	.760	.153	.135	.093	-.016
Flexible Tariff Rate	.748	-.052	-.071	.173	.078
Accurate Bills	.482	.241	.096	-.347	.275
Good Internet Support	-.093	.848	-.197	.092	.051
Good Value for Money	.199	.745	.258	-.078	-.101
Anti-Theft Measures	.229	.394	-.065	.299	.054
No Server Down Issue	-.005	-.242	.756	.107	-.024
No Technical Failures	.103	.219	.738	.029	.048
Customer Complaints	.298	.080	.026	.788	-.152
Query Resolution	-.074	.058	.211	.783	.316
Network in Interior Region	-.090	-.079	.421	.113	.743
Vast Network	.245	.046	-.275	-.001	.712

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

no technical snags, no server down issues that constantly disrupt a consumer's connectivity and status of being reachable. Modern businesses and lifestyle demands one to be available at the dial of a number. Technical snags should be avoided as failures towards this end will degrade the core product of the service provider. Thus technical support is an important antecedent of customer satisfaction from post-paid services.

Factor 4 is named Customer Support Services and it comprises attending Customer Complaints (factor loading of 0.788) and Query Resolution (factor loading 0.783). Customer satisfaction in a service can be achieved only through attending customer complaints. Similarly, there should be a faster query resolution. Both these items are important attributes of customer support services.

Factor 5 is termed as Network Coverage, explaining 9.27% of variance. This factor comprises of availability of the vast Network Coverage provided by service provider (factor loading 0.712) and service provider's Network Availability in Interior Region (factor loading 0.743). Thus Network Coverage is an important antecedent of customer satisfaction from post-paid telecom services.

Reliability of the construct: Reliability refers to the internal consistency of the scale, i.e., does the scale behave similarly when administered by different people? The most widely used reliability coefficient is Cronbach's alpha which can range from 0 to 1, with higher figures

indicating a better reliability. The reliability of this construct is 0.576.

CONCLUSION AND IMPLICATIONS

Telecom services providers of post-paid services must understand the needs and fulfill those in order to achieve customer satisfaction. Today's market requirements are highly dynamic and it is necessary that companies keep up with the changing circumstances by providing better services. Since technological competitiveness has resulted in a cut-throat competition, one is required to focus on customer satisfaction. The various significant factors that influence customer satisfaction that have emerged in this study are Product Pricing and Billing, Value Added Services, Technical Support, Customer Support Services, and Network Coverage. Customers want to receive complete satisfaction from the network coverage and accuracy in billing. They also seek certain value added services like Internet Support and Anti-Theft measures. Today's customers give more emphasis to the turn-around time for Query Resolution. Therefore the customer waiting time should be reasonable and well within the limits. Customer time is extremely precious; some customer service representatives take customer's time for granted, which irritates them. Similarly customers seek the service providers to fix their technical problems. Certain telecom services offer poor network. Good network is the

hallmark of a good telecom service provider. Therefore, companies must ensure the smooth provision of their core service features. The present study gives an insight into what the customers perceive as important parameters for customer satisfaction. The findings of this study are highly beneficial for telecom service organizations.

Like any research, this study is also bound by a few limitations. First the study has been conducted only in Indore city. A similar study could be conducted in other geographical regions of the country. The study does not take into account the perspective of the employees and what they perceive to be important parameters for customer satisfaction. A study can thus be conducted on the employee perspective of customer satisfaction as well.

REFERENCES

- Anderson, E. W., Fornell, C., & Mazvancheryl, S. K. (2004). Customer Satisfaction and Shareholder Value. *Journal of Marketing*, 68, 172-185.
- Aydin, S., & Ozer, G. (2006). How Switching Costs Affect Subscriber Loyalty in the Turkish Mobile Phone Market: An Exploratory Study. *Journal of Targeting, Measurement and Analysis for Marketing*, 14, 141-155.
- Crosby, L. A., & Johnson, S. L. (2004). Manufacturing Experiences - Tapping Emotions Can Create Value for Your Consumers. *Marketing Management*, January / February, 12-13.
- Debnath, M. R., & Shankar, R. (2008). Benchmarking Telecommunication Service in India: An Application of Data Envelopment Analysis. *Benchmarking: An International Journal*, 15, 584-598.
- Eshghi, A., Haughton, D., & Topi, H. (2007). Determinants of Customer Loyalty in the Wireless Telecommunications Industry. *Telecommunications Policy*, 31, pp. 93-106.
- Geetha, M., & Kumari, J. A. (2012). Analysis of Churn Behavior of Consumers in Indian Telecom Sector. *Journal of Indian Business Research*, 4, 35.
- Hanif, M., Hafeez, S., & Riaz, A. (2010). Factors Affecting Customer Satisfaction. *International Research Journal of Finance and Economics*, 60, 44-52.
- Jahanzeb, S., & Jabeen, S. (2007). Churn Management in the Telecom Industry of Pakistan: A Comparative Study of Ufone and Telenor. *Journal of Database Marketing & Customer Strategy Management*, 14, 120-129.
- Kuo, Y., & Yen, S. (2009). Towards an Understanding of the Behavioral Intention to Use 3G Mobile Value Added Services. *Computers in Human Behaviour*, 25, 103-110.
- Oliver, R. L. (1980). Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions. *Journal of Marketing Research*, 17, 460.
- Rajamanickam, M., & Vadivalagam, G. (2011). Customer Preferences and Expectations: A Case of BSNL Landline Connection in Salem Telecom Circle Tamil Nadu India. *European Journal of Social Science*, 26, 566-576.
- Rengarajan, M. (2000). Telecom Industry - A Survey of International Trends. *Decision*, 27, 135- 150.
- Roos, I., Gustafsson, A., & Edvardsson, B. (2005). The Role of Customer Clubs in Recent Telecom Relationships. *International Journal of Service Industry Management*, 16, 436 - 454.
- Roos, I., Friman, M., & Edvardsson, B. (2009). Emotions and Stability in Telecom-Customer Relationships. *Journal of Service Management*, 20, 192-208.
- Singh, K. S. (2008). The Diffusion of Mobile Phones in India. *Telecommunications Policy*, 32, 642-651.
- Taylor, S. A. & Baker, T. L. (1994). An Assessment of the Relationship between Service Quality and Customer Satisfaction in the Formation of Consumers' Purchase Intentions. *Journal of Retailing*, 70, 163-178.
- Yonggui, W., & Hing-Po, Lo. (2002). Service Quality, Customer Satisfaction and Behavior Intentions: Evidence from China's Telecommunication Industry. *Info*, 4(6), 50 - 60.