

## An Empirical Investigation of Factors Determining the Consumers' Choice of Mobile Service Providers

*Tüketicilerin Mobil Hizmet Sağlayıcılarını Seçimini Belirleyen Faktörlerin Ampirik Olarak İncelenmesi*

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### Abstract

After the implementation of government policies on globalization and liberalization, the consumers have become more critical about the selection of service providers. Consumers are now very much aware of the alternatives available in relation to services and the provider organizations. Expectations of consumers are rising and the provider organizations should be aware of these expectations. The objective of the present study is to examine the factors responsible for helping the consumers to choose mobile telecommunication service provider among the competitors in the market. The primary statistical techniques used in the study are Exploratory Factor Analysis, and Structural Equation Modeling. The data was collected with the help of structured questionnaire consisting of different questions related to demographics, service quality, product quality and availability, promotion and price in order to study perceptions of consumers. In order to examine these above mentioned variables and to derive meaningful conclusions, use of structural equation modelling was imperative. AMOS (Analysis of Moment Structure) version 16.0 was employed in the research to test the underlying hypotheses of the study. Results showed that the paths are significantly related to the casual processes. Price was found to be the most important factor followed by product quality and availability, service quality, and promotion in determining perceptions of customers towards mobile telecommunication services. It is expected that the findings of the study may provide meaningful insights to the service providers and contribute in improving their strategies and marketing operations.

**Keywords:** Consumer Perception, Exploratory Factor Analysis, Structural Equation Modeling, Service Quality.

### Özet

*Hükümet politikalarının küreselleşme ve liberelleşme uygulamalarından sonra tüketiciler hizmet seçimlerinde daha seçici olmaya başlamıştır. Tüketiciler şimdi hizmetler ve bunları sağlayan firmalar ile ilgili mevcut alternatiflerin daha çok farkındadırlar. Tüketicilerin beklentileri artmaktadır ve hizmet sağlayıcı firmalar da bu beklentilerin farkında olmalıdır. Bu çalışmanın amacı pazardaki rekabet eden*

*firmalar arasında tüketicilerin mobil telekomünikasyon hizmetleri sağlayan firmaları seçmelerinde etkili olan faktörleri belirlemektir. Çalışmada kullanılan istatistiksel yöntemler açıklayıcı faktör analizi ve yapısal eşitlik modelidir. Demografi, hizmet kalitesi, ürün kalitesi ve mevcudiyeti, tutundurma ve fiyat ile ilgili çeşitli sorulardan oluşan yapılandırılmış bir anket yardımıyla veriler toplanmıştır. Ve böylelikle tüketicilerin algılamaları incelenmiştir. Yukarıda bahsedilen değişkenleri incelemek ve anlamlı sonuçlar çıkarmak için yapısal eşitlik modelinin kullanımı bir gerekliliktir. Çalışmayı oluşturan hipotezleri test etmek için araştırmada AMOS (Analysis of Moment Structure) kullanılmıştır. Sonuçlar değişkenler arasındaki ilişkilerin sebep sonuç süreçleri ile anlamlı derecede bağlantılı olduğunu göstermiştir. Fiyat en önemli faktör olarak ortaya çıkmıştır. Bunu da ürün kalitesi, erişilebilirlik, hizmet kalitesi ve tutundurma takip etmiştir. Bu çalışmanın bulgularını hizmet sağlayıcılara anlamlı fikirler sağlayabileceği ve stratejik ve pazarlama operasyonları geliştirmede katkıda bulunabileceği beklenmektedir.*

**Anahtar Kelimeler:** *Tüketici algılaması, Açıklayıcı faktör analizi, yapısal eşitlik modeli, hizmet kalitesi.*

### **Introduction**

Service organizations in India are facing tough competition in the global market because of liberalization and globalization of the Indian economy. Hence, it is helpful for service organizations to know the customer service quality perceptions in order to overcome the competitors and attract and retain the customers. Because of the globalization and liberalization of Indian economy, Indian service sector has been opened for Multinational companies. In order to overcome the competition and to retain the world class service standards, Indian companies have been forced to adopt quality management programs. Quality has become a strategic tool in obtaining efficiency in operations and improved performance in business. This is true for both the goods and services sectors. However, the problem with management of service quality in service firms is that quality is not easily identifiable and measurable due to inherent characteristics of services which make them different from goods.

The father of telecom revolution in our country was the erstwhile Prime Minister Shri Rajiv Gandhi, wherein he called Mr. Sam Pitroda who initiated the Digital telephony revolution in our country. Advances in technology coupled with reforms of 1991 and the fundamental, structural and institutional changes brought about in that period were instrumental in setting up the tone for future growth and development. Today, India is one of the fastest growing telecom markets in the world with current sub-scriber base nearing 490 million and looking positive to touch 500 million subscribers by 2010. Among the various segments, cellular or mobile segment has been the key contributor and specially prepaid services, with its wide offerings of services, has been leading the growth wave. 15 years back, no one had thought that India will become a country with more number of GSM subscribers than fixed line sub-scribers. With 490 million sub-scribers by 2009, teledensity has risen up to around 42%, and thus the other half is yet to be brought to the mainstream. Going by the current data, the subscriber base grew to around 494.07 million in August'09, registering a growth of 42.67% over the last year. As per the estimates of Stock watch the expected mobile subscriber base will touch around 771 million by the year 2013. Over the years, wireless services has acquired almost 92% of the total telephony market, with State owned

BSNL as the leader in the landline domain and Bharti Airtel being the leader in cellular services with other players like Reliance, Idea Cellular and Vodafone giving it a tough competition. The Indian mobile services market is more or less equally divided between GSM and CDMA customers with the former capturing around 53% of the sub-scriber base. Currently there are 11 players who are fighting tooth and nail to increase even one single percentage point in their market share. While Bharti Airtel dominates the GSM arena, Anil Ambani led ADAG's Reliance communications has been leading the CDMA services space in mobile telephony but the good sign for the sector is that revenues of all the incumbents have increased leading to an increase in their revenues. In GSM, Bharti Airtel is given a tough competition by Vodafone and Tata Teleservices which operates Tata Indicom and in CDMA; it is considerably behind Reliance communications in terms of market share. With Mobile number portability coming into the scene, the war will be fiercer in this space and there will be a huge swapping of subscribers among the existing players. Indian telecom industry has set an example by penetrating the market to an extent of around 43% in a span of 10 years when analysts and experts were extremely sceptical about India as a market. The growth has not been restricted only to the higher section of the society, now it is driven primarily by the rural market as well and the acceptance has been in-creasing considerably over the years. On an average approximately 8 million users are added per month to the kitty thereby making India the world's fastest growing telecom market and thus happens to be the country offering highest Return On Investment for the telecom companies. To support the growing telecom market, the government is supporting telecom manufacturing by providing tax sops as well as setting up Special economic zones (SEZ) for the sector.

**Table 1. Service Provider Wise Market Share As on 31-03-2010**

Serial No.	Name of Telecom Company	Market Share
1	AIRCEL	6.06%
2	BHARTI AIRTEL	22.33%
3	BSNL	11.95%
4	HFCL	0.06%
5	IDEA	10.99%
6	LOOP	0.50%
7	MTNL	0.90%
8	RELIANCE	17.72%
9	SISTEMA	0.60%
10	STEL	0.09%
11	TATA	11.07%
12	UNINOR	0.47%
13	VODAFONE	17.27%

SOURCE: Telecom Regulatory Authority of India (TRAI)

Therefore in the present competitive market, it is very important for the service provider to understand precisely needs, wants, demands, trends, fashion etc. of the consumers. In the light of above mentioned factors, service providers need to know about the perceptions of consumers towards price, service quality, product, promotion, and other related factors which are playing important role in the selection of mobile telecommunication player for them. Therefore, the main objective of the present

research is to Carefully examine the factors determining the consumers' choice of mobile service providers in Indian Telecommunication market.

### **Review of Literature**

Telecommunication service is one of the leading industries in India, and has grown rapidly in the recent past. It has become point of attraction for the researchers from India as well outside world. A good number of researches have been conducted in this sector by taking various dimensions into consideration. Many researches are trying to trace the various factors responsible for the present scenario and future growth of telecommunication industry in India. Consumers' evaluations of a product's overall quality are related to the features like price, brand name, and store image in relation to competition (Lambert, 1980; Nowlis and Simonson, 1996). Promotion helps a company to achieve its objectives (Alvarez and Caselles, 2005). Companies need to measure their customers' satisfaction with their offerings (Rust and Oliver, 1994).

Gronroos, Christian (1988) in an article discussed how service quality was perceived by the customers. In the article, the main characteristics of services like intangibility, heterogeneity, inseparability etc. were discussed first. A conceptual model of service quality was later given in the article. The model stated that the perception of service quality by the customers is good when the experienced quality by the customers meets the quality that was expected by them before the service was delivered. Expected quality was given as a function of factors like market communication, image, word-of-mouth, and customer needs while experienced quality is influenced by the image formed in the mind of the customers regarding the quality of service delivered to them which is in turn influenced by technical quality and functional quality. Finally, the author gave the six criteria of good perceived service quality as: professionalism, attitudes and behaviour, accessibility and flexibility, reliability and trustworthiness, recovery, and reputation and credibility. The author concluded the paper by stating that these six criteria of good perceived service quality were based upon good empirical and conceptual research and so could be useful as managerial principles.

Parasuraman, A, Valarie A. Zeithaml, and Leonard L. Berry (1988) propounded the SERVQUAL scale using the qualitative research based on service quality data on a number of services in their article "SERVQUAL: A Multiple-Item Scale for Measuring Customer Perceptions of Service Quality." This study was revolutionary as it didn't depend on the earlier dimension of goods quality in the manufacturing sector. The initial study based on the focus groups yielded 10 dimensions of service quality that included tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communication, and understanding the customer. A 22 item scale, called SERVQUAL which would measure the service quality based on five dimensions, viz. tangibles, reliability, responsiveness, assurance and empathy was derived based on a further empirical study. The authors defined service quality as the degree of discrepancy between customer's normative expectations for the service and their perceptions of the service performance.

Crosby, Lawrence A., Evans, Kenneth R., and Cowles, Deborah (1990) conducted a study to understand the role of sales people in maintaining long-term relationships with the customers. In the study a relationship quality model was developed to understand the customer's perception of nature, consequences and antecedents of relationship quality. The model developed for the study took sales persons attributes

like expertise and similarity and relationship selling behaviours like contact intensity, mutual disclosure, and cooperative disclosures as exogenous constructs. Relationship quality was taken as the endogenous construct for the study. Sales effectiveness and anticipation of future interaction were taken as outcome variates. The model was tested in the context of the insurance sector in the U.S. with a sample size of 151 heads of U.S. households aged between 25 and 44 and who were the household's primary insurance deciders. Structural equation modeling was used to analyze the data. The results of the analysis showed that the future sales opportunities for the organizations depended on the relationship quality while the similarity and expertise would play an important role in converting those future sales opportunities into actual sales.

Selnes, Fred (1998) conducted a study to understand the antecedents and consequences of trust and satisfaction in buyer-seller relationships. The study was intended to address the gap in literature in understanding the interrelationship between trust and satisfaction and their antecedents and consequences. For the study, a model was developed by taking competence, communications, commitment, and conflict handling as exogenous constructs while trust, satisfaction, enhancement and continuity were taken as endogenous constructs. The model was tested with respect to the customers of a food supplier with a sample size of 177. Survey method was used in collecting data from the respondents by distributing questionnaires. The model was tested using structural equation modeling using maximum likelihood estimates. The results of structural equation modeling showed that the model had a moderate fit with a p value of 0.014. Overall, the results of the analysis indicated that trust and satisfaction were complementary and that trust was a key variable when the decisions were related to enhancing the scope of relationship while satisfaction was a key variable when the decisions were related to relationship continuity.

Ndubisi, Nelson Oly (2006) did a study to understand the antecedents of relationship quality with respect to the Malaysian banking sector. The main purpose of the study was to empirically understand the indicators of overall customer satisfaction and the impact of the overall customer satisfaction on the quality of relationship between the banks and the customers. A model was constructed by taking trust, commitment, communication, service quality, service satisfaction, and conflict handling as the indicators of overall customer satisfaction and that overall customer satisfaction influences the relationship quality between the customers and the bank. The model was tested based on the data collected from 220 customers of 15 retail banks in the Malaysian banking sector. The null hypothesis of the study was taken that the model had a good fit and the alternative hypothesis was taken as the model didn't have a good fit. Exploratory factor analysis was conducted to see whether the variables considered in the questionnaire properly reflect the various dimensions considered for the study. Later structural equation modeling technique was used to test the fitness of the model. Based on the results of structural equation modeling it was found that the model tested in the study had good fit. The study concluded by stating that the relationship marketing antecedents were indicators of overall customer satisfaction and that overall customer satisfaction could be used to understand the quality of relationship between the bank and its customers.

Ndubisi, Nelson Oly, and Chan Kok Wah (2005) conducted an empirical study to evaluate the influence of the underpinnings of relationship quality on the perceived quality of bank-customer relationship and on customer satisfaction. The study was done

in the context of Malaysian banking sector. A sample of 220 respondents was selected from the bank customers in the city of Kota Kinabalu, Malaysia. First, factor analysis was conducted on the data collected regarding the various items in the questionnaire. Factor analysis was conducted to determine the various key dimensions of relationship quality. The results of factor analysis showed that the 22 items of the questionnaire loaded on five dimensions viz. trust competence, commitment, communication, and conflict handling.

The results of the second factor analysis to determine the dependent dimensions resulted in ten items loading on two dimensions viz. relationship quality and customer satisfaction. Later, stepwise discriminant analysis was conducted to discriminate between the high and low level of perceived relationship quality and customer satisfaction. The results of stepwise discriminant analysis showed that five dimensions viz. conflict handling, trust, communication, commitment, and competence discriminate between high and low levels of relationship quality. Moreover, it was found that overall bank-customer relationship quality discriminates between satisfied and unsatisfied customers.

Yavas, Ugar (2006) conducted a study to understand the similarities between the perceptions of service quality between the frontline employees of the banks and their female customers in Turkey. The study used the SERVQUAL scale to measure the perceptions of service quality of both the employees and the customers of the banks considered for the study. The data required for the study was collected from the female customers of the banks and the frontline employees using questionnaires. The sample size for the study was 151 students and 83 adults among the female customers of the bank. In the case of the frontline employees of the banks, the data was collected from the 68 female bank employees in Turkey. Factor analysis was conducted to each of the sample sets to know the key dimensions underlying the original service quality items considered in the study. After omitting the factors with Eigen values less than 1.0 three factors for the two customer segments and five factors for employee sample were derived. Factor congruency test was used to determine the extent of similarities and dissimilarities regarding the perceptions of service quality between the three groups. The results of the factor congruency test showed that the perceptions of service quality of customers and the employees didn't match. The study concluded by highlighting the need to immediately improve the perceptions of service quality of the employees of the banks by providing proper training and motivation to them.

Amin, Muslim, and Isa, Zaidi (2008) conducted a study to measure the perceptions of service quality of customers of Islamic banking and to examine the relationship between service quality as perceived by the customers and customer satisfaction in the context of Islamic banks operating in Malaysia. The model was based upon the popular SERVQUAL scale used to measure the customer perceptions regarding the quality of services provided by the service providers. The conceptual model for the study took the dimensions of the SERVQUAL instrument viz. tangibles, reliability, responsiveness, assurance, empathy, and compliance as the exogenous variables. While a further conceptual model of the relationship between the service quality as perceived by the customer and the customer satisfaction was developed by the researchers. The data for the study was collected using the convenience sampling approach with a total sample size of 440. First confirmatory factor analysis was used to see how well the data collected fits into the model considered in the study. The results

of the confirmatory factor analysis showed that 21 of the original 26 indicators were fit to the sample data. Later, structural equation modeling was conducted to estimate the parameters by taking the six dimensions of SERVQUAL as first-order constructs and service quality and customer satisfaction as second order constructs. As per the results of the structural equation modeling the model developed for the study was found to be having acceptable goodness of fit.

Eakuru, Nattakarn, and Nik Mat, Nik Kamariah (2008) conducted a study to understand the antecedents of customer loyalty in south Thailand. By studying the past literature a model was developed taking customer satisfaction, commitment, trust, and image as the direct antecedents of customer loyalty while perceived service quality and perceived value were taken as indirect antecedents of customer loyalty. The model was tested from the data collected from a sample of 140 customers of four branches of a bank in south Thailand. The data for the study was collected from the respondents using the survey method by distributing questionnaires. The results from confirmatory factor analysis of the measurement models indicated adequate goodness of fit after a few items were deleted. Further, structural equation modeling was conducted resulting in the assertion of 4 of the 9 hypotheses. The four hypotheses asserted showed that perceived service quality was positively related with customer satisfaction, image was positively related with customer loyalty, image was positively related with commitment and trust was positively related with commitment.

### **Research Gap and Purpose of the Study**

So as per the stiff competition in the market between these companies, it is important to find out which parameters companies are being preferred by the customers in terms of various dimensions. Also customers have different mindset towards public and private sector companies. The reforms in the mobile telecommunication sector which were started towards end of 1999 have ushered radical changes in the mobile telecommunication market. The Indian mobile telecommunication sector is vast and there are big business opportunities for the mobile telecommunication players. Before the entry of private mobile telecommunication players in Indian mobile telecommunication industry, public sector companies had complete autonomy in the market.

With almost all the public and private insurance companies offering the same kind of services and network coverage, the quality of service offered to the customers became one of the important differentiators for all the public and private insurance companies to maintain their competitive advantage in the market. Service quality refers to the perception of the customers of the organization regarding how well the organization is fulfilling their service needs.

### **Objective of the Study**

The major objective of the present study is:-

To investigate the factors those have been influencing the perceptions of consumers to select a particular mobile telecommunication service provider in Indian context.

### **Hypotheses of the Study**

H<sub>10</sub>: Service quality has no impact on consumer perception in selecting mobile telecommunication service provider.

H<sub>1a</sub>: Service quality has a significant impact on consumer perception in selecting mobile telecommunication service provider.

H<sub>20</sub>: Price has no impact on consumer perception in selecting mobile telecommunication service provider.

H<sub>2a</sub>: Price has a significant impact on consumer perception in selecting mobile telecommunication service provider.

H<sub>30</sub>: Promotion has no impact on consumer perception in selecting mobile telecommunication service provider.

H<sub>3a</sub>: Promotion has a significant impact on consumer perception in selecting mobile telecommunication service provider.

H<sub>40</sub>: Product quality and availability has no impact on consumer perception in selecting mobile telecommunication service provider.

H<sub>4a</sub>: Product quality and availability has a significant impact on consumer perception in selecting mobile telecommunication service provider.

### **Methodology**

In the present research work, the main objective is to study the factors determining perceptions of the customers about the mobile telecommunication service providers in India. Therefore primary data is collected with the help of structured questionnaire from the customers. The questionnaire was divided into five sections consisting of various questions relevant to all the parts of the study. Responses were collected from the respondents by using convenience sampling method. Respondents were approached at different places like; government offices, educational institutions, big market places etc. with the help of personal contacts and references. Since convenience sampling method is a non-probability sampling method, and it has been employed because of time, cost constraints, and one more aspect is that of very large number of mobile services users in the market place. Whereas to answer the question of reliability, collected sample of respondents was assumed as representative of large population of Indian mobile services users. Primary data was collected randomly from the respondents using convenience sampling method from the National Capital Region of the India to get proper representation of the sample to population. The survey was conducted via researchers themselves from 21<sup>st</sup> June, 2010 to 13<sup>th</sup> September, 2010 by face-to-face interview with the respondents, and they were asked to give their responses on the questionnaire on the prescribed seven point Likert's scale. The seven points on Likert's scale from 1 to 7 have descriptions as "strongly disagree to strongly agree". Respondents for the study were selected on the basis of the criteria that they might have used the mobile telecommunication service before the filling of questionnaire.

A pilot study was conducted to ascertain the suitability of the construct (n=54) in Indian mobile telecommunication setting. Out of total 465 received filled questionnaires, 415 were found completely filled by taking into consideration of errors, incomplete responses and incomplete responses. Since pilot study results were in the favour of the construct, those responses were also included in the sample. The questionnaires with complete information were selected for further analysis. Success rate was found to be 89.25% which is considered as very good in empirical studies. To study the attributes which have impact on the perceptions of customers to evaluate the



mobile telecommunication service organizations, exploratory factor analysis was performed. In addition to exploratory factor analysis Structural Equation Modelling was performed to examine the linkages among different variables which play important roles for customers to select service providers for them.

### Results

To test the reliability of the set of items forming the scale a measure of construct reliability (Cronbach's alpha) was computed. Cronbach's alpha is useful in measuring how well a set of variables or items measure a single, one-dimensional latent construct. The alpha values of 0.70 or greater represent satisfactory reliability of the items measuring the construct (dimension). In accordance of the Cronbach's alpha test, the alpha values for this scale ranges from 0.9567 to 0.9789, and overall value of alpha for the scale was found 0.9683, which indicates that the questionnaire used for the study is reliable enough.

**Table 2. Reliability Coefficient for Dimensions**

Name of Dimension	Number of Items	Cronbach's Alpha
Service quality	5	0.9567
Price	4	0.9678
Product quality and Availability	4	0.9789
Promotion	4	0.9697
Overall	17	0.9683

**Table 3. Reliability Analysis**

Dimensions of construct	Mean	Standard Deviation
Service Quality		
Tangibility	4.78	1.09
Reliability	4.76	1.10
Responsiveness	4.83	1.12
Assurance	4.87	1.01
Empathy	4.74	1.05
Price		
Vital role of price	5.34	1.41
Price has an impact	5.42	1.39
Charge reasonable price	5.53	1.35
Services are enviable than price	5.62	1.33
Promotion		
Promotional offers attract	5.17	1.24
Consider services at the time of same promotional offer	5.09	1.28
Real need than promotional offer	5.08	1.28
Attractive promotional offer	5.02	1.24
Product Quality and Availability		
Product offers best solution to meet the needs	3.47	1.49
Product outlets are out of reach	3.57	1.50
Ease in availability of product outlets	3.58	1.53
Provides best technology in products	3.69	1.45

### Exploratory Factor Analysis

The SPSS software package 17.0 version was used for analyzing the data collected for this study. The Microsoft –Excel software package was also used to make some basic computations like calculation of the mean values etc. in the extraction of factors from the factor analysis principle component analysis with varimax rotation was employed and criteria for selection of factors was taken as Eigen values more than one (Eigen Value>1). To determine the suitability of factor analysis for the given constructs, Kaiser-Mayer-Olkin test of sample adequacy was performed, which is an indicator of the fact that whether given data are suitable to perform factor analysis. To test the construct validity of the data, Bartlett test of sphericity was performed, which tests the hypothesis that the variables are uncorrelated in population. Results of Bartlett test of sphericity test of sample adequacy and Bartlett test of sphericity revealed that value of chi-square if found to be significant, which is indication that factor analysis can be conducted for the data collected for the present study, and also high Bartlett test of sphericity value reveals that sample is adequate for factor analysis.

**Table 4. Kaiser-Mayer-Olkin test of Sample Adequacy and Bartlett test of sphericity**

Kaiser-Mayer-Olkin measure of sample adequacy		0.893
Bartlett test of Sphericity	Approx. Chi-Square	1963.682
	Significance	0.000

To decide the number of factors for the given construct is difficult, but the criteria of Eigen value > 1 gave four factors. In the exploratory studies, it is mentioned that factor loadings greater than 0.31 are taken as significant. But for the present research work, criteria for the items loadings were accepted as 0.65 or greater to get clearer pattern of factors. In the factor loadings, the higher value of factor loading is an indicator of higher affiliation of an item with a factor.

**Table 5. Total variance Explained**

Variables	Initial Eigen Values			Extraction Sums of squared Factor Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	15.811	58.348	58.348	15.811	58.348	58.348
2	4.441	17.215	75.563	4.441	17.215	75.563
3	3.869	15.313	90.876	3.869	15.313	90.876
4	1.090	6.575	97.451	1.090	6.575	97.451
5	0.159	0.752	98.203			
6	0.122	0.513	98.716			
7	0.074	0.401	99.117			
8	0.050	0.253	99.371			
9	0.024	0.202	99.572			
10	0.012	0.144	99.716			
11	0.010	0.102	99.818			
12	0.008	0.08	99.898			
13	0.007	0.053	99.951			
14	0.004	0.022	99.973			
15	0.004	0.015	99.988			
16	0.002	0.008	99.996			
17	0.001	0.004	100			

### Factor Loadings

Factor loading matrix indicates the affiliations of each item of the construct to different factors according to their consistency. These factor loadings were results of principle component analysis as an extraction method with varimax rotation. The results of principle component analysis show that each of four dimensions homogeneously load on different factors. As a result of factor analysis, four factors were revealed.

**Table 6. Factor Loadings Matrix**

Variables	Factor 1	Factor 2	Factor 3	Factor 4
Tangibility	0.927			
Reliability	0.855			
Responsiveness	0.834			
Assurance	0.876			
Empathy	0.793			
Price1			0.817	
Price2			0.874	
Price3			0.989	
Price4			0.943	
Product Quality1		0.757		
Product Quality2		0.874		
Product Quality3		0.883		
Product Quality4		0.893		
Promotion1				0.765
Promotion2				0.739
Promotion3				0.687
Promotion4				0.835

### Validity

After assessing the reliability of the construct, next is the assessment of validity concept. Validity consists of different types like; construct validity, divergent validity, nomological validity, and face validity. In convergent validity, the items that are indicators of a specific construct should converge a high proportion of variance in common, and it can be assessed with the help of factor loadings, variance extracted, and reliability. Discriminant validity is the extent to which a construct is truly distinct from other constructs. Nomological validity is tested by examining whether the correlations among the constructs in a measurement theory make sense. Face validity is related with the fact of understanding of every item's content or meaning. Therefore face validity is said to be most important validity test. Before assessing the validity of constructs, unidimensionality becomes important as in the present research there are more than two constructs are involved. In this situation, each measured variable is hypothesized to relate to only a single construct, means to say that all cross loadings are hypothesized to be zero in case if there unidimensionality exists. In the present study, to test the unidimensionality of the construct, Confirmatory Factor Analysis was performed. To estimate the Confirmatory Factor Analysis models, maximum likelihood estimation method was employed. Maximum Likelihood Estimation is a procedure that iteratively improves parameter estimates to minimise a specified fit function. Entire analyses of Structural Equation Modeling were performed by Analysis of Moment Structure

(version 16.0) software of SPSS. To test the unidimensionality of the construct with the help of Confirmatory Factor Analysis, criteria were fixed as various fit indices like: Chi-Square goodness of fit index, Goodness of fit index (GFI), Adjusted Goodness of fit index (AGFI), Root Means Square Residual (RMSR), Standardized Root Mean Residual (SRMR), Root Mean Square Error of Approximation (RMSEA), Normal Fit Index (NFI), Comparative Fit Index (CFI), Tucker Lewis Index (TLI), Relative Noncentrality Index (RNI), Parsimony Goodness of Fit Index (PGFI), Parsimony Normed Fit Index (PNFI). Among all these fit indices researchers need not check all, but it has been proved with the help of many empirical studies that researchers should report at least one incremental index and one absolute index, in addition to the chi-square value and associated degrees of freedom. At least one of the indices should be a badness of fit index. Different reputed Academic journals are replete with Structural Equation Modeling results citing a 0.90 value on key fit indices like: TFI, CFI, GFI, NFI, indicating an acceptable model. In general, 0.90 somehow has become the magic number of good model. Fit is one useful criteria in assessing the validity of the model.

**Table 7. Results Of Confirmatory Factor Analysis For Model Fit**

Factors (variables)	Model Fit Indices						
	Chi-Square	Degrees of Freedom	P-Value	CFI	GFI	NFI	RMSEA
Service Quality(5)	20.73	5	0.001	0.976	0.961	0.927	0.032
Price (4)	12.92	2	0.000	0.953	0.977	0.918	0.027
Promotion (4)	8.48	2	0.001	0.985	0.968	0.934	0.026
Product Quality and Availability (4)	7.11	2	0.003	0.943	0.988	0.919	0.031
Customer Perception (4)	6.01	2	0.002	0.929	0.964	0.941	0.048

**Table 8. Main Model Fit Indices**

Main model Fit Indices	Numerical Values of Indices
Chi-Square Value	9.813
Degrees of Freedom	9
Goodness of Fit Index	0.983
Normed Fit Index	0.958
Comparative Fit Index	0.971
Root Mean Square Error of Approximation	0.023

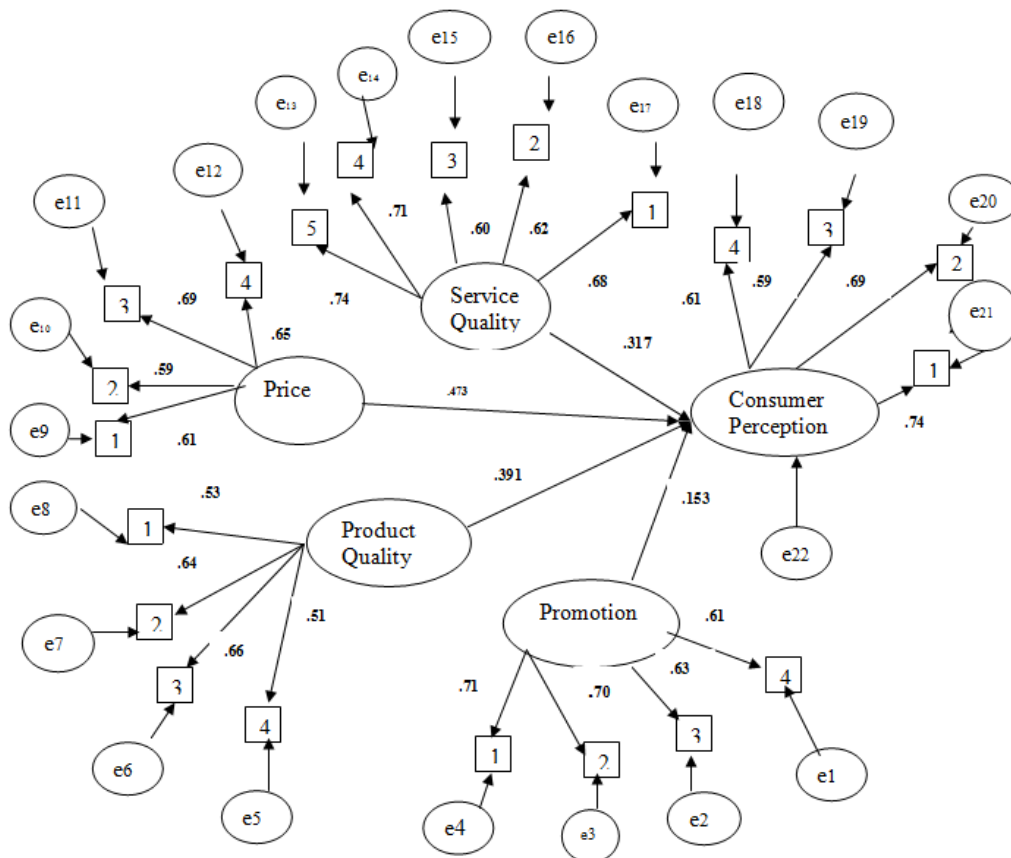
**Table 9. Standard Estimation Of Model**

Hypotheses	Standardized Regression Weights	Standard Error	Critical Ratio	P-Value
H <sub>10</sub> : Service Quality / Consumer Perception	0.317	0.069	5.014	0.001
H <sub>20</sub> : Price / Consumer Perception	0.473	0.065	6.019	0.003
H <sub>30</sub> : Promotion / Consumer Perception	0.153	0.051	4.784	0.000
H <sub>40</sub> : Product Quality and Availability / Consumer Perception	0.391	0.047	5.372	0.004

### Hypotheses Testing

The relationships among the different variables taken for the study were tested with the help of structural equation model. In the full model, total four paths were hypothesized and in the test it was found that all the paths were significant at  $p < 0.05$ . Goodness of fit indicators for the present model was  $NFI = 0.958$ ,  $GFI = 0.983$ ,  $CFI = 0.971$ , and  $RMSEA = 0.023$ . In the hypothesis testing, for selecting a mobile telecom service provider, study finds that service quality directly effects the perception of consumers. Therefore null hypothesis ( $H_{10}$ ) of the study is rejected at 5% level of significance,  $p > 0.001$ . The study also finds that price has the direct effect on customers' selection process in mobile telecom service provider as null hypothesis ( $H_{20}$ ) has been rejected at 5% level of significance,  $p > 0.003$ . The study shows that the price is most significant factor influencing customer perception in selecting telecom service. As, null hypothesis ( $H_{30}$ ) has been rejected by the study with  $p > 0.000$ , it establishes a significant impact of promotion on perception of customers in selecting mobile telecom service. The results show that the product quality and availability is also an important factor influencing customer perception in selecting telecom service.

Figure 1. Full Path Diagram



The null hypothesis (H40) has been rejected at 5% level of significance,  $p > 0.004$ . Among all the significant factors from the results of present study, price emerges as the most important factor followed by product quality and availability, service quality and promotion among the entire respondent group under the study. Emergence of price as most influencing factor of customer perception in selecting mobile telecom services proves that how price conscious the Indians are. It has also been found by Wal, R. W. E., Van Der, Pampallis, A, and Bond. C (2002) in South African context, that there is a significant relationship, exists between the importance of a dimension to the customers and the perception about the service quality. Therefore, based on these positive coefficients of all the factors namely service quality, product quality and availability, price and promotion, our study unanimously concludes that there is a significant positive effect of customization on the brand building process in India.

### **Conclusion**

After Indian government has opened the telecommunication industry for the private sector players, the competition in the market has got intensified. In the present scenario every company want to differentiate themselves from the competitors and stay ahead in the race. There is need of hour for the mobile telecommunication services to reaffirm themselves in view of the stiff competition. The mobile telecommunication companies shall have to reorient themselves in terms of the customer service parameters to instil the concept of quality service in the mind of the customer and further in terms of growth. The focus of the present study was to examine and understand the behavioural perceptions of consumers in making selection of mobile telecom service providers. In case of perceptions of consumers, service quality, product quality and availability, price and promotion play a vital role in deciding about the inclination towards a particular service provider. Based on these aspects, service companies are in battle with each other both acquiring new customers, as well as retaining the existing ones. In the present time, competition among mobile telecom service operators is quite stiff as compared to the past times. Competition is not only in terms of better network quality, but also in terms of retaining existing customers with the help of various techniques of price reductions and promotional offers. While talking about the overall service quality, network quality emerged as one of the most important factors. Based on our research work, product quality and availability, and promotion in addition to service quality and price are found to be having significant impact on the selection of mobile telecom service providers in the competitive mobile telecom market of India.

### **Avenues for Future Research**

The present research work helped us to understand the dynamic relationships among various dimensions of price, promotion, service quality, and product quality and availability in determining perceptions of consumers towards selection of mobile telecom service providers. Further researches can be made in developing integrated framework among service quality attributes, customer value, customer satisfaction, and behavioural intentions, and also customer decision making criteria can be developed to help service providers to design services according to needs and desires of the customers.

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