Measuring Service Quality Dimension of Mobile Service Provider by University Student's Perspective in Indian Scenario - A Structural Equation Model (SEM) Approach

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Abstract

Objectives: This study focuses on customer preference to the Mobile phone Service Providers among the University students. In a shorter span, the usage of mobile phones has a drastic increase and that emerge new technology devices to innovated, but still the process of innovation have not stopped to make the user/consumer more sophisticated. The very frequency word which we heard from the mobile service provider is the offers. **Methods/Analysis:** This study shows the customer preference and loyalty mobile service provider as compared to others. The data will be collected through a structured questionnaire. Random sampling method was used. **Findings:** Due to more customized offers, add-on services makes the subscribers to shift from one provider to another and that leads to a solid rivalry among the mobile service providers. This study is to identify the student preference on mobile services. As the result shows that in various situations and from the SERVQUAL dimensions, influencing dimension for reliability is the responsiveness and empathy dimensions in way of staff's willingness to help, promptness, politeness which helps the service providers to meet promises on time, providing correct information to the customers. **Applications /Improvement:** The scope of this research is based on the mobile phone industry and telecom industry and it throws light on the customer preference of Smartphone and telecom services usage among university students. The study has some limitation. The study concentrates only on the university students in Tanjavur and Trichy. Due to time constraints it is not possible to cover vast area. So that survey has limited scope for application in wide market.

Keywords: Customer Preference, Mobile Service Provider, SERVQUAL

1. Introduction

In a shorter span the usage of mobile phones has a drastic increase and that emerge new technology devices to innovated, but still the process of innovation have not stopped to make the user/consumer more sophisticated. Roughly the statistics shows that 70% of the world population posse at least one mobile handset.

The mobile industry is huge in India. Around 791 million mobile users, 65 percent penetration rate, and an expected 82 percent penetration rate by 2014. India has 2.5 times more mobile users than U.S. The only country that currently has more is China at 863 million mobile users. Plus, the number of mobile subscribers in India is growing by a whopping 20 million every month, according to a report[1].

Students are the large users of mobile in the world. Often they use the device to share information with their friends, instant messaging, video chat, and in some cases used for downloading apps and installation. According to C.-K.Looi et.al. (2011) "to the student capability, the fea-

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tures like apps, camera, internet and other applications of Smartphone would be a difficult task"[2].

We can category the mobile service subscribers into two ways; they are prepaid subscribers and postpaid subscribers. The prepaid subscribers are influence the Indian mobile market more than the postpaid subscribers. The revenue which comes from prepaid connectors is estimated to grow 18.9% CAGR from 2008 to 2012 and the revenue which comes from postpaid connectors is estimated to grow 15% CAGR from 2008 to 2012. The mobile phones price is becoming lower and more affordable for our citizens which gave an improvement in the quality of life. Nowadays people are more intended to adopt new technologies like MMS, internet options like 2G, 3G and video calls etc.

Apart from this Telecom service providers also promote themselves by making new schemes, offers and technology advancement in their services. This has consequently increased the frequency of mobile phones and services related to it in the society.

This study is to identify the customer preference of mobile service provider among the university students. Today, we can easily identify the competition between the Smartphone manufacturers with the advanced technology up gradation of Smartphone. Hence under this situation, it is important to identify why students are very brand loyal with their particular brand and also to know on the customer preference of the students. The scope of this research is based on the mobile phone industry and telecom industry and it throws light on the customer preference of Smartphone and telecom services usage among university students.

The objectives of the study are:
- To identify the student preference on mobile service Providers.
- To identify the level of satisfaction on various mobile service Providers.
- To know about the key competitors among mobile phone service providers.
- To understand the influence of the level of satisfaction towards subscription of various mobile service Providers.
- To explore the association between the subscription of various mobile service Providers towards the purchasing of smart phone.

According to research on Trustworthiness, the trust was the major factor among customers which influence the relationship commitment which in turn makes the brand trust which finally leads to Brand loyalty. Trust shown by the customers were the one strong thing which supports the organization to survive or sustain even in very bad situations[3].

The discussion from his study shows and revealed that the author's comparative framework called the"8 Cs" of the mobile information society. As the first C starts with connectivity content, community, commerce, culture, cooperation and[4] capital study says that for the past two decades the scenario of communication environment seems to have dramatic changes. These changes cause and affect both the theory and practice of every areas of communication[5].

The study says that telecom landscape has witnessed a major shift after 1996 with the advent of new technologies and is taking the lead in the[6] market place. Study focus on the Indian consumer's perception and choice in selecting mobile service providers. Consumer perception based on the communication quality, call services, offers, physical facilities, customer care to provide right information at right time, employees ready to help and their attitudes towards the end customers[7].

The study comprises of regulatory processes of privatization of telecom services in India and Brazil. The effects on the consequences of telecom company broadly and on the sector as a whole. In India, Indian companies facing heavy competition in telecom sector and making innovative strategy for their business model to acquire the market and to utilize the opportunities available for their businesses[8].

The study gives that service providers could try to gain valuable insight into consumer preferences, and design mobile service packages[9] study deals with consumer preferences and satisfaction level towards the mobile phone service providers in Jodhpur, Rajasthan. This study was conducted based on the mobile service providers in Jodhpur region and the result derived from this study is that the factor that induces the cousmers to repurchase the mobile services is because of the customized call tariffs or offers, network coverage and brand image[10].

The paper deals to explore the factors that influence customer loyalty of BSNL mobile[11] customers. Article deals with the telecommunications sector. It plays an important role in the global economy, connecting people, businesses, governments, and markets[12].

The Study examines that to measure the services quality of mobile network operators using SERVQUAL tool. It highlights the developing issues of service quality in

mobile services industry as its studies the service quality in perspective of customers compared with the industry technical measures[13].

Many researchers' has done a study to understand the preferences of the consumer on Smartphone and service quality. The researcher's commends that most of the customer prefer Smartphone based upon the mobile service packages such as call tariffs, call offers, physical facility, customer care, communication quality etc. This study is focus on the different college student's preferences towards smart phones and their satisfaction level of service quality mobile service provider.

2. Materials and Methods

This study shows the customer preference and loyalty mobile service provider as compared to others. The data will be collected through a structured questionnaire. Random sampling method was used.

A random sample from each section will be taken in a number proportional to the section size when compared to the population. This subset of section is then collective to form a random sample.

The sample size for this study is 200. The questionnaire will be evaluated in four different universities in Thanjavur and Trichy namely SASTRA University, PRIST University, Periyar Maniammai University, Bharathidasan University. From each university 50 samples were collected and finally consolidate into 200. The information will be collected from the respondent i.e. students of university by direct personal interviews. The investigator personally comes in contact with the person's from whom the information is to be obtained and asks them questions pertaining to the enquiry and collects the desired information

Secondary data will be collected in the form of published sources like reports and official publications, semi-official publications and private publications. Some other secondary data will be collected in the form of unpublished sources and that information will be gather through online.

The test is carried out using SPSS tool where the variables that are to be tested for independence is entered and results are identified. The various tests are done by using SPSS are percentage analysis, descriptive statistics, correlation, factor analysis.

The study have some limitation. The study concentrates only on the university students in Tanjavur and Trichy. Due to time constraints it is not possible to cover vast area. So that survey has limited scope for application in wide market.

Right now 15 mobiles service providers serving in India. End of feb-11 TRAI data shows private operators hold 87.90% of the wireless market share where as BSNL and MTNL, two PSU operators hold only 12.10% market share. Bharti Airtel holds 20.09%, Reliance holds 16.70%, Vodafone holds16.54%, BSNL holds 11.41%, Tata Docomo holds 11.08%, Idea holds 10.97%, Aircel holds 6.76%, and others holds 6.45% market share.

3. Results and Discussion

In the present scenario preferences among customer for mobile phones differs from one person to another person, so to understand the preferences of the different customers, the researchers focuses on service quality of mobile service provider by using SERVQUAL dimensions such as tangibility, responsiveness, assurance, empathy and reliability. Table 1 depicts that 7.5% respondents subscribe BSNL as their mobile network provider, 43% respondents subscribe to Airtel, 23.5% respondents subscribe to Aircel, 13.5% respondents subscribe to Vodafone, 4.5% respondents subscribe to Reliance and 8% respondents subscribe to other network providers like DOCOMO, Idea, etc.

Table 1. Brand of Telecom Service Provider

Particulars	Frequency	Percent	Cumulative Percent
BSNL	15	7.5	7.5
Airtel	86	43.0	50.5
Aircel	47	23.5	74.0
Vodafone	27	13.5	87.5
Reliance	9	4.5	92.0
Other	16	8.0	100.0
Total	**200**	**100.0**	

Source: Primary data collected using SPSS 16.0

Here most of the respondents are subscriber of Airtel and they are the leading network connection and mobile service provider comparatively with other network providers.The five dimension of SERVQUAL tool enclosed in 15 items of closed ended questionnaire for measuring the service quality of mobile service provider. The descriptive statistics of mean and standard deviation have been

described in the above Table 2. The mean score for all the 15 items of the SERVQUAL were all well[14] above the midpoint 2.5 in a five point Likert scale confirming the satisfactory level of the respondents.

Table 2. Descriptive statistics – service quality of mobile service provider

Descriptive Statistics	Mean	Std. Deviation
Reliability		
Are able to meet promises on time (reli)	3.26	.932
The staff shows kind and comforting behaviour (reli)	3.33	.942
The staff provides correct information (reli)	3.44	.939
Responsiveness		
Ever too busy to help (resp)	3.44	.905
Willingness to help (resp)	3.47	.951
Promptness (resp)	3.46	.976
Assurance		
Safety of personal information (assu)	3.68	.961
Necessary support from organization (assu)	3.66	.975
Politeness (assu)	3.61	.960
Empathy		
Gives good individual treatment (emp)	3.58	.964
Ease of access to helpline (emp)	3.55	1.031
Customer comes first (emp)	3.60	.982
Tangibility		
Up to date physical facilities (tang)	3.44	.970
Appearance of staff (tang)	3.43	.990
Attractiveness of physical facilities (tang)	3.62	1.005

The Table 3 depicts the inter-correlation between the five dimensions of SERVQUAL. Out of the five dimensions-responsiveness and empathy were found to be correlated to the required level (0.571 and 0.509 respectively) with the reliability dimension and other two dimensions – assurance and tangible were found to have a significant relationship.

Hypothesis

H1: There is a positive association between overall satisfactions to:

H1a: Reliability dimension

H1b: Responsiveness dimension

H1c: Assurance dimension

H1d: Empathy dimension

H1e: Tangible dimension

H2: There is a positive association between the levels of satisfaction towards subscription of various mobile service Providers

H3: There is a positive association between the subscriptions of various mobile service Providers towards the purchasing of smart phone

Table 4 PLS produces loadings between items and constructs which are similar to a principal components analysis. It also provides standardized regression coefficients. Interpretation of path coefficients: First of all, they are not correlation coefficients. Suppose we have a network with a path connecting from region A to region B. The meaning of the path coefficient theta (e.g., 0.81) is this: if region A increases by one standard deviation from its mean, region B would be expected to increase by 0.81 its own standard deviations from its own mean while holding all other relevant regional connections constant. With a path coefficient of -0.16, when region A increases by one standard deviation from its mean, region B would be expected to decrease by 0.16 its own standard deviations from its own mean while holding all other relevant regional connections constant.

Structural Equation Modeling (SEM) evaluates the reliability and validity of the measurement items while simultaneously evaluating the research model within which the constructs are embedded. SEM has been used in almost every conceivable field of study, including psychology, sociology, and management SEM is a second-generation[15] data analysis technique that not only assesses the structural model - the assumed causation among a set of dependent and independent constructs. Reliability[16] of Individual items were examined. A rule of thumb is that items with a loading of 0.707 or above shows reliability. The Average Variance Extracted (AVE) for the construct are greater than 0.50, indicate more than 50% of the item's variance is captured by the construct. Cronbach's alpha coefficient for reliability and consistency has to be calculated when we use Likert- types scales in research.

Table 3. Inter correlation – service quality of mobile service provider

Correlations					
	Reliability dimension	Responsiveness dimension	Assurance dimension	Empathy dimension	Tangible dimension
Reliability dimension	1	.571**	.409**	.509**	.262**
Responsiveness dimension	.571**	1	.350**	.454**	.330**
Assurance dimension	.409**	.350**	1	.483**	.308**
Empathy dimension	.509**	.454**	.483**	1	.462**
Tangible dimension	.262**	.330**	.308**	.462**	1
**. Correlation is significant at the 0.01 level (2-tailed).					

Table 4. Reliability statistics

	Cronbach's Alpha	Average Variance Extracted (AVE)
Assurance	0.7	0.63
Empathy	0.8	0.71
Mobile Service Providers	1	1
Purchase of Smart Phone	1	1
Reliability	0.78	0.82
Responsiveness	0.78	0.7
Tangibility	0.78	0.69
Total	1	1

Figure 1 SEM statistical models represent causal relationships as paths. A path is a hypothesized correlation between variables representing the causal and consequent constructs of a theoretical proposition. Out of 200 respondents, 82.5 % are between the age group of 16-24, 17% are between the age group of 25-34 and 0.5% is between the age group of 35-44. Out of 200 respondents, 61.5% are male respondents and 38.5% are female respondents. 40.5% of the 200 respondents are currently pursuing Under Graduation and 59.5% are currently pursuing Post Graduation Around 44.5% of the respondents are from urban, 31% of the respondents are from semi-urban and 24.5% of the respondents are from rural.

Out of 200 respondents 30.5% are hosteller and 69.5% are day scholar students of the university. 16.5% of the respondents got idea about Smartphone from family members, 63.5% of the respondents from friends, 9.5% of the respondents from relatives and 10.5% of the respondents from others like advertisement in internet, television, radio etc. 7.5% respondents subscribe BSNL

as their mobile network provider, 43% respondents subscribe to Airtel, 23.5% respondents subscribe to Aircel, 13.5% respondents subscribe to Vodafone, 4.5% respondents subscribe to Reliance and 8% respondents subscribe to other network providers like DOCOMO, Idea, etc.
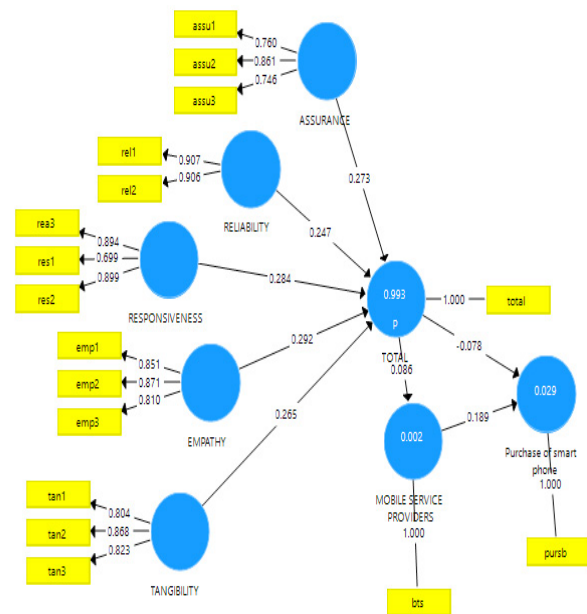
Figure 1. Structural equation model

The five dimension of SERVQUAL tool by[14] enclosed in 15 items of closed ended questionnaire for measuring the service quality of mobile service provider. The descriptive statistics of mean and standard deviation have been described. The mean score for all the 15 items of the SERVQUAL[14] were all well above the midpoint 2.5 in a five point Likert scale confirming the satisfactory level of the respondents.

The inter-correlation between the five dimensions of SERVQUAL. Out of the five dimensions- responsiveness

and empathy were found to be correlated to the required level (0.571 & 0.509 respectively) with the reliability dimension and other two dimensions – assurance and tangible were found to have a significant relationship. That the sample is adequate enough to conduct a factor analysis. The score 0.819 obtained from the data shows that the factor considered for the analysis are strongly inter- correlated to each other and hence the factor analysis can be proceeded. All the three aspects of responsiveness dimension are showing high loading (0.775, 0.732, and 0.728), which measure the ability of the employees of mobile service providers to ever too busy to help, willingness to help and promptness of employees to the customers. Reliability dimension also showing good loading (0.590 and 0.604), which measure the ability to meet promises on time and employee provides correct information. Therefore responsiveness and reliability has a higher significant than other dimensions.

Most of the respondents are subscriber of Airtel and they are the leading network connection and mobile service provider comparatively with other network providers. In this modern trend most of the youngsters are using and consuming information more on the Smartphone and mobile services. In this modern era every youngsters, mostly like college or university students are having higher consuming power of new technologies, gadgets like Smartphone and mobile services. Airtel is the leader in mobile service provider because of customized offer for the subscribers, special packages, and other value added services. If the other network service providers come with any new strategy that will helps them to compete in the market.

For products and services industry the service quality is a very important strategic aspect which helps the organization to achieve their goals. But the services industry faces very difficult task in maintenance of quality due to the fact there are no such standards to do the business. It's because each and every customer preference and expectation is different and unique in nature. Likewise the relative importance of any one dimension of service quality differs within the customers and mobile service providers. From the inter-correlation, the influencing dimension for reliability is the responsiveness and empathy dimensions in way of staff's willingness to help, promptness, politeness which helps the service providers to meet promises on time, providing correct information to the customers. From the factor analysis which reduced the least factor and gives more important to all the three aspects of

responsiveness and two aspects of reliability for effective measure of service quality of mobile service providers.

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