

## The Importance of Service Attributes on Perceived Satisfaction level of the Mobile Users

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### Abstract

This paper studies the importance of service attributes on perceived satisfaction level of mobile users in Odisha. However, this study is limited to the mobile users from 15 different areas and limited to five different telecommunication services i.e. (Reliance Jio, Airtel, BSNL, Vodafone and Idea). This involves customers' perception towards the service attributes provided by the telecom companies of Odisha. Samples of 723 mobile users were personally surveyed using a structured questionnaire. We have used 12 service attributes which are generally offered by the telecom sector and used Multiple Regression Model for our study. The step wise Regression Model is used separately for each telecommunication service providers where our emphasis is on validating the best model after final iteration through R<sup>2</sup> and Adj R<sup>2</sup> for measuring the impact of service attributes on overall satisfaction. For testing the hypothesis, we have analyzed t-values of specific attributes. The objective behind this methodology of the study is to find out the importance of service attributes on overall satisfaction of the mobile users and to find out which service attribute have greater impact on the satisfaction level according to the mobile user's perception. Finally, it was observed that out of 12 service attributes only 10 of Reliance Jio, 7 of BSNL, 4 of Airtel, 6 of Vodafone and 7 of Idea have a significant impact on overall customer satisfaction and have successfully implemented. The findings may be useful for decision makers, telecommunication service providers and further researchers to serve to different customer groups.

**Keywords:** Telecommunication service provider, Mobile user, Customer Perception, Customer Satisfaction, Service attributes.

## **1. Introduction.**

Now a day, mobile is a necessary product for our daily communication. Customers mainly purchase this product for instant communication and various services provided by the companies. Services mainly depend on some factors/attributes and customers have always tried to buy that product which has many factors or attributes fulfilling their desire. Recently the concept of customer satisfaction has received much attention. In cellular mobile market, customers bring higher expectations for communication from its service providers and if companies are not able to meet these expectations, the customers will take their business elsewhere. The consumers' wants and expectations are altering all the time, this directs to a condition where customers create ever higher benchmarks. Applying customer satisfaction approach means recognizing customers, and then finding their wants and expectations, and to end with their perceptions. A company's most important success factor is the ability to deliver better customer value than competitors do, and the objective of a strategy is to deliver value to the customers in order to provide required returns to the shareholders and employees (Riggs, 1983). India's cellular telecommunication industry is perhaps one of the fastest growing sectors of the Indian economy and there is a fierce competition within the sectors made up of various telecom operators namely, Reliance Jio, Vodafone, Airtel, BSNL, Idea etc. Despite the high number of cellular telecommunication service providers in India, complaints from customers with regards to their dissatisfaction of provided services have increased in recent times. Although aggressive pricing strategy is employed to enhance customer satisfaction but, it is apparently seen that it has failed to maintain customer satisfaction. The success of telecommunication industry depends on prudent efforts and feasible investments. In a competitive market, service providers are expected to compete on both price and quality of services and also it is necessary for the service providers to meet the consumers' requirements and expectations in price and service quality (Melody, 2001).

## **2. Review of literature.**

The paramount goal of marketing is to understand the consumer and to influence buying behaviour. One of the main perspectives of the consumer behaviour research analyses buying behaviour from the so called "information processing perspective" (Holbrook and Hirschman 1982). According to Van Der Wagen (1994, p. 3), "individual customers have many different perceptions which are influenced by their education, upbringing, experience and many other factors". Similarly, Katz (1968) suggests that experience depends on and influences perception, since it involves changes in behaviour which necessitate meaning and order being given to sensory data. Blythe (1997) refers to this process as cognitive mapping or a construct of the imagination, wherein consumers analyze purchase and post-

purchase situations taking into account previous experiences, and make evaluative judgments based on these experiences. He states that the information entering the brain does not provide a complete view of the world around us. As such, when an individual constructs a world-view, he or she then assembles the remaining information to map what is happening in the outside world. Any gaps will be filled in with imagination and experience and will be affected by a number of factors including subjectivity, categorization, selectivity, expectations and prior learning or past experience. Learning, he suggests, is a part of this, both in terms of informing the process as a result of earlier experiences, and also in terms of the consumer's approach to learning more about the product category or brand. This process is referred to as cognitive learning, where the emphasis is not so much on what is learned, as opposed to how it is learned. In short, early learning will affect future learning with a particular product or service (Hoch and Ha, 1986)

Customer satisfaction has developed extensively as a basic construct for monitoring and controlling activities in the relationship marketing concept. Satisfaction is regarded as a short term emotional state that results from an intrapersonal comparison of the customer's expectations with the evaluation of a single product or service encounter. (Oliver, 1981; Brady and Robertson, 2001;) conceptualize customer satisfaction as an individual's feeling of pleasure or disappointment resulting from comparing a product's perceived performance (or outcome) in relation to his or her expectations.

Generally, there are two general conceptualizations of satisfaction, namely, transaction specific satisfaction and cumulative satisfaction (Jones and Suh, 2000); (Yi and La, 2004) Transaction-specific satisfaction is a customer's evaluation of his or her experience and reactions to a particular service encounter (Boshoff and Gray, 2004), and cumulative satisfaction refers to the customer's overall evaluation of the consumption experience to date (Cook, 2008). For more than two decades, customer satisfaction has been an intensively discussed subject in the areas of consumer and marketing research. In recent times, customer satisfaction has gained new attention within the context of the paradigm shift from transactional marketing to relationship marketing (Gronroos, 1994); (Martin, Adrian and David, 2002), which refers "to all marketing activities directed toward establishing, developing, and maintaining successful relational exchanges" (Yi and La, 2004). Customer satisfaction depends on the product's perceived performance relative to buyer's expectations. If the product's performance falls short of expectation, the customer is dissatisfied. If performance matches expectations, the customer is satisfied. If performance exceeds expectations, the customer is highly satisfied or delighted (Kotler & Armstrong, 2006). When a consumer/customer is contented with either the product or services it is termed satisfaction. Satisfaction can also be a person's feelings of pleasure or disappointment that results from comparing a product's perceived performance or outcome with their expectations (Kotler & Keller, 2009, p. 789). As a matter of fact, satisfaction could be the pleasure derived by someone

from the consumption of goods or services offered by another person or group of people; or it can be the state of being happy with a situation.

Customer satisfaction is defined by one author as “the consumer’s response to the evaluation of the perceived discrepancy between prior expectations and the actual performance of the product or service as perceived after its consumption” (Tse & Wilton, 1988, p. 204) hence considering satisfaction as an overall post-purchase evaluation by the consumer” (Fornell, 1992, p. 11). Some authors stated that there is no specific definition of customer satisfaction, and after their studies of several definitions they defined customer satisfaction as “customer satisfaction is identified by a response (cognitive or affective) that pertains to a particular focus (i.e. a purchase experience and/or the associated product) and occurs at a certain time (i.e. post-purchase, post-consumption)”. (Giese & Cote, 2000, p. 15).

This definition is supported by some other authors, who think that consumer’s level of satisfaction is determined by his or her cumulative experience at the point of contact with the supplier (Sureshchander et al., 2002, p. 364). It is factual that, there is no specific definition of customer satisfaction since as the years passes, different authors come up with different definitions. Customer satisfaction has also been defined by another author as the extent to which a product’s perceived performance matches a buyer’s expectations (Kotler et al., 2002, p. 8). According to Schiffman & Karun (2004) Customer satisfaction is defined as “the individual’s perception of the performance of the products or services in relation to his or her expectations” (Schiffman & Karun 2004, p. 14). In a nutshell, customer satisfaction could be the pleasure obtained from consuming an offer.

### **3. Objectives**

The objectives of the study are

1. To identify service attributes offered by the Reliance Jio telecom service providers have a significant impact on overall customer satisfaction.
2. To identify service attributes offered by the BSNL telecom service providers have a significant impact on overall customer satisfaction.
3. To identify service attributes offered by the Airtel telecom service providers have a significant impact on overall customer satisfaction.
4. To identify service attributes offered by the Vodafone telecom service providers have a significant impact on overall customer satisfaction.

5. To identify service attributes offered by the Idea telecom service providers have a significant impact on overall customer satisfaction.

#### 4. Hypotheses

From the objectives, following are the hypotheses framed.

**Hypothesis 1(a):** Service attributes offered by the Reliance Jio telecom service providers have a significant impact on overall customer satisfaction.

**Hypothesis 1(b):** Service attributes offered by the BSNL telecom service providers have a significant impact on overall customer satisfaction.

**Hypothesis 1(c):** Service attributes offered by the Airtel telecom service providers have a significant impact on overall customer satisfaction.

**Hypothesis 1(d):** Service attributes offered by the Vodafone telecom service providers have a significant impact on overall customer satisfaction.

**Hypothesis 1(e):** Service attributes offered by the Idea telecom service providers have a significant impact on overall customer satisfaction.

#### 5. Research Design and Methodology.

The research objective for this study included exploration and description. Exploratory research enables the researches to gain insight into the research topic, to explicate central concepts and constructs and to develop methods to be employed in the study. Descriptive research allows the researcher to measure and report the frequency with which specific variable occur in the sample to present a picture of the details of a situation or relationship. The units of analysis for this study were customers using different telecommunication services of Odisha. The study considered five telecommunication services, i.e. Reliance Jio, Airtel, BSNL, Vodafone and Idea for the analysis. A convenience sampling technique was employed. The sample for the study comprises of 723 telecom customers, representing 172 customers from Reliance Jio, 136 customers from BSNL, 153 customers from Airtel, 134 customers from Vodafone and 128 customers from Idea. The researcher had developed a self- administered questionnaire to access how customers using telecommunication services evaluate the services attributes offered by five different telecommunication services. The final questionnaire was designed on the basis of the pilot study.

The Questionnaire was divided into two content sections (Section A, B) to facilitate the eventual processing of the data.

In Section- A, respondents had to provide information regarding which mobile telecommunication service providers the respondent most often use as their network and rating of service attributes realized by the customers provided by their telecommunication service providers.

In Section- B, respondents were asked to provide information concerning the measurement of level of customer satisfaction.

Data from a total number of 789 respondents was collected in 15 different areas. After checking the consistency; we have selected only 723 respondent data. A total of 39 questionnaires were filled incomplete and 27 questionnaires were wrongly entered. Finally, 723 respondents have been used in the research framing. So, the sample size of the study is 723.

We have used computer with software like SPSS 21.0, Microsoft Excel and other statistical tools for analyzing the result of the importance of service attributes offered by telecommunication services on overall customer satisfaction. We have taken 12 service attributes which are generally offered by any telecom service provider company of the country to the customers. This attributes may be more in numbers than what we have considered but based on panel interview with the managers of the telecommunication Companies, we have finalised 12 attributes for our study. For testing the hypothesis, we have analyzed t-values of specific attributes. A multiple regression analysis was conducted as overall customer satisfaction as dependent variable and 12 services attributes as independent variable.

## **6. Data Analysis and Discussion.**

For the purpose of our study, it is found from Table- 1 that we have taken 12 service attributes which are generally offered by any telecom service provider company of the country to the customers. This attributes may be more in numbers than what we have considered but based on panel interview with the managers of the telecommunication companies, we have finalised 12 attributes for our study.

Table 6.1: Service Attributes Offered by Different Telecommunication Service Providers in our Study:

1	SA1	Maintaining a good relations with its customers and solves customers problems efficiently and effectively
2	SA2	ISD charges per call, STD charge per call, Local charge per call, roaming charges are nominal.
3	SA3	Quick message services, best MMS, SMS, Voice, messages and charge per message
4	SA4	Best network coverage in all the geographical areas, network facility in roaming.
5	SA5	Better Promotional offers, Plans for different age groups and for different occasions.
6	SA6	Availability of recharge facility, full talk time, life time validity benefits and other talk time offers

7	SA7	Availability of mobile entertainments, use of different mobile technologies and other added service benefits
8	SA8	Easy in getting the SIM without any clumsy procedure
9	SA9	Accurate and error free Bills are received in time as well as last call cost or the cost of any services availed are informed on time
10	SA10	Better voice clarity and call quality without any interruptions
11	SA11	Better GPRS facility
12	SA12	Availability of fancy numbers as well as easy to remember the mobile numbers

### 6.1. Importance of Service Attributes on Overall Customer Satisfaction

The main objective of this study is to find out the importance of service attributes on overall satisfaction and to find out which service attribute have greater impact on customer's satisfaction level according to the telecom customer's perception. Regression analysis is a statistical technique used to calculate the dependent variable value using one or more independent variables. When the number of independent variables is more than one then such analysis is known as the Multiple Regression Analysis. (Darren George & Paul Mallery, pp.192). In our study we have developed stepwise regression model for each case separately. For this, we have explained this into five segments i.e. Reliance Jio, Airtel, BSNL, Vodafone and Idea. The objective behind this methodology is to explore only those service attributes which have some impact on overall customer satisfaction. From Table- 6.2, we can observe that ten models for Reliance Jio, seven models for Airtel, four models for BSNL, six models for Vodafone and seven models for Idea has been generated. But we consider model number 10 for Reliance Jio, 7 for Airtel, 4 for BSNL, 6 for Vodafone and 7 for Idea as the best model because  $R^2$  and adj. $R^2$  is highest as compared to other models developed. Similarly, the standard errors of the estimate for the telecom sectors are less as compared to other specific model. The summary of the models extracted through stepwise regression method has been shown in the Table- 6.2 below.

Table 2: Summary Extracted Models through Multiple Stepwise Regressions of Reliance Jio, Airtel, BSNL, Vodafone and Idea telecom service providers.

Reliance Jio	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.515a	.265	.261	.852
2	.669b	.448	.441	.741
3	.730c	.533	.525	.683
4	.769d	.592	.582	.641
5	.797e	.636	.625	.607
6	.822f	.675	.664	.575
7	.840g	.705	.692	.550
8	.850h	.723	.709	.535
9	.861i	.741	.726	.519
10	.864j	.747	.731	.514

Airtel	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.560a	.314	.309	.934
2	.675b	.455	.448	.835
3	.737c	.544	.535	.766
4	.788d	.621	.611	.701
5	.819e	.671	.660	.655
6	.838f	.703	.690	.625
7	.859g	.738	.725	.589
BSNL	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.903a	.815	.814	.493
2	.910b	.829	.826	.476
3	.916c	.839	.835	.463
4	.922d	.850	.846	.448
Vodafone	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.485a	.235	.229	.868
2	.600b	.360	.350	.797
3	.663c	.439	.426	.749
4	.716d	.513	.498	.700
5	.761e	.579	.562	.654
6	.784f	.615	.596	.628
Idea	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.529a	.280	.275	.988
2	.649b	.422	.412	.889
3	.704c	.496	.484	.833
4	.741d	.550	.535	.791
5	.763e	.582	.565	.765
6	.779f	.607	.588	.745
7	.793g	.628	.607	.728

The details of the results of impact of regression coefficient on overall customer satisfaction are shown.

#### For Reliance Jio

$$Y_1 = -3.353 + .253SA_1 + .208SA_6 + .234SA_8 + .264SA_5 + .223SA_{10} + .273SA_4 + .214SA_2 + .118SA_{11} + .147SA_3 + .155SA_{12} \dots\dots\dots (1)$$

**Table -6.3 Regression coefficients of Service Attributes on Customer Satisfaction**

Regression Coefficient													
Sl. No.	Service Attributes	SA 1	SA 2	SA 3	SA 4	SA 5	SA 6	SA 7	SA 8	SA 9	SA 10	SA 11	SA 12
1	Beta value	.253	.214	.147	.273	.264	.208	*** *	.234	*** *	.223	.118	.155



2	T- value	5.4 33	4.9 29	3.4 44	5.1 72	6.4 40	5.8 45	*** *	6.1 31	*** *	6.3 64	3.9 28	1.9 82
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\*\*\*\* This represents that the factor is not included in the model.

$Y_1$  = Overall customer satisfaction of Reliance Jio Customers.

We have applied stepwise regression model of all 12 service attributes on overall customer satisfaction and ten iteration steps have been done after which **the best model is explained in equation-.....1.**

**Here overall customer satisfaction  $Y_1$  is dependent on service attributes  $SA_i$ , where  $i = 1, 2, \dots, 12$ .** We can observed from the above Table - 6.3 that out of 12 service attributes only 10 attribute have got some impact on overall customer satisfaction. The most important service attributes which has got maximum impact on overall customer satisfaction because of maximum t-value is **“ $SA_5$ = Better Promotional offers, Plans for different age groups and for different occasions”** with coefficient of .264 and t- value 6.440. Followed by **“ $SA_{10}$ = Better voice clarity and call quality without any interruptions”** with coefficient of .223 and t-value 6.364. The attribute which has got lowest impact on overall customer satisfaction is **“ $SA_{12}$ = Availability of fancy numbers as well as easy to remember the mobile numbers”** with coefficient of .155 and t-value 1.982 and **“ $SA_3$ = Quick message services, best MMS, SMS, Voice, messages and charge per message”** with coefficient of .147 and t-value 3.444. So, it is clearly evident that out of 12 service attributes we have selected for the study the BSNL telecom service providers have properly implemented strategies for only 10 service attributes successfully.

**Hypothesis: Service attributes offered by the Reliance Jio telecom service providers have a significant impact on overall customer satisfaction.**

It has been observed that all the t- values are greater 2 and P- value is less than 0.05. So, we can conclude that all the 10 attributes which comes after final iteration have significant impact on overall customer satisfaction. One of the interesting things is that we have observed that out of 10 attributes extracted all the 10 service attributes have positive impact on customer satisfaction. Here,  $R^2 = .747$ , which shows that 74.7% of variance of dependent variable “overall customer satisfaction “ is properly explained by 10 independent variables. So, we can assume that all the 10 independent variables those have been extracted could be fitted or included in the model.

*For Airtel*

$$Y_2 = -3.882 + .472 SA_9 + .271 SA_6 + .262 SA_3 + .333 SA_{11} + .311 SA_{10} + .288 SA_2 + .234 SA_7 + \dots \dots \dots (2)$$

Table 6.4 Regression coefficient of Service Attributes on Customer Satisfaction

Regression Coefficient													
Sl. N o.	Service Attributes	SA 1	SA 2	SA 3	SA 4	SA 5	SA 6	SA 7	SA 8	SA 9	SA 10	SA 11	SA 12
1	Beta value	*** *	.288	.262	*** *	*** *	.271	.234	*** *	.472	.311	.333	*** *
2	T-value	*** *	4.709	6.684	*** *	*** *	6.100	4.435	*** *	6.058	4.603	6.277	*** *

\*\*\*\* This represents that the factor is not included in the model

$Y_2$ = Overall customer satisfaction of Airtel customers.

We have applied stepwise regression model of all 12 service attributes on overall customer satisfaction and seven iteration steps have been done after which the best model which is explained in equation-2.

Here overall customer satisfaction  $Y_2$  is dependent on service attributes  $SA_i$ , where  $i = 1, 2, \dots, 12$ . It is found from the above Table - 6.4 that out of 12 service attributes only 7 attributes have got some impact on overall customer satisfaction. The most important service attributes which has got maximum impact on overall customer satisfaction because of maximum t-value is “**SA<sub>3</sub>= Quick message services, best MMS, SMS, Voice, messages and charge per message**” with coefficient of .262 and t-value 6.68 Followed by “**SA<sub>6</sub>= Availability of recharge facility, full talk time, life time validity benefits and other talk time offers**” with coefficient of .271 and t-value 6.100. The attribute which has got lowest impact on overall customer satisfaction is “**SA<sub>7</sub>= Availability of mobile entertainments, use of different mobile technologies and other added service benefits**” with t-value 4.435 and coefficient of .234 and “**SA<sub>10</sub>= Better voice clarity and call quality without any interruptions**” with t-value 4.603 and coefficient of .311.

Hence, it is clearly noticed that the Airtel telecom service providers have properly implemented their strategies for only 7 service attributes out of 12 service attributes we have selected for the study.

**Hypothesis: Service attributes offered by the Airtel telecom service providers have a significant impact on overall customer satisfaction.**

We observed that all the t- values are greater 2 and P- value is less than 0.05. So, we can conclude that all the 7 attributes which comes after final iteration have significant impact on overall customer satisfaction. It is noticed that out of 7 attributes extracted all (7) service attributes have positive impact on customer satisfaction. Here,  $R^2 = .738$ , which shows that 73.8 % of variance of dependent variable “overall customer satisfaction “ is properly explained by 7 independent variables. So, we can assume that all the 7 independent variables those were extracted could be fitted or included in the model.

**For BSNL**

$$Y_3 = -1.055 + 1.008 SA_4 + .117 SA_{10} + .147 SA_3 + .095 SA_{11} \dots\dots\dots (3)$$

Table 6.5 Regression coefficient of Service Attributes on Customer Satisfaction

Regression Coefficient													
Sl. No.	Service Attributes	SA <sub>1</sub>	SA <sub>2</sub>	SA <sub>3</sub>	SA <sub>4</sub>	SA <sub>5</sub>	SA <sub>6</sub>	SA <sub>7</sub>	SA <sub>8</sub>	SA <sub>9</sub>	SA <sub>10</sub>	SA <sub>11</sub>	SA <sub>12</sub>
1	Beta value	****	****	.147	1.008	*** *	*** *	*** *	*** *	*** *	.117	.095	*** *
2	T- value	****	****	3.180	23.688	*** *	*** *	*** *	*** *	*** *	3.335	3.171	*** *

\*\*\*\* This represents that the factor is not included in the model

$Y_3$ = Overall customer satisfaction of BSNL customer.

We have applied stepwise regression model of all 12 service attributes on overall customer satisfaction and four Models have been iteration steps have been done after which the best model which is explained in **equation-3**

**Here overall customer satisfaction  $Y_3$  is dependent on service attributes  $SA_i$ , where  $i = 1, 2, \dots, 12$ .** We can observed from the above Table – 6.5 that out of 12 service attributes only 4 attributes have got some impact on overall customer satisfaction.

The most important service attributes which has got maximum impact on overall customer satisfaction because of maximum t-value is “**SA<sub>4</sub>= Best network coverage in all the geographical areas,**

network facility in roaming” with t-value 23.688 and coefficient of 1.008 Followed by “SA<sub>10</sub>= Better voice clarity and call quality without any interruptions” with t-value 3.335 and coefficient of .117. The attribute which has got lowest impact on overall customer satisfaction is “SA<sub>11</sub>= Better GPRS facility” with t-value 3.171 and coefficient of .095 and “SA<sub>3</sub>= Quick message services, best MMS, SMS, Voice, messages and charge per message” with t-value 3.180 and coefficient of .117. So, it is clearly visualised that the Reliance telecom service providers have implemented strategies for only 4 service attributes successfully out of 12 service attributes we have selected for the study.

**Hypothesis: Service attributes offered by the BSNL telecom service providers have a significant impact on overall customer satisfaction.**

It has been observed that all the t- values are greater 2 and P- value is less than 0.05. So, we can conclude that all the 4 attributes which comes after final iteration have significant impact on overall customer satisfaction. We have also observed that out of attributes extracted all 4 service attributes has positive impact on customer satisfaction. Here,  $R^2 = .850$ , which shows that 85.0% of variance of dependent variable “overall customer satisfaction” is properly explained by 4 independent variables.

*For Vodafone*

$$Y_4 = -2.715 + .260SA_1 + .467 SA_4 + .387SA_5 + .218 SA_{10} + .215 SA_6 + .207SA_7 \dots\dots\dots(4)$$

**Table 6.6 Regression coefficient of Service Attributes on Customer Satisfaction**

Regression Coefficient													
Sl. No.	Service Attributes	SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11	SA12
1	Beta value	.260	****	****	.467	.387	.215	.207	****	****	.218	****	****
2	T- value	3.930	****	****	6.060	5.114	4.547	3.428	****	****	5.094	****	****

\*\*\*\* This represents that the factor is not included in the model

$Y_4$  = Overall customer satisfaction of Vodafone customer.

We have applied stepwise regression model for 12 service attributes on overall customer satisfaction and 6 iteration steps have been done after which the best model which is explained in **equation-(4)**.

**Here overall customer satisfaction  $Y_4$  is dependent on service attributes  $SA_i$ , where  $i = 1, 2, \dots, 12$ .** It has been observed from the above Table - 6.6 that out of 12 service attributes only 6 attributes have got some impact on overall customer satisfaction. The most important service attributes

which has got maximum impact on overall customer satisfaction because of maximum t-value is “SA<sub>4</sub>= **Best network coverage in all the geographical areas, network facility in roaming.**” with t-value 6.060 and coefficient of .467 Followed by “SA<sub>5</sub>= **Better Promotional offers, Plans for different age groups and for different occasions.**” with t- value 5.114 and coefficient of .387. The attribute which has got lowest impact on overall customer satisfaction is “SA<sub>7</sub>= **Availability of mobile entertainments, use of different mobile technologies and other added service benefits**” with t-value 3.428 and coefficient of .207 and “SA<sub>1</sub>= **Maintaining a good relations with its customers and solves customers problems efficiently and effectively**” with t-value 3.930 and coefficient of .260. Hence, it is clearly evident that the Vodafone telecom service providers have implemented strategies for 6 service attributes successfully out of 12 service attributes we have selected for the study.

**Hypothesis: Service attributes offered by the Vodafone telecom service providers have a significant impact on overall customer satisfaction.**

We have observed that all the t- values are greater 2 and P- value is less than 0.05. So, we can conclude that all the 6 attributes which comes after final iteration have significant impact on overall customer satisfaction. We have observed that out of 6 attributes extracted all (6) service attributes have positive impact on customer satisfaction. Here,  $R^2 = .615$ , which shows that 61.5% of variance of dependent variable “overall customer satisfaction” is properly explained by 6 independent variables. So, we can assume that all the 6 independent variables those were extracted could be fitted or included in the model.

**For IDEA**

$$Y_5 = -3.818 + SA_4 + .416 SA_1 + .326 SA_{10} + .263 SA_9 + .238 SA_3 + .248 SA_6 + .185 SA_{11} \dots \dots \dots (5)$$

Table 6.7 Regression coefficient of Service Attributes on Customer Satisfaction

		Regression Coefficient											
Sl. N o.	Service Attributes	SA 1	SA 2	SA 3	SA 4	SA 5	SA 6	SA 7	SA 8	SA 9	SA 10	SA 11	SA 12
1	Beta value	.416	*** *	.238	.584	*** *	.248	*** *	*** *	.263	.326	.185	*** *
2	T-value	4.384	*** *	2.948	7.348	*** *	3.006	*** *	*** *	3.978	5.558	2.601	*** *

\*\*\*\* This represents that the factor is not included in the model

$Y_5 =$  Overall customer satisfaction of Idea customer

We have applied stepwise regression model of all 12 service attributes on overall customer satisfaction and 7 iteration steps have been done after which the best model which is explained in equation-5

Here overall customer satisfaction  $Y_5$  is dependent on service attributes  $SA_i$ , where  $i = 1, 2, \dots, 12$ . We can observed from the above Table - 6.7 that out of 12 service attributes only 7 attributes have got some impact on overall customer satisfaction. The most important service attributes which has got maximum impact on overall customer satisfaction because of maximum t-value is “**SA<sub>4</sub>= Best network coverage in all the geographical areas, network facility in roaming.**” With t-value 7.348 and coefficient of .584 followed by “**SA<sub>10</sub>= Better voice clarity and call quality without any interruptions**” with t-value 5.55 coefficient of .326. The attribute which has got lowest impact on overall customer satisfaction is “**SA<sub>11</sub>= Better GPRS facility**” with t-value 2.60 and coefficient of .185 and “**SA<sub>3</sub>= Quick message services, best MMS, SMS, Voice, messages and charge per message**” with t-value 2.94 and coefficient of .238. It is clearly visualised that out of 12 service attributes selected for our study the Idea telecom service providers have implemented strategies for only 7 attributes successfully.

**Hypothesis: Service attributes offered by the Idea telecom service providers have a significant impact on overall customer satisfaction.**

It has been observed that all the t- values are greater 2 and P- value is less than 0.05. So, we can conclude that all the 7 attributes which comes after final iteration have significant impact on overall customer satisfaction. One interesting thing that we have observed that out of 7 attributes extracted all (7) service attributes have positive impact on customer satisfaction. Here,  $R^2 = .628$ , which shows that 68.8% of variance of dependent variable “overall customer satisfaction” is properly explained by 7 independent variables. So, we can assume that all the 7 independent variables those were extracted could be fitted or included in the model.

## 7. Conclusion

Finally from the above study, we have concluded that in case of Reliance Jio services, it observed that out of 12 service attributes only 10 services attributes have got positive impact on overall customer satisfaction. The most important service attributes which has got maximum impact on overall customer satisfaction is “Better promotional offers, plans for different age groups and for different occasions” and “Availability of fancy numbers as well as easy to remember the mobile numbers” has got lowest impact on overall customer satisfaction. However, two service attributes i.e. “availability of mobile entertainment, use of different mobile technologies and other added service benefits” and “Accurate and error free Bills are received in time as well as last call cost or the cost of any services availed are informed on time”, have no significant impact on overall customer satisfaction and the Reliance Jio

service providers have to prepare some effective and efficient marketing strategies for these two service attributes.

Similarly, in case of Airtel services, it is found; out of 12 service attributes only 7 services attributes have got positive impact on overall customer satisfaction. The most important service attributes which has got maximum impact on overall customer satisfaction “Quick message services, best MMS, SMS, Voice Messages and charge per message” and “Availability of mobile entertainments, use of different mobile technologies other added service benefits” have got lowest impact on overall customer satisfaction. But the rest of the 5 service attributes i.e. “Maintaining a good relations with its customers and solves customers problems efficiently and effectively” “Best network coverage in all the geographical areas, network facility in roaming”, “Better promotional offers, plans for different age groups and for different occasions”, “Easy in getting the SIM without any clumsy procedure” and “Availability of fancy numbers as well as easy to remember the mobile numbers” have no significant impact on overall customer satisfaction and the service providers have to take some immediate actions to solve these problems.

But in case of Reliance services, it was found out of 12 service attributes only 4 have got positive impact on overall customer satisfaction. The most important service attribute which has got maximum impact on overall customer satisfaction i.e. Best network coverage in all the geographical areas network coverage in all the geographical areas network facility in roaming and Better GPRS facility have got lowest impact an overall customer satisfaction customers. However, 8 service attributes i.e. “Maintaining a goad relations with its customers and solves customers problems efficiently and effectively” , “ISD charges per call, STD charges per call, Local charges per call, roaming charges are nominal”, “Better promotional offers, plans for different age groups and for different occasions”, “Availability of recharge facility, full talk time, life time validity benefits and other talk time offers”, “Availability of mobile entertainments, use of different mobile technologies and other added service benefits”, “ Easy in getting the SIM without any clumsy procedure”, “Accurate and error free bills are received in time as well as last call cost and the cost of any services availed are informed in time” and” availability of fancy numbers as well as easy to remember the mobile numbers have no significant impact on overall customer satisfaction and the service providers have to prepare effective marketing strategies for these service attributes.

Further, we have also noticed in case of Vodafone services, that out of 12 service attributes only 6 have got positive impact on overall customer satisfaction. The most important service attribute which has got maximum impact on overall customer satisfaction i.e. “Best network coverage in all the geographical areas, network facility in roaming” and “Availability of mobile entertainments, use of different mobile technologies and other added service benefits” have got lowest impact on overall



customer satisfaction. However 6 service attributes i.e. “ISD charges per call, STD charge per call, local charge per call, roaming charge are nominal”, “Quick message services best MMS, SMS, Voice message and charge per message”, Easy in getting the SIM without any clumsy procedure” “Accurate and error free bills are received in time as well as last call cost and the cost of any services availed are informed an time”, “ Better GPRS facility” and “Availability of fancy numbers as well as easy to remember the mobile numbers” have no significant impact on overall customer satisfaction and the Vodafone service providers has to implement proper marketing strategies for these service attributes.

Finally in case of Idea services, it was observed that out of 12 service attributes only 7 have got some impact on overall customer satisfaction. The most important service attributes which has got maximum impact on overall customer satisfaction i.e. “Best network coverage in all the geographical areas, network facility in roaming” and “Better GPRS facility” has got lowest impact on overall customer satisfaction. However, 5 service attributes, i.e. “ISD charges per call, STD charge per call, local charge per call roaming charge are nominal”, “ Better promotional offers plans for different age groups and for different occasions”, “Availability of mobiles entertainments use of different mobile technologies and other added service benefits”, “Easy in getting the SIM without any clumsy procedure” and “Availability of fancy numbers as well as easy to remember the mobile numbers” have no a significant impact on overall customer satisfaction.

### **8. Suggestions, Limitations and Future Direction**

Odisha is a state of major opportunity for business because retaining once-dissatisfied consumers by encouraging them and responding to their complaints effectively is more economical than attracting new customers in an increasing competitive market environment.

The service providers have to specifically target the customer segments and arrive at aggressive marketing programmes to reach out to them. To improve the overall service satisfaction, service provider must improve their network service in terms of better connectivity by resolving the connectivity problems. Therefore, telecom service provider needs to ensure that it provides the best network quality and value added services.

Promotional offers, network coverage and service quality in particular, is the important determinant marketing strategy. Promotion mix and product mix like advertising media, sales promotion offers, talk time scheme, GPRS/Internet, tariff/ call charges, and value added services are mostly affecting on buying decision making process of customers. So, the telecom service provider needs to give attention for the above.



It is observed that the consumers whose complaints are resolved to their satisfaction are comparatively more satisfied than consumers who had no complaints and were actually satisfied with the product. In case of many complaints, consumers generally approach the retail outlet from where they made the purchase first and after those retailers do not pass on the complaint to the telecom companies. So the telecom companies should develop an efficient system to receive complaints and encourage consumers to record their complaints as soon as they occur. Complaints must be resolved within 24 hrs.

Also, telecom company's should never make promises that they cannot realistically deliver because such claims raise customers expectations and significantly increase the likelihood of lower perceived service quality when the service delivered is good, but not outstanding.

It is found through research that people are very much interested in getting the reduced tariff including roaming charges. So researcher recommends that service providers should reduce their billing charges. Customer care service like queries resolution, able to assessable, the employees are approachable and easy to Contact, network is able to perform services right the first time, the network is able to tell customers exactly when services will be performed, employees are willing to help customers in emergency situations, humble and soft spoken are major area to maintain for overall customer satisfaction. To improve the customer care service, the researcher recommends that service provider must provide a mechanism in order to restrict the unwanted messages & every subscriber should know of such mechanism. Service provider must reduce the activation time for new account as well as the recharge timing.

The Sample was limited as respondents were drawn only in 15 different areas but excluded many other regions in Odisha which could have also formed part of an enlarged sample. The study is confined to only using five different telecommunication services (Reliance Jio, BSNL, Airtel, Vodafone and Idea) of Odisha and hence the result may not be generalised for all the telecommunication services. Customer's views and opinions may change from time to time, so the research made now may not produce the same result if carried out in near future. This is drawn on the fact that the needs and requirements of customers changes from time to time. Limited time period and non-availability of data would be a major limitation to the study.

This study has focused on customer's perception. Incorporating the service provider's perception in this direction could extend similar research. Our research is confined to only five telecommunication service providers. So incorporating other telecommunication service providers could extend similar research. Finally, this study was questionnaire based survey and used a mixture of qualitative and quantitative models and approaches. It is therefore, recommended that different models and methodology should be used for a similar study and compares the results.

## **9. References**

- Boshoff, C., and Gray, B. (2004), "The Relationships between Service Quality, Customer Satisfaction and Buying Intentions in the Private Hospital Industry", *South African Journal of Business Management*, 35(4), pp. 27–37.
- Blythe, J. (1997), *The Essence of Consumer Behaviour*, Prentice-Hall, London.
- Cook, S. (2008). *Customer Care Excellence: How to Create an Effective Customer Focus*, London: Kogan Page.
- Darren George , Paul Mallery , "SPSS for Windows Step By Step :A Simple Guide and Reference " , 6th Edition , Pearson Publication .
- Fornell, C. (1992), "A national customer satisfaction barometer: the Swedish experience", *Journal of Marketing*, Vol. 56, pp. 6-21.
- Giese, J. L., & Cote, J. A. (2000). *Defining Consumer Satisfaction*, *Academy of Marketing Science*, Vol. 2000, Number 1, pp.1-24.
- Gronroos, C. (1994), "Service quality: the six criteria of good perceived service quality", *Review of Business*, Vol. 9 No. 3, pp. 10-13.
- Hoch, S.J. and Ha, Y.W. (1986), "Consumer learning: advertising and the ambiguity of product experience", *Journal of Consumer Research*, Vol. 13, September, pp. 221-33.
- Holbrook, M. B. and E. C. Hirschman (1982). "The Experiential Aspects of Consumption: Consumer Fantasies, Feelings, and Fun." *Journal of Consumer Research* 9(September): pp 132 – 140.
- Jones, M. A., and Suh, J. (2000). Transaction-Specific Satisfaction and Overall Satisfaction: An Empirical Analysis. *Journal of Services Marketing*, 14(2), pp.147–159.
- Katz, E. (1968), "On reopening the question of selectivity in exposure to mass communications", in Abelson, I. (Ed.), *Theories of Cognitive Consistency: A Source Book*, Rand McNally, Chicago, IL.
- Kotler, P. and Armstrong, G. (2004) *Principles of Marketing*, 10th edition. Upper Saddle River, NJ: Pearson Education.
- Kotler P., Armstrong G., Saunders J. Wong V. (2006) *Principle of Marketing*, 3rd edition, Prentice Hall, Europe
- Kotler, P. and Keller, K. L. (2009) *Marketing management* (13th end). New Jersey: Pearson Education Inc, Upper Saddle River.
- Martin C., Adrian P. and David B. (2002). *Relationship marketing: Creating Customer Value*, Burlington: Elsevier Butterworth-Heinemann.

- Melody, W. H. (2001). Policy objectives and models of regulation, Den Private Ingeniorfond (Ed.), Telecom Reform Principles, Policies and Regulatory Practices, Technical University of Denmark, Lyngby.
- Oliver, R. L. (1981). Measurement and Evaluation of Satisfaction Processes in Retail Settings. *Journal of Retailing*, 57(3), 25–48.
- Riggs, Henry E. (1983), "Managing High-Technology Companies", Lifetime Learning Publications, Belmont, California, USA.
- Sureshchandar G.S., Rajendran C, & Anantharaman R.N. (2002) the relationship between service quality and customer satisfaction – a factor specific approach, *Journal of Services Marketing*, 16(4), 363 – 379.
- Schiffman, L. G. and Lazar Kanun, L. (2004) *Consumer Behaviour*. 8th edition. New Jersey Pearson Education Inc, Upper Saddle River Titus
- Tse, David K. & Peter, C. Wilton. (1988), “Models of Consumer Satisfaction: An Extension”, *Journal of Marketing Research*, 25 204-212.
- Van Der Wagen, L. (1994), *Building Quality Service with Competency Based Human Resource Management*, Butterworth-Heinemann, Port Melbourne, p. 3.
- Yi, Y. J., and La, S. N. (2004). What Influences the Relationship between Customer Satisfaction and Repurchase Intention? Investigating the Effect of Adjusted Expectations and Customer Loyalty. *Psychology and Marketing*, 21(5), 351–373.