HOW SERVICE QUALITY DIMENSIONS ARE INFLUENCING RURAL CONSUMERS' SATISFACTION LEVEL TOWARDS MOBILE SERVICES IN WEST BENGAL?

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Abstract

Urban market in India is almost penetrated by all the national & international players but still the rural market is not yet pierced as compare to urban market. The 70% of population in India are staying in rural India only. So, naturally all the marketers will try to enter the market & want to grasp it as soon as possible. Huge competitions, advancement in technology and reduced tariff have propelled the growth of mobile services in India. In the last few years, the industry has made tremendous growth in terms of subscriber base. Today, cell phones have become indispensable for people and moved beyond their fundamental role of communication. In today's complex business environment, it has become very crucial for companies to attract and retain customers for long-term sustainable growth. This study was set to determine the relationship between various service quality dimensions and customer satisfaction in rural West Bengal. As the purchasing behavior in any part of the world is reliant mainly on various service quality dimension, this study too focuses on these factors so as to understand and comprehend which are the dimensions mainly influencing the satisfaction level of the customers. It was based on both descriptive and cross-sectional survey designs. A well structured questionnaire was used to collect primary data from 120 customers, using convenience sampling technique. The area chosen for the study is West Bengal, which comprises most prominent rural areas namely Suri, Raigunj, Dinhata, Ranaghat and Contai. Data were analyzed using SPSS's Exploratory Factor Analysis (EFA) and Multiple Regression and model has been developed from that. The findings of the study reveals that economical factor is the most influencing factor which is affecting the rurl consumers' satisfaction level in West Bengal towards various mobile services.
Keywords: Service quality dimensions, Reliability, Exploratory, Assurance, Tangibles

Introduction

The rural sector, with 70 percent of the total population, has a significant role to play in the overall growth of the country. Rural India is now undergoing few changes due to the various activities undertaken by the Government & private companies for overall development of villages. Today the villagers have increased their knowledge of fertilizers, water resources, pesticides, better quality seeds, modern farm equipments and overall the methods of farming have changed drastically due to advent of new

technologies in market & it made the villages far better. The per capita income of the farmers has increased and the mode of spending their disposable income has also changed. There is a clear indication of increasing prosperity in rural India. Due to the prosperity in the rural areas it also created new dimensions & opportunities. It leads to definite increase in the demand for services provided by different mobile network operators. The rural market is not passive. It is vibrant and improving at a faster pace. It will soon outperform the urban market if this pace of development continues.

Rural Telecom market in India is improving day by day with its huge promise to grow in future. As per the Performance Indicators Report, around 42.70% of rural population is using wireless telephony. The rural subscriber base has been improved in each year.

Rural Subscriber Base

Particulars	Wireless	Wire-line	Total (Wireless + Wire-line)
Total Subscribers (Million)	969.89	26.59	996.49
Rural Subscribers (Million)	414.18	5.12	419.31
Overall Teledensity	77.27	2.12	79.38
Rural Teledensity	47.78	0.59	48.37
Share of Rural Subscribers (Million)	42.70%	19.27%	42.08%

The total subscriber base in India is 996.49 million whereas only rural subscriber base is having 419.31 million. Out of 419.31 million customer base the wireless subscribers are 414.18 million & wire-line is 5.12 million. The overall tele-density is 7938 whereas the rural tele-density is 48.37. The total share of rural subscribers in million is 42.08% whereas wireless share is 42.70% & wire-line is 19.27% only.

Rural Wireless Subscriber Base (in Millions)
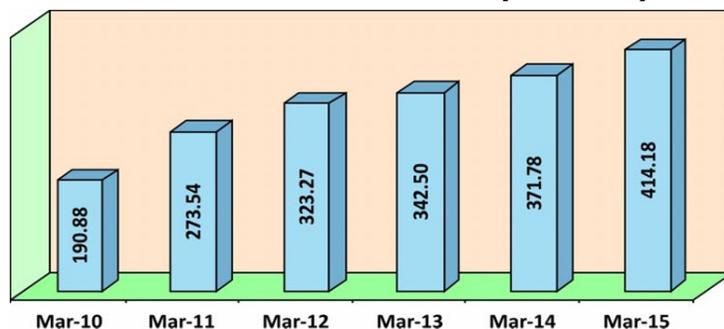
If we see the figure closely in March 2013 the rural subscriber base was 342.50 million. Whereas, in March 2014 it was been increased to level of 371.78 million mark. There is an increase of 29.28 million in the year 2014. In March 2015 it has been went to 414.18 million which indicates there is a increase in 42.4 million, which is a record till date. The rural tele-density in wireless services is 47.78 whereas the urban tele-density is still in higher side i.e 143.08. In the year 2010 it was 190.88 million & from then it was improved a lot till 2015 with a subscriber base of 414.18 million. Each & every year since

2010 it is improved in a very higher rate. Still in the year 2013 & 2014 it has not improved very much but in 2015 it has again reached to the peak level.

Review of Literature

Md. Aamir et al. (2010) illustrated on their research article that customer loyalty is the key factor to retain the organizations position in the market in long run. The study has been conducted with five major telecom companies in Pakistan with 292 respondents have provided their responses to a well structured questionnaire. This research mainly focusing on the customer's satisfaction level in the context of various organizations, why the customers are switching from one brand to another brand, for how many moths or how many years customers are using a particular brand etc. SPSS 10 has been used to do the statistical analysis part. The result reveals that Mobilink share has been decreased & it lost the battle with Ufone. So, Ufone is leading the market. The result also reveals that in context of mobile phone uses, around 80 percent of the respondents are not ready to spend more. 50% of the customers are happy with services & they belong from Ufone family. These satisfied customers are using the particular brand for more than 4 years which is quite appreciable. 57.5% of customers also said that they will continue the services in near future also. Edward et al. (2010) studied in their research article that there is a high level connection with customer loyalty, quality of services, value & customer satisfaction & every factor does have a link with switching cost. The study has been conducted in Cochin city of Kerala state. The result revealed that perceived switching cost is having a negative association with customer satisfaction & loyalty whereas; it has a positive effect on quality & perceived value. Hanif et al. (2010) explained that which are the factors mainly influencing the customer satisfaction in the context of different telecom brands. The research has been conducted in Pakistan with few service providers namely Ufone, Telenor, Mobilink etc. The study has been revealed that the most important factors which are influencing the customer satisfaction are affordable price & customer services provided by the various service providers. The result also reveals that though both the factors are having an impact on customer satisfaction still price factor hs somewhat more impact compare to customer services. Haque et al. (2010) elaborated that the study mainly finds out which are the key factor when customers are choosing a particular service provider. The study has been conducted in Bangladesh & Structure Equation Modeling has been used to find out the result with the help of AMOS software. Price, quality of the service, promotion, availability etc has been chosen as factors which are influencing to choose. The result reveals that Price is the most important factor which affecting the consumers more at the time of choosing a service provider. Findings of the study will definitely help the Bangladeshi companies to work more on innovative marketing strategies & promotion. Khan (2010) explained that the study has been conducted to find out the service quality providing by various telecom operators to the

subscribers in Pakistan. 800 consumers have been selected with a well structured questionnaire & convenience sampling method is also used to find out the desired number. The statistical analysis has been done with the Confirmatory Factor Analysis & Multiple Regression Analysis to find out the result. The study reveals that convenience & quality of the network are the most important aspects which are affecting the perception of mobile phone users in terms of service quality whereas reliability did not have a significant impact. Ray et al. (2010) explained in their research article that which the main factors are affecting when the customers are choosing a service provider. The objectives have been framed with a proper structured questionnaire to get the answers from the respondents & ANOVA test has been implemented to find out the answer. Due to the emerging activities of private sector in telecom arena, India is becoming one of the major players in telecom sector. The growth of telecom sector is also increasing the consumer base in India. The study reveals that young people who are using Vodafone is quite satisfied with the company. The analysis also disclosing that network coverage is the most important factor when customers are choosing a particular service from service provider whereas free connection is the least important criteria. Khan et al. (2011) in their study illustrated that the study has been conducted to find out the consumers switching behavior from one brand to another brand in Madurai. In the study it has been explained that Airtel is the market leader whereas BSNL & Hutch are working as a market challenger. The demand of cellular phones are increasing day by day due to urbanization, increase in population with younger generation, economic enhancement etc, side by side the company's need to concentrate on their service quality unless the customers will not be loyal to the company. Bansal et al. (2011) depicted that the study has an aim to understand the customer satisfaction level on various mobile companies, awareness of 3G services & mobile number portability. The study has been conducted in Bhatinda with the help of both structured & unstructured questionnaires. The result has been analyzed with the help of bar diagram & pie charts. The study revealed that customers are mostly satisfied by the services providing by various companies in Bhatinda study. It has also came out from the study that 3G network is having a huge potential in the market, so if the consumers are aware about the 3G services then definitely they will go for it. Apparently it can also be said that there is a stiff competition is going on into the telecom market & if any company failed to deliver what they promises then they will lose the customer in no time.

Research objective
- To examine the association between perceived service quality dimensions and customer satisfaction.

Hypotheses
- Tangibles are having a positive impact on consumers' satisfaction level.

- Reliability is having a positive impact on consumers' satisfaction level.
- Responsiveness is having a positive impact on consumers' satisfaction level.
- Empathy is having a positive impact on consumers' satisfaction level.
- Assurance is having a positive impact on consumers' satisfaction level.
- Economical is having a positive impact on consumers' satisfaction level.
- Technical Quality is having a positive impact on consumers' satisfaction level.
- Image of the Service Provider is having a positive impact on consumers' satisfaction level.

Hypothesized research model

This is a proposed hypothesized research model of how different service quality dimensions are affecting urban consumers' satisfaction level in rural West Bengal towards various mobile network operators. This model is having eight important service quality dimensions, namely, Tangibles, Reliability, Responsiveness, Empathy, Assurance, Economical, Technical Quality and Image of the Service Provider which are influencing the rural customers' satisfaction level in West Bengal. These eight hypotheses have been framed from the below mentioned model.
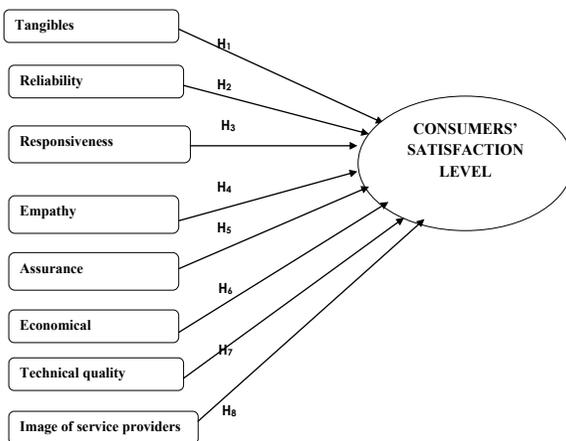
Research methodology

The research is done with the help of descriptive research with cross-sectional study. 180 questionnaires were floated while 120 responses were collected. Questionnaires were floated everywhere in all the five rural areas of West Bengal namely Suri, Raigunj, Dinhata, Ranaghat and Contai. The convenience sampling technique has been used to conduct the study and respondent's opinion has been recorded from various urban areas with the help of 5 point likert scale ranging from strongly agree to strongly disagree. Data were analyzed using SPSS's Exploratory Factor Analysis (EFA) and Multiple Regression Analysis.

Analysis & Data Interpretation
Validity Testing

In order to be certain about the research instrument as well as the data collected, validity is checked. For this study, face validity, content validity, discriminant and convergent validity were checked for confirmation of the instrument. In face validity researchers determine whether or not their instrument is valid enough to measure what is intended to measure and this is done by taking the validity of the instrument at face value. In order to validate the instrument, academicians, professionals and potential

respondents were shown the questionnaire to thoroughly review and analyze the content. Content that was unfit and may have caused issues in the future was deleted or modified. In content validity the content of the questionnaire was thoroughly checked and matched with the theoretical framework. Three questions were deleted after analyzing the content so as to make sure that the instrument is valid. So, here both face & content validity has been checked. The construct validity contains convergent & discriminant validity. Here between the various variables of the factors is having the strong co-relation coefficient & most of the co-relation coefficients values are in higher ranges. So, here it proves that the convergent validity exists. Though there are high co-relation coefficients between the variables of a particular factor, there are very weak correlation also exists between the one factor's variable to another factor's variable. Here it also proves that the discriminant validity exists.

Reliability Testing

Reliability Statistics	
Cronbach's Alpha	N of Items
.901	22

The reliability analysis on reasons for shifting data has got the Cronbach's Alpha result of .901. From the table, we've depicted that this Cronbach's Alpha result acceptable & accordingly the researcher have conducted the further analysis.

Factor Analysis:		
KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.856
Bartlett's Test of Sphericity	Approx. Chi-Square	1156.329
	df	94
	Sig.	.000

The KMO Measure of Sampling Adequacy is showing 0.856 which is quite suitable to conduct the factor analysis. It is also showing that Bartlett's Test of Sphericity is .000 which is quite acceptable. So, it means it is useful to conduct the study.

Rotated Component Matrix

Variables	Factors							
	Tangibles	Reliability	Responsiveness	Empathy	Assurance	Economical	Technical Quality	Image of Service Providers
Q1	.897							
Q2	.816							
Q3	.747							
Q4		.907						
Q5		.829						
Q6		.705						
Q7			.898					

Q8			.759					
Q9			.712					
Q10				.911				
Q11				.846				
Q12				.783				
Q13				.725				
Q14					.857			
Q15					.761			
Q16						.809		
Q17						.742		
Q18							.914	
Q19							.820	
Q20							.739	
Q21								.852
Q22								.717
Variance Explained	17.563	15.261	14.698	12.595	9.493	6.529	5.730	2.424
Cumulative	17.563	32.824	47.522	60.117	69.610	76.139	81.869	84.293
Cronbach's Alpha	.911	.906	.887	.867	.864	.843	.812	.872
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.[a]								
a. Rotation converged in 6 iterations.								

According to the table the eight components have found more than 1 Eigen values and the total variance explained by them is 84.293% which is quite adequate to conduct the study. From the above table it has been observed that all the 22 variables have been divided in 8 components. Here we have used the Principal Component Analysis for extraction & Varimax with Kaiser Normalization for rotation method. Rotated Component Matrix table explains that the 1st component explains about Tangibles, 2nd component explains about Reliability, 3rd component is about Responsiveness, 4th , 5th , 6th , 7th & 8th explains about Empathy, Assurance, Economical, Technical Quality and Image of the Service Provider respectively. These all eight factors are service quality dimensions which also support the literature review. The component named Tangibles explains about modern equipments, attractive outlets & display material & visually appealing materials like pamphlets, where modern equipments are the most influencing factor. The component named Reliability explains about mobile network operators are providing the services as promised, dependable in handling customer complaints, providing correct billing information in time where mobile network operators are providing the services as promised is the most influencing factor. 3rd component explains about employees of various service providers are always willing to help the customers, employees of various service providers are resolving the customer complaints in time and employees of various service providers are providing information to the customers when services will be performed whereas, employees of

various service providers are always willing to help the customers is the most influencing factor. Like that, from 4th component the most influencing factor is employees understand customer specific needs, the other influencing variables are an employee giving customers individual attention, employees who understand the needs of their customers & convenient business hour. In 5th component the most influencing factor is employees are courteous with customer, whereas the other factor is employees have the knowledge to answer questions. The next component in Economical category the most influencing factor is the call charged per minute or second with internet charges. A variety of cards with various denominations is the next influencing factor. In the technical quality factor the most important variable is service provider provides adequate network coverage. The other influencing factors are network provides latest technology and improved services and network clarity for call and other services. In last factor named image of service provider, the most influencing factor is service provider is providing best of the technologies which also provides best services to customers.

Regression Analysis

The eight factors which have been identified from the Factor Analysis are, Tangibles, Reliability, Responsiveness, Empathy, Assurance, Economical, Technical Quality and Image of the Service Provider respectively. Here the Consumer Satisfaction Level has been used as a Dependent Variable and the remaining eight factors have been used as an Independent variable.

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.869	.755	.737	.60512	.755	42.656	8	111	.000	2.451

Dependent Variable: Consumers' Satisfaction Level
Predictors: (Constant), Tangibles, Reliability, Responsiveness, Empathy, Assurance, Economical, Technical Quality, Image of the Service Provider

Anova						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	124.952	8	15.619	42.656	.000b
	Residual	40.644	111	.366		
	Total	165.596	119			
Dependent Variable: Consumers' Satisfaction Level						

Predictors: (Constant), Tangibles, Reliability, Responsiveness, Empathy, Assurance, Economical, Technical Quality, Image of the Service Provide

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.129	.684		1.651	.000		
Tangibles	.287	.124	.175	2.314	.000	.388	2.577
Reliability	.015	.039	.019	.391	.000	.902	1.109
Technical Quality	.381	.046	.453	6.055	.000	.743	1.346
Responsiveness	.320	.060	.326	5.331	.000	.593	1.687
Image of the Service Provider	.014	.061	.013	.222	.000	.678	1.474
Empathy	.138	.065	.148	2.131	.000	.460	1.172
Economical	**.741**	.092	.683	8.301	.000	.308	1.250
Assurance	.023	.043	.031	.534	.000	.656	1.524

Coefficients

Dependent Variable: Consumers' Satisfaction Level

Multi-collinearity has been checked through Variance Inflation Factor (VIF) which needs to be less than 3 for acceptability range. Here all VIF values are in acceptable range in & it concludes that the variables are free from multi-collinearity.

0.869 is the Correlation coefficient (R) for Model 1, it emphasizes an amount of correlation between the independent variables and dependent variable (Consumer Satisfaction Level). The R square value explains the 0.755 or 75.5% which is quite significant. Here the significance level also implies .000 significance level which means it is quite acceptable. From the coefficient table the researcher has found that economical is having highest un-standardized B value of .741 as well as t value is also high. So it is the highest influence factor on consumer satisfaction level. After that the second highest will be technical quality with the B value of .381. Responsiveness, Tangibles, Empathy, Assurance, Reliability and Image of the service providers are following after that. So, here the multiple regression equation can be expressed as,

Consumer Satisfaction Level = 1.129 + (.287) X_1 + (.015) X_2 + (.320) X_3 + (.138) X_4+ (.023) X_5 + (.741) X_6 + (.381) X_7 + (.014) X_8

Tangibles = X_1
Reliability = X_2
Responsiveness = X_3
Empathy = X_4
Assurance = X_5

Economical = X_6
Technical Quality = X_7
Image of the service provider = X_8

Result of the Hypotheses

- Tangibles are having a positive impact on consumers' satisfaction level. So it accepts alternative hypothesis.
- Reliability is having a positive impact on consumers' satisfaction level. So it accepts alternative hypothesis.
- Responsiveness is having a positive impact on consumers' satisfaction level. So it accepts alternative hypothesis.
- Empathy is having a positive impact on consumers' satisfaction level. So it accepts alternative hypothesis.
- Assurance is having a positive impact on consumers' satisfaction level. So it accepts alternative hypothesis.
- Economical is having a positive impact on consumers' satisfaction level. So it accepts alternative hypothesis.
- Technical Quality is having a positive impact on consumers' satisfaction level. So it accepts alternative hypothesis.
- Image of the Service Provider is having a positive impact on consumers' satisfaction level. So it accepts alternative hypothesis.

Findings & Conclusion

The study explains that economical factor is the highest influencing factor on consumer satisfaction level. After that the second highest will be technical quality and then Responsiveness, Tangibles, Empathy, Assurance, Reliability and Image of the service providers are following one another. So it is evident from the study is rural consumers are still thinking about price first, then they are thinking about quality and other factors. It is also evident from the research is brand image of the service provider is not a big issue for the rural customers. They are mainly thinking of price first & after that the technical qualities. The other service quality dimensions also elaborate that responsiveness & tangibles are influencing more compare to empathy, assurance and reliability. Recently the Government of India is also taking steps to improve the quality of network to provide the internet facilities in rural areas. The last line illustrates that

"It will be prime objective to take broadband connectivity to village level that is to increase telecom infrastructure. Second priority is take rural telecom penetration from 44 percent to 100 percent in coming 3-4 years,"

-Rakesh Garg, Telecom Secretary,
Govt. of India (PTI, July17, 2014)

Annexure

Constructs	Questions
Tangibles	Q1. Modern equipments
	Q2. Attractive outlets & display material
	Q3. Visually appealing materials like pamphlets
Reliability	Q4. Mobile network operators are providing the services as promised
	Q5. Dependable in handling customer complaints
	Q6.Providing correct billing information in time
Responsiveness	Q7. Employees of various service providers are always willing to help the customers
	Q8. Employees of various service providers are resolving the customer complaints in time
	Q9. Employees of various service providers are providing information to the customers when services will be performed
Empathy	Q10. Employees understand customer specific needs
	Q11. Employees who understand the needs of their customers
	Q12. Employees giving customers individual attention
	Q13. Convenient business hour
Assurance	Q14. Employees have the knowledge to answer questions
	Q15. Employees are courteous with customer
Economical	Q16. Call charged per minute or second with internet charges
	Q17. A variety of cards with various denominations
Technical Quality	Q18. Service provider provides adequate network coverage
	Q19. Network provides latest technology and improved services
	Q 20. Network clarity for call and other services
Image of Service Providers	Q21. Providing best of the technologies which also provides best services to customers
	Q22. Service provider is best in the market compare to other companies
Consumer Satisfaction	Q23. Service quality dimensions are really important for consumer satisfaction

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