
Awareness Level of Rural Consumers of West Bengal on Mobile Services

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Abstract

In today's world it is very much impossible to stay away from the mobile phones & its services providing by different mobile service providers. There are various different mobile operators are operating the mobile services all over the world as well as in India. The urban market of India has already captured by various market players, so the companies now looking to tap the rural market in India. The Indian Government is also looking for 100 percent tele-density in the coming years so on this context rural market is playing a vital role. In this paper the study has been conducted to find out the awareness level of rural consumers towards various mobile services providing by different mobile network operators. The area chosen for the study is West Bengal, which is having several prominent rural areas of India, which comprises five divisions & from their five districts have been selected and at last out of these five districts five subdivisions has been selected namely Suri, Raiganj, Tufanganj, Ranaghat and Contai. The areas have been selected due to the rural prominence. 400 respondents have been selected on this purpose & their opinion has been recorded with the help of a close ended questionnaire. The researcher has used 5 point likert scale to assess the responses properly from the selected respondents. Factor analysis & multiple regression analysis have been used as statistical tools to find out the most important factors. Findings of the study iterate that most of the customers are aware about different rate plans provided by different companies.

Keywords- Awareness Level of Rural Consumers, Rural Marketing, Mobile Services, Mobile Network Operators, Telecom Regulatory Authority of India

Introduction

The stupendous growth in Indian telecom industries in last 15 years made a history. In early 1990's the economic condition of India was in restructuring phase & some policies implemented by the Indian Government at that time has suddenly changed the economic condition in India. In 1991, after implementing the policies in the LPG era which also called as Liberalization, Privatization & Globalization era, the private companies has invested more & more money in India. With other sectors the telecom companies has also came into the market with various mobile phones & day by day the popularity of mobile phones & allied services has been increased. Today India is having second largest customer base after China & it is competing with everyone in the world. At the end of year 2013-14, out of total subscriber base of 933 million, 904.51 million are wireless subscribers are rest are wireline subscribers. During this year the overall increase on subscriber base was 36.71 million with a overall tele-density of 75.23. The rural tele-density is 43.96 in the year 2013-14 & the rural subscriber base was

377.73 million whereas 371.78 million is wireless subscribers. As per the report, in India 41.10% of total wireless subscribers are now in rural areas (Annual Report of TRAI 2013-14).

Review of Existing Literature

(Devendra *et al.*, 2015) in their research article explained that which are the factors are mainly affecting the customer satisfaction in the context of mobile phone users in India. The study has been conducted in Gwalior with a sample size of 110. The sampling technique has been used as a stratified random sampling. The objective of the study is of course to find out the factors for customer satisfaction but side by side to find out the scope of improvement. 5 point likert scale has been used in the data collection purpose with highly satisfied to highly dissatisfied. The result reveals that around 59% of customers are satisfied with the mobile network on the region where the study has been conducted. 60% of the customers are not satisfied with the customer care services provided by various companies in Gwalior. Call drop, non response of executives are the factors for dissatisfaction of consumers. In suggestion they have also stated that the companies should mention the VAS charges before hand so there will be transparency in the process.

Raju *et al.*,(2014) elucidated in their research article that customer satisfaction is the key factor for any company to sustain in the market. Customer satisfaction has been used everywhere to retain the customers & if they are satisfied then customers will be loyal to them. If the customers are satisfied then the company can get various benefits. The study has been conducted in Tier II cities of Karnataka to find out that mobile users are happy with the various services like call cost, network, customer care etc or not.

Khushboo *et al.*,(2014) illuminated on their research article that with that innovation of new technologies & cheaper call rates are providing the services to the urban as well as rural masses of India. Due to so many subscribers sometimes quality of services is getting hampered & private & public both are trying to improve their core services. The study mainly conducted to find out that which the factors are mainly influencing when they are switching from one brand to another. The study reveals that various VAS & pricing strategies can control the customers switching behavior from one brand to another. To retain the consumers companies must improve these areas.

Kumar *et al.*,(2013) described that due to the emergence of mobile uses in the market the service providers are giving competition to each and every players in the market. According to the TRAI report Airtel, Vodafone & Idea has already captured the 70 % of the market. Telecom marketers are using some innovative ideas & strategies to attract the customers with their various services. The positive word of mouth is one of the important criteria to gain the customers & the customers will be satisfied enough if the basic services like coverage, quality, tariff will be good enough.

Golden *et al.*,(2013) illustrated that for mobile service providers customer care is the very important are in case of retaining the customers. Everyday numbers of call are coming to the customer care & requesting for various services, technical problems, balance updates etc, so customer care needs to take care of every call. If the customers are satisfied then automatically they will retain themselves with the same service provider. The research has conducted in Tuticorin city & the result reveals that if the customers are not happy with the customer care services of the company then they will switch from one

brand to another in no time. So, from the marketers' point of view they need to retain the old customers anyhow.

Hossain *et al.*, (2013) illustrated that telecom companies are trying to improve the service quality to retain the customers & trying to make loyal customer. The study has been conducted in Bangladesh to find out the influence on customer satisfaction. Simple Linear Regression analysis has been used with descriptive statistics to find out the result. Results reveal that out of six factors, communication, price, VAS etc having a positive association with customer loyalty.

Mridanish *et al.*, (2013) illuminated in his article that the aim of the study is to show the comparison between rural & urban consumers behavior towards mobile services provided by various companies in Bihar. The paper mainly emphasizes on rural & urban consumer's behavior like their feedback on different services of mobile phone, the factors mainly influencing them at the time of purchasing a particular product, the buying pattern etc. 320 sample has been selected to conduct the study & Analytical Hierarchy Process (AHP) has been used to prioritize the process.

Objective of the Study

- To study the awareness level of rural consumers in West Bengal.

Hypothesis

- Promotional initiatives are having significant relationship with consumer awareness.
- Pricing is having significant relationship with consumer awareness.
- Various services are having significant relationship with consumer awareness.
- Information provided by family members/friends is having significant relationship with consumer awareness.

Hypothesized Research Model

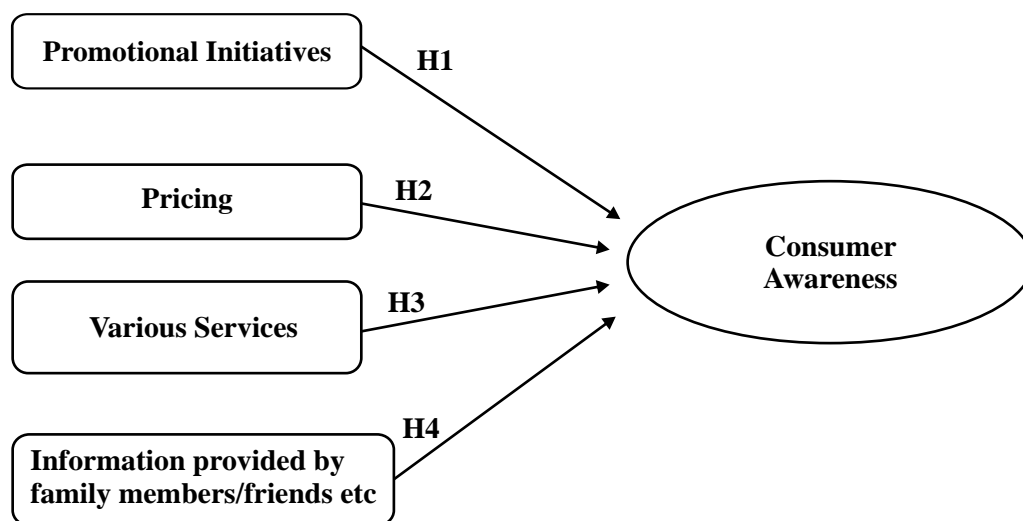


Figure 1: Proposed hypothesized model for Awareness of Mobile Services in rural market of West Bengal.

Research Methodology

For conducting the survey in this research, the questionnaire was prepared according to existing literatures on this topic for determining awareness level of mobile services in the rural market of West Bengal. Constructs and items used in this study were taken directly from previous literatures and few new items were added from expert opinion. By the use of 5 point Likert type scale which is ranged from “strongly agree” to “strongly disagree”, constructs were evaluated using multiple items. In this study two stage cluster sampling under probability sampling has been used as a sampling technique. Questionnaires were administered on a sample of 430 in this study. The area chosen for the study is West Bengal, which is having several prominent rural areas of India, which comprises five divisions & from their five districts have been selected and at last out of these five districts five subdivisions has been selected namely Suri, Raiganj, Tufanganj, Ranaghat and Contai. Out of total 430 questionnaires that were distributed, 400 completely filled and usable questionnaires were received as shown in Table 1.

Table 1: List of respondents of West Bengal

West Bengal (400 respondents)				
Burdwan Division (80 respondents)	Malda Division (80 respondents)	Jalpaiguri Division (80 respondents)	Presidency Division (80 respondents)	Medinipur Division (80 respondents)
-Hooghly district -Purba Bardhaman district - Paschim Bardhaman district -Birbhum district	-Malda district -Uttar Dinajpur district - Dakhsin Dinajpur district -Murshidabad district	-Alipurduar district -Cooch Behar district -Darjeeling district -Jalpaiguri district -Kalimpong district	-Howrah district -Kolkata district -Nadia district -North 24 Parganas district -South 24 Parganas district	-Purba Medinipur district -Paschim Medinipur district -Jhargram district -Purulia district -Bankura district
Bibhum District	Uttar Dinajpur district	Cooch Behar district	Nadia district	Purba Medinipur district
-SuriSadar subdivision -Bolpur subdivision -Rampurhat subdivision	- Raiganj subdivision - Islampur subdivision	- Cooch Behar Sadar subdivision - Dinhata subdivision - Mathabhanga subdivision -Tufanganj subdivision - Mekhliganj subdivision	- Krishnanagar Sadar subdivision - Kalyani subdivision -Ranaghat subdivision -Tehatta subdivision	- Tamluk subdivision - Haldia subdivision - Contai subdivision - Egra subdivision
Suri	Raiganj	Tufanganj	Ranaghat	Contai

Analysis and Result

Validity analysis

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.

Factor analysis

Confirmatory Factor Analysis (CFA) by SPSS 21 has been used in this study. By the measurement and model, validity test and fitness of the model have been examined as shown below.

Table 2: KMO and Bartlett's Test

Kaiser - Meyer - Olkin Measure of Sampling Adequacy.		0.724
Bartlett's Test of Sphericity	Approx. Chi Square	4588.184
	Df	171
	Sig.	0.000

Table 3: Overall Reliability Statistics

Cronbach's Alpha	Number of Items
0.819	16

Total Cases: 400

Cronbach alpha greater than 0.70 for overall and individual factor means the reliability scaling is good under various items & from the analysis it has found that the Cronbach's Alpha result is .819. Though the value is well above 0.70 so the researcher can conclude that the Cronbach's Alpha result is acceptable & accordingly the researcher can proceed the further analysis. By the help of expert's suggestions face validity and content validity have been executed. 4 different factors have been created with different items (above 0.5 factor loading) which are shown below in the Rotated Component Matrix. These extracted factors explain total 62.77 % of the variations. Variance explained (%) and Cronbach alpha for individual factors have been given in the following table.

Table 4 :Result of Factor Analysis - Rotated Component Matrix

	Component			
	Promotional Initiatives	Various Services	Pricing	Information provided by family members/ friends etc
Mobile services advertisements on Radio	0.946			
Mobile services advertisements on T.V.	0.906			
Mobile services advertisements in Print Media	0.900			
Mobile services advertisements on electronics board or hoarding	0.887			
Mobile services are providing internet facilities along with voice call		0.930		
Mobile services are providing roaming services inside/outside of the country		0.866		
Mobile services are providing customer care functions for any kinds of query or complaints		0.864		
Mobile services are providing various Value Added Services (VAS)		0.836		
Promotional offers like free SIM cards, free calls, internet & SMS are available for the customers			0.914	
Various rate plans have been provided for the help of the customers			0.909	
Post paid and pre paid both kinds of facilities are available for the help of the customers			0.908	
Received information from family members /friends/ colleagues/ neighbors/ sales persons				0.928
Received information from celebrity endorsements				0.922
Variance Explained	19.428	17.357	14.753	11.236
Cronbach Alpha	0.914	0.889	0.921	0.901

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.^a
 a. Rotation converged in 6 iterations.

Here Promotional Initiatives, Various Services, Pricing and Information provided by family members/ friends etc are the four major factors. In all the four factors there 13 several variables are available. In “Promotional Initiatives” related factors the most influencing variable is “Radio”. In rural areas people are gathering the information mainly from radio, TV, print media and hoardings at last. In “Various Services” related factors the most influencing variable is “Mobile services are providing internet facilities along with voice call”, in “price” related factors the most influencing variable is “Promotional offers like free SIM cards, free calls, internet & SMS are available for the customers” and in “Information” related factors the most influencing variable is “Received information from family members /friends/ colleagues/ neighbors/ sales persons” Now, to find out from these factors which is the most influencing factor for consumers awareness level, the researcher have used regression analysis.

Regression Analysis

The four factors which have been identified from the Factor Analysis are, Promotional Initiatives, Various Services, Pricing and Information provided by family members/ friends etc. Here the Consumer Awareness Level has been used as a Dependent Variable and the remaining four factors have been used as an Independent variable.

Table 5: Model Summary^b

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	0.872 ^a	0.761	0.758	2.487	0.761	314.126	4	395	0.000	1.960

- a. Predictors: (Constant), Promotional Initiatives, Various Services, Pricing and Information provided by family members/ friends etc
- b. Dependent Variable: Consumer Awareness Level Score

Table 6: ANOVA^a

Model	Sum Squares	df	Mean Squares	F	Sig.
Regression	7774.081	4	1943.520	314.126	0.000 ^b
Residual	2443.897	395	6.187		
Total	10217.977	399			

- a. Dependent Variable: Consumer Awareness Level Score
- b. Predictors: (Constant), Promotional Initiatives, Various Services, Pricing and Information provided

by family members/ friends etc

Table 7: Coefficients^a

Model	Un standardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	5.884	0.599		9.819	0.000	4.706	7.062
Information provided by family members/ friends etc	1.544	0.143	0.267	10.794	0.000	1.263	1.826
Promotional Initiatives	1.123	0.102	0.272	11.036	0.000	0.923	1.324
Various Services	2.671	0.114	0.601	23.509	0.000	2.448	2.895
Pricing	2.091	0.149	0.358	14.002	0.000	1.797	2.384

a. Dependent Variable: Consumer Awareness Level Score

Table 8: Collinearity Statistics

Factors	Tolerance	VIF
Pricing	0.989	1.004
Various Services	0.993	1.007
Promotional Initiatives	0.991	1.002
Information provided by family members/ friends	0.997	1.009

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. 0.878 is the Correlation coefficient (R) for Model 1, it emphasizes an amount of correlation between the independent variables and dependent variable (Consumer Switching behavior). The R square value explains the 0.771 or 77.1% 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 various service related factors is having highest un-standardized B value of 2.671. So it is having the highest influence factor on consumer awareness level. After that the second highest will be Price related factors with the B value of 2.091. Information provided by family members/ friends etc (1.544) & Promotional Initiatives (1.123) are following after that.

So, here the multiple regression equation can be expressed as,

Consumer Awareness Level = $5.884 + (1.544) X_1 + (1.123) X_2 + (2.671) X_3 + (2.091) X_4$

Information provided by family members/ friends etc = X_1

& Promotional Initiatives = X_2

Various Services = X_3

Pricing = X_4

Result of Hypotheses

H_{a1} : Promotional initiatives are having significant relationship with consumer awareness

H_{o1} : Promotional initiatives are not having significant relationship with consumer awareness

Here it approves that alternate hypothesis that is H_{a1} has been accepted.

H_{a2} : Pricing is having significant relationship with consumer awareness.

H_{o2} : Pricing is not having significant relationship with consumer awareness.

Here it approves that alternate hypothesis that is H_{a2} has been accepted.

H_{a3} : Various services are having significant relationship with consumer awareness.

H_{o3} : Various services are not having significant relationship with consumer awareness.

Here it approves that alternate hypothesis that is H_{a3} has been accepted.

H_{a4} : Information provided by family members/friends is having significant relationship with consumer awareness

H_{o4} : Information provided by family members/friends is not having significant relationship with consumer awareness

Here it approves that alternate hypothesis that is H_{a4} has been accepted.

Research Findings

The findings for Consumer Awareness Model show that promotional initiatives are having significant relationship with consumer awareness. Pricing is having significant relationship with consumer awareness. Various services are having significant relationship with consumer awareness. Information provided by family members/friends is having significant relationship with consumer awareness. These findings have consistent evidential support from previous studies. All the factors are having a positive and significant impact on Awareness of Mobile Services in rural market of West Bengal. This has an evidential proof from the findings of the study.

Limitations of the study

The following limitations should be considered when inferring the findings portion of this study. The sample was limited to a particular state West bengal of India. Therefore it cannot be considered as a perfect representative of the total population and the statistical results may change in different areas in India. Few previous studies which were not verified empirically had been utilized for the development of research model. Also some significant articles possibly may have been overlooked and as a result some new factors could not be enlightened in this study. The responses of the respondents may change in different periods. These subjective changes of altering mind of respondents in different periods can influence the research findings.

Scope for Future Researches

Future research can find out more influencing factors for awareness of rural consumers. Future research could extend by covering different geographical regions within India. The future study would be related with comparing the global scenario of mobile services awareness of rural consumers with respect to the Indian scenario. There can be a further research on modified conceptual global model of mobile services awareness of rural consumers. This study highlights only on the rural Indian context. So the mobile services awareness of rural consumers context would also be tested. Future research may be on the theme of how the demographic profiles (gender, occupation, education etc.) are related with mobile services awareness of rural consumers segments and deriving the model on it.

Conclusion

The influencing factors towards rural consumer awareness on mobile services have been identified and analyzed empirically and theoretically in this research which can help to make the strategies for management of those organizations and advertising agencies in rural India. This study provides empirical evidence by using Factor Analysis & Multiple Regression to find out rural customer awareness towards mobile services which is supported by previous literature review. This study contributes current practicing conceptual model for rural consumer behaviour which has been suggested for their practitioner, researchers and academicians for further research.

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