



**INFLUENCE OF DEMOGRAPHIC FACTORS ON CONSUMERS'
PURCHASE DECISION TOWARDS SIM CARDS : A
COMPARATIVE ANALYSIS BETWEEN RURAL &
URBAN CONSUMERS' OF WEST BENGAL**

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Abstract:

The telecommunications industry in India was liberalized in the early 1990s, paving the way for a significant influx of investments in the industry. Over the last decade, this industry has experienced an exponential growth in subscriber base especially in cellular mobile service sector causing the cellular mobile service sector to dominate in overall telecommunications industry. Liberalization has led to increasing competition and rapid technological advancements. This dynamic competitive environment has resulted in increased attention being paid to customer acquisition activities. On the other hand, customers are becoming more knowledgeable due to the heightened marketing activities prevalent in this industry and this has resulted in increasing demands of the customers for better service and more sophisticated value added services. The comparative study has been conducted to find out the information from the rural and urban consumers of West Bengal. SPSS 21 is used to analyze the results. The researcher has used multiple regression method to conduct the survey. 220 responses from both urban and rural areas have been collected with the help of well structured questionnaire & Convenience Sampling Method has also been used to choose the sample. The findings of the study reveals that income is having a significant impact on both rural & urban consumers at the time of purchasing a SIM card.

Keywords: Demographic, Comparative analysis, Multiple regression, SIM cards, Convenience

Introduction:

The Indian Cellular Mobile Service Sector is today the world's most competitive and one of the fastest growing markets. It is also the world's second largest telecommunication network in the world in terms of number of wireless connections after China. Furthermore, projections indicate that the total number of subscribers in India will exceed the total subscriber count in China in near future. Also the market is highly dynamic and competitive with 15 players at last count. However, the churn rate of cellular mobile users (subscribers moving from one cellular operator to other cellular operators) in India is around 6% per month, which is one of the highest in the world. The high churn rate and overly competitive market has led to constantly declining ARPU (Average Revenue Per User) for Indian cellular mobile service providers. Also, though companies are trying harder to meet with the Telecom Authority of India (TRAI) benchmarks on service quality and customer satisfaction, they are still falling short on a number of Quality of Service (QOS) parameters laid down by the Telecom Authority Of India (TRAI), as is evident in the latest TRAI report.

In such a dynamic environment, though cellular mobile service providers have felt the need to become increasingly competitive and market oriented, they have not seemed to have got it right and the sector is still plagued with problems of ineffective customer service, and customer churn. The consequent revenue leakages, has put pressure on the profitability of the cellular mobile service providers. With ever increasing competition as more new entrants are expected to enter the fray, it is very important that cellular mobile service providers get their act right. Hence the quality of service provided will be a critical factor.

The Indian cellular mobile service (mobile phone service) providers face a number of significant challenges. First, retaining existing customers in a predominantly pre-paid and high chum market has become increasingly difficult and costly. Secondly, new customer acquisition is becoming more elusive than ever with potential

customers having more options to choose from as cellular mobile service providers offer attractive deals to lure prospects. Thirdly, as cellular mobile service providers have had to incur additional expense in keeping existing customers and acquiring new ones, their average revenue per user (ARPU) is low, leading to deterioration of their financial performance.

Review of Literature & Hypotheses Development:

Bhatnagar (2000) in his paper presented at India Telecom Conference elaborates about present & future prospect in future in rural India in the context of information & communication related technologies. It is also been described in the context of access of telephone, Internet and other electronic media in the rural areas of India. The access in context of information & communication technology is not up to the mark and it require huge investments from the Government or from the private sectors to cover large parts of rural India which is having very small or no access to the recent communications facilities. The paper proposes a framework which requires a micro level analysis to find out the solution of the particular problem in rural areas. The paper also argues that a uniform approach like how to improve a universal service obligation is needed to find out as a part of granting the licenses on regional basis may not be feasible for a country like India which is very big in size with variety of culture. Rural areas with noteworthy activity related to economic growth have to treat differently from remote places and economically backward regions in different parts of the country. A positive policy is needed to complete this framework properly which encourages huge investments in infrastructure, which is much needed in rural areas. The nature of support for different rural regions in the country will be based on the cost required to providing the access; the probability for earning revenue and the institutions/organizations which can deliver a valuable service in rural areas.

Bhatty et al. (2001) illustrated on their article that customer satisfaction is having a positive significant association with customer retention. If the customers are satisfied with the services provided by service providers then they will retain themselves in the same brand as well as they will motivate others to use the services.

There are various factors like original information about products, delivery promises, consistency, able to handle any problem etc are directly affecting the customer retention. Price, call quality & customer support are the main key factors whose workability depends on customer satisfaction. If these factors work properly in an organization then customers will be satisfied for sure.

Khatibi et al. (2002) in their research study illuminated that what the factors are mainly driving a customer to be loyal with the company. The study has been conducted in Malaysia with the statistical tool like ANOVA, t-test & correlation analysis to find out the result. The study reveals that restoration time, response time etc is having a strong association with the customer satisfaction & it is also true that the high impact customer satisfaction always does not mean the customer loyalty.

Aoki et al. (2003) described that students use mobile phone for various purposes. Both qualitative & quantitative techniques has been used & it has been identified that the college students uses the cell phones for various purposes like to keep in touch with friends & family members, for financial benefits, safety, information access etc. The focus group interview has been taken with 32 college students & based on the interviews with the help of attitudinal & motivational statements a well structured questionnaire has been designed. 137 students have given the responses to the questionnaire. The study reveals that length of ownership of a cellular phone is significantly associated with the necessity of keeping a mobile phone.

Aydin et al. (2003) elucidated that customer loyalty is dependent on following factors like trust, corporate image, service quality, switching cost etc. Loyal customers are those who will buy more, do the repeat purchase, even by the services in higher price, will say positive words about the survey etc. The study has been conducted in Turkey with 1622 samples & structural equation modeling has been used to find out the result. The result reveals that perceived service quality has a correlation with customer loyalty but not in sufficient condition.

Caruana (2004) mentioned in the research article that switching costs are always having an influence on customer loyalty. The data are mainly collected from the corporate clients to conduct the survey & canonical correlation analysis has been

used to find out the result. The result reveals that few dimensions of switching cost is always have an effect on few dimensions of customer loyalty.

Karine et al. (2004) explained in their research article that the pricing effect on different subscribers base diffusion. The study conducted in Finland & a logistic model has been implemented to complete the survey. The findings reveal that mobile prices & their call rates do not have a significant impact on diffusion of mobile subscription.

Blery et al. (2006) illuminated that what the factors are mainly influencing a customer when they are going for repeat purchase. The study has been done in the context of Greek telephony market. Quality of services, service value & customer's satisfaction level are the major factors which influencing customers' repeat purchase. 4 four group interview has been conducted & a well structured questionnaire has been provided to 400 customers. The study reveals that if the customer is ready to go for repeat purchase then that means the customer has become loyal to that particular brand.

Jain et al. (2006) indicated that recently the Indian telecom sector has faced a tremendous growth opportunity in the market but still there is a huge gap facing by the rural & urban tele-density & it is still increasing in an increasing rate. So many policies have been taken by the Government to help the rural people & bridge the gap between rural & urban. The study has been conducted & results revealed that which are the factors are mainly influencing the rural customers to buy the services from telecom service providers.

Jan et al. (2007) described that due to emerging popularity of mobile phones telecom providers are really looking for providing the services amongst masses in Quetta city. The aim of the study is to find out what are the factors mainly influencing the customers at the time of buying certain services from the service provider. The study reveals that various promotional packages, lucrative call rate, good connectivity etc are the primary factors to retain the consumers.

Mittal et al. (2007) in their research article illustrated that various companies are providing services to the customers in accordance to maintain service quality & the

new players are also following the path of existing players in the market. The study reveals that if the gap between customer expectation & satisfaction is big then the customers will not be satisfied & that effects the switching from one brand to another brand. Call rate is also an important criterion on this regard where quality of the service is not the only key criteria.

Butt et al. (2008) in their research article explored the customer satisfaction level on Pakistani mobile telephony services provided by the telecom companies of Pakistan. A well structured questionnaire has been framed & 150 respondents have provided their information to conduct the analysis. Service quality, prices, support services & ease of use these four groups has been created for the analysis purpose & responses has been taken with the help of 5 point likert scale. From the analysis they have also found out that network coverage & price are the most important factors which lead to customer satisfaction. From the literature review these are the hypotheses have been developed

- Income is having a significant impact on rural & urban consumers at the time of purchasing a SIM card.
- Gender is having a significant impact on rural & urban consumers at the time of purchasing a SIM card.
- Marital status is having a significant impact on rural & urban consumers at the time of purchasing a SIM card.
- Occupation is having a significant impact on rural & urban consumers at the time of purchasing a SIM card.
- Age is having a significant impact on rural & urban consumers at the time of purchasing a SIM card.
- Education is having a significant impact on rural & urban consumers at the time of purchasing a SIM card.

Objective of the Study:

- To compare between rural and urban consumers on how various demographic factors are influencing to buy SIM cards in West Bengal.

Research Methodology:

The research design used for this study is descriptive and co-relational, which employed a well self-administered questionnaire for data collection from respondents. The sample design adopted for the research problem was convenience sampling method since the respondents has been selected on the basis of convenience. The primary data has been collected for the study through a pre-tested questionnaire whereas all the secondary data has been collected from doctoral theses, magazines, research articles, credible sources etc. In this study researcher has collected the samples from both the urban & rural areas of West Bengal. The area chosen for the study is urban West Bengal, which comprises most prominent urban areas namely Durgapur, Malda, Jalpaiguri, Kolkata and Midnapore. Another five subdivisions has been selected in the context of rural prominence namely Rampurhat, Islampur, Tufangunj, Tehatta and Egra. The data for present study is collected from 220 consumers via structured questionnaires distributed among the consumers of rural and urban areas of West Bengal. To rate the questions researcher has used 5 point Likert scale in questionnaire. For overall data analysis the researcher has used SPSS 21. Multiple regression method has been used to find out the result of the study.

Data Analysis & Interpretations:

Reliability & Validity Testing:

Cronbach's alpha was used to assess the internal consistency of the entire scale. According to Pallant (2004), reliability scores greater than 0.70 are acceptable. Since all the items had an alpha above the standard guideline of 0.70, the scales are suitable for analysis with acceptable reliability. Cronbach's alpha was used to assess the internal consistency of the entire scale. According to Pallant (2004), reliability scores greater than 0.70 are acceptable. Nunnally (1978) has indicated 0.7 to be an acceptable reliability coefficient. The reliability score for questionnaire is 0.878 for rural consumers and 0.903 for urban consumers. Though the value is well above, 0.70 so from the above table, researcher can conclude that the Cronbach's Alpha result is acceptable & accordingly the researcher can proceed the further analysis.

In order to be certain about the research instrument as well as the data collected, validity is checked. The validity of the instrument was achieved through content validity and reliability assessment was performed on the copies used for pilot study. 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.

Multiple Regression Analysis:

In the tables below multiple regression analysis for rural & urban consumer's purchase decision on the basis of demographic factors in West Bengal has been recorded and the responses from both the rural and urban consumers have been analyzed.

Rural Consumers' of West Bengal**Model Summary^b**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.813 ^a	.660	.655	.872	1.951

a. Predictors: (Constant), Income, Gender, Marital status, Occupation, Age, Education

b. Dependent Variable: Rural consumers' purchase decision

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.623	.087		7.130	.000		
Income	.330	.018	.336	18.381	.000	.728	1.373
Gender	.002	.014	.003	.166	.132	.944	1.059
Marital status	.077	.023	.061	3.372	.121	.733	1.364
Occupation	.183	.022	.157	8.215	.000	.665	1.505
Age	.125	.020	.114	6.113	.068	.696	1.436
Education	.211	.022	.175	9.502	.007	.717	1.395

a. Dependent Variable: Rural consumers' purchase decision

Rural consumers purchase decision mainly influenced by the various demographic factors namely Income, Gender, Marital status, Occupation, Age and Education. To test the multiple regression, at first, the researcher have found out 0.813 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 0.660 or 66% which is quite significant. The Durbin-Watson is mainly explaining that there is no auto-correlation though the value is quite close to 2 and if the value is in between 1.5 to 2.5 then also we can say that auto-correlation is not there.

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.

From the coefficient table the researcher has found that income is having highest un-standardized B value of .330 as well as t value is also high. So it is the most influencing factor on rural consumer's purchase decision. After that the second highest will be education with the B value of .211. Occupation, Age, Marital status, and gender are following after that.

It is interpreted from the result that mainly rural consumers purchase decision has been influenced by income, education and occupation. Age and marital status still have some influence whereas gender is having a negligible influence on purchase. It has been also found out that few the factors are not significant at 5% significance level. The factors like, income, occupation and education is quite significant & it confirms that it is rejecting the null hypothesis. That means income, education and occupation is having a significant impact on buying decision of SIM cards. On the other side gender, age and marital status is not having a significant impact on buying decision of SIM cards and also confirms that it accepts null hypothesis.

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

$$\text{Rural Consumers Purchase Decision} = .623 + (.330) X_1 + (.002) X_2 + (.077) X_3 + (.183) X_4 + (.125) X_5 + (.211) X_6$$

[Income = X_1 , Gender = X_2 , Marital status = X_3 , Occupation = X_4 , Age = X_5 , Education = X_6]

Urban Consumers' of West Bengal

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.760 ^a	.577	.565	1.009	1.975

a. Predictors: (Constant), Income, Gender, Marital status, Occupation, Age, Education

b. Dependent Variable: Urban consumers' purchase decision

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	2.607	.132		19.768	.000		
Gender	.004	.023	.003	.157	.066	.797	1.254
Education	.097	.017	.117	5.818	.089	.898	1.113
Marital status	.022	.025	.019	.867	.186	.753	1.329
Income	.045	.025	.040	1.783	.005	.734	1.362
Age	.008	.021	.008	.386	.003	.875	1.143
Occupation	.199	.020	.199	9.937	.091	.911	1.098

a. Dependent Variable: Urban consumers' purchase decision

Urban consumers purchase decision mainly influenced by the various demographic factors namely Income, Gender, Marital status, Occupation, Age and Education. To test the multiple regression, at first, the researcher have found out 0.760 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 0.577 or 57.7% which is quite significant. The Durbin-Watson is mainly explaining that there is no auto-correlation though the value is quite close to 2 and if the value is in between 1.5 to 2.5 then also we can say that auto-correlation is not there.

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.

From the coefficient table the researcher has found that occupation is having highest un-standardized B value of .199 as well as t value is also high. So it is the most influencing factor on urban consumer's purchase decision. After that the second highest will be education with the B value of .097. Income, Marital status, Age and gender are following after that.

It is interpreted from the result that mainly urban consumers purchase decision has been influenced by income and occupation. Income and marital status still have some influence whereas gender & age is having a negligible influence on purchase decision. It has been also found out that all the factors are not significant at 5% significance level. The factors like, income and age is quite significant & it confirms that it is rejecting the null hypothesis. That means income and age is having a significant impact on buying decision of SIM cards. On the other side the remaining four factors, gender, marital status, occupation and education is not having a significant impact on buying decision of SIM cards and also confirms that it accepts null hypothesis.

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

$$\text{Urban Consumers Purchase Decision} = 2.607 + (.004) X_1 + (.097) X_2 + (.022) X_3 + (.045) X_4 + (.008) X_5 + (.199) X_6$$

[Gender = X_1 , Education = X_2 , Marital status = X_3 , Income = X_4 , Age = X_5 , Occupation = X_6]

Findings:

The result reveals that rural consumers think that gender is not having a significant impact on purchase decision whereas urban consumers are also thinking in the same line but simultaneously in the case of education rural consumers thinking it is having an impact on purchase decision whereas urban consumers are thinking that it is not having an impact. Marital status is not having a significant impact in both rural and urban consumers whereas income is having a significant impact on both rural and urban customers at the time of purchasing a SIM card. Age, another demographic factor, is not having a significant impact in the case of rural consumers whereas in the case of urban consumers it is having a significant impact. The last factor named occupation is having a significant impact on rural consumers whereas urban consumers think that occupation is not having a significant impact on purchase decision.

Factors	Null Hypothesis	Rural	Urban
Gender	Gender is not having a significant impact on rural & urban consumers at the time of purchasing a SIM card.	Accepted	Accepted
Education	Education is not having a significant impact on rural & urban consumers at the time of purchasing a SIM card.	Rejected	Accepted
Marital status	Marital status is not having a significant impact on rural & urban consumers at the time of purchasing a SIM card.	Accepted	Accepted
Income	Income is not having a significant impact on rural & urban consumers at the time of purchasing a SIM card.	Rejected	Rejected
Age	Age is not having a significant impact on rural & urban consumers at the time of purchasing a SIM card.	Accepted	Rejected

Occupation	Occupation not is having a significant impact on rural & urban consumers at the time of purchasing a SIM card.	Rejected	Accepted
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Conclusion:

Nowadays, mobile communication is becoming one of the famous service industry the world. To make communication much easier and faster tele-communication system is adopted. Really, it is tremendous because it converts the globe into a village. It makes everything in our finger tip; anyone can communicate with people throughout the world. Always there is a thought that, “Every situation has two sides like a coin” i.e. everything has its own pros and cons. Likewise, communication also has two sides; but whatever may be the reason, yet the advantages are more in communication system. It reaches the peak of the satisfaction from the subscribers in future. As we are in a competitive world, for everything there is an alternative. Likewise, for the mobile communication service provider, there are so many alternative service providers. So, subscribers are confused in selecting their service providers due to stiff competition among the service providers in offering various schemes and offers offered to the subscribers, to attract their subscribers; otherwise the subscribers may switch over from one service provider to another provider very easily. But, whatever may be the situation there is a general problem that long distance relationship through mobile communication generally becomes poor because of the weak signals and ends up due to jammed network. It must be considered by the providers to avoid network problems. If so, mobile communication is a boon to the people in reducing the far distance relationship.

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