ASSESSING MOBILE PHONE BUYING BEHAVIOR:COMPARISON OF RURAL AND URBAN MARKETS IN AHMEDABAD DISTRICT

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This study attempts to understand different aspects of rural consumer behaviour on buying of mobile phones and compare that with urban buying behaviour. The study indicates the factors which are important while purchasing a mobile phone, and comparing the same for urban and rural consumers. Analysis has been done by using multivariate technique like Factor Analysis, Independent Sample t-test and Chi-Square test. The factors for selecting a mobile phone include value for money, impression, serviceability and efficacy. Additionally it was found that rural and urban consumers differ in context of two factors viz value for money and impression. The study also conveys that rural and urban consumers are different both in case of the amount spent for buying a mobile phone and role of family members in influencing the purchase decision.

Keywords: Value for money, Impression, Serviceability and Efficacy

INTRODUCTION

Inclusive growth means ensuring that India's economic development lifts all boats which is a critical national priority. One key focus has been on the role of Indian companies in enabling inclusive growth. Mobile phones can be used to tackle the issues of productivity and sustainability in remote rural regions. It is evident that the use of mobile phones has a multi-dimensional positive impact on sustainable poverty reduction. Thus, it is very important for companies to consider the requirements of rural people, to compare them with the urban counterparts and come up with customized mobile phones for the rural people. For value creation in rural markets, it is necessary to understand that rural markets are not a mere extension of urban markets and that they are different in nature.

In recent years, the availability and uses of mobile phones have been very rapid not only in India but also in the whole world. India's consumer market is riding the crest of the country's economic boom. Driven by a young population, with increased disposal incomes and easy finance option, the consumer market has been throwing up staggering figures. Indian mobile market is one of the fastest growing markets and is predicted to reach 868.47 million users by 2013. Voice and Data, a leading telecom publication in India, published their finding from 2011 survey on mobile phone industry which mentioned that in India the handset market grew by 15% which yield total revenue of Rs. 33,171 crores in 2010-11, while it was Rs. 28,897 crores in 2009-10. Total mobile handset market is expected to show steady growth till 2014 when sales will surpass 206 million units. In India GSM handsets has 84% share and CDMA handsets has 16% market share.

The last decade has not only been a period of phenomenal growth but also a period of optimism about the bottom of pyramid. Government of India statistics reveals that even with the increasing urbanization and migration, 63% of India's population would still be living in rural areas in 2025. Thus rural market has been, is, and will continue to be vitally important to the Indian economy. While overall communications market growth will be led by urban areas, rural appending growth of 9.5% over next 20 years is still noticeable. Also, it is estimated that communications will be the fastest growing subcategory of rural consumption as millions of households rise out of poverty and enter the ranks of 'rural aspirers'.

Census of India defines rural as any habitation with a population density less than 400 per sq. km., where at least 75 percent of the male working population is engaged in agriculture and where there

exists no municipality or board, and the same definition being accepted for the paper here. According to the National Council of Applied Economic Research (NCAER), with about 74 per cent of its population living in its villages, India has perhaps the largest potential rural market in the world. It has as many as 47,000 haats (congregation markets), compared to 35,000 supermarkets in the US. According to the report, "Booming Rural Mobile Market in India", number of subscribers is expected to grow at a CAGR of around 35% during FY 2012 - FY 2014 in rural India.

LITERATURE REVIEW

A number of studies have documented the positive impact of mobile phone adoption on rural development (Bhatnagar 2000,Waverman et.al, 2005). Telecom services would fall in the mid-space of the matrix of development versus profitability by serving low income consumers (Beshouri, 2006). Experiences like the Grameen Phone have shown that provision of phone connectivity to a village serves two purposes, first leads to the economic development by helping individuals and business gain economic efficiency through communications, and promoting social and economic development for individuals who own and operate the telephone enterprises (World Resource Institute, 2001).

Several parameters are significantly related to the patterns of mobile phone use. Research carried out in the past revealed the associations of demographic factors such as sex, age, and psychographic factor like self-esteem with mobile phone use. Rogers (1976) has provided a classification of consumers in expressions of innovators, early adopters, early majority, late majority and laggards.

Gupta (1987) examined the factors motivating consumers to buy durables, the factors considered by them in making the brand choice are source of information considered, role of family members in influencing brand choice and to examine consumer satisfaction. Consumers value in smart phones features that enhance their personal time planning (e.g., Jones, 2002). These high-rated features include calendar and e-mail services. Shanti R (2005) examined the perceptual dimensions of brand association with reference to mobile user. Shashi Kumar L and Chaube D.S. (2007) studied the awareness level of buyers and their attitude towards different mobile providers operating in Lucknow. Chirag V. Erda (2008) did a comparative study of rural and urban buyers in Jamnagar district of Gujarat in buying mobile phones and the motivating factors were taken as price, quality, style, functions, and brand. Price of the phone was identified as a critical factor in the choice of the mobile phone model, especially among younger people (Karjaluoto et al., 2003a; Karjaluoto et al., 2003b).

Singh (2009) concluded that the handset of reputed brand, smart appearance and with advanced value added features is the choice of 18-30 years age group. However these sets with advanced and moderate core technical features may exclusively be offered to male and female consumers respectively of this age group.

The research undertaken by Anand and Hundal (2007) about comparative buying behaviour of rural and urban consumers was with respect to buying of refrigerators with motivating factors taken as item of necessity, symbol of social status, advertising influence, brand reputation and time saving device. Zameer (2012) concludes that buying behaviour of urban and rural consumers is different. Of the Consumers living in urban areas, most use Nokia mobiles followed by Samsung mobiles, China mobiles, Apple mobiles, Q mobile, Sony Ericson and others. While Consumers living in rural areas use Nokia mobiles followed by China mobiles, Samsung mobiles, Sony Ericson, Apple mobiles, Q mobile, and others. Results show that consumers who live in rural areas use China mobile more compared to the customers who live in urban areas. People living in urban areas use Apple mobiles more as compared to the consumers living in rural areas. Urban consumers purchase Nokia and Samsung phones more as compared to the rural consumers.

OBJECTIVES OF THE STUDY

This study is an attempt to understand different aspects of rural consumer behaviour on buying of mobile phones and compare that with urban buying behaviour. The objectives of the study are as follows:

1. To determine the factors influencing the purchase of a mobile phone.

2. To compare the factors influencing the purchase of a mobile phone between the rural and urban customers

3. To analyse the spending pattern for buying a mobile phone for rural and urban customers

4. To understand the role of family members in influencing the purchase of a mobile phone for rural and urban customers

HYPOTHESIS

$H0_1$: Factors influencing the purchase of mobile phone do not differ between rural and urban customers.

$H0_2$: Amount Spent for buying a mobile phone is not dependent on the type of customers (rural and urban).

$H0_3$: Influencing pattern for purchasing a mobile phone is not dependent on the type of customers (rural and urban).

RESEARCH METHODOLOGY

The research design for the study is descriptive in nature and the sampling unit were users of mobile phone. The questionnaire constructed for the study included several questions which were continuous and categorical in nature. A scale was constructed with five point Likert type statements in which respondents were asked to indicate their level of agreement (1 = very important to 5 = not important). Multiple items were taken from Erda (2008) and Zameer (2012) and were revised as per the requirements for the study. These scales were used as they were found to be highly relevant to the current study owing to the geographical location and psychographics of consumers. The final questionnaire comprising of sixteen items in the scale achieved cronbach alpha of 0.793 as shown in the Table 1. Any value of Cronbach above 0.6 shows that the scale is reliable. SPSS 17 was used for the same.

Table 1: Reliability Statistics

Cronbach's Alpha	Number of Items
0.793	16

The final study involved a survey conducted in rural and urban areas in Ahmedabad District between September 2012 and November 2012. Judgmental sampling technique has been used for the study. Reponses were obtained from 200 respondents (Hundred from rural and urban each). Questionnaires were also translated in Gujarati so as to facilitate the rural customers. Some questionnaires were incomplete in the answers to the items and were not included in the analysis. After screening and scrutiny, 195 questionnaires were analysed (Urban – 99, Rural 96). Factor Analysis along with Independent Sample t test and Chi Square have been used to analyse the data collected.

DATA ANALYSIS

The breakup of the sample on demographic variables is provided below.

Table 2: Respondents' Profile

Variables	Category	Place		
		Urban	Rural	Total
Age	Below 20 years	9	8	17
	20-30 years	57	36	93
	30-40 years	11	31	42
	Above 40 years	22	21	43
Gender	Male	44	70	114
	Female	55	26	81
Educational qualifications	Under graduate	12	41	53
	Graduate	46	29	74
	Post graduate	36	10	46
	Other	5	16	21
Occupation	Service	33	6	39
	Business	8	23	31
	Agriculture	1	25	26
	Business professional	10	15	25
	Student	39	22	61
	Housewife	8	5	13
Marital status	Married	48	69	117
	Unmarried	51	27	78

Factors Influencing the Purchase of Mobile Phone:

To determine the important factors influencing the purchase of a mobile phone, the Principal Component Factor Analysis (PCA) with varimax rotation was performed for the 16 items measuring mobile phone selection. The result indicated that the Bartlett's Test of Sphericity (Bartlett, 1954) was significant (Chi-Square 725.056, p-value < 0.0001). The Kaiser-Mayer-Olkin (KMO) measure of sampling adequacy was high at 0.711. This KMO value of 0.773 is excellent since it exceeded the recommended value of 0.6 (Kaiser, 1974). The two results of (KMO and Bartlett's) suggest that the data is appropriate to proceed with the factor analysis procedure (Malhotra 2010).

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.773
Bartlett's Test of Sphericity	Approx. Chi-Square	725.056
	Df	120
	Sig.	0

Exploratory Factor Analysis (EFA) was performed and only those factors were retained which have an eigen value more than 1 since they are considered significant. An eigen value represents the amount of variance associated with the factor. The result was that there were a total of 4 factors, which explained for 61.877 % of the total variance. The factors considered should together account for more than 60%of the total variance (Malhotra 2010). Three variables (functions of a mobile phone, promotions of mobile phone and browsing internet) had very low value and so they were eliminated.

Table 4: Factors Affecting Purchase

	F1	F2	F3	F4
Factor 1: Value for Money				
Price	.483			
Additional Features Available	.604			
Resale Value	.764			
Schemes	.657			
Factor 2: Impression				
Appearance of the mobile phone		.572		
Image of the company		.484		
Style of the mobile phone		.734		
Brand Image		.642		
Factor 3: Serviceability				
Service of the company			.837	
Availability of the service centres			.794	
Factor 4: Efficacy				
Durability of the battery				.584
User friendliness				.547
Reliability				.606

Factor 1 loaded on four variables viz. 3,4,5, and 15 can be labelled as Value for money as the factor comprises of dimensions related to price, availability of several features, resale value and availability of schemes. The customers usually like to get the maximum features in a mobile phone at a fair price. Additionally customers are motivated to purchase a mobile phone if they get additional discounts or certain free accessories along with the mobile phone. Moreover, mobile phones are often resold, so the resale value also holds significance. An identical study by Karjaluoto et al. (2003a and 2003b) also described that price of the mobile phone affects the choice. Liu (2002) and O'Keefe (2004) also studied that features such as built in cameras, better memory, radio, and colour displays are influencing consumer decisions to acquire new models.

Factor 2 correlated most highly on four variables viz. 2,8,10 and 11 i.e. appearance of the mobile phone, style of the mobile phone, image of the company and image of the brand. This might be labelled as Impression. Contradictory study by Liu (2002) who surveyed Asian mobile phone users found that size of the mobile phone had no impact on mobile choice. But this finding might be due to the fact that at that time competing brands had similar sized phones which were small.

Factor 3 can be labeled as Serviceability. It is loaded on two variables viz. 6 and 7. Service of the company and availability of the service centres are also important for selection of a mobile phone. Similar study conducted by V. Alagu Pandian (2012) et al. in Tamilnadu found that after sales service is an important reason for brand selection. Karjaluoto et al (2004) also explained that innovative services like Java, WAP-services, UMTS, E-mail plays an important role in the choice of a mobile phone. This paper also brings out that availability and proximity of the service centre might also influence a mobile phone purchase.

Factor 4 loaded on three variables viz. 1, 9 and 16 which included durability, user friendliness and reliability of a mobile phone. Hence it can be labelled as Efficacy. Efficiency of a mobile phone and ease factor related to using the phone are also important issues while purchasing a mobile phone. Karjaluoto et al (2004) also considered reliability as an important issue related to mobile phone purchase.

Hypothesis 1:

Ho: Factors influencing the purchase of mobile phone do not differ between rural and urban customers

H1: Factors influencing the purchase of mobile phone differ between rural and urban customers

An independent sample t test was run to determine if there were differences in factors affecting mobile phone purchase between urban and rural customers.

Table 5: Independent Samples Test

		Levene's Test for Equality of Variances	t-test for Equality of Means

Variables		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Value for money	Equal variances assumed	0.873	0.351	6.017	192	0	0.618	0.103	0.416	0.821
	Equal variances not assumed			6.008	189.59	0	0.618	0.103	0.415	0.821
Impression	Equal variances assumed	0.105	0.746	2.973	192	0.003	0.364	0.122	0.122	0.605
	Equal variances not assumed			2.99	181.905	0.003	0.364	0.122	0.124	0.604
Servicability	Equal variances assumed	0.11	0.74	-1.098	192	0.273	-0.144	0.131	-0.402	0.114
	Equal variances not assumed			-1.098	191.196	0.274	-0.144	0.131	-0.402	0.115
Efficacy	Equal variances assumed	0.163	0.686	-1.282	192	0.201	-0.103	0.081	-0.263	0.056
	Equal variances not assumed			-1.285	190.989	0.2	-0.103	0.08	-0.262	0.055

Data was normally distributed. Homogeneity of variance was assessed by Levene's Test for Equality of Variances. Two factors namely Value for money and Impression had significance value less than .05, null hypothesis can be rejected and hence they were further analysed. For the other two factors namely Serviceability and Efficacy, it was not possible to reject the null hypothesis which is evident from the above table.

Value for money:

Levene's Test for Equality of Variances (p=.351). Value for money scores were higher for urban (M=2.56, SD=.690) than for rural (M=1.94, SD=.741), a statistically significant difference, M=.618, 95% CI [.416, .821], t(192)=6.017, p=.000. Hence, it can be inferred that rural people are more value conscious than their urban counterparts

Impression:

Levene's Test for Equality of Variances (p=.746). Impression scores were higher for rural (M=2.28, SD=.960) than for urban (M=1.91, SD=.723), a statistically significant difference, M=.364, 95% CI [.122, .605], t(192)=2.973, p=.003. Hence, it can be inferred that urban people are more prone to impression than rural mobile phone users.

Hypothesis 2:

Ho: Amount Spent for buying a mobile phone is not dependent on the type of customer (rural and urban)

The Chi Square Test of Independence has been used, which tests the association between two categorical variables.

Table 6: Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.255	3	0
Likelihood Ratio	25.765	3	0
Linear-by-Linear Association	18.177	1	0
N of Valid Cases	195		

A rejected null hypothesis is reflected from the fact that the chi square test produced a chi square of 24.255 (p<.05). The test shows that there is an association between the amount spent by the rural and urban customers. However the strength of the association when tested (Crammer's V =.354, Contingency Coefficient = .333) gave low values which exhibits that the association is not very

strong. It can be also inferred that majority of urban people spent more than Rs 6000 for buying a mobile phone whereas majority of rural people spent less than Rs 6000 for buying a mobile phone.

Hypothesis 3:

Ho: The influencing pattern for purchasing a mobile phone is not dependent on the type of customer (rural and urban)

The Chi Square Test of Independence has been used to test the hypothesis.

Table 7: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.539	3	0
Likelihood Ratio	21.008	3	0
Linear-by-Linear Association	14.768	1	0
N of Valid Cases	195		

A rejected null hypothesis is reflected from the fact that the chi square test produced a chi square of 20.539 (p<.05). The test shows that there is an association between the influencing pattern for the rural and urban customers. However the strength of the association when tested (Crammer's V =.328, Contingency Coefficient = .312) gave low values which exhibits that the association is not very strong. It can be inferred that majority of rural customers either consulted their friends for purchasing a mobile phone or made a collective decision by consulting friends, family, retailers etc. It can also be inferred that in case of urban customers a reverse trend was observed where majority of them took the decision regarding purchase of their mobile phone alone only. This is because of the fact that rural customers are not very educated and aware about mobile phones whereas urban customers have a lot of knowledge regarding the same.

LIMITATIONS OF THE STUDY

The study has been conducted based on the data acquired from the buyers of Ahmedabad District only and the findings may not be applicable to other states of India because of socio-cultural differences. Sample size is very small.

CONCLUSION

The advent and growth of technology has infected the telecom sector as well. India with its huge population and increasing disposable income is displayed as one of the fastest growing mobile markets globally. Moreover, communication technology is also seen as a means of economic development. Thus, the target segments are urban as well as rural phone users.

Rural marketing cannot lead to sustainable development if the strategies and action plan are mere extension to urban marketing strategies. This is so because there is a difference in the urban and rural consumers, and this needs to be considered by marketing professionals while promoting their products. This paper indicates the factors for selecting a mobile phone include value for money, impression, serviceability and efficacy. Additionally rural and urban consumers differ in context of two factors viz. value for money and impression. Moreover, separate tests suggested that the average amount spent in buying mobile phones was higher for urban customers than their rural counterparts. Also, the rural customers were influenced more by their peers as compared to urban customers. Hence, the above differences are intended to help the mobile promoters to develop customised marketing strategies for urban and rural markets.

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