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CONSUMER RESEARCH ON MOBILE USAGE-A CROSS-SECTIONAL ANALYSIS ON BROAD SPECTRUM OF CONSUMERS

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ABSTRACT

The object of the paper is to build the generalized behaviourist model for mobile usage-rate with inclusion of cultural and personal characteristics of an individual. The model so postulated is tested empirically on two counts. First, the linear multiple regressions is fitted to the data drawn from the broad spectrum of consumers. Second, binary logit regression is fitted to data that is split into two distinct categories, High profile and Low profile consumers, as this supposition is reasonably good in view of the fact that these categories preclude the possibility of pooling all consumers under one banner.

KEYWORDS: Consumer, Consumer Behaviour, Consumer Research, Cultural Factors & Subcultures, Logistic Regression, Mobile Usage (Rate), Saturated Model, Service Providers

INTRODUCTION

Each culture comprises of various subcultures such as religion, age, geographical location, gender (male/female), status etc. The Sub cultural tendencies do influence greatly the consumer behaviour. Income is the important determinant of consumption expenditure on any good and service. The study of cultural and personal characteristics is a necessary prelude to a study of generalized behavioristic model of consumer behaviour.

INCOME AS A MAJOR DETERMINANT

Income is a major determinant of consumption of any good or a service. Income decides the purchasing power and the ability to purchase goods, be it physical or non-physical. An Economic theory tells that mere ability to pay may not suffice to make purchases unless the ability to buy or purchase must be accompanied by the willingness or desire to purchase a good. The transaction will be completed only when the money is exchanged for the transfer of goods or services.

PERSONAL CHARACTERISTICS

Age (Nominal)

The rate of consumption varies across the age groups. Other thing remaining the same, the youth consumes greatly than the age-old. Further, the rate of consumption gets accelerated when the economy becomes more globally cultured.

EDUCATION STANDARDS

With every addition to education standards a person's needs get multiplied. An educated person is more likely to see the world from a different angle and there is every possibility throws open in his way to enjoy the finest things of life and in this process, his rate of consumption may be on the rise, quantum cum quality-wise.

GENDER

In a static society, women stay indoors. But in the dynamic society women and men are equal partners in progress. In India, women come out in large numbers in nation building activities pooling their talents. India becomes more urbanized year after year and as a consequence, women are footed in perfect equality with men in all economic endeavors.

RESIDENTIAL LOCATION

Generally speaking, the rural people spent less than the urbanized. Also the globally cultured spends faster than the people who are otherwise. For instance Europeans spend faster than Indians. Now, India is witnessing rapid urbanization and also is receptive enough for cultural integration across the continents.

NEED-BASED CLASSIFICATION OF CONSUMERS

Mobile phone becomes an instrument social economic progress. People use mobile phones to serve the interest of social interaction as well as to meet the requirements of economic engagement. Thus the mobile phone is used as a social need and an economic need. The clear demarcation between the social need and economic need could not be drawn as these two type of needs seem to be overlapped for any individual under investigation.

OCCUPATION-BASED CLASSIFICATION OF CONSUMERS

Normally the spending rate of executives or professionals may be on the high order in comparison with non-executives or normally placed individuals. The executives have pre-occupied with business needs as they are under pressure to transact business round the clock and as a consequence, their usage rate are tremendously higher than that of other categories of employees.

OBJECTIVES OF THE STUDY

The primary objective of the study is pertaining to the postulation of a behavioristic model of consumer behavior for which the explanatory variables are properly identified. Subsequently, the model so postulated is verified empirically using statistical techniques.

DATA SET

Refer the Figure 1. A sample of 230 observations was collected at vantage points like Old Bus stand, New Bus stand, Collectorate offices and Medical college Hospital arena in Thanjavur Urban, Tamilnadu, India during the month of March 2013. Of the sample size of 230 (N=230) High profile consumers have accounted for 69% whereas the executives have the proportion of 40% of the total. The sample units more inclined to business need have accounted for 63%. The individuals hailing from urban environment constituted 67%. The Male respondents have come about in large numbers and the percentage figure on this count has arrived at 66%. The consumers who have completed 09-12 years of schooling at present have accounted for 33%. The Age bracket of 16-36 years has constituted 58% in the total respondents while the age category of 37-57 years has been forming 42%.

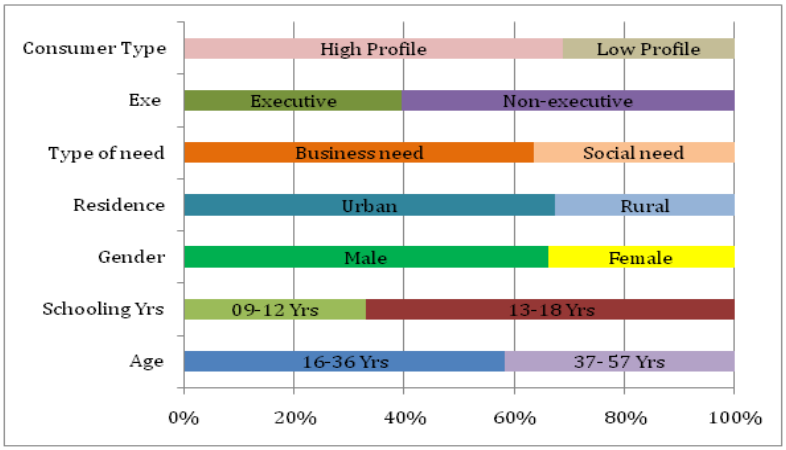

Figure 1: Sample Classification (N=230)

Refer the Figure 2. Dissecting the sample of service providers under investigation, the consumers are found availing five service providers in the order Aircel (30.4%), Airtel (28.2%), BSNL (23.9%), Reliance (9.6%) and Vodafone (7.9%). The consumers availing other than these service providers are very marginal and hence may not be susceptible for an analysis.

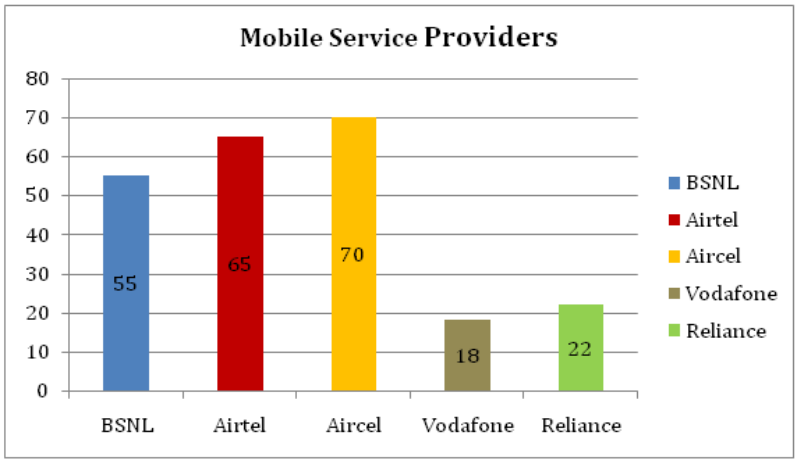

Figure 2: Mobile Service Providers

METHODOLOGY

Sample Selection

Accidental non-probability technique is adopted in the selection of sample (N=230) for two valid reasons. First, the broad spectrum of consumers hailing from different strata has to be investigated for which the sample design proposed is more appropriate. Second, Considering time and cost constraints, this method is specially chosen as it is proved to cost effective and less time consuming. A sample of 230 observations was collected at vantage points like Old Bus stand, New Bus stand, Collectorate offices and Medical college Hospital arena during the month of March 2013 for a week long period.

STATISTICAL TECHNIQUES

Log Linear Analysis

The log linear model is one of the specialized cases of generalized linear models for Poisson-distributed data. Log linear analysis is an extension of the two-way contingency table where the conditional relationship between two or more discrete, categorical variables is analyzed by taking the natural logarithm of the cell frequencies within a contingency table. Although log linear models can be used to analyze the relationship between two categorical variables (two-way

contingency tables), they are more commonly used to evaluate multi-way contingency tables that involve three or more variables. The variables investigated by log linear models are all treated as "response variables". In other words, no distinction is made between independent and dependent variables. Therefore, log linear models only demonstrate association between variables. If one or more variables are treated as explicitly dependent and others' as independent, then logit or logistic regression should be used instead. Also, if the variables being investigated are continuous and cannot be broken down into discrete categories, logit or logistic regression would again be the appropriate analysis. The following model refers to the traditional chi-square test where two variables, each with two levels (2 x 2 tables), are evaluated to see if an association exists between the variables.

$$\text{Ln}\,(F_{ij}) = m + l_i^{A} + l_j^{B} + l_{ij}^{AB}$$

Where

Ln (F_{ij}) = is the log of the expected cell frequency of the cases for cell $_{ij}$in the contingency table

m = is the overall mean of the natural log of the expected frequencies

l = terms each represent "effects" which the variables have on the cell frequencies

A and B = the variables

i and j = refer to the categories within the variables.

Therefore:

l_i^{A} = the main effect for variable A

l_j^{B} = the main effect for variable B

l_{ij}^{AB} = the interaction effect for variables A and B

The following equation represents a 2 x 2 x 2 multi-way contingency table with three variables, each with two levels. Here this equation is being used to illustrate the hierarchical approach to log linear modeling.

$$\text{Ln}\,(Fij) = m + l_i^{A} + l_j^{B} + l_k^{C} + l_{ij}^{AB} + l_{ik}^{AC} + l_{jk}^{BC} + l_{ijk}^{ABC}$$

A hierarchy of models exists whenever a complex multivariate relationship present in the data necessitates inclusion of less complex interrelationships. For example, in the above equation if a three-way interaction is present (ABC), the equation for the model must also include all two-way effects (AB, AC, BC) as well as the single variable effects (A, B, C) and the grand mean (m). In other words, less complex models are nested within the higher-order model (ABC). Note the shorter notation used here to describe models. Each set of letters within the braces indicates a highest order effect parameter included in the model and by virtue of the hierarchical requirement, the set of letters within braces also reveals all lower order relationships which are necessarily present. SPSS uses this model to generate the most parsimonious model; however, some programs use a non-hierarchical approach to log linear modeling. Reverting back to the previous notation, a non-hierarchical model would look like the following:

$$\text{Ln}\,(F_{ij}) = m + l_i^{A} + l_{ij}^{AB}$$

Notice that the main effect term l_i^{B} is not included in the model therefore violating the hierarchical requirement. The use of non-hierarchical modeling is not recommended, because it provides no statistical procedure for choosing from among potential models.

LOGIT MODEL FOR THREE WAY TABLE

The parameter estimates of the log linear models have only limited interpretive appeal. Log linear models make no distinction between dependent and independent variables. However, logit model focuses on one variable as being dependent upon the others. The logist model can be stated in the following way

$$\text{Log } m_{i2k}/ m_{ilk}= 2 \lambda_2^{C}+2 \lambda_{i2}^{PC}+2 \lambda_{2k}^{CS}+2 \lambda_{i2k}^{PCS}$$

Thus the logist estimates may be manipulated directly from the log linear estimates using the above formulae.

Multiplicative Estimate

The estimates of log linear or logit model are additive estimates. Multiplicative estimates are obtained by exponentiation the additive estimates. The multiplicative estimates greater than one indicate that a given predictor (or predictors) is also associated with an increase in odds. Decisions may be taken thus: estimates less than one indicate no effect on the odds. The estimate greater than one indicate the corresponding increase in odds.

LINEAR MULTIPLE REGRESSION

The multiple regression model

$$Y_i= \beta_0+\beta_1X_{i1}+\ldots\ldots\ldots\ldots..+\beta_{p-1}X_{i,\,p-1}+\varepsilon_i$$

is called general linear regression model because it encompasses many special cases. It is called a linear model because it is linear in the parameters $\beta_0,\beta_1,\ldots\ldots..\beta_{p-1}$. Thus, no parameter appears as an exponent or is multiplied by another parameter. The general linear regression model is not, however, restricted to linear relationships: it encompasses nonlinear relationships. Curvilinear relationships between the dependent variable Y and an independent variable X are frequently encountered.

BINARY LOGIST REGRESSION

If the dependent variable is binary, the logit and probit models are obvious possibilities; it probably makes no difference which model is used. The logit model stands in good stead if the explanatory variables are very non-normal, for example, they contain dummy variables and skewed distributions and so forth. Of course, discriminant analysis may be handy provided the explanatory variable are approximately normally distributed but this possibility is very much rare in reality. In binary logistic regression, the dependent variable takes on two variables.

ANALYSIS OF TWO-WAY CONTIGENCY TABLE

Income and Usage Rate

An analysis of multiplicative estimates in respect of logit model of usage rate < 60 mins/day(as a function of Income),the predictor namely income of less than Rs. 29,000 indicates that the odds are 1.6720 times what would be expected were the usage categories unrelated to the income categories. There exists an association between the income category (< Rs. 29,000) and they log odds of finding placement in the category of usage of less than 60 minutes/day.

An analysis of multiplicative estimate with respect to Logit model for usage rate between 60 and 119 minutes/day(as a function of Income), the predictor namely income of less than Rs.29,000 indicates that the odds are 1.8404 times what would be expected were the usage categories unrelated to the income categories. There exists an association between the income category (<Rs.29, 000) the log in the category of usage of rate between 60 and 119 minutes/day. Analyzing the multiplication estimate with respect to Logit model for usage rate >119 minutes/day (as a

function of Income), the predictor namely income ranging between Rs.30, 000 and Rs.59, 000 indicates that the odds are 3.0771 times what would be expected were the usage categories are unrelated to the income. There exists an association between the income category (Rs. 30,000 to Rs.59, 000) and the log odds of finding a place in the category of usage (>119 minutes).

USAGE RATE AND AGE

Analyzing the multiplicative estimate in respect of Logit model for usage rate < 60 minutes/day (as a function of Age), the predictor namely the age bracket of 16-36 years, it may be found that the users in the age group between 16 and 36 years are having the usage rate < 60 minutes/day.

Analyzing the multiplicative estimate in respect of Logit model for usage rates between 60 and 119 minutes/day (as a function of Age), the predictor namely the age bracket of 16-36 years; it may be found that the users in the age group between 16 and 36 years are having the usage rate between 60 and 119 minutes/day.

Analyzing the multiplicative estimate with respect to Logit model for usage rate >119 minutes/day (as a function of Age), the predictor namely the age bracket of 16-36 years, it may be found that the users in the age group between 37 and 59 years are having the usage rate >119 minutes/day.

USAGE RATE AND SCHOOLING YEARS COMPLETED

Analyzing the multiplicative estimate pertaining to Logit model for usage rate < 60 minutes/day (as a function of Schooling Years completed), the predictor namely the schooling years completed between 09 and 12 years, have the usage rate of < 60 minutes/day.

Analyzing the multiplicative estimate in relating to Logit model for usage rate between 60 and 119 minutes/day (as a function of Schooling Years completed), the predictor namely the schooling years completed between 13 and 18 years, it is found that the persons in the said age group have the talk time consumed between 60 and 119 minutes/day.

Analyzing the multiplicative estimate pertaining to Logit model for usage rate >119 minutes/day (as a function of Schooling Years completed), the predictor namely the schooling years completed between 13 and 18 years, it is found that the persons in the said age group have the talk time consumed > 119 minutes/day.

GENDER AND USAGE RATE

Analyzing the multiplicative estimate in relating to Logit model for usage rate < 60 minutes/day (as a function of Gender), the predictor namely female, it is evidently seen that the females have the usage rate of < 60 minutes/ day.

Analyzing the multiplicative estimate pertaining to Logit model for usage rate between 60 and 119 minutes/day (as a function of Gender), the predictor namely female, it is evidently seen that the females are in habit of using the mobile for minutes between 60 and 119 minutes/day.

Analyzing the multiplicative estimate with respect to Logit model for usage rate >119 minutes/day (as a function of Gender), the predictor namely female, it is evidently seen that the male, it is found that males have the usage rate of more than 119 minutes/day.

USAGE RATE AND RESIDENTIAL LOCATION

Analyzing the multiplicative estimate pertaining to Logit model for usage rate < 60 minutes/day (as a function of Residential location), the predictor namely rural residents, it is evidently seen that the rural people from the countryside are

found having the using the mobile for minutes of less than 60 minutes/day.

Analyzing the multiplicative estimate in respect of Logit model for usage rate between 60 and 119 minutes/day (as a function of Residential location), the predictor namely rural residents, it is evidently seen that the rural people from the countryside are found having the usage rate between 60 and 119 minutes/day.

Analyzing the multiplicative estimate in respect of Logit model for usage rate >119 minutes/day (as a function of Residential location), the predictor namely urban people, it is found that the urban people are consuming talk time >119 minutes/day.

USAGE RATE AND TYPE OF NEED

Analyzing the multiplicative estimate in respect of Logit model for usage rate < 60 minutes/day (as a function of Type of need), the predictor namely social need, it is evidently seen that the people having the social need predominant are using the mobile for less than 60 minutes/day.

Analyzing the multiplicative estimate in respect of Logit model for usage rate between 60 and 119 minutes/day (as a function of Type of need), the predictor namely business need, it is evidently seen that the people afflicted with business need are found having the usage rate between 60 and 119 minutes/day.

Analyzing the multiplicative estimate in respect of Logit model for usage rate >119 minutes/day (as a function of Type of need), the predictor namely business need, it is evidently seen that the people afflicted with business need are prone to using the mobile for more than 119 minutes/day.

USAGE RATE AND EXECUTIVE OR OTHERWISE

Analyzing the multiplicative estimate Logit model for usage rate < 60 minutes/day (as a function of Type of Executive or otherwise), the predictor namely non-executive, it is found that the non-executives have use the mobile less than 60 min/day.

Analyzing the multiplicative estimate pertaining to Logit model for usage rate between 60 and 119 minutes/day (as a function of Executive or otherwise), the predictor namely non-executive, it is clearly seen that the non-executives are found to have usage rate between 60 and 119 minutes/day.

Analyzing the multiplicative estimate in respect of Logit model for usage rate >119 minutes/day (as a function of Type of Executive or otherwise), the predictor namely executive, it is clearly seen that the executives are found in the category of usage rate greater than 119 minutes/day.

USAGE RATE AND TYPE OF CONSUMER (HIGH AND LOW PROFILE)

Analyzing the multiplicative estimate in respect of Logit model for usage rate < 60 minutes/day (as a function of Type of Consumers), the predictor namely low profile consumer, it is found that the low profile consumer is consuming talk time of less than60 minutes/day. Analyzing the multiplicative estimate with respect to Logit model for usage rate between 60 and 119 minutes/day (as a function of Type of Consumer), the predictor namely high profile consumer, it is evidently seen that the high profile consumer is consuming talk time between 60 and 119 minutes/day.

Analyzing the multiplicative estimate with respect to Logit model for usage rate >119 minutes/day (as a function of Type of Consumer), the predictor namely high profile consumer, it discerned that high profile consumer is having the usage rate >119 minutes/day.

ANALYSIS OF THREE-WAY CONTIGENCY TABLE (USAGE, GENDER & RESIDENTIAL LOCATION)

Analyzing the main effects parameters pertaining to Logit model for usage rate < than 120 minutes/day (as a function of Gender and Residential location) characteristics, the predictors namely the rural residents are associated with an increase in the odds as the multiplicative estimate is greater than one (= 1.2068).Analyzing the association effects parameters, they predicts namely urbanized females and males from the countryside are found in the category of <120 minutes/day.

Analyzing the main effects parameter with respect to Logit model for usage rate > than 120 minutes/day (as a function of Gender and Residential location) characteristics, the predictor urban residents are associated with an increase in the odds as the multiplicative estimate is greater than one (= 1.2068). Analyzing the main effects parameter, the predictor urban residents are associated with an increase in the odds as the multiplicative estimate is greater than one (= 1.2068).

ANALYSIS OF THREE-WAY CONTIGENCY TABLE (USAGE, SCHOOLING &TYPE OF NEED)

Analyzing the main effects parameter in respect of Logit model for usage rate < than 120 minutes/day (as a function of Usage & Schooling years& Type of need) characteristics, the predictor namely social need, is associated with an increase in the odds, as the multiplicative estimate is greater than one (= 1.2382) Analyzing the interaction effects parameter, the predictors namely the schooling years completed in the clan size of 9-12 years and the business need in combination are found in the category of usage (<120 min/day). Also, the class size of 13-18 years of schooling and social need in combination are found in the category of usage rate (<120 minutes/day) residents are associated with an increase in the odds as the multiplicative estimate is greater than one (= 1.2068).

Analyzing the main effects parameter pertaining to Logit model for usage rate > than 120 minutes/day (as a function of Usage & Schooling year & Type of need) characteristics, the predictor namely business need, is associated strongly with an increase in the odds, as the multiplicative estimate is greater than one (= 1.2386) Analyzing the interaction effects parameter, the predictors namely the schooling years completed in the clan size of 9-12 years and the social need in combination are found in the category of usage (>120 min/day). Further the schooling years completed 13-18 years and business need in combination are found in the category of usage rate (>120 minutes/day).

GENERALIZED MODEL FOR USAGE RATE

This is the behavioristic model on usage rate. Usage rate is taken as dependent variable. Other explanatory variables influencing the dependent variable are taken care of.

Dependent Variable

The usage rate or talk time in minutes consumed in a day on an average.

Explanatory Variables

CONSTANT,	a constant term
INC,	Average monthly income (in Rs ‘000)
INC^2,	Squared value of income
AGE,	the age at present (in years)
SG,	the schooling years completed

BSNL, a dummy variable equal to 1 if the individual is using BSNL as service provider and zero, otherwise.

ATEL, a dummy variable equal to 1 if the individual is using AIRTEL and zero, otherwise.

ACEL, a dummy variable equal to 1 if the individual is using AIRCEL and zero, otherwise.

VODA, a dummy variable equal to 1 if the individual is using VODAFONE and zero, otherwise.

MALE, a dummy variable equal to 1 if the individual is a male and zero, otherwise.

URBAN, a dummy variable equal to 1 if the individual is urbanized and zero, otherwise.

BNEED a dummy variable equal to 1 if the individual is entrenched in business need and zero, otherwise.

EXE a dummy variable equal to 1 if the individual is one of executives/ professionals and zero, otherwise.

FITTING THE LINEAR MULTIPLE REGRESSION

Dependent Variable

Usage rate (in min/day).

Explanatory Variables

INCOME, INCOME^2, AGE, SG, BSNL, ATEL, ACEL, VODA, MALE, URBAN, BNEED & EXE

Results

SPSS package version 20 is used to compute the results of analysis.

USAGE = -0.086 BSNL -0.303 ATEL -0.419 -0.419 ACEL -0.270 VODA +0.410 INC -0.084 INC^2 -0.092 SG +0.357 BNEED +0.010 AGE +0.001 MALE +0.015 URBA +0.173 EXE.

Adjusted R^2 = 0.779, F value = 68.220 for Degrees of Freedom (12, 217).

Testing the Significance of the Regression

A question that is usually of interest is whether the regression equation as a whole is significant whole is significant. This is a joint test of hypothesis that the entire coefficients concepts the constant term are zero. In the concept the constant term is zero. If all the slopes are zero, the multiple correlation coefficients is zero as well so one can base a test of this hypothesis on the value of R^2. The test statistic is as follows.

$F [k-1, n-k] = R^2/ [k-1]/ [1-k^2]/ [n-k]$

Larger values of F gave evidence against the validity of the hypothesis.

F Test for Usage Rate Regression

The F ratio is for testing the hypothesis that the 12 slopes in the usage rate regression are all zero.

F [12, 218] = (0.79/12)/ (1-0.79)/218 = 68.3413

This is far larger than 95 % critical value of 1.75. This may be concluded that the data are inconsistent with the hypothesis that all the slopes in the usage rate equation are zero.

Adjusted R= 0.779- The adjusted R tells tat 78% of the dependent variable is explained by the explanation variables included in the model.

F Test of Model Fit

Interpretation of β coefficients (or standardized coefficients)

To test the individual coefficients two-tailed test is used for a safer side since the directions of the effect is no anticipated for all explanatory variables. Thus, the critical value of 1.96 at 0.05 level has taken as the basis for the determination of statistically significant beta. Analyzing the standardized coefficients displayed in the SPSS output 41% of the talk time is attributed to AIRCEL while 30%, AIRTEL and 27%, VODAFONE in the order. Reference variable being the RELIANCE, all the competitors in the field are negatively related to the usage rate. BSNL has not reached t test of significance as 1.643<1.96.

Income is statistically significant at 0.05 level. Also, it is evidently seen that 41% of the usage rate is captured by the income variable. The consumers having identified with business needs reached significant level at 0.05 level. Also, it is evidently seen that 41% of the usage rate is captured by the income variable.

The consumers having identified with business needs reached significant level at 0.05 level. Nearly 36% of the usage rate is attributed to business needs. In similar way, the executive consumers are fixed to be statistically significant at 0.05 level and the standardized coefficients indicate that 17% of the dependent variable is sufficiently explained by EXE. In respect of SG, 9% of the usage rate is captured by this variable and reaches significance at 0.05 level.

Income Squared: The beta value of INC, SQ turns negative. This implies that the curve is not asymptotically raising one and the model so postulated fits well adequately.

Binary Logist Regression: Binary logist Regression takes on two independent variable or two categories. In the study, the researcher has attempted to divide the consumer population into two divisions namely High profile consumer and Low profile consumer. This kind of discrimination is necessary as the explanatory variables impacted one category may be different in degree from another category.

High Profile Consumers and Low Profile Consumers: High profile consumers do include Executives, Professionals, Technocrats, Merchant and Business classes, students in professional college. This group is something special in the sense that they are the heavy users of mobile internets foe speedy communication that may promote their business needs.

Low profile consumers consists of artisans, low level skilled workers, hawkers, small shop keepers, school students in the non-professional colleges and the like.

MODEL II - Behavioral Model Based on Binary Logic Regression

Dependent Variables: High-Profile consumer, Low-Profile consumer.

Explanatory Variables: USAGE, INC, AGE, SG, BSNL, ATEL, ACEL, VODA, MALE, URBA

The Estimation results for Binary logist regression are given as under.

$$\text{Log } (P_i/1\text{-}P_i) = 0.953 \text{ BSNL } +0.930 \text{ ATEL}+1.582 \text{ ACEL}+ 3.131 \text{ VODA } -0.014 \text{ INC } + 0 .090 \text{ USAG } + 0.009 \text{ AGE}+ 0.301 \text{ SG}+ 0.898 \text{ MALE}-0.186 \text{ URBA}- 16.441$$

-2 Log likelihood = 143.393

Goodness of Fit

Aldrich and Nelson (1984) described the likelihood test as follows, Computed C= -2 [log l_0/l_1] where L_0 is the maximum value of the likelihood function when all coefficients but the constant are zero. L_1 is the value of the likelihood function for the full model fitted. SPSS report the -2 log likelihood estimate directly. the formal test can be formed by the comparing the computed statistic C to a critical value of $\chi^2_{k-1}$for a specified significance level. Computed C = -2 log likelihood = 143.393 Chi square value for 9 degrees of freedom at 0.05 level is 16.92.

Decision: Since the computed C (= 143.393) is for greater than the Chi-Square value for 9 degrees of freedom at 0.05 level (= 16.92), the hypothesis that all coefficients but the constant are zero is rejected.

Interpretation of Regression Coefficients

Positive values indicate increases in the predictor are associated with greater likelihood of the event occurring specifically, these are the regression coefficients used to predict the logit (i.e. natural log of the odds).

EXP (B): This is the inverse natural log of B. It has a very nice interpretation an increase of one on the predictor indicates exp (B) change the odds of the even occurring. EXP (B_j) is the estimated multiplicative change in the odds for one unit increase in the J^{th} predictor. Thus, 100 [exp (B_j) -1] is the estimated percentage change in the odds for one unit increase in the J^{th} predictor.

Refer SPSS Output: Pertaining to the usage variable, exp (B) is 1.094 that can be rewritten as 100 [1.094-1] = 9.4% that is to say, for each 1% increase in the odds of having high profile consumer. In a similar way, it can be interpreted for 1% increase in males, there is every-likelihood of increasing odds favoring high profile consumer by 145%.Also, and it may be interpreter that for every 1% increase in SG, there will be 35% increase in the odds of being a high profile consumer. In respect of AGE, for 1% increase there is every -likelihood of increase in odds of being a high profile consumer by 1% approximately. Regarding the choice of service provider, DOCOMO has a fair chance promoting the odds favoring the high profile consumer by 1289%. The other service providers like ARCEL (306%), AIRTEL (1.53%) and BSNL.

CONCLUSIONS

The income earners of less than Rs 29,000 are having the usage rate less than 120 minutes/day. The income earners of greater than Rs 29,000 are necessarily consuming >120 minutes/day. The persons in the age group between 16 and 36 years have the usage rate of < 120 min/day while the persons aged above 36 years have the usage rate of > 119 min/day. Those who have the schooling years between 09 and 12 have the usage rate of < 60 minutes/day. The persons who are in the schooling years' between13 and 18 years have the talk-time consumed greater than 60 and less than 180 min/day. Females are found having the usage rate, <120 minutes/day while males are found using the usage rate greater than 119 minutes.

The people afflicted with social need are found having the usage rate of below 60 minutes/day while the people committed to business need are found having the usage rate of 60 minutes or more/day. On-executives are in the usage category of 120 minutes/day while executives are in the usage category of >119 minutes/day. Low profile consumer is consuming talk-time less than 60 minutes/day while high profile consumers' usage rate is well above 60 minutes/day. For the category of usage rate >120 minutes /day, urbanized males and females from the countryside are found associated. For the usage of >120 minutes/day, the predictors namely the schooling years of 09-12 and the social need in combination are found associated. Against this, the schooling years of 13-18 and the business need in combination are found associated.

Analyzing Linear Multi-Regression Equation

RELIANCE users are associated strongly with the usage rate relegating AIRCEL, AIRTEL and VODAFONE in the order.

Analyzing Binary Logist Regression Equation

The variables INCOME, BUSINESS NEED, EXE and SG have positively related to the usage rate. The high profile consumer in all probability is a male having a good amount of education and is consuming great deal of talk- time and it is probable that he is a user of VODAFONE to realize his ends.

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