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DISCRIMINATING FACTORS AND STRUCTURAL EQUATION MODEL FOR RURAL AND URBAN CONSUMERS FOR BUYING MOBILE PHONE IN KANCHEEPURAM DISTRICT

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ABSTRACT

The key reason behind manifold growth of usage of mobile phone in India can be attributed to the reduction in service charges and the cost of handsets. Smart phones turning smarter every passing day, it is the domestic players and new Chinese entrants to the market that continued to challenge global giants like Apple and Samsung in 2015 and the New Year can be much more exciting with the expansion of 4G services.

Emerging as a big force in the global smart phones market during 2015, India saw about 75 million devices being shipped in the first three quarters of the year. The pace of the blistering growth was further strengthened by the online channel as many handset makers added e-commerce only devices. The key objective of the research study was to identify discriminating factors influencing buying of mobile phones in case of urban vis-à-vis rural customers that were conveniently selected from the kancheepuram district and its surrounding villages. This research study is based on exploratory research design and required primary data were collected using structured-non disguised questionnaire supported with personal interviewing of the selected urban and rural customers. The researchers have compared and analysed the buying behaviour of urban as well as rural customers on selected criteria viz., price, quality, style, functions, and brand that acts as motivators for both rural and urban customers in buying of mobile phones. The researcher has offered results and put forward findings in the form of summary and conclusions which support and help in formulation and modifications of marketing strategies concerning motivational factors influencing buying of mobile phones.

Keywords- *Consumer, Buying Behaviour, Mobile Phone*

I.   INTRODUCTION

India is currently the world's second-largest telecommunications market and has registered strong growth in the past decade and half. The Indian mobile economy is growing rapidly and will contribute substantially to India's Gross Domestic Product (GDP), according to report prepared by GSM Association (GSMA) in collaboration with the Boston Consulting Group (BCG).

The liberal and reformist policies of the Government of India have been instrumental along with strong consumer demand in the rapid growth in the Indian telecom sector. The government has enabled easy market access to telecom equipment and a fair and proactive regulatory framework that has ensured availability of telecom services to consumer at affordable prices. The deregulation of Foreign Direct Investment (FDI) norms has made the sector one of the fastest growing and a top five employment opportunity generator in the country.

The Indian telecom sector is expected to generate four million direct and indirect jobs over the next five years according to estimates by Randstad India. The employment opportunities are expected to be created due to combination of government's efforts to increase penetration in rural areas and the rapid increase in smart phone sales and rising internet usage.

Market Size

Driven by strong adoption of data consumption on handheld devices, the total mobile services market revenue in India is expected to touch US$ 37 billion in 2017, registering a Compound Annual Growth Rate (CAGR) of 5.2 per cent between 2014 and 2017, according to research firm IDC.

India is expected to have over 180 million smart phones by 2019, contributing around 13.5 per cent to the global smart phone market, based on rising affordability and better availability of data services among other factors.&

According to a report by leading research firm Market Research Store, the Indian telecommunication services market will likely grow by 10.3 per cent year-on-year to reach US$ 103.9 billion by 2020.

According to the Ericsson Mobility Report India, smart phone subscriptions in India is expected to increase four-fold to 810 million users by 2021, while the total smart phone traffic is expected to grow seventeen-fold to 4.2 Exabytes (EB) per month by 2021.

According to a study by GSMA, smart phones are expected to account for two out of every three mobile connections globally by 2020 making India the fourth largest smart phone market. Total number of Fourth-Generation (4G) enabled smart phone shipments in India stood at 13.9 million units in the quarter ending December 2015, which was more than 50 per cent of total shipments, thereby surpassing number of Third-Generation (3G) enabled smart phone shipments for the first time.^ Broadband services user-base in India is expected to grow to 250 million connections by 2017.

International Data Corporation (IDC) predicts India to overtake US as the second-largest smart phone market globally by 2017 and to maintain high growth rate over the next few years as people switch to smart phones and gradually upgrade to 4G.

II.　RESEARCH METHODOLOGY

The researcher has used Exploratory research design to determine discriminating factors that have influenced purchase decision of mobile phone by rural and urban consumers who were conveniently drawn by applying non-probability sampling design on the basis of convenience sampling method for the collection of the required primary data. Data were collected from total 360 respondents in which 180 respondents were form rural area and another 180 were from urban area. In this research study required primary data were collected using structured-non disguised questionnaire supported with personal interviewing of the selected urban and rural customers. By using survey research approach data were collected from the representative sampling units from Kancheepuram district and its surrounding villages who are the users of mobile phones. The researcher has made an attempt to put forward the results and findings based on use of descriptive statistics, discrimination analysis and also offered Structural Equation Model using SPSS and AMOS software. The researchers have also offeredthe implications in formulation and modifications of marketing strategies concerning underlying incentivesthathave influencedbuyer's decision of buying mobile phones.

Objectives of the Research Study

i)　　Tostudy the information sources considered by selected rural and urban consumers while buying a mobile phone

ii)　　To examine the who played an important role in making buying decisions made by selected rural and urban consumers

iii)　　To identify discrimination factors which affected rural and urban consumers buying decision of mobile phone as well as to measure their satisfaction/dissatisfaction form their mobile phone.

Reliability of the Structured Non-disguised Questionnaire

Reliability test was applied to determine how strongly the opinion of rural and urban consumers were related to each other, and also to compare its composite score. The Cronbach's Alpha score of 0.601 as shown in Table Number 06 showed internal reliability of the scale and reflected the degree of cohesiveness among the given below items (Naresh K. Malhotra, 2007 and Jum C. Nunnally, 1981).

III.　DATA ANALYSIS AND INTERPRETATION

As the present research study is based on primary data from selected respondents from kancheepuram district and its surrounding villages, the researcher has used frequency distribution, mean, and median values for analysing data as well as the z test was put to use to test the significant differences in mean

IV.　DISCUSSION S AND IMPLICATIONS

This paper presents a comparative study investigating the influence of price, quality, style, functions and brand name of Mobile Phone on consumer purchasing behaviour of rural and urban mobile phone users of Kancheepuram

district and selected villages. A structured non-disguised questionnaire was administered and survey was conducted to collect the data which then are used to analyse the data and then results were offered with the implication and conclusions which clearly provide idea about factors having strongest impact on mobile phone consumers. The discriminant analysis showed that considering result of 'Standardized Canonical Discriminant Function Coefficients' the Price with 0.817 score was the strongest predictor while Quality with -0.682 score with –via sign was next in importance as a predictor. With large coefficients these two variables i.e. Price and Quality stand out as those that strongly predict allocation to the Urban and or Rural group.

The Structural Equation Model also supports the findings of discriminant analysis that price and quality of mobile phones are important factors with standardized regression weights of 0.22 for price and 0.15 for quality. It means 1 unit change in price leads to 0.22 changes in overall satisfaction of the consumer form performance of mobile phone and 1 unit change in quality leads to 0.15 changes in overall satisfaction of the consumer form performance of mobile phone.

The result indicated that among the influences of five factors tested, the price and quality has the strongest impact on mobile phone consumers of rural and urban area of Kancheepuram district. This has the implication to those domestic and multinational mobile phone manufacturers' marketing practices that those firms should continuously consider the influence of combination of these price and quality to target mobile phone consumers in their future promotional efforts. Considering competition in the marketing of mobile phones the price is a major factor of the attraction to the buyers and many of the manufacturing company attempts to offer the mobile handsets at low price but in such cases mobiles were found to be of poor quality, the materials used in those mobile phones are of lower grade. It results in to difficulty for the marketer to attract customers for such mobile phones and therefore the mobile manufacturer company should make an attempt to know about those factors which influence the buying decisions of consumers.

In such competitive marketing environment and the marketing condition all the mobile manufacturing company need to consider the situation and provide the higher quality of mobile sets at lower price which can be helpful to attract the poor people of rural area as well as attract the non-users in urban area.

Considering other factors being equal (i.e., no significant differences), the marketing efforts with the appropriate application of the price and quality combination will of certainly helpful to the firms to better sell their products or services.

The study showed that people of rural area are more price conscious compared to urban consumers due to the limitations of income and occupational opportunities (supported by the facts that 28 per cent of selected respondents in rural areas belongs to agriculture and 82 per cent of selected respondents earn less than 10,000 in a month). Quality consciousness is high among the urban consumers compared to rural consumers and therefore the mobile phone needs to be deigned differently for rural consumers considering their high price consciousness and relatively less quality consciousness for mobile handsets. Consumers buy the branded mobile phones taking in to consideration the assurance about its functions and consistent performance.

By considering the kind of difference in terms of importance given by urban and rural segments the marketers of mobile phones can make alterations related with functions of handsets and will be able to make the brand more popular among different segments of users of mobile phones.

The research study highlighted the fact that the buyers perception about price, quality, functions and brand name of mobile phone is not same, it really compel the marketers of mobile phone to not only understand the requirements of urban and rural consumers based on their demographic profile but also to formulate different marketing mix strategies for them. Though the perception about style or look of the mobile phone found similar but marketer should not forget the fact that difference exists between urban and rural consumers, and from time to time such preference may change, which helps in designing more suitable models for different segments of the society.

Considering today's marketing practices adopted by the marketers in using combination of media and the kind of favourable behaviour expected by the marketer from consumers, marketer need to understand difference might have been influenced by electronic media or any other media or by the prolonged attitude developed by different

categories of consumers. It is very difficult to give or assign a one to one co-relation and induce any final judgment between marketing efforts and its influence on consumers as consumer behaviour and marketing orientation are the results of several factors i.e. market is changing, brands are also changing and technology is moving very fast, but human mind and attitude do not change so fast. As such Consumer Behaviour needs to be assessed from time to time.

Further, The research study revealed that due to availability of variety of sources of information consumers are not only able to take self-decisions for buying mobile phone of their choice but at the same time the opinion of family members and friends also play an important role. While developing communication programme the marketer need to address the self-concept of persons to support their self-decisions as well as to incorporate the effect of social relations in making choice.

Dissatisfaction among the small number of consumers will definitely have adverse impact on future market of the product considering the chances of influencing buying decisions of others through word of mouth. Continuous monitoring of dissatisfaction by marketer of different mobile phone will aid in adding the features which minimize the dissatisfaction and retain their customers for their replacement demand for handsets.
This study besides studying brand selection by the rural and urban consumers of Kancheepuram District will also help to understand the overall purchase behaviour of this segment of consumers. The results of this study will provide insight and information for administrators, researchers about the behaviour of consumers towards various mobile brands and services particularly in Vadodara.

V.   CONCLUDING REMARKS
The cost of mobile technology must remain low in order to be able to reach the poorest whose lives the mobile phone has the most potential to change, and the mobile phone operators and the rest of the mobile ecosystem have worked to deliver this via the development of low-cost handsets and micro-top-up pricing models, but this effort is negated

If government increases the cost of ownership via heavy taxes on mobile use or on the investment in mobile infrastructure.

The most important consideration about rural market is that no matter how good the service provided to them and having a qualitative cell phone, there are still places where cell phone would not work or will cut out.

Companies should divert their attention to rural areas to cater to the rural market as Indian market has still not reached to its saturation level, but it has to still make inroads in rural areas. Government should make an attempt to provide the companies secured environment so that the marketer get attracted to invest in rural India to serve some of the village requirements in order to provide better buying experience to rural consumers. Companies need to formulate integrated marketing strategies and action plans in such a way that they are able to get favourable consumer's response.

Content providers among the marketers of mobile phones are harnessing new hardware and software innovations leads to the growth of communities through delivering their own innovative services and products to the consumer over mobile access. One can say that mobile phone is proving to be a lifeline that allows the children and elderly to keep in touch with their families and to aid them in an emergency.

The increased adoption of smart phones particularly by the young has brought many benefits and opened up access to new services and products. The advent of the Smartphone, combined with the widespread deployment of mobile broadband networks, has led to an explosion of mobile data services. The mobile industry is a strong supporter of an open Internet, but the flexibility to manage traffic and innovate on the network and in customer propositions is required to keep it open and effective.
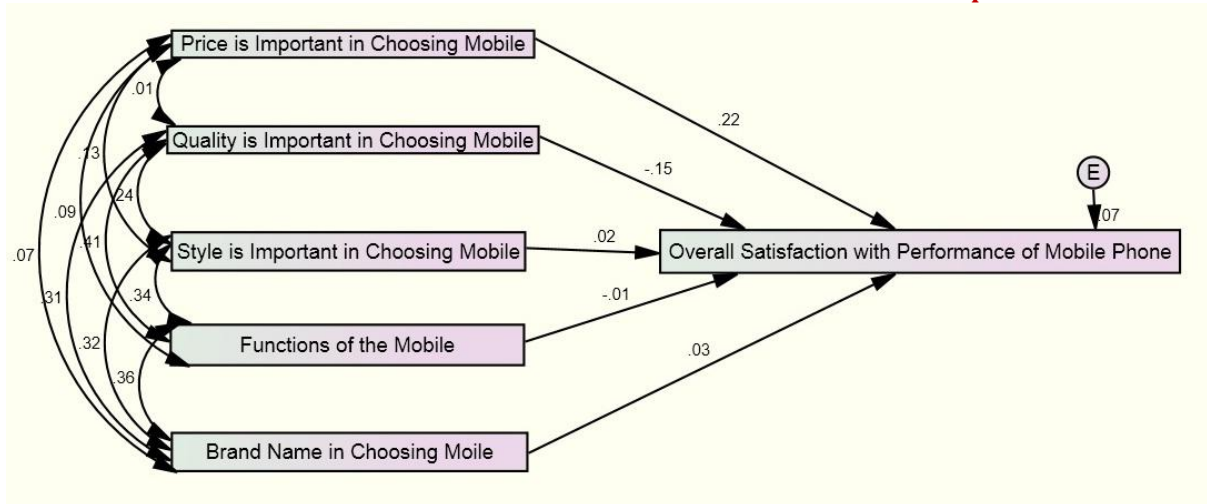
Figure No.: 01   : SEM of Relationship between Selected Variables and Overall Satisfaction Experienced by Total Rural and Urban Buyers of Mobile Phone

Table Number: 02: Table Showing Summary of Indicators and Reliability Alpha Score

Sr. No.	Grouped Indicator Items	Cronbach's Alpha Coefficient
01	Price of the Mobile	
02	Quality of the Mobile	
03	Style of the Mobile	**0.601**
04	Functions of the Mobile	
05	Brand Name of the Mobile	

Table Number: 03: Profile of Selected Urban and Rural Respondents

Sr. No.	Selected Background Variables of Selected Respondents		City or Rural Area (Number and Percentages of Selected Respondents)		
			Urban Area	Rural Area	Total
01	**Gender**	Males	124 (68.9)	153 (85.0)	277 (76.9)
		Females	56 (31.1)	27 (15.0)	83 (23.1)
02	**Age Group**	Below 20	55 (30.6)	36 (20.0)	91 (25.3)
		21 to 30	67 (37.2)	79 (43.9)	146 (40.6)
		31 to 40	29 (16.1)	29 (16.1)	58 (16.1)
		41 to 50	15 (8.3)	24 (13.3)	39 (10.8)
		Over 50	14 (7.8)	12 (6.7)	26 (7.2)
03	**Educational Qualification**	Under Graduate	96 (53.3)	129 (71.7)	225 (62.5)
		Graduate	46 (25.6)	41 (22.8)	87 (24.2)
		Post-Graduate	29 (16.1)	7 (3.9)	36 (10.0)
		Professional Qualification	7 (3.9)	0 (0.0)	7 (1.9)
		Ph. D.	2 (1.1)	3 (1.7)	5 (1.4)
04	**Occupation**	Student	87 (48.3)	29 (16.1)	116 (32.2)
		Service	44 (24.4)	42 (23.3)	86 (23.9)
		Business	22 (12.2)	32 (17.8)	54 (15.0)
		Profession	20 (11.1)	0 (0.0)	20 (5.6)
		Agriculture	1 (0.6)	50 (27.8)	51 (14.2)
		House Wife	2 (1.1)	12 (6.7)	14 (3.9)
		Retired	4 (2.2)	0 (0.0)	4 (1.1)
		Religious Activity	0 (0.0)	15 (8.3)	15 (4.2)

05	Monthly Family Income	Up to Rs. 5,000	15 (8.3)	82 (45.6)	97 (26.9)
		Rs. 5,001 to 10,000	42 (23.3)	65 (36.1)	107 (29.7)
		Rs. 10,001 to 20,000	41 (22.8)	21 (11.7)	62 (17.2)
		Above 20,000	82 (45.6)	12 (6.7)	94 (26.1)

Table Number: 04: Table Showing Mobile Phones of Different Brand Used by Respondents

Sr. No.	Name of the Brand	City or Village		Total
		Urban Area	Rural Area	
		(Number and Percentages)		
01	Samsung	97 (53.9)	93 (51.7)	190 (52.8)
02	Motorola	3 (1.7)	14 (7.8)	17 (4.7)
03	VIVO	2 (1.1)	3 (1.7)	5 (1.4)
04	Sony	8 (4.4)	7 (3.9)	15 (4.2)
05	APPLE	40 (22.2)	41 (22.8)	81 (22.5)
06	TATA LG	3 (1.7)	1 (0.6)	4 (1.1)
07	OPPO	5 (2.8)	4 (2.2)	9 (2.5)
08	Max	5 (2.8)	5 (2.8)	10 (2.8)
09	I Phone	1 (0.6)	0 (0.0)	1 (0.3)
10	Ideas	2 (1.1)	2 (1.1)	4 (1.1)
11	Videocon	2 (1.1)	1 (0.6)	3 (0.8)
12	Blackberry	8 (4.4)	1 (0.6)	9 (2.5)
13	Micromax	3 (1.7)	2 (1.1)	5 (1.4)
14	HTC	1 (0.6)	0 (0.0)	1 (0.3)
15	China	0 (0.0)	6 (3.3)	6 (1.7)
	Total	180 (100.0)	180 (100.0)	360 (100.0)

Table Number: 05: Table Showing Sources of Information Used by Respondents for Buying MobilePhones:

Sr. No.	Name of the Information Sources Used by respondents	City or Village		Total
		Urban Area	Rural Area	
		(Number and Percentages)		
01	News Paper	12 (6.7)	43 (23.9)	55 (15.3)
02	TV	15 (8.3)	37 (20.6)	52 (14.4)
03	Internet	19 (10.6)	20 (11.1)	39 (10.8)
04	Mobile Phone Retailer	83 (46.1)	40 (22.2)	123 (34.2)
05	Magazines	2 (1.1)	8 (4.4)	10 (10.0)
06	Radio	6 (3.3)	16 (8.9)	22 (6.1)
07	Friends	43 (23.9)	16 (8.9)	59 (16.4)
	Total	180 (100.0)	180 (100.0)	360 (100.0)

Table Number: 6: Table Showing the Influencer in Making Purchase Decision of Mobile Phone

| Sr. No. | Influencer in Making Buying Decision | City or Village | | Total |
| | | Urban Area | Rural Area | |

		(Number and Percentages)		
01	Self-Decision	98 (54.4)	81 (45.0)	179 (49.7)
02	Family Members	51 (28.3)	63 (35.0)	114 (31.7)
03	Friends	22 (12.2)	21 (11.7)	43 (11.9)
04	Mobile Phone Retailer	9 (5.0)	15 (8.3)	24 (6.7)
	Total	180 (100.0)	180 (100.0)	360 (100.0)

Table Number: 08: Table Showing the Overall Satisfaction with Performance of Mobile Phone

Selected Criteria	Satisfaction/ Dissatisfaction	City or Village		Total
		Urban Area	Rural Area	
		(Number and Percentages)		
Overall Satisfaction with Performance of Mobile Phone	Highly Dis-satisfied	24 (6.7)	0 (0.0)	24 (6.7)
	Dis-satisfied	1 (0.3)	0 (0.3)	1 (0.3)
	Somewhat Satisfied	4 (1.1)	7 (1.9)	11 (3.1)
	Satisfied	132 (36.7)	40 (11.1)	172 (47.8)
	Highly Satisfied	19 (5.3)	133 (36.9)	152 (42.2)
Total		180 (50.0)	180 (50.0)	360 (100.0)

Table No. 14: Eigen values - proportion of variance explained

Function	Eigen value	% of Variance	Cumulative %	Canonical Correlation
1	**0.406 (a)**	100.0	100.0	**0.538**

First 1 canonical discriminant functions were used in the analysis.

Table No. 19: Wilks' Lambda Scores - of the total variance in the discriminant scores

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	**0.711**	121.239	5	**0.000**

Table No. 15: Standardized Canonical Discriminant Function Coefficients

Criteria	Function 1
Price is Important in Choosing Mobile	**0.817**
Quality is Important in Choosing Mobile	**-0.682**
Style is Important in Choosing Mobile	0.090
Functions of the Mobile	-0.138
Brand Name in Choosing Mobile	-0.060

Table No. 16: Structure Matrix - correlations of each variable with each discriminate function

Criteria	Function 1
Price is Important in Choosing Mobile	**0.681**
Quality is Important in Choosing Mobile	**-0.588**
Functions of the Mobile	-0.249
Brand Name in Choosing Mobile	-0.173
Style is Important in Choosing Mobile	-0.028

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions - Variables ordered by absolute size of correlation within function.

Table No. 17: Canonical Discriminant Function Coefficients

Criteria	Function 1

Price is Important in Choosing Mobile	0.903
Quality is Important in Choosing Mobile	-0.827
Style is Important in Choosing Mobile	0.082
Functions of the Mobile	-0.132
Brand Name in Choosing Mobile	-0.050
(Constant)	0.010

Unstandardized coefficients

Table No. 18: Functions at Group Centroids

City or Village	Function 1
Urban Area	-0.636
Rural Area	0.636

Unstandardized canonical discriminant functions evaluated at group means

Table No. 19: Classification Results

		City or Village	Predicted Group Membership		Total
			Urban Area	Rural Area	
Original	Count	Urban Area	140	40	180
		Rural Area	50	130	180
	%	Urban Area	**77.8**	22.2	100.0
		Rural Area	27.8	**72.2**	100.0
Cross-validated (a)	Count	Urban Area	134	46	180
		Rural Area	52	128	180
	%	Urban Area	**74.4**	25.6	100.0
		Rural Area	28.9	**71.1**	100.0

A Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.
B 75.0**%** of original grouped cases correctly classified.
C 72.8**%** of cross-validated grouped cases correctly classified..

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