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Impact of Branding on Customer Satisfaction and Loyalty: An Empirical analysis among Mobile Handset Users

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Abstract: *This research paper is aimed to assess the role of branding over the customer satisfaction and the brand loyalty among the Indian mobile handset users. The study emphasised to reveal the customers branding perceptions over the various factors such as product, price, promotion, packing, quality and image to generate the customer satisfaction and further leads to enhance the brand loyalty among the customers. The researcher collected the 574 responses to carry forward the research. The researcher used simple linear regression and multiple linear regression analysis techniques to analyse the data.*

Keywords: *Product; Price; Promotion; Packing; Quality; Image; Customer Satisfaction; Brand Loyalty.*

1. INTRODUCTION

Brands are used from the times of Greek and Roman, at that time there were sign boards in the way of shop which guide the path of the shop also there were engraved stones to communicate with customers that a particular shop has these things. Those sign boards on the way, out the shop and engraved stones showed products which the shop had. That was an era of illiteracy and these were the best ways to communicate with customers (Rierzebos, 2003). Most of the countries used patents to establish legal aspects by 1890. From 1800 to 1925, it was the era of giving names to the products (Joseph, 1995). From these beginnings branding is a major component of marketing strategy to retain customers and for growth. Some businessmen today think that there is no need for branding but American's say that there would be no trustworthy market place and no sure, without trade mark brands (Joseph, 1995). In the decade of 1980s, main focus was "takeover" brands (Joseph, 1995). That is more focus on acquiring the established brands instead of developing the new ones because many argue that developing a new brand would not be possible and carrying out R&D would be a difficult task. But this strategy was not dominant but has an influence. During this period many brands began to suffer. The firms have changed their focus toward branding. Firms are more focusing on strengthening existing brands (Joseph, 1995).

2. BRANDING IN INDIAN MOBILE MARKET

According to the latest trends in the Indian Smartphone market is heating up as multinational and homegrown companies compete to convert customers away from old-generation feature phones. The cellular penetration at just 73%, handset makers still have room to attract new customers in India and consumers' are also upgrading, with a thriving replacement market aided by dropping prices and cheap financing schemes. As per the August report from to technology researcher IDC India (International Data Corporation), only 10% of India's mobile population uses smartphones but this is the fastest growing segment, accounting for 29% of handset shipments in the quarter ended June 2014, up from 16% in Q2 2013. As per this research, during the quarter the overall India mobile handset market stood at 63.21m units with a 5% quarterly growth, while Smartphone shipments grew 11% quarterly and 84% year-on-year. However, the UK-based consultancy Canalys says that India is now the world's fastest growing Smartphone market globally and the third-largest market after China and the United States. Also according to a July report by We Are Social, India has only 243m Internet users, a 19% penetration rate, but three-quarters of these use their mobile phones to go online. Google says it expects India to be the world's second-largest Internet market by 2017, driven by mobile usage. Intestinally, this has contributed to the meteoric rise of local companies. Not even on the map five years ago, they now account for a third of handset sales and dominate the market share rankings. According to IDC, in Q2 2014, Samsung Electronics Co. led the overall handset market with a 17% market share

followed by Micromax (14%), Nokia (10%), Karbonn (9%) and Lava (8%). The research firm IDC says it is noteworthy that Micromax is growing faster than Samsung and that among the top five vendors, only Micromax and Lava are growing faster than the market, at 18% and 54% respectively, although Samsung still comfortably leads the Smartphone segment with a 29% share against 18% for Micromax. Six-year-old Micromax may soon outrun Samsung: indeed, a report from Hong Kong-based Counterpoint Technology Market Research estimated a 16.6% overall market share for Micromax in the same June quarter, against 14.4% for Samsung's 14.4%. There are some new threats from China in this field. Popular Smartphone brands are looking to India. For example, China's Gionee, earlier a supplier to Micromax, has sold 3milion units since its Indian debut in March 2013 and Taiwanese computer maker Asus entered the Smartphone market in July 2014 with four smartphones priced between Rs5,999 and Rs16,999, selling over 100,000 units since. This company is now aims to be among India's top five Smartphone players by end of 2015. Also, China's Xiaomi has also sold 100,000 units of its flagship Mi3 device, priced at Rs13, 999, since it was launched in July 2014 according to this website (http://www.eiu.com). However, the local companies are also partnering with international ones. In September, Google, working with MediaTek and Micromax, Karbonn and Spice, introduced its new Android One smartphones priced as low as Rs 6,399 to capitalize on the mobile Internet shift. From America, US-based Mozilla, which drives open-source web browser Firefox, partnered Indian phone maker Intex to introduce Firefox smartphones for Rs1,999 and aims to sell half a million handsets by end-2014. Strikingly, all that feverish activity will benefit both India's customers and handset makers (http://www.eiu.com).

3. REVIEW OF LITERATURE

The concept of brand was first used by the ancient Egyptian brick-makers who drew symbols on bricks for identification (Farquhar, 1990). The researcher Farquhar has opined that managing brand equity is one of the pivotal aspects for any company. Also in the North America there is a need for brand identification while growing their cattle forming as a kind of legal protection and proof of ownership (De Chernatony and McDonald, 2003) which will result creating powerful brands. The important point of a company strategy revolves around the brand orientation of consumers and companies identifies the importance of brand management and the spectrum of brand has been broadened beyond marketing communication and the resource-based theory of marketing strategy (Wong and Merrilees, 2007, Doyle, 1989). According to Wong opined that there are multiple roles played by brands for any modern company and according to Doyle, building successful brands leads to success of any company. The researcher (Festinger, Leon 1964) some researchers have raised questions concerning the nature and direction of causation in relations between attitudes and behavior. Some research studies related to segmentation on the basis of personality characteristics have had negative or inconclusive results. Brand choice also depends on Psychological and Objective Factors are more useful in the Prediction of Brand Choice. (Evans, Franklin B,1959) and, it is important to find out the types of consumers (Koponen, Arthur,1960), apart from personality and product use (Tucker, W. T. and John J. Painter,1961).

4. RESEARCH GAP

There are numerous studies over the subject of customer satisfaction. The antecedents and consequences of customer satisfaction is debated since long time. There are several studies on understanding the concept of customer satisfaction in the various fields such as retailing, hospitality, hospitals, IT and software, construction sector etc. But there is no a comprehensive study over assessing the impact of customer satisfaction over the brand loyalty. Hence, the researcher undertakes this research problem to assess the impact of customer satisfaction in determining the brand loyalty in mobile users in the Indian telecommunication market.

5. RESEARCH QUESTIONS

The researcher derived the following research questions based on the exploratory research which was carried out by the researcher. The research questions are as follows:

1. Do the Product of the mobile hands has any effect over Customer Satisfaction?
2. Do the Price of the mobile hands has any effect over Customer Satisfaction?

3. Do the Promotion of the mobile hands has any effect over Customer Satisfaction?
4. Do the Packing of the mobile hands has any effect over Customer Satisfaction?
5. Do the Quality of the mobile hands has any effect over Customer Satisfaction?
6. Do the Image of the mobile hands has any effect over Customer Satisfaction?
7. Do the Customer Satisfaction has any effect over Brand Loyalty?
8. Do determinant attributes of mobile handsets have any effect over Brand Loyalty?

6. HYPOTHESES FORMULATION

As the present study's model has been derived from the exploratory study, should be formulate the hypotheses in null form. Hence the proposed hypotheses are as follows:

$H1_0$: Product features of mobile handsets have no significant effect on Customer Satisfaction.

$H2_0$: Price of mobile handsets have no significant effect on Customer Satisfaction.

$H3_0$: Promotion of mobile handsets have no significant effect on Customer Satisfaction.

$H4_0$: Packing of mobile handsets have no significant effect on Customer Satisfaction.

$H5_0$: Quality of mobile handsets have no significant effect on Customer Satisfaction.

$H6_0$: Image of mobile handsets have no significant effect on Customer Satisfaction.

$H7_0$: Customer Satisfaction have no significant effect on Brand Loyalty.

$H8_0$: Determinant attributes of mobile handsets have no significant effect on Brand Loyalty with relation to:

$H8_{0a}$: Product; **$H8_{0b}$** : Price **$H8_{0c}$**: Promotion

$H8_{0d}$: Packing **$H8_{0e}$**: Quality **$H8_{0f}$**: Image

7. RESEARCH DESIGN

Convenience sampling method was used to select the respondents to collect the necessary data for this research. Further, the research teams approached the mobile hand-set users in their respective places.Mobile hand-set users were approached with a request to participate in the survey and further assured that the collected data will be used only for the academic. A well-defined and self-administered questionnaire, which consists of detailed sequence of questions, is used to collect the primary data from the mobile hand-set users. The researchers approached the mobile hand-set users in both Guntur and Krishna districts of Andhra Pradesh state.

8. SAMPLING FRAME AND SAMPLE SIZE

The Guntur and Krishna districts of Andhra Pradesh state have been considered as the sample frame work for this study. The post-paid mobile connection user'scontacted over phone initially to know their interest to participate in the survey. Once taking their consent, the research teams approached them with a structured questionnaire. The following Table -1 illustrates the sample frame of this study.

Table -1: *Sample Frame across the State of Andhra Pradesh*

SAMPLE FRAMEWORK		
Content	**Guntur District**	**Krishna District**
No of Mobile Hand-set users approached	375	386
No of Mobile Hand-set users participated in the survey	321	316
Number of survey instruments returned	294	287
No of Survey instruments usable	289	285
Total	**574**	

Source: *Primary Data*

9. RELIABILITY ANALYSIS

Cronbach's Alpha was used to measure the reliability coefficient. For reliability coefficient values, it was suggested that 0.70 is the minimum requirement for basic research (Nunnally, 1978). If the correlations are low (less than 0.70), the contribution of each item will be reviewed, and consideration will be given to dropping from the scale of those items that provide the least empirical and conceptual support. The following table -2 suggestsCronbach's Alpha are above the minimum cutoff requirement, indicating good reliability.

Table – 2 *Reliability Analysis*

S.No	Variable	Cronbach's Alpha
1	Product	0.957
2	Price	0.898
3	Promotion	0.928
4	Packing	0.939
5	Quality	0.868
6	Image	0.828
7	Customer Satisfaction	0.947
8	Brand Loyalty	0.938

10. DEMOGRAPHIC PROFILE OF THE RESPONDENTS

The primary data required to this study was collected from Guntur and Krishna districts in Andhra Pradesh, India. Initially the researcher approached 761 mobile hand-set users to participate in the survey, out of which 637 were given their consent to participate in the survey. The survey instrument is executed, and it was found that 581 questionnaires were retuned and out of them 574 were found to be useful for the study. Hence the sample size of the study is considered as 574. The following sections presented the data analysis of the participants demographic, socio-economic and geographic attributes of the respondents.

11. RESPONDENT'S SOCIO-ECONOMIC, DEMOGRAPHIC AND GEOGRAPHIC CHARACTERISTICS

There are 574 total participants took part in this survey and out of which 378 (66.1 percent) are male and 196 (33.9 percent) are female and the average age of respondents is 34 years and ranges from 20-57 years. Majority of the respondents were married i.e 500 (87.76 percent) and 74 (12.24) were unmarried. The major chunk of the participants of the survey 295 (51.77 percent) were under the age segment of 20-30 years and 147 (19.21 percent) members were in the segment of 30-40 years, 13.5% of the employees were under the segment of 40-50 years and only 21 (3.19 percent) respondents were in the segment of above 50 years age. Majority of the respondents 275 (48.75 percent) were using the mobile price in the range of Rs 1,000 – 10,000, 165 members (28.36 percent) were using the range of Rs 10,000-20,000 and 134 (22.87 percent) were using the mobile worth above Rs 20,000. Regarding the educational qualification, 64 members (10.46 percent) had the qualification of SSC/Diploma qualification, 382 members (67.73 percent) had either degree or B.Tech qualification and 128 members (21.81 percent) had Post-Graduation as their qualification. The major chunk of the respondents 306 (54.25 percent) were in the range of Rs 30,000 – 40,000 categories of monthly income and 105 members (18.26 percent) were in the Rs 40,000 – 50,000 range of monthly income, 105 members (19.14 percent) of the respondents were in the range of more than Rs 50,000 of monthly income range and very few 52 members (8.33 percent) were in the range of Rs 15,000 – 30,000 range of monthly income. The average monthly income is Rs 33,277 and the standard deviation of the monthly income is Rs 11,567.

The analysis regarding the size of the family revealed that, 37 members (5.67 percent) had 1-2 family members, 74 members (13.12 percent) had 2-3 members in their family, 326 members (57.80 percent) had 3-4 members in their family, 120 members (21.27 percent) had 4-5 members in their family, only 19 members (2.48 percent) had more than five members in their family. The average family size of the respondents is 3.14 and the standard deviation is 0.74. The span of experience of the respondents was presented here, 73 members (12.05 percent) had 0-2 years of experience, 124 members (21.98 percent) of them had 2-5 years of experience, 276 members (48.93 percent) had 5-10 years of experience and 101 members (17.02 percent) had more than 10 years of experience. The average

experience of the respondents is 2.16 years and the standard deviation is 1.34 years of experience. The results of respondent's demographic, socio-economic and geographic variables are summarized in Table-3 and the details were presented in the following graph.

Table – 3: *Demographic Profiles of the Participants*

Demographic Description		Frequency	Percentage	Mean	SD
Gender	Male	378	66.1	-	-
	Female	196	33.9		
Age	20 - 30 Yrs	295	52.77	34.06	11.47
	30 - 40 Yrs	147	19.92		
	40 - 50 Yrs	112	13.52		
	>50 Yrs	21	13.79		
Marital Status	Married	500	87.76	-	-
	Unmarried	74	12.24		
Price of Mobile	Rs 1,000 – 10,000	275	48.75	-	-
	Rs 10,000-20,000	165	28.36		
	Above Rs 20,000	134	22.89		
Education	SSC/Diploma	64	10.46	-	-
	Degree	382	67.73		
	Post-Graduation	128	21.81		
Monthly Income	Rs 15000 - 30000	52	8.33	Rs 33277.64	Rs 11567
	Rs 30000 - 40000	306	54.25		
	Rs 40000 - 50000	105	18.26		
	>Rs 50000	111	19.16		
Family Size	1to2	37	5.67	3.14	0.74
	2to3	74	13.12		
	3to4	326	57.80		
	4to5	120	21.27		
	5 and above	19	2.14		
Periodicity	0 - 2 Years	73	12.05	2.16 Years	1.34 Years
	2 - 5 Years	124	21.98		
	5 – 10 Years	276	48.93		
	> 10 Years	101	17.04		

Source: *Primary data*

Inferential Statistics (Hypotheses $H1_0$ – $H8_0$):

$H1_0$: Product attributes will not have significant effect on Customer Satisfaction.

The hypothesis of relationship between product attributes and customer satisfaction were tested using simple linear regression. The regression results shown in Table - 4revealed that the predictor variables contribute significantly and had moderate impact on the customer satisfaction ($R^2 = 0.281$). The corresponding ANOVA value ($F = 213.641$, $p=0.000$) for the regression models had indicated the validation with customer satisfaction.

Table – 4: *Regression Model Summaries for the Product Attributes on Customers Satisfaction*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					df1	df2	F-Value	Sig.
1	.530[a]	.281	.280	.71911	1	547	213.641	.000[b]
a. Predictors: (Constant), Customer Satisfaction								

The coefficient summary shown in Table - 5 revealed that beta values of product attributes ($\beta=0.478$, $t=14.616$, $p=0.000$) was significant with customer satisfaction. The results were implicit that predictor variable was related with dependent variable. Hence, null hypothesis was disproved and alternate hypothesis ($H1_0$) was accepted as their p-values were less than 0.05.

Here the following simple linear regression model

Customer satisfaction (Y) = 3.059+ 0.478 (Product Attributes) X

Table - 5: *Predictor effects and Beta Estimates (Unstandardized) for Product Attributes associated with Customer Satisfaction.*

Model	Variable	Unstandardized Coefficients		Standardized Coefficients	t-Value	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.059	.188		16.302	.000
	MProduct	.478	.033	.530	14.616	.000
a. Dependent Variable: Customer satisfaction						

$H2_0$: Pricing strategies will not have significant effect on Customer Satisfaction.

The hypothesis of relationship between pricing strategies and customer satisfaction were tested using simple linear regression. The regression results shown in Table - 6revealed that the predictor variables contribute significantly and had moderate impact on the customer satisfaction (R^2 = 0.643). The corresponding ANOVA value (F = 385.936, p=0.000) for the regression models had indicated the validation with customer satisfaction.

Table – 6: *Regression Model Summaries for the Pricing strategies on Customer satisfaction*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					df1	df2	F-Value	Sig.
1	.643[a]	.414	.413	.64932	1	547	385.936	0.000
a. Predictors: (Constant), Customer satisfaction								

The coefficient summary shown in Table - 7 revealed that beta values of pricing strategies (β=0.759, t=19.645, p=0.000) was significant with customer satisfaction. The results were implicit that predictor variable was related with dependent variable. Hence, null hypothesis was disproved and alternate hypothesis ($H2_0$) was accepted as their p-values were less than 0.05.

Here the following simple linear regression model

Customer satisfaction (Y) = 1.410+ 0.759 (Pricing strategies) X

Table - 7: *Predictor effects and Beta Estimates (Unstandardized) for Pricing strategies associated with Customer Satisfaction.*

Model	Variable	Unstandardized Coefficients		Standardized Coefficients	t-Value	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.410	.223		6.309	.000
	Pricing strategies	.759	.039	.643	19.645	.000
a. Dependent Variable: Customer satisfaction						

$H3_0$: Promotion strategies will not have significant effect on Customer Satisfaction.

The hypothesis of relationship between promotion strategies and customer satisfaction were tested using simple linear regression. The regression results shown in Table - 8revealed that the predictor variables contribute significantly and had moderate impact on the customer satisfaction (R^2 = 0.470). The corresponding ANOVA value (F = 155.485, p=0.000) for the regression models had indicated the validation with customer satisfaction.

Table – 8: *Regression Model Summaries for the Promotion strategies on Customer satisfaction*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					df1	df2	F-Value	Sig.
1	.470[a]	.221	.220	.74829	1	547	155.485	0.000
a. Predictors: (Constant), Customer satisfaction								

The coefficient summary shown in Table - 9 revealed that beta values of promotion strategies (β=0.525, t=12.469, p=0.000) was significant with customer satisfaction. The results were implicit that predictor variable was related with dependent variable. Hence, null hypothesis was disproved and alternate hypothesis ($H3_0$) was accepted as their p-values were less than 0.05.

Here the following simple linear regression model

Customer satisfaction (Y) = 2.662+ 0.525 (Promotion Strategies) X

Table - 9: *Predictor effects and Beta Estimates (Unstandardized) for Promotion strategies associated with Customer satisfaction.*

Model	Variable	Unstandardized Coefficients		Standardized Coefficients	t-Value	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.662	.251		10.608	.000
	Promotion strategies	.525	.042	.470	12.469	.000
a. Dependent Variable: Customer satisfaction						

$H4_0$: Packing will not have significant effect on Customer Satisfaction.

The hypothesis of relationship between packing and customer satisfaction were tested using simple linear regression. The regression results shown in Table - 10revealed that the predictor variables contribute significantly and had moderate impact on the customer satisfaction (R^2 = 0.398). The corresponding ANOVA value (F = 103.186, p=0.000) for the regression models had indicated the validation with customer satisfaction.

Table – 10: *Regression Model Summaries for the Packing on Customer satisfaction*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					df1	df2	F-Value	Sig.
1	.398[a]	.159	.157	.77780	1	547	103.186	0.000
a. Predictors: (Constant), Customer satisfaction								

The coefficient summary shown in Table - 11 revealed that beta values of packing (β=0.452, t=10.158, p=0.000) was significant with customer satisfaction. The results were implicit that predictor variable was related with dependent variable. Hence, null hypothesis was disproved and alternate hypothesis ($H4_0$) was accepted as their p-values were less than 0.05.

Here the following simple linear regression model

Customer satisfaction (Y) = 3.070+ 0.452 (Packing) X

Table - 11: *Predictor effects and Beta Estimates (Unstandardized) for Packing associated with Customer satisfaction.*

Model	Variable	Unstandardized Coefficients		Standardized Coefficients	t-Value	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.070	.267		11.478	.000
	Packing	.452	.045	.398	10.158	.000
a. Dependent Variable: Customer satisfaction						

$H5_0$: Quality will not have significant effect on Customer Satisfaction.

The hypothesis of relationship between quality and customer satisfaction were tested using simple linear regression. The regression results shown in Table - 12revealed that the predictor variables contribute significantly and had moderate impact on the customer satisfaction (R^2 = 0.067). The corresponding ANOVA value (F = 38.991, p=0.000) for the regression models had indicated the validation with customer satisfaction.

Table – 12: *Regression Model Summaries for the Quality on Customer satisfaction*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					df1	df2	F-Value	Sig.
1	.258[a]	.067	.065	.81930	1	547	38.991	0.000
a. Predictors: (Constant), Customer satisfaction								

The coefficient summary shown in Table - 13 revealed that beta values of quality (β=0.270, t=6.244, p=0.000) was significant with customer satisfaction. The results were implicit that predictor variable was related with dependent variable. Hence, null hypothesis was disproved and alternate hypothesis ($H5_0$) was accepted as their p-values were less than 0.05.

Here the following simple linear regression model

Customer satisfaction (Y) = 4.142+ 0.270 (Quality) X

Table - 13: *Predictor effects and Beta Estimates (Unstandardized) for Quality associated with Customer satisfaction.*

Model	Variable	Unstandardized Coefficients		Standardized Coefficients	t-Value	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.142	.262		15.788	.000
	Quality	.270	.043	.258	6.244	.000
a. Dependent Variable: Customer satisfaction						

$H6_0$: Image will not have significant effect on Customer Satisfaction.

The hypothesis of relationship between image and customer satisfaction were tested using simple linear regression. The regression results shown in Table - 14revealed that the predictor variables contribute significantly and had moderate impact on the customer satisfaction ($R^2 = 0.429$). The corresponding ANOVA value (F = 411.517, p=0.000) for the regression models had indicated the validation with customer satisfaction.

Table – 14: *Regression Model Summaries for the Image on Customer satisfaction*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					df1	df2	F-Value	Sig.
1	.655[a]	.429	.428	.64060	1	547	411.517	0.000
a. Predictors: (Constant), Customer satisfaction								

The coefficient summary shown in Table - 15 revealed that beta values of image (β=0.501, t=20.286, p=0.000) was significant with customer satisfaction. The results were implicit that predictor variable was related with dependent variable. Hence, null hypothesis was disproved and alternate hypothesis (H30a) was accepted as their p-values were less than 0.05.

Here the following simple linear regression model

Customer satisfaction (Y) = 3..209+ 0.501 (Image) X

Table -15: *Predictor effects and Beta Estimates (Unstandardized) for Image associated with Customer satisfaction.*

Model	Variable	Unstandardized Coefficients		Standardized Coefficients	t-Value	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.209	.129		24.884	.000
	Image	.501	.025	.655	20.286	.000
a. Dependent Variable: Customer satisfaction						

$H7_0$: Customer Satisfaction will not have significant effect on Brand loyalty.

The hypothesis of relationship between customer satisfaction and brand loyalty were tested using simple linear regression. The regression results shown in Table - 16revealed that the predictor variables contribute significantly and had moderate impact on the brand loyalty ($R^2 = 0.414$). The corresponding ANOVA value (F = 385.972, p=0.000) for the regression models had indicated the validation with brand loyalty.

Table – 16: *Regression Model Summaries for the Customer satisfaction on Brand Loyalty*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					df1	df2	F-Value	Sig.
1	.643[a]	.414	.413	.80942	1	547	385.972	0.000
a. Predictors: (Constant), Brand loyalty								

The coefficient summary shown in Table - 17 revealed that beta values of customer satisfaction (β=0.802, t=19.646, p=0.000) was significant with brand loyalty. The results were implicit that predictor variable was related with dependent variable. Hence, null hypothesis was disproved and alternate hypothesis ($H7_0$) was accepted as their p-values were less than 0.05.

Here the following simple linear regression model

Brand Loyalty (Y) = 0.693+ 0.802 (Customer Satisfaction) X

Table - 17: *Predictor effects and Beta Estimates (Unstandardized) for Customer satisfaction associated with Brand loyalty.*

Model	Variable	Unstandardized Coefficients		Standardized Coefficients	t-Value	Sig.
		B	Std. Error	Beta		
1	(Constant)	.693	.238		2.914	.004
	Customer satisfaction	.802	.041	.643	19.646	.000
a. Dependent Variable: Brand loyalty						

$H8_0$: Determinant attributes of mobile handsets have no significant effect on Brand Loyalty with relation to:

$H8_{0a}$ Product; $H8_{0b}$ Price $H8_{0c}$; Promotion

$H8_{0d}$; Packing ; $H8_{0e}$ Quality; $H8_{0f}$ Image

For testing hypotheses $H8_{0a}$-$H8_{0f}$, stepwise multiple linear regression approach (MLRA) was used. The resulting regression models for dependent variable was shown in Table - 18 and their significance including distinct predictors at varying 'α' levels presented in Table - 19.

Table - 18: *Regression model summaries for the effect of determinant attributes of mobile hand-set user on Brand loyalty*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					df1	df2	F-value	Sig.
1	0.656(a)	0.431	0.430	0.797	1	547	414.127	0.000
2	0.694(b)	0.482	0.480	0.761	2	548	253.642	0.000
3	0.706(c)	0.493	0.495	0.750	3	549	180.029	0.000
4	0.709(d)	0.503	0.499	0.747	4	550	137.463	0.000

a. Predictors: (Constant), Image

b. Predictors: (Constant), Image, Price

c. Predictors: (Constant), Image, Price, Quality

d. Predictors: (Constant), Image, Price, Quality. Promotion

e. Dependent Variable: Brand loyalty

The four evolved regression models for brand loyalty shown in Table -- contributed significantly and predicted 65.6 percent variation by model-1 with image and total 70.9 percent variation by model-4 with all independent variables. The four emerged regression models indicated that independent variables of image, price, quality and promotion were related to dependent variable (brand loyalty) with their respective ANOVA values shown in Table 2 were significant (p=0.000). The coefficient summary for four evolved regression models shown in Table 2 revealed that all four models were the significant (p=0.000) predictors for brand loyalty. The β weights are standardized measures of the relative importance of independent variables in explaining the variation in the dependent variable, supporting an observation of β weights as a measure of relative importance. The positive sign of all beta estimates had shown that the greater the extent of attributes associated with mobile hand-set users, the more significant brand loyalty will be. Therefore, the hypotheses $H8_{0f}$, $H8_{0b}$, $H8_{0c}$ and $H8_{0e}$ were proved valid and $H8_{0a}$ and $H8_{0d}$ were disproved. The following regression models were emerged from the summary of unstandardized beta coefficients shown in Table - 19:

$Y=2.123+0.626\ X_1$ ---------- (1)

$Y= 0.569+0.478X_1+0.0.403X_2$ ------- (2)

$Y= 0.110+0.491X_1+0.0.325x_2 +0.177\ X_3$----- (3)

$Y= 0.271+0.478X_1+0.0.2895x_2 +0.120\ X_3 + 0.131\ X_4$ ----- (3)

Where, Y= Brand loyalty; X_1=Image; X_2 = Price; X_3=Quality; X_4=Promotion

Table – 19: *Predictor effects and beta estimates for attributes of mobile hand-set users Brand loyalty*

Model	Variables	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.123	0.161	--	13.226	0.000
	Image	0.626	0.031	0.656	20.350	0.000
2	(Constant)	0.569	0.262	--	2.169	0.000
	Image	0.478	0.036	0.501	13.380	0.000
	Price	0.403	0.055	0.274	7.311	0.000
3	(Constant)	0.110	0.305	--	0.362	0.007
	Image	0.491	0.035	0.514	13.889	0.000
	Price	0.325	0.057	0.221	5.662	0.000
	Quality	0.177	0.042	0.135	4.182	0.000
4	(Constant)	0.271	0.312	--	0.870	0.000
	Image	0.478	0.036	0.501	13.438	0.000
	Price	0.289	0.059	0.196	4.877	0.000
	Quality	0.120	0.049	0.092	2.464	0.014
	Promotion	0.131	0.056	0.094	2.324	0.020

a. Dependent Variable: **Brand loyalty**

Table - 20: *Hypotheses Summary (H10 – H80):*

Sl. No	Independent Variable	Dependent Variable	Hypothesis	Predicted association	Supported or not
1	Product attributes	Customer Satisfaction	$H1_0$	Product will not have significant association with customer satisfaction	NO
2	Pricing strategies	Customer Satisfaction	$H2_0$	Price will not have significant association with customer satisfaction	NO
3	Promotion	Customer Satisfaction	$H3_0$	Promotion will not have significant association with customer satisfaction	NO
4	Packing	Customer Satisfaction	$H4_0$	Packing will not have significant association with customer satisfaction	NO
5	Quality	Customer Satisfaction	$H5_0$	Quality will not have significant association with customer satisfaction	NO
6	Image	Customer Satisfaction	$H6_0$	Image will not have significant association with customer satisfaction	NO
7	Customer Satisfaction	Brand Loyalty	$H7_0$	Customer Satisfaction will have significant association with Brand Loyalty	NO
8	Product attributes	Brand Loyalty	$H8_{0a}$	Product will not have significant association with Brand Loyalty	NO
9	Pricing strategies	Brand Loyalty	$H8_{0b}$	Price will not have significant association with Brand Loyalty	Yes
10	Promotion	Brand Loyalty	$H8_{0c}$	Promotion will not have significant association with Brand Loyalty	NO
11	Packing	Brand Loyalty	$H8_{0d}$	Packing will not have significant association with Brand Loyalty	Yes
12	Quality	Brand Loyalty	$H8_{0e}$	Quality will not have significant association with Brand Loyalty	NO
13	Image	Brand Loyalty	$H8_{0f}$	Image will not have significant association with Brand Loyalty	NO

12. CONCLUSION

The present study has established that product, price, promotion, packing, quality, image, customer satisfaction and brand loyalty are the most influential factors in understanding the perceptions of mobile hand-set users. The factors such as product, price, promotion, packing, quality, image, customer satisfaction and brand loyalty are the dominant

factors of understanding the mobile hand-set users. The derived results from the research paper will be considered as the value addition and the added knowledge to the very scant academic literature available so far in the mobile hand-set users. It is found that there is a need for a customized and integrated policies and procedures to win the customers' trust in the Indian mobile sector.

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