

CONSUMER ATTITUDE IN HANDSET PREFERENCE IN MADURAI DISTRICT

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1.1 Introduction:

The Indian telecommunication industry is the world's fastest growing industry with 861.48 million mobile phone subscribers as of April 2011.¹ It is also the second largest telecommunication network in the world in terms of number of wireless connections after China.

In a press release dated June 13, 2011, the Telecom Regulatory Authority of India highlighted that the mobile telephony experiences growth at rates such as 15.34 million subscribers a month.

Number of handsets has been flooding in the market in recent years. Brands such as Motorola, Nokia, Samsung, Sony Ericsson, Reliance, BPL are available in the market with unique features. Customers prefer such handsets based on numerous factors such as availability of the product, technical support provided, quality, popularity, appearance, demand, durability of the product, after sales service, and the like.

The quality of the handset consists of some intrinsic and extrinsic attributes. Some of the unique attributes mentioned by the end users are unhindered time and space attributes of the mobile phone. The extrinsic attributes are divided into direct and indirect network. Direct network is the effect of size, speed and capacity of the networks. Indirect network is the effect originating from the information, transaction or machine interactive services (Gupta, et al, 1999²; Shaprio and Varen, 1999³). The identified factors influencing the handsets are the product

1. <http://www.trai.gov.in>

2. Gupta, Jain and Sanhvey, M.B (1999), "Modelling the evolution of markets with Indirect network externalities: An application to Digital Television", **Marketing Science**, 18(1), pp. 396 – 416.

3. Shaprio and Varian, H.R (1999), **Information Rules: A Strategic Guide the network Economy**, Harvard Business School Press, boshn, mass.

quality, product distribution, service support, service personnel, information services and corporate hard equity (Mathwick et al., 2001)⁴. In this article the attitude of the customers towards the preference of mobile phones studied in Madurai District of South India is presented.

1.2 Telephone Subscribers in India:

The number of telephone subscribers in India grew at a rate of 1.79 per cent and increased to 861.48 million at the end of April 2011 from 846.32 million at the end of March 2011. The table showing the growth of subscribers as on April, 2011 is presented in Table 1.

TABLE - 1
Growth of Telephone Subscribers in April 2011

Particulars	Wireless	Wiredlines	Total
Total subscribers	826.93	34.55	861.48
Total Net Addition	15.34	- 0.18	15.17
% of Monthly Growth	1.89%	- 0.51%	1.79%
Urban subscribers	547.42	25.94	573.36
Urban subscribers Net addition	9.38	- 0.09%	9.28
% of Monthly Growth	1.74	- 0.36%	1.65%
Rural subscribers	279.51	8.61	288.12
Rural subscribers Net addition	5.97	- 0.08	5.88
% of Monthly Growth	2.18%	- 0.94%	2.09%
Teledensity	69.19	2.89	72.08
Urban teledensity	152.41	7.22	159.63
Rural teledensity	33.44	1.03	34.47
Share of subscriber			
Urban subscriber	66.20%	75.08%	66.56%
Rural subscriber	33.80%	24.92%	33.44%

Source: <http://techcircle.vccircle.com>

4. Mathmick, Malhotra and Rigdon (2001), “Experimental Value: conceptualization measurements and application in the catalog and Internet shopping. Environment”, **Journal of Retailing**, 77(9), pp. 39 – 56.

It is evident from Table – 1 the wireless segment’s (GSM, CDMA, FWP) total subscriber base increased to 826.93 million at the end of April 2011 from 811.59 Million in March 2011, registering a growth of 1.89 per cent. Wireless subscription in rural areas grew 2.18 per cent while the urban subscription grew 1.74 per cent. Unlike the wireless segment, the wire-line segment’s subscriber base saw a decline from 34.73 million in March 2011 to 34.55 million at the end of April 2011, clearly showing a shift from wire-line to the wireless. The share of urban subscribers increased while the share of rural subscribers declined.

1.3 Profile of Respondents and Sampling Design:

The study area, namely Madurai District is one of the major important districts of Tamil Nadu where there has been a significant progress in agricultural and industrial development since the year 1960⁵. Purposive sampling technique was adopted in this study with a sample of 520 cellular mobile phone consumers. Out of them 260 respondents were urban customers (from Madurai city) and 260 were rural customers from 13 blocks of Madurai District such as Madurai East, Madurai West, Melur, Alanganallur, Kottampatti, Vadipatti, Usilampatti, Chellampatti, Sedapatti, T. Kallupatti, Kalligudi, Tirumangalam and Tirupparangundram.

The important age groups among the respondents are 36 to 40 years and 31 to 35 years. Among the urban and rural customers, the most important age groups are 36 to 40 years and 25 to 30 years respectively.

The important sex among the customers is male. It is seen among both rural and urban customers. The dominant level of education among the customers is under graduation and post

graduation. The most important level of education among the urban and rural customers is under graduation. The important occupations among them are business, government employment and private employment. The important occupations among the urban customers are government employment and businessmen, whereas among the rural customers, these two are business and private employment. The number of housewives having the mobile phone service is identified as higher in urban area than in rural area.

The dominant family sizes among the customers are 3 to 5 members and less than 3 members. The most important family size among the urban and rural customers is 3 to 5 members per household. The important number of earning members per family among the customers are one and two members. The most important earning members per family among the urban and rural customers is only one.

The important family incomes among the customers are less than Rs.5000 and Rs.10001 to 12,500 per month. The important family incomes among the urban customers are less than Rs.5000 and above Rs.20,000 per month. Among the rural customers, these two family incomes are less than Rs.5000 and Rs.10001 to 12,000. The number of customers with the family income of above Rs.20,000 is higher in urban area than in rural area.

The important value of movable and immovable assets among the customers is Rs.1.0 to 2.0lakhs and above Rs.4.0lakhs. The most important value of movable and immovable assets among the urban and rural customers is Rs.1.0 to 2.0lakhs. In total, the value of movable and immovable assets among the urban customers is identified as higher than the value of movable and immovable assets among the rural customers.

Most of the customers owned only one cell phone at their household. A few customers owned two cell phones at their home. The most important number of handsets owned by urban

and rural customers is only one. The important years of experience in using the mobile phone service among the customers are 4.01 to 5.00 and above 5.00 years. The most important years of experience in using mobile phone service among the urban and rural customers are above 5 years and 3.00 to 5.00 years respectively.

1.4 Number of Cell Phone sets owned:

The cell phone sets owned by the family members have been examined since it may have some difference on the consumer behaviour in cell phone service industry. The family members in the respondents' household may avail of different mobile phone services from different service providers. It will open a path of the discussion on the service providers. Hence, the number of cell phones in the respondents' households may have its own impact on their attitude towards the service offered by the service providers. The number of sets is classified into one, two, three, four and more than four. The distribution of respondents on the basis of the number of sets owned at their household is shown in Table – 2.

TABLE - 2
Number of Cell Phone Handsets at the Household

Sl.No.	Number of set	Number of respondents		Total
		Urban	Rural	
1.	One	169	194	363
2.	Two	58	52	110
3.	Three	17	10	27
4.	Four	11	4	15
5.	More than four	5	–	5
	Total	260	260	520

5. Statistical Hand Book of Madurai District 1998-99, Assistant Director of Statistics, Madurai, p.1.

In total, 69.81 per cent of the households have only one handset at their house. The number of households that have two handsets constitutes 21.15 per cent to the total. The number of households that have more than four handsets constitutes 1.00 per cent to the total. Among the households in urban and rural area, the first two number of handsets in the households are one and two. In urban area, it constitutes 65.00 and 22.31 per cent to its total respectively whereas in rural area, it constitutes 74.61 and 20.00 per cent to its total respectively.

1.5 Brand Preference in Handset

The respondents may avail of different mobile phone services. To avail of the services, they should have a handset. The reason for the choice of the handset is discussed. The branded handset in the present study is confined to Motorola, Nokia, Samsung, Sony Ericsson, Reliance, BPL and others. The distribution of respondents on the basis of their brand preference in handset market is shown in Table – 3.

TABLE – 3

Mobile handset owned by the respondents

Sl.No.	Brand Name	Number of respondents		Total
		Urban	Rural	
1.	Motorola	21	42	63
2.	Nokia	132	123	255
3.	Samsung	41	39	80
4.	Sony Ericsson	34	17	51
5.	Reliance	21	19	40
6.	BPL	6	16	22
7.	Others	5	4	9
	Total	260	260	520

The most dominant branded handset among the respondents is Nokia which alone constitutes 49.03 per cent to the total. It is followed by Samsung and Motorola which constitute 15.38 and 12.12 per cent to the total respectively. The number of respondents who preferred the Reliance and BPL handsets constitutes 7.69 and 4.23 per cent to the total respectively. Among the urban users, the important branded handsets are Nokia, Samsung and Sony Ericsson which constitute 50.77, 15.77 and 13.08 per cent to their total respectively. Among the rural users, these two are Nokia, Motorola and Samsung which constitute 47.31, 16.15 and 15.00 per cent to their total respectively.

1.6 Variables influencing to buy the Handset

At the outset, the success of the mobile commerce can be attributed to the personal nature of wireless devices. Adding to this, are its unique features of voice and data transmission, and distinct features like localization, reachability, and convenience. Consumer adoption model provides the view that end user adoption of the physical or the informational goods explains satisfaction as a value at the end of the chain of purpose. Adoption process of mobile handset is discussed under the extension to the traditional typology of intrinsic and extrinsic sources of received values. Different from the traditional products, the network products often originate from supplier's services and consumer's investments. The features of the handset are important factors that clinch its purpose. The features of the handset are drawn from the reviews. Even though, there are so many variables influencing to buy the handset, the present study confines it to twenty six variables. The respondents are asked to rate the above said twenty six variables at five point scale from highly agree to highly disagree. The assigned occurs on these scales are from 5 to 1 respectively. The mean score of the variables influencing to buy the handset among

the urban and rural users has been computed separately. The significant difference among the urban and rural users has been examined with the help of ‘t’ test.

The ‘t’ test is one of the parametric tests to analyse the significant difference among the two group of samples. It is applied when the criterion variables are in interval scale. The ‘t’ test is calculated by

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{(n_1-1)\sigma_{s1}^2 + (n_2-1)\sigma_{s2}^2}{n_1+n_2-2}} \times \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

Compared with the degree of freedom of (n_1+n_2-2)

- Whereas
- t - ‘t’ statistics
 - \bar{X}_1 - Mean of the first sample
 - \bar{X}_2 - Mean of the second sample
 - σ_{s1}^2 - Variance in the first sample
 - σ_{s2}^2 - Variance in the second sample
 - n_1 - Number of samples in first group
 - n_2 - Number of samples in second group

The results are given in Table – 4.

TABLE – 4
Variables influencing to buy the handset

Sl.No.	Variables	Mean score among the respondents in		T-Statistics
		Urban	Rural	
1.	Availability of the product	3.9493	3.1217	2.1407*
2.	Skilled employees in the company	3.8183	3.0606	2.0646*
3.	Technical support of the product	4.1144	3.1043	2.3443*
4.	Quality of the product	3.9091	3.0696	2.2098*
5.	Popularity of the product	4.2142	3.2617	2.5084*
6.	Appearance and dress code of the staff	2.8962	3.5646	-1.3649
7.	Information provided about the product	3.4016	3.8081	-0.6982
8.	Development of land lines of the product	3.5066	3.4153	0.3641
9.	Staff willingness to assist customers	3.8184	2.9691	2.1449*
10.	Online information about the product	4.1124	2.8334	2.9694*
11.	Dependability of the product	3.2696	2.5889	1.6862
12.	Supplementary information provided by the company	3.9803	2.9693	2.5061*
13.	Production support of the product	2.8694	3.8441	-2.3449*
14.	Consistency of the product	3.9193	3.21423	1.6807
15.	Service staff understands the needs of customers	3.8084	3.0445	2.1142*
16.	Accessibility of the product	2.9197	3.8086	-2.2349*
17.	Innovativeness of the product	3.7176	3.0616	1.7176
18.	Supply of information to the needed people	3.4508	3.7057	-0.9045
19.	Financial stability of the company	3.6969	3.4508	0.5968
20.	Development support of the product	4.1334	3.2193	1.9973*
21.	Demand for the product	3.9691	3.0868	2.3216*
22.	Durability of the product	4.2096	3.4542	2.0344*
23.	Service facilities	2.8994	3.9196	2.5641*
24.	Reputation for the product	3.4596	3.8684	-0.6896
25.	After sales service of the product	3.1143	3.9698	-2.1491*
26.	User friendliness of the product	3.2443	3.9891	-1.7334

* Significant at five per cent level.

The highly viewed variables influencing to buy the handset among the urban users are popularity of the product globally, durability of the product and development support of the product since the respective mean scores are 4.2142, 4.2096 and 4.1334 whereas the lesser perceived variables among them are production support of the product, Service facilities and accessibility of the product since its mean scores are 2.8694, 2.8994 and 2.9197 respectively. Among the rural users, the highly viewed variables influencing to buy the handsets are user friendliness of the product, after sales service of the product and Service facilities since the mean scores are 3.9891, 3.9698 and 3.9196 respectively. The lower ranked variables among them are dependability of the product, online information about the product and supplementary information provided by the company since the mean scores are 2.5889, 2.8334 and 2.9693 respectively. Regarding the perception on that variables influencing to buy the handsets, the significant difference among the urban and rural users has been identified in the perception on availability of the product, skilled employees in the company, technical support of the product, quality of the product, staff willingness to assist customers, online information about the product, supplementary information provided by the company, production support of the product, service staff who understand the needs of customers, accessibility of the product, development support of the product, demand for the product, durability of the product, Service facilities and after sales service of the product since the respective 't' statistics are significant at five per cent level.

1.7 Important factors leading to have the handset:

The important factors favouring the choice of the handset among the respondents have been examined with the help of factor analysis. A factor analysis plays a fundamental role among a set of attitudes or variables. These variables can be filtered down to the factor. A factor represents the combined effect of a set of attitudes. Either there may be one such factor or several

such factors in a real life problem based on the complexity of the situation and the number of variables operating. In general, it is applied to narrate the many variables related to a particular phenomenon into factors.

The data validity of factor analysis has been done with the help of Kaiser–Meyer–Ohlin measuring of sampling adequacy and Bartlett’s test of sphericity. The minimum acceptable kmo measure is (0.5) and the level of significance of chi-square is five per cent level. The resultant kmo measure of 0.745 and zero per cent level of significance of chi-square test satisfy the validity of data for factor analysis. The scores of the variables have been included for the factor analysis. It results in six important factors namely product quality, service support, brand equity, service personnel, product distribution and information services. The factor loading of the variables is each factor, its reliability co-efficient, eigen value and the per cent of variation explained are given in Table – 5.

TABLE – 5
Factors leading to have the Handset

Factors	Variables	Factor loading	Reliability co-efficient	Eigen value	Per cent of variation explained
Product quality	Durability of the product	0.9308	0.7233	3.8143	23.08
	Consistency of the product	0.8647			
	Quality of the product	0.7332			
	Dependability of the product	0.7086			
	Development land lines of the product	0.6441			
	Innovativeness of the product	0.6085			
	User friendliness of the product	0.5917			
Service support	Production support of the product	0.8733	0.7617	2.9094	19.37
	Technical support of the	0.8089			

	product				
	Development support of the product	0.7224			
	After sales service of the product	0.6883			
Brand support	Reputation of the product	0.9334	0.7982	2.0641	17.44
	Demand for the product	0.8246			
	Financial stability of the company	0.7801			
	Popularity of the product globally	0.6339			
Service personnel	Staff willingness to assist customers	0.8221	0.7801	1.8186	15.03
	Service staff understands the needs of customers	0.7669			
	Appearance and dress code of the staff	0.7306			
	Skilled employees in the company	0.6234			
Product distribution	Availability of the product	0.9099	0.8332	1.4162	12.43
	Accessibility of the product	0.7693			
	Repairing facility	0.7032			
Information services	Information provided about the product	0.8914	0.7517	1.2034	10.27
	Online information about the product	0.7305			
	Supplementary information provided by the company	0.7114			
	Supply of information to the needed people	0.6802			
KMO measure of sampling adequacy: 0.7335		Bartlett's test of sphericity Chi-square value: 89.67*			

* Significant of five per cent level.

The narrated six factors explain the variables influencing the possession of a handset to the extent of 97.62 per cent. The most important factor is product quality since its eigen value and the per cent of variation explained are 3.8143 and 23.08 per cent respectively. It consists of seven variables with the reliability co-efficient of 0.7233. It infers that the included seven variables in the 'Product quality' factor explain it to the extent of 72.33 per cent. The important

variables influencing the possession of the handset, in the product quality factors are durability, consistency and quality of the product since the respective factor loading with this factor are higher as 0.9308, 0.8647 and 0.7322 in product quality factor compared with other factors.

The second and third important factors influencing to buy the ‘Service support’ and brand equity since the eigen values are 2.9094 and 2.0641 respectively. The per cent of variation explained by these two factors is 19.37 and 17.44 per cent respectively. The service support factor consists of four variables with the reliability co-efficient of 0.7617 whereas the brand equity factor consists of four variables with the reliability co-efficient of 0.7982. The most important variables in the above said two factors are production support of the product and reputation for the product since the factor loadings are maximum in their respective factors.

The next two factors narrated by the factor analysis are service personnel and product distribution since its eigen values are 1.8186 and 1.4162 respectively. The per cent of variation explained by these two factors are 15.03 and 12.43 Per cent respectively. The service personnel factor consists of four variables with the reliability co-efficient of 0.7801 whereas the product distribution consists of three variables with the reliability co-efficient of 0.8332. The last factor identified by the factor analysis is information services. The factor analysis results in six important factors for four analysis.

1.8 Customer’s perception on important factors leading to have the handset

The score of six factors leading to the possession of the handset is drawn from the mean score of the variables in each factor. In order to exhibit the influence of factors on the handsets, the mean score of the factors has been computed among the urban and rural users. The ‘t’ test has been executed to find out the significant difference among the two groups of users regarding

their perception on six important factors. The resulted mean scores of the factor and their respective ‘t’ statistics are given in Table - 6.

TABLE – 6

Factors Responsible for handset among the Urban and Rural Customers

Sl.No.	Factors	Mean score among the respondents		T-Statistics
		Urban	Rural	
1.	Product quality	3.6823	3.2561	1.9804*
2.	Service support	3.5578	3.5343	0.3217
3.	Brand equity	3.8849	3.4169	1.9697*
4.	Service personnel	3.5253	3.1597	2.0162*
5.	Product distribution	3.2561	3.6166	-1.9703*
6.	Information services	3.7362	3.3291	1.9691*

* Significant at five per cent level

The highly viewed factors among the urban users are brand equity and information services since the respective mean scores are 3.8849 and 3.7362. Among the rural users, these two are product distribution and service support since the respective mean scores are 3.6166 and 3.5354. Regarding the perception on the factors leading to the possession of a handset, the significant difference among the urban and rural users has been identified in the case of product quality, brand equity, service personnel, product distribution and information services since the respective ‘t’ statistics are significant at five per cent level.

1.9 Findings:

Most of the customers owned only one cell phone at their household. A few customers owned two cell phones at their home. The most important number of handsets owned by urban

and rural customers is only one. The important years of experience in using the mobile phone service among the customers are 4.01 to 5.00 and above 5.00 years. The most important years of experience in using mobile phone service among the urban and rural customers are above 5 years and 3.00 to 5.00 years respectively.

The important purposes of using mobile phone among the urban customers are multiple usage, official usage and feeling of being secured purposes. The important purposes among the rural customers are more convenience, status of symbol and contact with friends and relatives. Regarding the perception on the purposes of having mobile phone services, the significant difference among the urban and rural users has been identified in the perception on official, usage dissatisfaction with landline, feeling of being secured and status of symbol.

The most important brand of handset preferred by the customers in the study area is Nokia which is followed by Samsung and Motorola. Apart from Nokia, the important handsets preferred by the urban customers are Samsung and Sony Ericsson whereas among the rural customers, these two are Motorola and Samsung.

The highly viewed variables influencing the purchase of the handsets among urban customers are popularity of the product at globally, durability of the product and developmental support of the product. Among the rural customers, these variables are production support of the product, service facilities and accessibility of the product. Regarding the perception on the variables leading to the selection of the handset, the significant difference among the urban and rural customers has been identified in the perception on availability of the product, skilled employees in the company, technical support of the product, quality of the product, staff willingness to assist customers, online information about the product, supplementary information provided by the company, production support of the product, service staff understanding the

needs of customers, accessibility of the product, developmental support of the product, demand for the product, durability of the product, Service facilities and after-sales service of the product.

The important factors for the preference of the handset are narrated by the use of factor analysis. These are product quality, service support, brand equity, service personnel, product distribution and information services. The highly perceived factors among the urban customers are brand equity and information services. Among the rural customers, these two are product distribution and service support. Regarding the perception on the factors leading to the choice of the handsets, the significant difference among the urban and rural customers has been identified in the case of product quality, brand equity, service personnel, product distribution and information services.

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