

Mobile marketing: a study of attitude and use patterns among mobile phone users

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Key Words

Mobile Handsets; Smartphones; Usage patterns; Attitude towards mobile use; Entertainment; Usage rate

Abstract

Indian Mobile market is one of the largest in the world and mobile advertising in India is growing rapidly with 35% growth in number of available impressions between quarters 2 and 3 of the year 2011. Surge of smartphones has changed consumer disposition towards mobile phones with consumers growing more comfortable with m-commerce as indicated by earlier research. Objective of this research is to study uses of mobile phones by Indian consumers as differentiated for 'Smart Phone' users and 'Ordinary Handset' users. Usage patterns and attitude towards uses of mobile phone based on usage rate are also studied. Research outcome indicates that type of handset used does not impact usage pattern and uses that a consumer obtains from his device. Differentiation between Smart Phones and Ordinary Handsets both by features and attributes of the handsets as also by nature of use by handset owners is not very much. Light and Heavy users are more positive in their attitude towards entertainment value derived out of mobile phones. Medium users are more concerned with functional values offered by their instruments. This research offers insights to Smartphone handset manufacturers and mobile service providers to enhance and differentiate their products and services. This research paper addresses issues of mobile usage in India, which is not a well-studied market.

Key Findings:

- Smartphones are not differentiated from ordinary handsets in terms of attributes and features
- Usage rates for Smartphones and Ordinary Handsets remains almost similar
- Medium users of mobile phones are more serious about their use.

Introduction

With Wireless Telephone Subscriber base in India reaching a whopping 840.28 Millions and rural base increasing by higher percentage compared to Urban (2.15%: 1.34%) as of May 2011 (TRAI, 2011), Indian Mobile market is amongst largest in the world. Mobile advertising in India is also growing rapidly and is one of the largest in Asia with a 35% growth in number of available impressions between quarters 2 and 3 of the year 2011 (INMOBI, 2011). Technological developments and fusion of two global trends of Wireless and Internet offer significant opportunities for consumers and businesses to provide new and innovative services and applications (Vatanparast & Qadim, 2009). Numerous research studies state that mobile is a superior media being an interactive platform giving consumers more control with browsing and gathering product information (Wang, 2007). Being cost effective, and providing easy access to target market since mobile devices are with the customers the whole day, mobile marketing may be integrated with overall marketing plan (Altuna & Konuk, 2009). As a result of change in usage patterns of mobile devices service providers are exploring alternative opportunities other than voice communication (Roy & Banerjee, 2010).

The study by Leung and Wei (Leung & Wei, 2000) on uses and gratifications of a cellular phone has been one of the earliest studies on mobile phones. Their work reveals two groups of factors which are classified as intrinsic factors or motivations such as information, excitement, relaxation and sociability and the second group consists of factors such as fashion/status, mobility, immediate access and other functional services. Jun and Lee (Jun & Lee, 2007) in their study on the impact of mobile media usage on consumer attitudes towards mobile advertising deploy 7 constructs which include mobility\convenience, Fashion, Information, Entertainment\Relaxation, Functional service, Multimedia service and Sociability. Clearly, the models for studies on cellular phones have been subject to the level of acceptance of mobiles and mobile service providers.

Teenagers tend to express their sense of individuality by personalizing their cell-phone in a number of ways - from the choice of brands, color, size, display logo and ringtones. (Bauer, et al., 2005). There is sizeable academic evidence that Mobile marketing as a marketing tool has proved to be more effective in the younger demographics. Leung, L & Wei, R (Leung & Wei, 2000) state that younger generations view mobile as a multi-purpose communications medium which has more functions than voice communications.

Researchers feel that a verification of consumer usage patterns and disposition towards mobile phones in Indian context is extremely important. With number of new technological developments in cellular technology a typical Indian user now puts mobile phones to multiple uses. Research internationally so far has focused on mobile phone as a communications device but with newer technologies being implemented new Smartphones are much more than simple communications devices (Boulos, et al., 2011). Much less research is found reported in Indian context there by making this a very early research work specific to India.

Literature Review

In recent years advertising spend has seen a major shift from traditional media like newspapers and radio to new media like Internet and mobile (Wray & Plante, 2011). Mobile marketing is defined as "the systemic planning, implementing and control of a mix of business activities intended to bring together buyers and sellers for mutually advantageous exchange or transfer of products" where the primary point of contact with the consumer is via their mobile device (Altuna & Konuk, 2009). Marketers can use mobile as a medium for personalized customer communication (Bauer, et al., 2005). The surge of smartphones has changed the consumer disposition towards mobile phones with consumers now growing more comfortable with m-commerce. Various businesses and services in India are looking at mobile marketing to reach their customers. The Indian Railways has launched M-Ticket a mobile phone application with Mobile Reservation Message (MRM) serving the purpose of the ticket (Verma, 2011). In their research on consumer trust on mobile technology Park and Yang refer to Mobile technology as an application of small, portable and wireless computing and communication devices, including laptops with LAN technology, mobile phones, and Personal Digital Assistants (PDAs) with Bluetooth which let consumers utilize various internet services anytime and anywhere (Park & Yang, 2006).

Academic research on cellular industry is very much in nascent stage which has just explored the subject of mobile marketing from the perspective of service providers with Roy and Banerjee (Roy & Banerjee, 2010) doing a study on selection of caller ring back tones (CRBT) which in 2008 constituted 45% of the VAS (Value Added Services) market. The study classifies VAS into three broad categories: Entertainment VAS provide entertainment for leisure time usage, Info VAS provide useful information to the end user and M-Commerce VAS facilitate financial transactions using the mobile phone. The domain of research, smartphone, is a new technology in some industries; thus smartphone adoption deserves investigation in its own right (Yangil & Jengchung, 2007). With early research on mobile phones not differentiating an ordinary mobile phone from a Smartphone this research aims at understanding the differential usage and attitudes amongst Ordinary Handset users and Smartphone users (Andrew, 2009). Attitude towards mobile marketing tools: A study on Turkish consumers by Suleyman Barutcu (Barutcu, 2007) investigated consumers' attitudes towards mobile advertising, entertainment, discount coupons and shopping through net. The results indicate that apart from mobile shopping, consumers have a positive attitude towards other marketing tools and students have more positive attitudes than other groups towards mobile entertainment services. A sharp contrast is drawn between current non-internet users and

Internet users. Mobile phone users with no Internet connection are more enthusiastic about mobile Internet. Studying the Impact of Personality Traits on Smartphone Ownership and Use, Wilburn Lane and Chris Manner (Wilbur & Manner, 2011) note that different personality types manifest differing usage patterns and attitude toward use of functions of a smartphone. Exploring demographic variables they further find that age is negatively associated with using smartphones for texting, browsing the Internet, and playing music. Higher education is positively correlated to using smartphones for calling, but negatively related to the gaming function.

New mobile technologies give consumers a certain degree of control with browsing and gathering information, mobile marketers are increasingly using mobile as a marketing communication media (Wang, 2007). Barutcu (2007) in his research on attitude toward mobile marketing tools found no relation between Internet usage and attitude toward mobile advertising, discount coupons and mobile shopping (Barutcu, 2007). Pelau and Zegreanu (Pelau & Zegreanu, 2010) state that interactivity is the key word at this point in context of development of a dynamic technology of mobile marketing, in their study they point out that younger generations are highly educated and value their individuality in decisions involving all aspects of their life.

Consumer usage decisions are driven by hedonic values that are seen as pleasure based or utilitarian value that are more utility or functionality based. Utilitarian needs/values are easy to deliver when compared to hedonic needs/values that are entertainment based. Because information as observed in case of utilitarian value products/services is more textual, as opposed to hedonic needs like video screening due to the size of mobile screen, key pads and low resolution displays, becomes more difficult to deliver (Park & Yang, 2006). The aforesaid literature constitutes major part of this study that broadly deals with role of mobiles in lives of youth.

Research Methodology

Broadly the objective of this research is to study the uses of mobile phones by Indian consumers. More specifically the following two objectives are identified:

1. Uses of mobile phones by Smart Phone users and Ordinary Handset users.
2. Usage patterns and attitude towards use based on usage rate of mobile phones.

Data reported in this paper were collected as part of study designed to understand motivation for usage of mobile, drivers and consumption pattern of smart phones among young consumers. Survey approach was adopted with convenience sampling method among 200 respondents through Internet.

The focus is on Western States of India that are having sizable net savvy, mobile subscribers. To determine sample size, researchers have taken 95% level of confidence at 4% tolerance error, as population was un-known. It was found that required sample size was about 98, while the actual number of respondent were 200. A structured non-disguised questionnaire was designed to gather data required for this research. Prior to administering the survey, a pre-test was done among twenty respondents and minor modifications were made. After data cleaning responses from 173 respondents have been considered for analysis. Statistical Analysis consisted of Independent sample t-test, One-way ANOVA and Levene's Test for Equality of Variances as applicable.

Discussions and Conclusions

Demographic Profile and Back Ground Information on Respondents

Table 1 provides a summary of demographic profile of respondents. Result shows that respondents are equally divided between both the genders with Male 49.7 percent (n=86) while 50.3 percent of female respondent (n=87).

Significant number of respondent's present age is between 16 and 20 (n=47, and 27.3) and 21 and 25 (n=97, 56.4) which is well in line with international studies. Large number of respondents' living with their families (n=78, 45.08 per cent) followed by hostel accommodation (n=51, 29.47 per cent).

Stream of education with a slight skew for management education (n=61, 35.2 per cent) is very well spread among engineering with 19 students (11.0 per cent), commerce and arts (n=18, 10.4 per cent) and rest of the respondents from other streams of education (n=75, 43.35 per cent). Regarding type of

handset being used, it was found that almost 42.4 per cent of them were using smart phones (n=73) while others were using ordinary handset (n=99, 57.6 per cent).

Lastly, one of the most important variables in the study was duration of time for mobile usage among respondents. It was found that almost 70 respondents are using their handset for less than 2 hour (40.4 per cent), more than 63 respondents (36.4 per cent) were using it between 2 to 4 hours and 40 respondents (24.2 per cent) were on their mobile phones for more than 4 hours.

| Variable | | Frequency | Percentage |
|--------------------|--------------------|-----------|------------|
| Gender | Male | 86 | 49.7 |
| | Female | 87 | 50.3 |
| Present Age | Less than 16 | 0 | 0 |
| | 16-20 | 47 | 27.3 |
| | 21-25 | 97 | 56.4 |
| | More than 25 | 28 | 16.3 |
| Place of Residence | Paying Guest | 17 | 9.8 |
| | Hostel | 51 | 29.5 |
| | Family | 78 | 45.0 |
| | Flat with Friends | 27 | 15.7 |
| Education | Engineering | 19 | 11 |
| | Management | 61 | 35.3 |
| | Commerce and Arts | 18 | 10.4 |
| | Others | 75 | 43.3 |
| Cell Type | Smartphone | 73 | 42.4 |
| | Other Mobile | 99 | 57.6 |
| Mobile Usage Time | Less than one hour | 38 | 21.9 |
| | 1-2 hour | 32 | 18.5 |
| | 2-3 hour | 45 | 26.0 |
| | 3-4 hour | 18 | 10.4 |
| | 4-5 hour | 16 | 9.2 |
| | More than 5 hour | 24 | 13.9 |

Table 1: Demographic Profile of the Sample

Relating motivation and usage pattern of mobile with type of mobile handset

One of the major objectives of this research paper is to establish a relationship between Attitude and Usage Pattern of mobile phone with type of mobile handset. Extensive literature review does not reveal any major research focusing on type of handset in use and the users' attitude or usage patterns. In other words, attempt is to know whether attitude toward using mobile phone and usage pattern of mobile differs among "smart phone-users" and "ordinary hand-set users". For this, the relationship has been examined by using independent sample t-test.

Results of the independent sample t-test indicate that on most counts no major difference is observed in terms of Attitude towards mobile use and Usage Patterns whether they are using a "Smartphone" or "Ordinary Handset". Observation indicates that Ordinary Handset users belief about their being technology savvy, smart phones being cool and an information-seeking device, that smart phones are costly, mobiles as substitutes for IPODS and similar devices, is only marginally lower than Smartphone users.

In Usage Patterns it is observed that both Smartphone users and Ordinary Handset users have very similar Usage Patterns. Mean scores for mobile phone uses for Chatting, Receiving and Forwarding Jokes, Taking Photographs, which can all be seen as socializing activities differ marginally with Smartphone users having a higher mean score compared to Ordinary Handset users.

For entertainment oriented activities like Playing Games, Voting at Reality Shows, Receiving Movie Alerts, and Downloading Caller-Tunes Smartphone users have a marginally higher mean score as compared to Ordinary Handset users.

In commercial activities like Receiving Promotional Messages, Receiving Promotional Offers from Fast Food Chains, Receiving Alerts from Banks, Obtaining Travel Related Information and Services Smartphone Users have marginally higher mean score values compared to Ordinary Handset users. Above observations indicate that Smartphone users engage more in various activities over mobile phones and Ordinary Handset users are not far behind. Ordinary Handsets today are feature heavy and except that they have smaller screen size and keypad, not much of a difference in terms of other features like Internet access, screen resolution, camera etcetera are observed, thus providing almost similar opportunities for Ordinary Handset users to engage in diverse activities similar to Smartphone users.

In using phones for Social Networking, Smartphone users have a significantly higher score of mean value (3.85:2.78 for positive statement and 1.90:3.00 for negative statement on social networking respectively) over Ordinary Handset users. This could be an outcome of the fact that Smartphones offer direct connectivity to social networking sites like Facebook, Twitter etcetera and social networking site connectivity is one of the major aspects of their marketing promotions. Using mobiles for jokes and music is practically at par whether it is a Smartphone user or Ordinary Handset user (3.39:3.38 for positive statement and 2.68:2.53 for negative statement for jokes and 3.40:3.39 iPod-Substitute and 3.00:3.18 music negative, respectively). This is understood by the fact that jokes are largely textual in nature and Smartphones have no distinctive advantage over Ordinary Handsets. With high technology earphones the reproduction of music in Ordinary Handsets is at par with Smartphones.

Relating Attitude and Usage Pattern of mobiles with duration of time for mobile usage

Drawing from Lane and Manner (Lane & Manner, n.d.) an attempt is made to understand attitude towards mobile use and usage patterns in relation with amount of time spent in using mobile phones. For the purpose it was checked if there was any statistically significant relationship between attitude toward mobile use and usage pattern of mobile phone with duration of time for mobile usage. Duration of usage was divided into three categories as defined earlier, i.e. less than 2 hours (light users), 2 to 4 hours (medium users) and more than 4 hours (heavy users). To answer this question, one-way ANOVA was used.

In most aspects of Attitude and Usage Pattern in relation to amount of time spent in using mobile phone not much significant difference is observed in the mean values irrespective of time spent on mobile phone. Difference is found though marginal where heavy users (more than 4 hours) show more usage in respect of all kinds of uses inquired about in this research. A closer examination reveals that in many uses of mobile phones medium users show a different level of use or usage preference. Light users consider themselves more technology savvy as compared to medium and heavy users with mean score declining from 3.72 to 3.51 to 3.48 respectively. The same reinforced by the increasing mean scores for a negative statement for being technology savvy from 1.91 for light users to 2.17 for medium users and 2.29 for heavy users. Voting for reality shows increases as time of use increases with mean scores increasing from 1.59 to 1.65 to 1.86 indicating heavy users involve most in voting for reality shows. Medium users with low mean score of 3.84 for Mobile phones being cool compared to 3.97 and 3.93 for light and heavy users, and a high mean score of 4.06 for mobile as an information seeking device compared to light users 3.90 and heavy users 4.02 mean scores show a different attitude towards mobile use compared to light and heavy users. Heavy users spend more time on social networking sites as compared to medium or light users with mean scores reducing from 3.56 to 3.29 to 2.96 from heavy to light users. Mobile phone's use for gaming increases with increased time spent on mobile phone with light users having mean score of 2.74 and heavy users having a mean score of 3.21. In case of gaming medium users stand out with the least mean score of 2.59. A similar pattern emerges in case of liking of promotional messages with medium users having the least mean score 2.02 compared to light users 2.12 and heavy users 2.36 mean scores. Use of mobile phone for Chatting is one area where the light medium and heavy users have almost the same kind of usage with mean scores of 3.94, 3.98 and 3.93 respectively. Appreciation for and use of mobile helpline alerts increases with increasing time spent on mobile, the mean scores increasing from 3.15 to 3.40 to 3.57 from light to heavy users. Light users derive least benefit from SMS alerts from Fast Food restaurants with mean score of 2.93 compared to medium users 3.29 and heavy users 3.21 mean score values. A high mean score 2.51 for a negative statement for using mobile phone for taking pictures in case

of medium users as compared to 2.45 and 2.07 for light and heavy users respectively is also very indicative. In case of use of mobile phones for joke forwards heavy users are most in favor of the use with highest 3.71 mean score for positive statement and a lowest 2.39 mean score for negative statement, with light users' 3.30 and 2.80 mean scores and medium users' 3.27 and 2.49 mean scores for positive and negative statements respectively. Medium users look most favorably upon SMS bank alerts with a high mean score of 3.57 against 2.6 and 2.73 for light and heavy users respectively.

In case of most other uses or preferences the opinions are similar for all types of users with very similar mean score values. This may be because while the three types of users use mobile phones for similar purposes the end objectives or benefits derived from that use could be different. For example in responding to Mobile being IPOD substitute mean scores of 3.33, 3.40 and 3.51 for light medium and heavy users respectively indicates very similar use but looking at the mean scores for a negative statement for playing music on mobile phones medium users with high mean score of 3.27 as compared to 3.01 for light and 3.00 for heavy users derive some different benefit out of using mobile phones in lieu of IPODs.

In many instances it is observed that medium users (2 to 4 hours) have values different from light users (up to 2 hours) and heavy users (more than 4 hours). Case in example: use of mobile phone for taking photographs, listening to music, and social networking show lower scores while SMS - Bank Alerts shows a higher score. This is indicative of a more serious nature of usage of mobile phones by respondents. Lower scores reinforce the same for 'Smart phones are cool' and 'liking for promotional messages' indicating these users use mobile phones for functional purposes rather than for show or pomp of using mobile phone. Results of Levene's Test for equality of variance reinforce the readings with significance value below 0.05 observed for each of these usages.

Findings

Above analysis leads to following findings:

- Attitude towards mobile phones and Usage Patterns of mobile users remain almost same irrespective of using a 'Smartphone' or an 'Ordinary Handset'.

Attitude towards mobile use and Usage Patterns of mobile users is very similar for both "Smartphone" and "Ordinary Handset" users. Ordinary Handset users believe themselves to be technology savvy, smart phones being cool and an information-seeking device, that smart phones are costly, mobiles as substitutes for IPODS and similar devices. Smartphone users also have similar belief.

Smartphone users engage in socializing activities like Chatting, Receiving and Forwarding Jokes, Taking Photographs more than Ordinary Handset users. For entertainment oriented activities like Playing Games, voting at Reality Shows, Receiving Movie Alerts, and Downloading Caller-tunes Smartphone users have a marginally higher engagement compared to Ordinary Handset users.

Smartphone users engage more in commercial activities like Receiving Promotional Messages, Receiving Promotional Offers from Fast Food Chains, Receiving Alerts from Banks, Obtaining Travel Related Information and Services compared to Ordinary Handset users.

Above observations are indicative that mobile phone use by Smartphone users and Ordinary Handset users is not very much different. Ordinary Handsets available today in market have variety of features that allow for comfortable use in a variety of ways like Internet access, graphics, and photography etcetera. Smartphones offer direct connectivity to social networking sites like Facebook, Twitter, and Linked-In etcetera thereby scoring better than ordinary handsets. Smartphones have no distinctive advantage over Ordinary Handsets when it comes to enjoying music since reproduction quality depends on the technology of earphones.

- Attitude and Usage Patterns of mobile users are very similar for light users and heavy users. Medium users, 2 to 4 hours per day, have an Attitude and Usage Pattern marginally different. Nature of difference indicates more serious usage pattern; they use phones for functional value that mobiles offer.

In most aspects of Attitude and Usage Pattern when differentiated on amount of time spent in using mobile phone not much significant difference is observed. Difference is observed where heavy users (more than 4 hours) show more usage in respect of all kinds of uses inquired about in this research. Medium users show a different level of use or usage preference. Light users consider themselves more technology savvy as compared to medium and heavy users. Voting for reality shows increases as time of

use increases indicating heavy users involve most in voting at reality shows. Medium users show a different attitude towards mobile use compared to light and heavy users, not considering Smartphones to be cool and considering mobile as an information seeking device.

Heavy users spend more time on social networking sites as compared to medium or light users. Mobile phone use for gaming increases with increased time spent on mobile phone while in case of gaming medium users stand out with the least engagement as also in case of liking of promotional messages. Use of mobile phone for Chatting is one area where the light medium and heavy users have almost the same kind of usage. Appreciation for and use of mobile helpline alerts increases with increasing time spent on mobile, while light users derive least benefit from SMS alerts from Fast Food restaurants. Heavy users show a higher tendency to use mobile phones for taking pictures and for joke forwards. Medium users look most favorably upon SMS bank alerts.

Medium users (2 to 4 hours) use of mobile phone for taking photographs, listening to music, liking for promotional messages, and social networking is lower while for SMS – Bank Alerts it is more. This indicates a more serious use of mobile phones by the respondents. These users use mobile phones for the functional purpose rather than for show or pomp of using the mobile phone.

The analysis and findings of this research are in consonance with prior research. Leung and Wei (Leung & Wei, 2000) found two groups of factors which they classified as intrinsic factors or motivations such as information, excitement, relaxation and sociability and the second group consists of factors such as fashion/status, mobility, immediate access and other functional services; on similar lines this research outcome also indicates a varying usage pattern both on the count of type of handset used and also duration of mobile use. Leung, L & Wei, R (Leung & Wei, 2000) also state that younger generations view mobile as a multi-purpose communications medium which has more functions than voice communications medium capable of sending and receiving texts, graphics, data, music and video, which is similar to findings of this research. Jun and Lee (Jun & Lee, 2007) in their study on the impact of mobile media usage on consumer attitudes towards mobile advertising deploy 7 constructs which include mobility\convenience, Fashion, Information, Entertainment\Relaxation, Functional service, Multimedia service and Sociability. This research is indicative of similar usage patterns by mobile phone users and more so for Smartphone users compared to Ordinary Handset users. Wang in his study found that new mobile technologies give consumers a certain degree of control with browsing and gathering information and hence mobile marketers are increasingly using mobile as a marketing communication media (Wang, 2007). It is now found that marketers are using mobile technology in diverse ways to achieve their marketing objectives and mobile users make use of the variety of services regularly. Barutcu investigated consumers' attitudes towards mobile advertising, entertainment, discount coupons and shopping through net (Barutcu, 2007). He found that apart from mobile shopping, consumers have a positive attitude towards other marketing tools and students have more positive attitudes than other groups towards mobile entertainment services. Price conscious customers have a more positive attitude towards mobile advertising, banking and discount coupons. A sharp contrast is drawn between current non-internet users and Internet users. Mobile phone users with no Internet connection are more enthusiastic about the mobile Internet. The findings of this research are in tandem with Barutcu's conclusions.

Conclusions

It can be concluded from the research study that type of handset used does not largely impact the usage pattern and uses that a mobile user obtains from his device. Differentiation between Smart Phones and Ordinary Handsets both by the features and attributes of the handsets as also by the nature of use by handset owners is not very much. Smartphone technologists have a challenge in bringing in higher and more meaningful technologies to differentiate from Ordinary Handsets. Smart Phone users get only marginally advanced use out of their hand sets, may be the most common uses are equally well delivered by ordinary handsets.

Research Implications

One outstanding dimension in this research is the understanding derived in respect of 'usage rate' and Attitude towards mobile use and Usage Patterns Light and Heavy users are more positive in their attitude towards entertainment value derived out of use of mobile phones, where else medium users are

more concerned with functional values offered by mobile phones. Findings of this research shall be useful to businesses using mobile marketing for more accurate segmenting and targeting of their customers, there by providing an opportunity for more customized marketing communications. Roy and Banerjee (Roy & Banerjee, 2010) classified VAS into three broad categories: Entertainment VAS provide entertainment for leisure time usage, Info VAS provide useful information to the end user and M-Commerce VAS facilitate financial transactions using the mobile phone. In conjunction of this classification findings of current research study offer a new strategic dimension for mobile marketers. Observation from this study that usage patterns of Ordinary Handset Users are not very different from that of Smartphone users poses a major challenge to Smartphone brands. They need to incorporate technologies to differentiate from Ordinary Handsets to remain relevant in the market. Relative value addition that Smartphones today offer may not be a sustainable strategic advantage for long unless they come up with features and attributes not easy to incorporate in Ordinary Handsets. Mobile service providers may find it useful to know what is consumed by mobile phone users as differentiated by amount of time on mobile phones, which would help them define their product offerings more appropriately for different segments of the market by duration of mobile use.

Research limitations and direction for further research

This research study suffers from methodological limitations in so far as attempting to understand usage and attitude towards use in respect of various purposes of use, the data collected could not be easily subjected to more sophisticated analyses. Sampling limitations of sample selection and randomization applicable to Internet based surveys also apply to this research. Considering the nature of responses to some of the questions in the questionnaire it is indicative of respondent lack of understanding of the questions and hence either the questions should have been eliminated or reworded. Unfortunately the same did not come out in the limited pilot study done.

Findings of this study throw up a number of possible directions for future research. In case of use of mobile for gaming while this research indicates an equal usage by both smart phone users and ordinary handset users, it would be interesting to know the type and nature of games the two sets of people actually play. Again chatting as a use of mobile phones is found to be almost similar for all the users, but the nature and content of the chat may be explored for a better understanding of this use of mobile phones.

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| | Cell Type | N | Mean |
|------------------------|-----------|----|------|
| Tech Savvy | 1 | 73 | 3.90 |
| | 2 | 99 | 3.35 |
| Voting-reality shows | 1 | 73 | 1.86 |
| | 2 | 99 | 1.51 |
| Cool | 1 | 73 | 4.18 |
| | 2 | 99 | 3.71 |
| Social-Networking | 1 | 72 | 3.85 |
| | 2 | 99 | 2.78 |
| Info-seeking device | 1 | 73 | 4.25 |
| | 2 | 99 | 3.81 |
| Games-usage | 1 | 73 | 2.99 |
| | 2 | 99 | 2.66 |
| Promo message likeness | 1 | 73 | 2.23 |
| | 2 | 99 | 2.07 |
| Chatting | 1 | 73 | 4.16 |
| | 2 | 99 | 3.80 |
| Mobile helpline-alerts | 1 | 73 | 3.59 |
| | 2 | 99 | 3.16 |
| Tech negative (-ve) | 1 | 73 | 1.88 |
| | 2 | 99 | 2.25 |

| | | | |
|----------------------------------|---|----|------|
| Fast-Food SMS | 1 | 73 | 3.26 |
| | 2 | 98 | 3.04 |
| Smartphones are costly | 1 | 72 | 3.69 |
| | 2 | 99 | 3.87 |
| Smartphones cool negative | 1 | 72 | 2.01 |
| | 2 | 98 | 2.51 |
| Chat -ve | 1 | 72 | 2.83 |
| | 2 | 99 | 3.18 |
| Pictures -ve | 1 | 71 | 2.15 |
| | 2 | 99 | 2.55 |
| SMS joke forward | 1 | 72 | 3.39 |
| | 2 | 99 | 3.38 |
| Mobile- IPOD Substitute | 1 | 72 | 3.40 |
| | 2 | 99 | 3.39 |
| SMS-Bank alert | 1 | 72 | 3.17 |
| | 2 | 99 | 2.86 |
| Caller-tune download | 1 | 72 | 2.17 |
| | 2 | 99 | 2.28 |
| SMS joke forward -ve | 1 | 71 | 2.68 |
| | 2 | 99 | 2.53 |
| SMS Travel agencies | 1 | 72 | 3.86 |
| | 2 | 99 | 3.68 |
| Mobile music negative | 1 | 72 | 3.00 |
| | 2 | 99 | 3.18 |
| Foodchain SMS negative | 1 | 72 | 2.99 |
| | 2 | 99 | 3.24 |
| Games mobile misuse | 1 | 72 | 2.28 |
| | 2 | 99 | 2.33 |
| Mobile- mails+ social network-ve | 1 | 72 | 1.90 |
| | 2 | 99 | 3.00 |
| SMS cumbersome | 1 | 72 | 3.07 |
| | 2 | 99 | 3.37 |

| | | | |
|-----------------------------------|-------|-----|------|
| Food Chain SMS negative | 1 | 67 | 3.16 |
| | 2 | 63 | 3.14 |
| | 3 | 41 | 3.07 |
| | Total | 171 | 3.13 |
| Games mobile misuse | 1 | 67 | 2.33 |
| | 2 | 63 | 2.27 |
| | 3 | 41 | 2.34 |
| | Total | 171 | 2.31 |
| Mobile- mails+ social network -ve | 2 | 63 | 2.27 |
| | 3 | 41 | 2.34 |
| | Total | 171 | 2.31 |

| | | | |
|----------------|-------|-----|------|
| | Total | 171 | 2.54 |
| SMS cumbersome | 1 | 67 | 3.34 |
| | 2 | 63 | 3.14 |
| | 3 | 41 | 3.24 |
| | Total | 171 | 3.25 |

| | | F | Sig. |
|------------------------|----------------|-------|------|
| Tech Savvy | Between Groups | 1.289 | .278 |
| | Within Groups | | |
| | Total | | |
| Voting-reality shows | Between Groups | 1.232 | .294 |
| | Within Groups | | |
| | Total | | |
| Cool | Between Groups | .368 | .692 |
| | Within Groups | | |
| | Total | | |
| Social-Networking | Between Groups | 2.685 | .071 |
| | Within Groups | | |
| | Total | | |
| Info-seeking device | Between Groups | .614 | .542 |
| | Within Groups | | |
| | Total | | |
| Games-usage | Between Groups | 4.895 | .009 |
| | Within Groups | | |
| | Total | | |
| Promo message likeness | Between Groups | 1.187 | .308 |
| | Within Groups | | |
| | Total | | |
| Chatting | Between Groups | .044 | .957 |
| | Within Groups | | |
| | Total | | |
| mobile helpline-alerts | Between Groups | 2.038 | .133 |
| | Within Groups | | |
| | Total | | |
| Tech negative (-ve) | Between Groups | 2.277 | .106 |
| | Within Groups | | |
| | Total | | |
| Fast-Food SMS | Between Groups | 1.697 | .186 |
| | Within Groups | | |
| | Total | | |
| Smartphones are costly | Between Groups | .409 | .665 |
| | Within Groups | | |
| | Total | | |
| Smartphones cool -ve | Between Groups | .238 | .789 |
| | Within Groups | | |

| | | | |
|---------------------------------|----------------|-------|------|
| | Total | | |
| Chat -ve | Between Groups | 1.580 | .209 |
| | Within Groups | | |
| | Total | | |
| Pictures -ve | Between Groups | 1.952 | .145 |
| | Within Groups | | |
| | Total | | |
| SMS joke forward | Between Groups | 2.387 | .095 |
| | Within Groups | | |
| | Total | | |
| Mobile- IPOD Substitute | Between Groups | .296 | .744 |
| | Within Groups | | |
| | Total | | |
| SMS-Bank alert | Between Groups | 1.106 | .333 |
| | Within Groups | | |
| | Total | | |
| Caller-tune download | Between Groups | .538 | .585 |
| | Within Groups | | |
| | Total | | |
| SMS joke forward -ve | Between Groups | 2.186 | .116 |
| | Within Groups | | |
| | Total | | |
| SMS Travel agencies | Between Groups | .521 | .595 |
| | Within Groups | | |
| | Total | | |
| Mobile music negative | Between Groups | 1.107 | .333 |
| | Within Groups | | |
| | Total | | |
| Foodchain SMS negative | Between Groups | .083 | .920 |
| | Within Groups | | |
| | Total | | |
| Games mobile misuse | Between Groups | .087 | .916 |
| | Within Groups | | |
| | Total | | |
| Mobile- mails+ social network-v | Between Groups | 2.127 | .122 |
| | Within Groups | | |
| | Total | | |
| SMS cumbersome | Between Groups | .643 | .527 |
| | Within Groups | | |
| | Total | | |

| | | N | Mean |
|------------|-------|-----|------|
| Tech Savvy | 1 | 68 | 3.72 |
| | 2 | 63 | 3.51 |
| | 3 | 42 | 3.48 |
| | Total | 173 | 3.58 |

| | | | |
|---------------------------|-------|-----|------|
| Voting-reality shows | 1 | 68 | 1.59 |
| | 2 | 63 | 1.65 |
| | 3 | 42 | 1.86 |
| | Total | 173 | 1.68 |
| Cool | 1 | 68 | 3.97 |
| | 2 | 63 | 3.84 |
| | 3 | 42 | 3.93 |
| | Total | 173 | 3.91 |
| Social-Networking | 1 | 68 | 2.96 |
| | 2 | 63 | 3.29 |
| | 3 | 41 | 3.56 |
| | Total | 172 | 3.22 |
| Info-seeking device | 1 | 68 | 3.90 |
| | 2 | 63 | 4.06 |
| | 3 | 42 | 4.02 |
| | Total | 173 | 3.99 |
| Games-usage | 1 | 68 | 2.74 |
| | 2 | 63 | 2.59 |
| | 3 | 42 | 3.21 |
| | Total | 173 | 2.80 |
| Promo message likeness | 1 | 68 | 2.12 |
| | 2 | 63 | 2.02 |
| | 3 | 42 | 2.36 |
| | Total | 173 | 2.14 |
| Chatting | 1 | 68 | 3.94 |
| | 2 | 63 | 3.98 |
| | 3 | 42 | 3.93 |
| | Total | 173 | 3.95 |
| Mobile helpline-alerts | 1 | 68 | 3.15 |
| | 2 | 63 | 3.40 |
| | 3 | 42 | 3.57 |
| | Total | 173 | 3.34 |
| Tech negative (-ve) | 1 | 68 | 1.91 |
| | 2 | 63 | 2.17 |
| | 3 | 42 | 2.29 |
| | Total | 173 | 2.10 |
| Fast-Food SMS | 1 | 68 | 2.93 |
| | 2 | 62 | 3.29 |
| | 3 | 42 | 3.21 |
| | Total | 172 | 3.13 |
| Smartphones are costly | 1 | 68 | 3.79 |
| | 2 | 63 | 3.86 |
| | 3 | 41 | 3.71 |
| | Total | 172 | 3.80 |
| Smartphones cool negative | 1 | 68 | 2.35 |
| | 2 | 63 | 2.30 |
| | 3 | 40 | 2.22 |

| | | | |
|-------------------------|-------|-----|------|
| | Total | 171 | 2.30 |
| Chat -ve | 1 | 67 | 3.22 |
| | 2 | 63 | 2.95 |
| | 3 | 41 | 2.85 |
| | Total | 171 | 3.04 |
| Pictures -ve | 1 | 66 | 2.45 |
| | 2 | 63 | 2.51 |
| | 3 | 41 | 2.07 |
| | Total | 170 | 2.38 |
| SMS joke forward | 1 | 67 | 3.30 |
| | 2 | 63 | 3.27 |
| | 3 | 41 | 3.71 |
| | Total | 171 | 3.39 |
| Mobile- IPOD Substitute | 1 | 67 | 3.33 |
| | 2 | 63 | 3.40 |
| | 3 | 41 | 3.51 |
| | Total | 171 | 3.40 |
| SMS-Bank alert | 1 | 67 | 2.60 |
| | 2 | 63 | 3.57 |
| | 3 | 41 | 2.73 |
| | Total | 171 | 2.99 |
| Caller-tune download | 1 | 67 | 2.13 |
| | 2 | 63 | 2.25 |
| | 3 | 41 | 2.37 |
| | Total | 171 | 2.23 |
| SMS joke forward -ve | 1 | 66 | 2.80 |
| | 2 | 63 | 2.49 |
| | 3 | 41 | 2.39 |
| | Total | 170 | 2.59 |
| SMS Travel agencies | 1 | 67 | 3.69 |
| | 2 | 63 | 3.73 |
| | 3 | 41 | 3.90 |
| | Total | 171 | 3.75 |
| Mobile music negative | 1 | 67 | 3.01 |
| | 2 | 63 | 3.27 |
| | 3 | 41 | 3.00 |
| | Total | 171 | 3.11 |

Table 3: Relating Attitude and Usage Pattern of mobile with duration of time for mobile usage (One-way ANOVA)

| | | Levene's Test for Equality of Variances | |
|----------------------|-----------------------------|---|------|
| | | F | Sig. |
| Tech Savvy | Equal variances assumed | .677 | .412 |
| | Equal variances not assumed | | |
| Voting-reality shows | Equal variances assumed | 10.846 | .001 |
| | Equal variances not assumed | | |
| Cool | Equal variances assumed | .077 | .782 |

| | | | |
|------------------------------------|-----------------------------|--------|------|
| | Equal variances not assumed | | |
| Social-Networking | Equal variances assumed | 12.002 | .001 |
| | Equal variances not assumed | | |
| Info-seeking device | Equal variances assumed | .042 | .839 |
| | Equal variances not assumed | | |
| Games-usage | Equal variances assumed | 2.538 | .113 |
| | Equal variances not assumed | | |
| Promo message likeness | Equal variances assumed | .155 | .695 |
| | Equal variances not assumed | | |
| Chatting | Equal variances assumed | 1.446 | .231 |
| | Equal variances not assumed | | |
| Mobile helpline-alerts | Equal variances assumed | 1.175 | .280 |
| | Equal variances not assumed | | |
| Tech --negative | Equal variances assumed | 1.530 | .218 |
| | Equal variances not assumed | | |
| Fast-Food SMS | Equal variances assumed | 4.001 | .047 |
| | Equal variances not assumed | | |
| Smartphones are costly | Equal variances assumed | .147 | .701 |
| | Equal variances not assumed | | |
| Smartphones cool negative | Equal variances assumed | 8.568 | .004 |
| | Equal variances not assumed | | |
| Chat -ve | Equal variances assumed | 2.813 | .095 |
| | Equal variances not assumed | | |
| Pictures -ve | Equal variances assumed | 23.093 | .000 |
| | Equal variances not assumed | | |
| SMS joke forward | Equal variances assumed | .720 | .397 |
| | Equal variances not assumed | | |
| Mobile-Substitute IPOD | Equal variances assumed | .288 | .592 |
| | Equal variances not assumed | | |
| SMS-Bank alert | Equal variances assumed | 1.919 | .168 |
| | Equal variances not assumed | | |
| Caller-tune download | Equal variances assumed | 3.366 | .068 |
| | Equal variances not assumed | | |
| SMS joke forward -ve | Equal variances assumed | .154 | .695 |
| | Equal variances not assumed | | |
| SMS Travel agencies | Equal variances assumed | .166 | .684 |
| | Equal variances not assumed | | |
| Mobile music negative | Equal variances assumed | 6.102 | .014 |
| | Equal variances not assumed | | |
| Food chain SMS -ve | Equal variances assumed | 3.625 | .059 |
| | Equal variances not assumed | | |
| Games mobile misuse | Equal variances assumed | 6.405 | .012 |
| | Equal variances not assumed | | |
| Dependence mobile | Equal variances assumed | .621 | .432 |
| | Equal variances not assumed | | |
| Mobile- mails+ social network-v | Equal variances assumed | 16.365 | .000 |
| | Equal variances not assumed | | |

| | | | |
|----------------|-----------------------------|-------|------|
| SMS cumbersome | Equal variances assumed | 6.643 | .011 |
| | Equal variances not assumed | | |

Table 4: Levene's Test for Equality of Variances