

## International Journal of Applied Business and Economic Research

ISSN : 0972-7302

available at <http://www.serialsjournal.com>

© Serials Publications Pvt. Ltd.

Volume 15 • Number 1 • 2017

### A Study on Smart Phone Usage Among Bottom of Pyramid\*

Pooja Sehgal Tabeck<sup>1</sup>, Anurupa B. Singh<sup>2</sup> and Sonali P. Banerjee<sup>1</sup>

<sup>1</sup> Research Scholar, Amity Business School, Amity University

<sup>2</sup> Associate Professor, Amity Business School, Amity University

**Abstract:** Bottom of Pyramid refers to the billions of people living on less than \$2 per day which includes most of the people in the world, and it was first defined in the year 1998 by Professors C.K. Prahalad and Stuart L. Hart. Bottom of pyramid comprises of 1.05 billion people in India (5 out of 6 Indians) which is the majority part in India. As with the extent of time and innovations of ICT we have reached that point of stage where Indians whether high class or low class are influenced by the use of smart phones and have seen a tremendous revolution in this segment. The current study tries to investigate about smart phone usage among BOP customers. Total 211 responses had been collected through structured questionnaires. It has been found that BOP customers are using smart phones for applications like whatsapp and facebook.

**Key Words:** Bottom of Pyramid, Smart phones, Usage, Social Media

#### BOTTOM OF PYRAMID MARKET'S

The phrase “bottom of the pyramid” was initially used by United States president Franklin D. Roosevelt in his April 7, 1932 radio address, The Forgotten Man, in which he said “These unhappy times call for the building of plans that rest upon the forgotten, the unorganized but the indispensable units of economic power...that build from the bottom up and not from the top down, that put their faith once more in the forgotten man at the bottom of the economic pyramid.”

The more current usage of this refers to the billions of people living on less than \$2 per day which includes most of the people in the world, and it was first defined in the year 1998 by Professors C.K. Prahalad and Stuart L. Hart. This term was subsequently expanded on a large scale upon by both of them in their books: *The Fortune at the Bottom of the Pyramid* by Prahalad in 2004 and *Capitalism at the Crossroads* by Hart in 2005.

Prahalad proposed that businesses, governments, and donor agencies stop thinking of the poor as victims and instead start seeing them as resilient and creative entrepreneurs as well as value-demanding

consumers. He proposes that there are tremendous benefits to multi-national companies who choose to serve these markets in ways responsive to their needs. After all the poor of today are the middle class of tomorrow. There are also poverty reducing benefits if multi-nationals work with civil society organizations and local governments to create new local business models. Another recent focus of interest lies on the impact of successful BoP-approaches on sustainable development. Some of the most significant obstacles encountered when integrating sustainable development at the BoP are the limits to growth that restrict the extended development of the poor, especially when applying a resource-intensive Western way of living.

Bottom of pyramid comprises of **1.05 billion people in India (5 out of 6 Indians)** which is the majority part in India who live on an **annual household income of less than INR 200,000** as of the year 2005. This is equivalent to less than INR 16,667 monthly household income which is not much amount.

By the year 2015, the size of the Bottom of Pyramid is projected to be 997 million which is still nearly 80% of the population in India. In urban India, where cost of living is higher, we consider Bottom of Pyramid to have an annual household income of less than INR 300,000 which is also not much. This is equivalent to less than INR 25,000 monthly household income.

### **SMART PHONE MARKET**

Cell phone market in India has kept up its development driving force with shipments touching year-on-year development of 84% in second quarter in the year 2014 and a quarterly development of 11%, as indicated by IDC, which is important and noticeable which sees the development potential for minimal effort and extra-large screen cell phone business sector is high in the Indian market.

### **LITERATURE REVIEW**

Prahalad & Stuart (2002) in their research argued that multinational have targeted top of the economic pyramid and have ignored BOP customers assuming that they are lacking purchasing power and inaccessible. They argued further that BOP is unexploited market and MNCs need to develop products and services to tap this market, it can be a profitable opportunity for them,.. It is also a social imperative, given that two-thirds of the human population (about four billion people) are at the bottom of the economic pyramid. By addressing the BOP, they say, MNCs can curtail poverty and improve the living conditions of the world's poorest. Bottom of the Pyramid' concept provides a framework that highlights the untapped opportunities with the 'poorest of the poor', while at the same time acknowledging the abilities and resources of private enterprises for poverty alleviation. (Hahn, R. 2009).

Agnihotri A.(2013) in her research investigated and opined firms that can reduce poverty and provide cost-effective utilitarian goods and services to poor people have more to gain from such individuals than those firms that provide more luxurious goods and services or offer goods with mere aesthetic or emotional value.

Donner, J. (2008) studied use of mobile phones in developing countries ,he distinguishes studies of the determinants of mobile adoption from those that assess the impacts of mobile use, and from those focused on the interrelationships between mobile technologies and users.

Several Studies had shown a positive economic impact of phone adoption. Mobile phones had seen as a potential way out of poverty. De Silva, Ratnadiwakara and Zainudeen (2011) in their research paper

argued that social influence plays a key role in mobile adoption; those with a larger share of their closest contacts who already have a mobile are more likely to adopt, which means that people tend to get connected in groups. Mobile phones also help one that exerts generate economic benefits by social and business networks. With availability of Telecommunications income increases and economies become more efficient (Aker, J. C., & Mbiti, I. M. 2010).

Joshi A. (2009) in his research stated that Bottom of Pyramid customer i.e. Taxi Drivers, carpenters, fishermen, shopkeepers, maids had taken maximum benefits by adopting mobile telephony, for many of BOP customers mobile phones were first piece of communication technology what they have used. Mobile telephony started with the upper strata of society, but it has quickly reached a much larger section of the population. Abram R. (2006) in his research investigated about the correlation between investments in telecommunications and economic development. Mobile phones, by virtue of their role as carriers and conduits of information, ought to lessen the information asymmetries in markets, thereby making rural and undeveloped markets more efficient. This research tests this assumption using a case-study from India, where the fishing community in the south-western state of Kerala has adopted mobile phones in large numbers. They find that with the wide-spread use of mobile phones, markets become more efficient as risk and uncertainty are reduced; there is greater market integration.

Further Ilahiane, H., & Sherry, J. W. (2012) also studied about mobile phone adoption among low-income skilled and semi-skilled laborers in Morocco. This paper discusses about the fact that productive sources can increase income of low skilled people. However, there are a number of factors that limit the success of such interventions, perhaps none more so than the level to which economic actors have the ability to determine the use and disposition of productive resources, and to form their own productive relationships via such resources. Mobile Telephony termed as means of social tie and personal security by poor. It also has been proved useful for business and employment opportunities. (Galperin, H., & Mariscal, J. 2007). Sivapragasam, N., Agüero, A., & de Silva, H. (2011) in their study Investigated that low income migrant workers in emerging Asia are aware of and are likely to use mobile phones for remitting money to family members at home.

Penetration of mobile phones are maximum in world, out of which 75 percent of the world's mobile subscriptions are in developing countries, (Pearce, K. E. 2013). voice connectivity has been achieved for the most part through intense competition, with prices being driven down to almost unsustainable levels. New services and applications provided new income sources to service providers. More important, from a development perspective, they also offer a way to get information and services with lower transaction costs to customers at the "bottom of the pyramid." Zainudeen A., & Ratnadiwakara, D. (2011). Growing importance of mobile telephony for users at the bottom of the pyramid has reflected in the high proportion of their incomes devoted to this service. Evidence from communities in the developing world, where low-income users have developed strategies to minimize costs while continuing to benefit from access to communication (De Angoitia, R., & Ramirez, F. 2009).

Kreutzer, T.(2009). In their research paper Internet and online media usage on mobile phones among low-income urban youth in Cape Town concluded low income youth had adopted and exploited low cost mobile applications as well as internet based applications through their mobile phones.

## RESEARCH METHODOLOGY

The study is designed to analyze usage of smart phones among Bottom of Pyramid customers. Descriptive research has been conducted for the purpose. Target respondents of this study were the adults who owned smart phones devices.

Foster (2001) stated that reliability can be used to ensure the consistency for the various items being tested. It is normally evaluated by Cronbach's alpha. Based on results of SPSS cronbach's alpha is .786. According to cronbach's alpha value overall questionnaire considered as valid.

A sample size of 300 was used for data collection .300 questionnaires were distributed by using judgmental sampling in the areas of Delhi NCR. Out of 300 questionnaires that sent out, 211 were completed and returned which recorded a response rate of 70.3 percent.

## DATA ANALYSIS, INTERPRETATION AND DISCUSSION OF RESULTS

Demographic profile of respondents is presented in Table 1. The gender distributions of respondents are 106 males and 105 females. The breakdown of age group is dominated by group of 18-25 years with 110 respondents. This is followed by respondents age d 26-35 years.

<i>Gender</i>	<i>Number of consumers</i>
Male	106
Female	105

<i>Age Group</i>	<i>Number of Consumers</i>
18-25 years	110
26-35 years	74
36-45 years	19
46-55 years	8

Data also showed that among the respondents 29 having monthly income less than 5,000 Indian rupees. Majority of respondents 127 had monthly income between 5000 to 20,000 Rs.

<i>Monthly Income</i>	<i>Number of consumers</i>
less than 5000	29
5000-10000	56
10000-20000	71
20000 and above	55

**Estimated marginal means of social status affected by smartphones:-** Females in the age group 18-25 years nearly shows neutral response towards the statement that social status is affected by the smartphone while males in this age group also shows neutral response towards this statement. Females in the age group 26-35 years somewhat disagree to the statement while males in this segment shows a neutral

response.. In the age group 36-45 years and 46- 55 years females agree to this statement and males somewhat disagree.

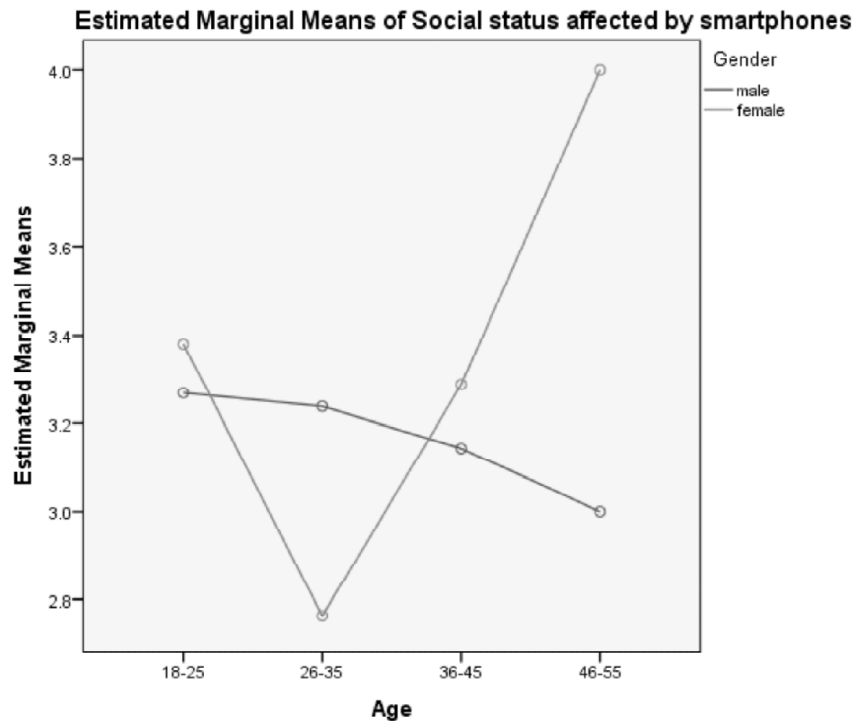


Figure : Estimated marginal means of social status affected by smartphones

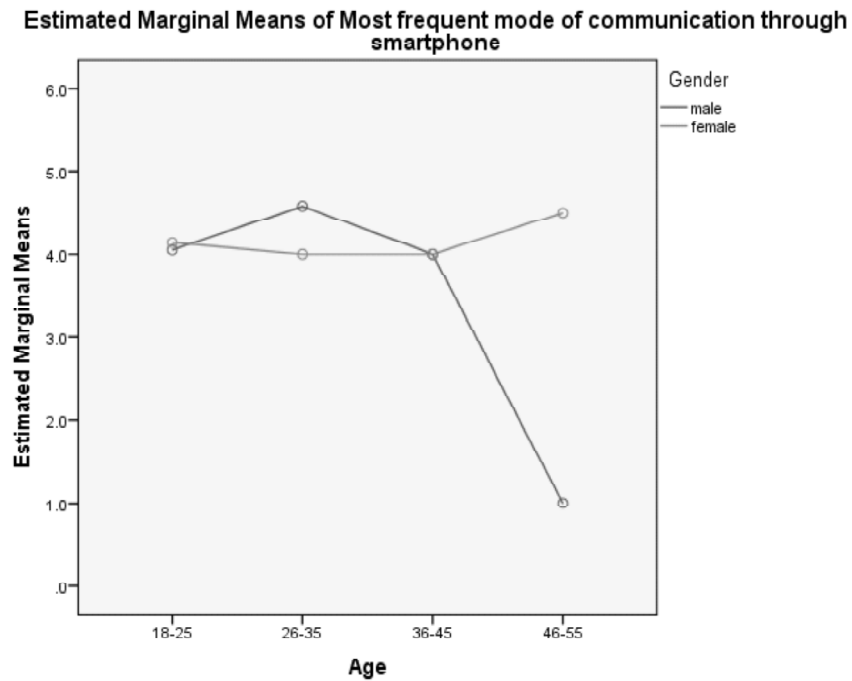


Figure : Estimated marginal means of most frequent mode of communication through smartphone

In the age group 18-25 years both males and females agree to the statement that the most frequent mode of communication is through smartphones while in the age group 26-35 years males strongly agree to the statement and females agree to the statement and in the age group 36-45 years both agree to the statement and in the age group 46-55 females agree to the statement and males strongly disagree to the statement.

**Hypothesis: There is no significant difference between different income group and usage of brand.**

### ANOVA

**Table 1**  
**ANOVA: Income and Usage of Brand**

	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Between Groups	25.048	3	8.349	2.191	0.042
With in Groups	788.743	207	3.815		
Total	813.791	210			

The p value of brand usage is .042 which is less than 0.05 this means we will reject null hypothesis and accept alternate hypothesis . With the help of this analysis researcher can say that there is a significant difference between different income group and brand which they are using.

**Hypothesis: There is no significant difference between different Age group and internet expenses.**

**Table 2**  
**ANOVA: Age Group and Internet expenses**

	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Between Groups	2.955	3	0.985	1.2	0.011
With in Groups	169.945	207	0.821		
Total	172.9	210			

This table depicts that p value of internet expense is .011 which is less than 0.05 this means we will reject null hypothesis and accept alternate hypothesis . With the help of this analysis we can say that there is a significant difference between different age group and internet expenses.

### CORRELATION ANALYSIS

The purpose of Pearson correlation Analysis is to examine the bivariate relationship among variables. Table 3 below presents the Pearson correlation among smart phone usage and social media.

The pearson correlation coefficient of smartphone usage and social media usage comes out to be .728 .( Lee Rodgers, J., & Nicewander, W. A. (1988) This indicates a strong positive correlation This means Bottom of pyramid customers not only using smartphones rather spending time on social media also.

**Table 3**  
**Correlation among smart phone usage and social media**

		<i>Smart Phone Usage</i>	<i>Social Media Usage</i>
Smart Phone Usage	Pearson Correlation	1	0.728
	Sig. (2-tailed)		0
	N	211	
Social media Usage	Pearson Correlation	0.728	1
	Sig. (2-tailed)	0	
	<b>N</b>	<b>211</b>	<b>211</b>

### **CORRELATION BETWEEN AGE AND EASE OF USE**

Table below shows pearson correlation coefficient of age and ease of use comes out to be -.725 . This indicates a strong negative correlation between age and ease of use. This means with the increasing age the ease of use decreases. This also indicates an opportunity that one range needs to be introduced for the people of more age with more ease of use so that they do not face the problem.

**Table**  
**Correlation between Age and Ease of use**

		<i>Age</i>	<i>Ease of use</i>
Age	Pearson Correlation	1	-0.725
	Sig. (2-tailed)		0
	N	211	
Ease of use	Pearson Correlation	-0.725	1
	Sig. (2-tailed)	0	
	N	211	211

### **CONCLUSION**

The strategy of targeting the classes will shift to targeting the masses and this has proven true now, all the companies are focusing on lower income group people. Smartphone usage is increasing day by day in the lower income segment which is boosting the sales of smartphones. There are people in this group who are earning less than 5,000 rupees per month but still they are using applications like Gmail on day to day basis which is also leading to more smartphone usage in this segment. The phenomenon of frequent social media usage also had been observed in Bop customers which is similar as their rich counterparts.

### **FUTURE RESEARCH LINES**

Not much of the research has been conducted on smart phone usage among Bottom of pyramid customers. One of the major suggestions for future work will be to conduct a wider survey to incorporate a greater number of participants.

As to study for future research one interesting domain is social media usage and adoption among Bottom of Pyramid which has been increased due to penetration of smart phones and availability of different brands at low price.

## REFERENCES

- Abraham, R. (2006, May). Mobile phones and economic development: Evidence from the fishing industry in India. In *Information and Communication Technologies and Development, 2006. ICTD'06. International Conference on* (pp. 48-56). IEEE.
- Agnihotri, A. (2013). Doing good and doing business at the bottom of the pyramid. *Business Horizons*, 56(5), 591-599.
- Aker, J. C., & Mbiti, I. M. (2010). Mobile phones and economic development in Africa. *The Journal of Economic Perspectives*, 24(3), 207-232.
- de Silva, H., Ratnadiwakara, D., & Zainudeen, A. (2011). Social Influence in Mobile Phone Adoption: Evidence from the Bottom of the Pyramid in Emerging Asia. *Information Technologies & International Development*, 7(3), pp-1.
- De Angoitia, R., & Ramirez, F. (2009). Strategic use of mobile telephony at the bottom of the pyramid: The case of Mexico. *Information Technologies & International Development*, 5(3), pp-35.
- Donner, J. (2008). Research approaches to mobile use in the developing world: A review of the literature. *The information society*, 24(3), 140-159.
- Galperin, H., & Mariscal, J. (2007). Poverty and mobile telephony in Latin America and the Caribbean. *Dialogo Regional sobre Sociedad de la Informacion (DIRSI)*, IDRC.
- Hahn, R. (2009). The ethical rationale of business for the poor—integrating the concepts bottom of the pyramid, sustainable development, and corporate citizenship. *Journal of business ethics*, 84(3), 313-324.
- Joshi, A. (2009, October). Mobile phones and economic sustainability: perspectives from India. In *Proceedings of the First international conference on Expressive Interactions for Sustainability and Empowerment* (pp. 2-2). British Computer Society.
- Kreutzer, T. (2009). Internet and online media usage on mobile phones among low-income urban youth in Cape Town. *International Journal of Education and Development using ICT*, 5(5), 1-21.
- Lee Rodgers, J., & Nicewander, W. A. (1988). Thirteen ways to look at the correlation coefficient. *The American Statistician*, 42(1), 59-66.
- Ilahiane, H., & Sherry, J. W. (2012). The problematics of the “Bottom of the Pyramid” approach to international development: the case of micro-entrepreneurs’ use of mobile phones in Morocco. *Information Technologies & International Development*, 8(1), pp-13.
- Martin, F., & Ertzberger, J. (2013). Here and now mobile learning: An experimental study on the use of mobile technology. *Computers & Education*, 68, 76-85.
- Pearce, K. E. (2013). Phoning it in: Theory in mobile media and communication in developing countries. *Mobile Media & Communication*, 1(1), 76-82.
- Sivapragasam, N., Agüero, A., & de Silva, H. (2011). The potential of mobile remittances for the bottom of the pyramid: findings from emerging Asia. *info*, 13(3), 91-109.
- Zainudeen, A., & Ratnadiwakara, D. (2011). Are the poor stuck in voice? Conditions for adoption of more-than-voice mobile services. *Information Technologies & International Development*, 7(3), pp-45.