***Title:** Can Entertainment Platforms be Leveraged to Push More-than-voice Services- Some Evidence at the BOP

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DRAFT

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*Abstract: Mobile phones are being used to improve one's economic situation by increasing the efficiency of day-to-day decision making by reducing transaction costs. At the same time, entertainment services on mobile phones, while not bringing any productive value to the user, are quite popular. However the general perception is that economic-related services are much less popular than entertainment-related services. If that is the case and if entertainment platforms could be used to push utilitarian (used to mean economic-related) services then it might be possible to use mobile phones to further improve livelihood outcomes of users.

This paper considers those who use utilitarian service and those who do not in order to assess if the drivers of such use are significantly different from each other. The thinking is that if they are not significantly different, it would be possible to leverage entertainment platforms to offer more-than-voice services including utilitarian services.

Considering a large sample at the bottom of the pyramid in five emerging Asian countries the findings dampen the enthusiasm that it is possible, without any additional appeal, to use entertainment platforms to push utilitarian type services via mobile phones. In light of this finding, marketing strategists and policy makers as well as application developers would need to think again about how to leverage the fairly extensive use of entertainment platforms to push economically beneficial services.

*Keywords: utilitarian service, BOP, more-than-voice

1.0   Motivation

Over the last decade or so, adoption of mobile telephones has enjoyed phenomenal growth rates among users that belong to the bottom of the pyramid (BOP), in many of the emerging Asian countries(de Silva and Zainudeen 2007;Zainudeen et al 2007).While the number of mobile phones has increased most of these phones are still being used to make phone calls or send messages(de Silva and Zainudeen 2007).The number of users who use mobilephones for more-than-voice services (i.e., services other than the two already listed, which include accessing information for business purposes, accessing the Internet, etc.)is limited(Zainudeen and Ratnadiwakara 2010).For instance while it is true that farmers who decide on which nearby market to sell their produce based on changing prices during the day or fishermen who change course and dock at points on the beach where supply is limited by using information via more-than-voice applications on mobile phones,the widespread use of similar services have not yet been documented at the BOP. However, at the same there is evidence that entertainment services on mobile phones such as taking and sharing photos or playing games, while not bringing any productive value to the user,but bringing satisfaction are some of the commonly used more-than-voice services beginning to get noticed in large sample surveys at the BOP(Zainudeen and Ratnadiwakara 2010).

While previous research has investigated factors that drive the adoption of mobile phones at the BOP (de Silva, Ratnadiwakara and Zainudeen 2009) and of more-than-voice services (Zainudeen and Ratnadiwakara 2010)little is known about the mechanisms through which this user-base might be urged to adopt more-than-voice services. Also, little is known on what drives the adoption of different types of more-than-voice services; say for instance banking services as opposed to an astrology service? Are the drivers of adoption common or are they different? Can entertainment platforms be used to push economically beneficial services? In other words, can a farmer at the BOP who uses his camera phone to take photos of his friends be persuaded to use the same camera to take photos of his crops and send it via MMS to possible buyers? This paper attempts to address these concerns.

The rest of the paper is structured as follows. Section 2 has a discussion on previous research and the theoretical framework. The methodology and a description of the data are contained in Section 3 while Section 4 comprises of a discussion on the empirical findings. Section 5 touches on marketing implications of the findings and concludes.

2.0   Background Research and Theoretical Framework

Voice, as well as more-than-voice services on mobile phones can be either utilitarian or hedonic in nature (Ahmad 2012). By utilitarian we mean productivity-oriented while by hedonic we mean entertainment-oriented benefits offered by mobile phone services. In general, evaluating services by utilitarian versus hedonic s offerings is a leading framework in marketing literature.[1]Therefore, a voice call could be either utilitarian or hedonic. So would be a short message service (SMS). For instance a voice call or an SMS could either be to communicate an important business tip or to share a funny story to make one laugh. Services offered in the second category however could be better segmented. While more-than-voice services such as price information at produce markets or mobile banking service that can help better the economic situation of the user through efficiency and productivity improvements would be utilitarian, services such as playing games or listening to radiothat can improve the user's enjoyment are hedonic.

Previous research has argued that users are driven by their motives and consumption values. Chitturi et al (2007) have categorized motivations for consumption as utilitarian and hedonic. Others, for instance Holbrook and Hirschman (1982) have segmented motives into product-oriented or utilitarian and experience oriented or hedonic in nature. Okada (2005) and Chitturi et al (2007, 2008) have broken down consumption motives that provide functional, instrumental or practical benefits as utilitarian benefits that are closer to necessities or needs and those that provide aesthetic, experiential and enjoyable benefits as hedonic benefits that are closer to luxuries and wants.

Separately, goal theory allows a researcher to examine the value obtained by a user from a product or service vis-à-vis the user's goals. Goal theory proposes a goal hierarchy, which consists of concrete goals and abstract goals (Barsalou 1991; Peterman 1997). In turn, this goal hierarchy hypothesizes a causal link between what a product has to offer and the use or customer's goals (Raghubir and Corfman 1999).A related concept is that of 'value-in-use'(Macdonald et al. 2009; Woodruff 1997; Woodruff and Flint 2006), defined as a user's functional and or hedonic outcome; the purpose or objective that is directly served through the usage of the product or service. Therefore, in the context of utilitarian and entertainment services, it is expected that usage of a specific type of service indicates that the service contributes toward the user's utilitarian or entertainment goals.

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[1] The terms 'entertainment' and 'hedonic' are used interchangeably in this paper.

Value-in-use has also been conceptualized as abstract goals as the value we seek from engagement with the product (Vargo and Lusch 2004). By contrast, concrete goals concerning product or service attributes correspond to the notion of embedded value; performance against product or service attributes for which the user is prepared to pay (Woodruff 1997). Concrete goals lead to more abstract goals. In our investigation, while the user's abstract goal may be to improve his livelihood (i.e., overall benefits obtained by using a mobile phone) concrete goals may be to obtain some utility or entertainment from using a specific more-than-voice service; a farmer seeking to improve his total agricultural income from all crops (abstract goal) by using a camera phone to send via MMS a picture of his cabbage crop to a potential buyer to agree on a price and quantity to transact in a week's time (concrete goal).

In this background we investigate the drivers of use of entertainment-based and utilitarian-based services. We hypothesize that drivers of these two types of services are common. Support obtained for this finding will indicate that users might be persuaded to leverage an entertainment-based platform for accessing more-than-voice services including utilitarian services since they will perceive this usage as contributing towards the achievement of their concrete goal.

3.0   Research Methodology and Data Description

This paper is based on data from a multi-country study of ICT use at the "bottom of the pyramid" (BOP) in emerging Asia conducted by LIRNEasia and funded by IDRC. The study wasconducted during the months of May-June in 2011, and looked at those at the BOP who had used a telephone to make or receive voice calls in the previous three months in Bangladesh, India, Pakistan, Sri Lanka and Thailand. Respondents were from both genders and between the ages of 15 and 60, from rural and urbanlocations. The study is the fourth in a series of studies undertaken to obtain an understanding of how people at the BOP use telecommunication.

Socio Economic Classification (SEC) was used to define the BOP.SEC categorizes people in to groups A to E; based on the education and occupational status of the Chief Wage Earner of the household. SEC D and E were considered as the BOP.

The survey consisted for 9,066 face-to-face interviews among those who had used a telephone (not necessarily owned) in the previous three months. The sample selection was conducted in such a way that the findings of the study could be projected back to the BOP of each country. This was achieved by using a multi-stage stratified cluster sampling by probability proportionate to size (PPS) to select the target number of urban and rural centers. After determining the number of centers to be selected; urban and rural areas were selected again using PPS on a constant population interval on geographically ordered centers. In each selected centre, a common place such as a road, park, hospital etc. was designated the starting point for contacting households. Only one respondent was selected from each household using the KISH grid to be interviewed. An overview of the sample size and composition is as follows.

		Country					
		Bangladesh	Pakistan	India	Sri Lanka	Thailand	Total
Gender	Male	1001	779	1425	513	399	4117
	Female	1049	1056	1742	687	401	4935
Age Group	Less than 25	703	681	1086	307	206	2983
	25 to 35	642	605	979	327	193	2746
	35 to 50	526	498	864	408	283	2579
	More than 50	179	51	237	158	118	743
Urban/Rural	Urban	660	905	1009	400	400	3374
	Rural	1390	930	2172	800	400	5692
Total		2050	1835	3181	1200	800	9066

The target group of this study is the mobile phone owners at the BOP. The study attempts to test the hypothesis that among mobile owners "drivers of consumption of utilitarian and hedonic services are the same"(null) vs. "drivers of consumption of utilitarian and hedonic services are different" (alternative). The logic is that, if the alternative hypothesis can be rejected, it implies that hedonic services can be used as vehicles to promote use of utilitarian and hedonic more-than-voice services amongst the BOP.If the null hypothesis is rejected, this implies that the drivers of consumption of utilitarian services are different from the drivers of consumption of hedonic services. Therefore hedonic services cannot be used as vehicles to promote use of utilitarian services.

	Bangladesh	Pakistan	India	Sri Lanka	Thailand	Total
Mobile Ownership	1070	1253	1256	907	737	5223
	52.2%	68.3%	39.5%	75.6%	92.1%	57.6%
Total	2050	1835	3181	1200	800	9066

More than voice services are classified as shown in the Table 1 below in to utility-based services and entertainment-based services based on responses received for a question that asked the different purposes the respondents used their mobile phones.[2]Making and receiving phone calls are ignored as the focus of this study is more-than-voice services.

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[2] The structure of the question used for the analysis is as follows.
Question: For what purposes you use your mobile phone?
Answers: (Respondents can select multiple answers)
1. Taking phone calls
2. Receiving phone calls
3. Sending/receiving 'missed calls'
4. Sending/receiving SMS (text messages)
5. Sending/receiving MMS (picture messages)
6. Sending/receiving emails
7. Browsing the Internet / Web (visit websites, search etc)
8. Taking photos /video clips
9. To play games
10. To listen to the radio
11. To listen to music files (not radio)
12. To share content that you have created (E.g. ringtones, wallpapers, pictures, games and video clips)
13. To send or receive or download or upload other content (E.g., ringtones, wallpapers, pictures, games and video clips)
14. As an organizer (keep appointments, reminders, alarm, calculator)
15. To check my bill / credit balance
16. Sending/receiving talk-time/load
17. To access Facebook
18. To access other social-networking or blog applications (Orkut, MySpace, LinkedIn, Twitter, GupShup [India] etc.)

Table 1:

Utility-based services	Entertainment-based services
1. Sending/receiving SMS (text messages)[3] 2. Sending/receiving emails 3. Browsing the Internet 4. Using the phone as an organizer	1. Sending/receiving MMS (picture messages) 2. Taking photos /video clips 3. Playing games 4. Listing to the radio 5. Listing to music files 6. Accessing Facebook 7. Accessing other social-networking or blog applications 8. Sharing content 9. Sending, Receiving or Uploading other content

Each of the above services has different levels of usage in each country. While sending and or receiving SMS is the most common utility-based service used by the BOP mobile owners in all countries, taking photos/videos, listening to music and playing games are popular entertainment-based services among them. The table below gives a summary of the levels of use of each service concerned.

Table 2:

	Bangladesh	Pakistan	India	Sri Lanka	Thailand
Utility Based Services					
Sending/receiving SMS	19.53%	40.30%	23.09%	51.38%	37.31%
Sending/receiving e-mail	0.19%	0.08%	0.24%	0.55%	1.09%
Browsing the Internet	2.34%	0.32%	0.72%	1.21%	4.88%
As an organizer	11.31%	5.59%	8.76%	1.65%	10.04%
Entertainment Based Services					
Sending/receiving MMS	1.87%	2.55%	2.71%	4.63%	8.01%
Taking photos/video	20.09%	7.82%	8.84%	11.80%	23.07%
To play games	25.79%	22.67%	20.46%	8.60%	19.67%
To listen to radio	12.90%	16.44%	13.06%	16.10%	23.61%
To listen to music	23.55%	5.91%	15.92%	6.84%	30.66%
To share content created	0.56%	1.36%	2.31%	1.76%	3.26%
To send/receive or download/upload other	1.40%	1.60%	1.51%	1.32%	2.85%

[3] It is understood that some may use SMS to send jokes etc. But earlier studies suggest that a significant proportion of the SMS users at the bottom of the pyramid use it for personal communication and emergency communication. (Zainudeen, 2007, Souter et al, 2005) and therefore sending and receiving SMS was considered as a utility-based service.

content					
To access facebook	0.75%	0.64%	0.24%	0.99%	2.31%
To access other social networking or blog applications	0.19%	0.08%	0.16%	0.22%	0.54%

The user base was then categorized in to *utilitarian users* and *non-utilitarian users.* Utilitarian users are the respondents who use any utility-based service while non-utilitarian users are the respondents who use only entertainment-based services, i.e. they do not use any utility-based services listed in the above table

An analysis conducted to ascertain the use of more-than-voice services with 'direct economic benefit' through either mobile phones or computer[4] found a significant difference between the two groups, utilitarian users and non-utilitarian users. The majority of the BOP who use such services is in fact 'utilitarian users'. For example in Sri Lanka 94.5% of the BOP who use banking and financial services through mobile devices, fixed phones or computers are 'utilitarian users' and only 5.5% of the banking and financial services users (through mobile devices, fixed phones or computers) are 'non-utilitarian users'. This analysis provides evidence that across all countries people who are savvy with the 'utilitarian services' are more likely to use more-than-voice services such as banking, health or livelihood related information and thereby gaining tangible economic benefits through mobile devices, fixed phones or computers.

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[4]**Question**: How frequently do you use [the services listed below]?
  Answers: (Multiple answers were allowed)
1. Banking and financial services
2. Making or receiving a payment or sending or receiving money / talk time to/ from someone
3. Governmental services
4. Health services
5. Competition polls or participation in other live programs on
6. Entertainment related information services
7. Livelihood related information
8. Other general information services

Table 3: Use of more-than-voice services with direct economic benefits; % of users in the 'utilitarian users' category

	Bangladesh	Pakistan	India	Sri Lanka	Thailand
Banking and financial services	66.7%	80.4%	85.4%	94.5%	85.2%
Making or receiving a payment	63.1%	83.4%	84.5%	94.1%	76.6%
Governmental services	66.5%	88.6%	86.4%	94.0%	82.5%
Health services	66.2%	94.4%	85.9%	93.6%	93.5%
Competition polls or participation in other live programs on	68.3%	93.6%	83.1%	92.3%	79.0%
Entertainment related information services	67.9%	88.3%	82.9%	92.2%	79.7%
Livelihood related information	67.1%	92.0%	86.8%	95.2%	91.8%
Other general information services	69.9%	95.9%	78.9%	91.3%	81.7%

Despite the evidence of economic gains for utilitarian users, surprisingly a significant percentage of respondents, except in Sri Lanka, have not used their mobile phones for any utility-based services. The percentage is as high as 45.8% for Bangladesh and 32.4% for India. Please see table 4 below.

Table 4:

	Target Sample (Mobile Owners)	Number of respondents who use any more-than-voice service	Number of respondents using at least one utilitarian service of those who use more-than-voice services	% respondents using utilitarian services	% respondents not using utilitarian services
Bangladesh	1070	533	289	54.2%	45.80%
Pakistan	1253	689	538	78.1%	21.90%
India	1256	534	361	67.6%	32.40%
Sri Lanka	907	523	471	90.1%	9.90%
Thailand	737	455	326	71.6%	28.40%

In order to ascertain whether the characteristics of the two groups (respondents who use any utilitarian services and respondents who donot use any utilitarian service) are significantly different;

Chi-square tests were conducted. Chi square tests are generally used to determine if the two or more groups are *significantly* different when the results can be grouped in to two or more categories. The two groups were sliced in to sub groups using gender; education; urban/rural; age group; level of perceived benefits; access to computers; Internet use and number of mobile phone owners in top 5 contacts. Separate tests were conducted for the five countries.

4.0   Empirical Findings and Discussion

The Chi square test results in the Table 5indicate where there are significant similarities and differences between the two groups of utilitarian users and non-utilitarian users.

Table 5: Chi square test results

	Bangladesh	Pakistan	India	Sri Lanka	Thailand
Gender	No Significant Difference	No Significant Difference	No Significant Difference	No Significant Difference	No Significant Difference
Education	Significant Difference @ 99%	Significant Difference @ 99%	Significant Difference @ 99%	No Significant Difference	Significant Difference @ 99%
Urban/Rural	No Significant Difference	Significant Difference @ 99%	No Significant Difference	No Significant Difference	Significant Difference @ 99%
Age Group	Significant Difference @ 99%	Significant Difference @ 99%	No Significant Difference	Significant Difference @ 99%	Significant Difference @ 99%
Level of Perceived Benefits	No Significant Difference	Significant Difference @ 99%	Significant Difference @ 99%	Significant Difference @ 99%	No Significant Difference
Access to Computer	No Significant Difference	Significant Difference @ 99%	No Significant Difference	No Significant Difference	Significant Difference @ 99%
Internet Use	Significant Difference @ 99%	Significant Difference @ 99%	Significant Difference @ 99%	Significant Difference @ 90%	Significant Difference @ 99%
Number of mobile phone owners in top 5 contacts	Significant Difference @ 90%	No Significant Difference	Significant Difference @ 90%	No Significant Difference	No Significant Difference

Unlike in earlier studies(de Silva et al 2009, Zainudeen et al 2010), where gender was found to have a significant impact in adopting technologies, gender was found to have no significant impact on the use of utilitarian services as opposed to using non-utilitarian services on mobile phones and this is found to be common across all five countries.

Non-Utilitarian Users   Utilitarian Users
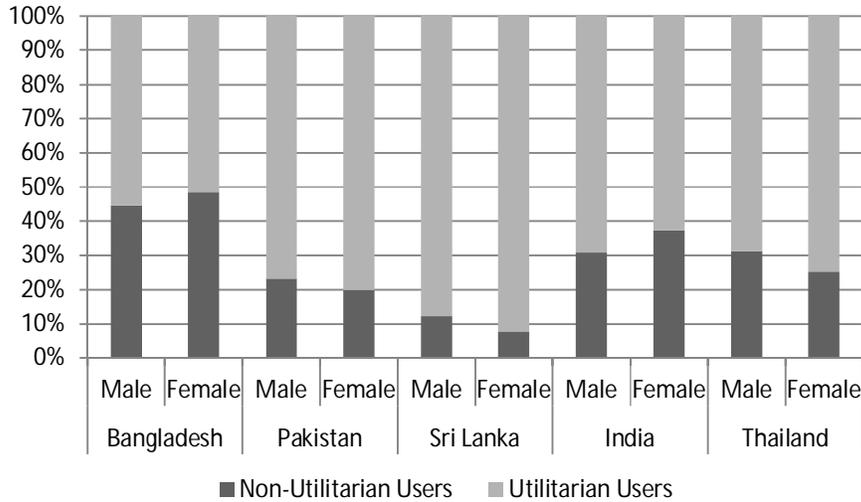
Urban/Rural divide and access to a computer (not Internet) also do not show a significant impact on the use of utilitarian services except for Pakistan and Thailand.

Even though social pressure or influence on mobile phone adoption, as measured by the number of closest contacts using mobile phones and also adoption of more-than-voice services, was found to be an important factor in increasing the probability of adoption (de Silva et al 2009, Zainudeen et al 2010), it does not have a significant influence on using utilitarian services. As can be seen from the graph below the usage pattern is not conclusive except for Bangladesh and India unlike in the mobile adoption or adoption of more-than-voice services. Even for Bangladesh and India the difference is only significant at 90% confidence level.

Number of mobile phone owners in top 5 contacts   0 1 2 3 4 5
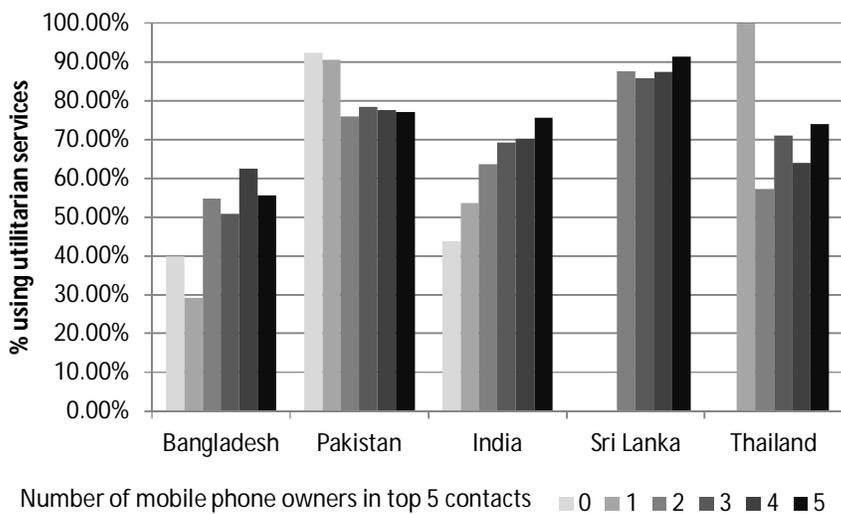
However, the level of education seems to have a significant impact on using utilitarian services. It is found that higher the level of education more likely the BOP mobile owners are to use utilitarian more-than-voice services. This holds valid for all the countries except for Sri Lanka. In Sri Lanka use of utilitarian services is very high compared to other countries and the low base for non-utilitarian users can perhaps be the reason for the difference.
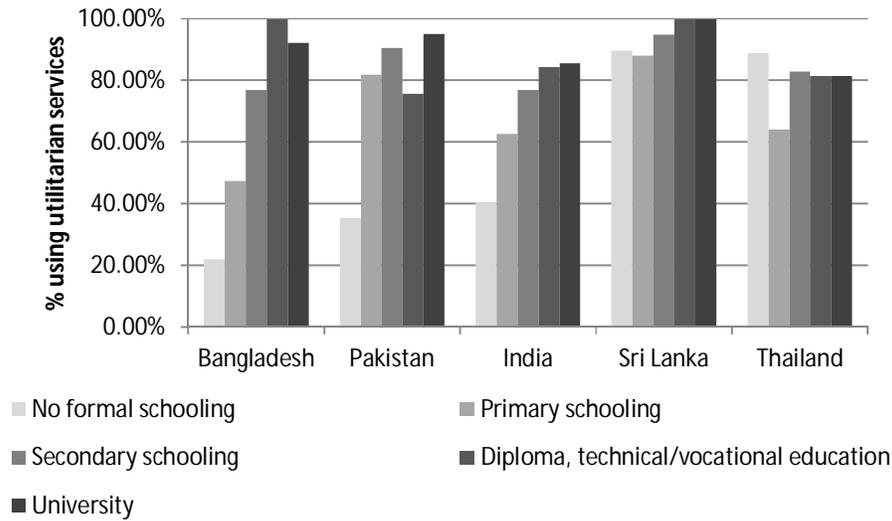
Age also has a significant impact in using utilitarian services with the youngest group (less than 25) having the greatest likelihood of using utilitarian services as expected. However in India the relationship of age and type of use is not conclusive.

As expected Internet use contributes positively to use of utilitarian services across all the countries while in Pakistan, India and Sri Lanka, a higher level of perceived benefits imply a greater likelihood of using utilitarian services.

5.0   Concluding Remarks

The theoretical context of this study was based on the premise that value is obtained by a user from a product or service vis-à-vis the user's goals. Therefore, in the context of utilitarian and entertainment services the usage of a specific type of service would indicate that the service contributed toward the user's utilitarian or entertainment goals.

Using goal hierarchy we proposed that while a user's abstract goal may be to improve his livelihood (i.e., overall benefits obtained by using a mobile phone) his concrete goal may be to obtain some utility from using a specific more-than-voice service; a farmer seeking to improve his total agricultural income from all crops (abstract goal) by using a camera phone that he normally uses to take photos of his family to send via MMS pictures of his cabbage crop to a potential buyer to agree on a price and quantity to transact in a week's time (concrete goal).

We hypothesized that drivers of the two types of services were common and the that users might be persuaded to leverage an entertainment-based platform for accessing more-than-voice services including utilitarian services since they will perceive this usage as contributing towards the achievement of their concrete goal.

However, the empirical analysis is clear that even though there are common factors such as gender for utilitarian users and non-utilitarian users majority of the factors affecting consumption of utilitarian and hedonic services more-than-voice services are different. This means that it is not only a marketing strategy that is required to convert only entertainment-based more-than-voice users in to utility based service users. This is because factors such as higher level of education, higher level of perceived benefits in using mobile phones and use of Internet are important in converting such users.

<u>References</u>

Ahmad, Norlia, Utilitarian and Hedonic Values of Mobile Services: A Preliminary Analysis from the Users' Perspective Departmental Bulletin Paper, Kwansei Gakuin University Business and accounting review, Vol 9, pp 69-83, March 2012

Barsalou, L. W. 1991. Deriving categories to achieve goals. In G. H. Bower(Ed.), The psychology of learning and motivation (Vol. 27, pp. 1–64). New York: Academic.

Chitturi, R., Raghunathan, R., &Mahajan, V. (2007). Form versus function: How the intensities of specific emotions evoked in functional versus hedonic trade-offs mediate product preferences. Journal of Marketing Research, 44(4), 702-714

Chitturi, R., Raghunathan, R., &Mahajan, V. (2008). Delight by design: The role of hedonic versus utilitarian benefits. Journal of Marketing, 72(3), 48-63

De Silva, Harsha ,Ratnadiwakara, Dimuthu and Zainudeen, Ayesha , Social Influence in Mobile Phone Adoption: Evidence from the Bottom of Pyramid in Emerging Asia (2009). Available at SSRN: http://ssrn.com/abstract=1564091 or http://dx.doi.org/10.2139/ssrn.1564091

De Silva, Harsha and Zainudeen, Ayesha ,Teleuse on a Shoestring: Poverty Reduction Through Telecom Access at the 'Bottom of the Pyramid' (2007). Centre for Poverty Analysis Annual Symposium on Poverty Research, Sri Lanka, Colombo, December 6-7, 2007. Available at SSRN: http://ssrn.com/abstract=1555597 or http://dx.doi.org/10.2139/ssrn.1555597

Holbrook, Morris B.; Hirschman, Elizabeth C. 1982. The Experiential Aspects of Consumption: Consumer Fantasies, Feelings, and Fun. Journal of Consumer Research. Vol. 9 Issue 2, p132-140.

Macdonald, Emma K.; Wilson, Hugh; Martinez, Veronica; Toossi, Amir. 2011. Assessing value-in-use: A conceptual framework and exploratory study. Industrial Marketing Management. Vol. 40 Issue 5, p671-682

Okada, E. M.(2005), Justification Effects on Consumer Choice of Hedonic and Utilitarian Goods, Journal of Marketing Research Vol. 42, No. 1 , pp. 43-53

Peterman, M. L. 1997.The effects of concrete and abstract consumer goals on information processing. Psychology and Marketing, 14(6), 561–583.

Raghubir, Priya; Corfman, Kim. 1999. When Do Price Promotions Affect Pretrial Brand Evaluations? Journal of Marketing Research, Vol. 36 Issue 2, p211-222.

Vargo, Stephen L.; Lusch, Robert F. 2004. The Four Service Marketing Myths: Remnants of a Goods-Based, Manufacturing Model. Journal of Service Research. Vol. 6 Issue 4, p324-335.

Woodruff, R. B. 1997. Customer value: The next source for competitive advantage. Journal of the Academy of Marketing Science, 25(2), 139–153.

Woodruff, R. B., & Flint, D. J. 2006.Marketing's service-dominant logic and customer value. In R. F. Lusch& S. L. Vargo (Eds.), The service dominant logic of marketing: Dialog, debate and directions (pp. 183–195). Armonk, NY: M.E. Sharpe.

Zainudeen, Ayesha ,Sivapragasam, Nirmali , De Silva, Harsha , Iqbal, Tahani and Ratnadiwakara, Dimuthu, Teleuse at the Bottom of the Pyramid: Findings from a Five Country Study (2007). 3rd Global Knowledge Conference, Kuala Lumpur, Malaysia, 11-13 December 2007. Available at SSRN: http://ssrn.com/abstract=1558865 or http://dx.doi.org/10.2139/ssrn.1558865

Zainudeen, Ayesha and Ratnadiwakara, Dimuthu , The Use of Mobiles Beyond Voice: Identifying the Conditions for Use at the BOP (December 8, 2010). Communication Policy Research South (CPRsouth), Xi'an, China, December 6-8, 2010. Available at SSRN: http://ssrn.com/abstract=1724517 or http://dx.doi.org/10.2139/ssrn.1724517