Utilitarian and Hedonic Values of
Mobile Services：
A Preliminary Analysis from the Users' Perspective

Norlia　Ahmad

Abstract

Mobile services can be classified based on relative importance of the values or benefits they generate for the users. This study provides classification of those services based on utilitarian and hedonic values. Utilitarian values of mobile services relate to functional benefits and productivity, while hedonic values refer to experiential and enjoyable ones. The motives and consumption of mobile services involve both dimensions to varying degrees, yet the issues remain largely unexplored. The analysis of mobile services attributes and user motives contribute to existing literature on consumer behavior, and provide insights for marketers to recognize consumption motives as critical basis of segmentation strategies. The proposed model is applicable for not only mobile services but also other products and/or services which deliver utilitarian and hedonic values to the users.

Keywords：Mobile services, Utilitarian, Hedonic, Segmentation

I　Introduction

Mobile phone has significantly extended its purpose from merely a voice communication tool into a multipurpose personal communications device in less than three decades. Users in many developed markets are now moving into web-based applications includes various services of information, entertainment, financial and education. Mobile usage experience has both tangible and intangible aspects, thus considered as hybrids of product and services. From service perspective, for example, in the 1980s, voice communication was the only service; with the 1990s, it was coupled with short messaging services (SMS). Today, the mobile service portfolio comprises rich voice, the internet, messaging and personalized content. The transition from voice to data is the result of the interplay of technology and market innovations, and was then stirred

by technological convergence of mobile phone with other media such as computer, internet and television.

The meaning of mobile phone became increasingly diversified particularly, across age groups, lifestyles and usage motivation. While the young people are embracing new innovations of mobile product and services such as multimedia message services (MMS), streaming music, web browsing, video camera and so forth, the older generation mostly uses the phone for voice calls and texting. Faced with saturated market, mobile manufacturers and service providers continue to introduce new type of services. Users are faced with various services they do not necessarily need; and in some cases, they are not technologically ready for more advanced and complex services. This explained the failure of some general purpose smartphones and data services to deliver substantial increases in average revenue per user (ARPU).

Mobile service users consist of different segments with conflicting needs, and this lead to difficulty in providing communication services that appeal to all users. General segmentation bases regard personal characteristics of individuals such as age, income and lifestyle; and specific segmentation bases relate to individual preferences within a specific class of product or service such as product or service attributes and motives. There exist distinctions between what types of mobile service features preferred by individuals. To some extent, the need for mobile communication service is often guided by the solutions it offers to key user problems. Existing studies such as Steinbock (2005) and Mazzoni et. al, (2007) examined various aspects of mobile services such as technologies, value creation, product/service development and lifestyles. However, understanding of specific issues of consumer behavior such as use motivations is critical to provide insights on segmentation strategies that could lead to an increase in ARPU.

Characterized with rapid technological innovations, convergence and saturated market, more and more new services will be made available to mobile users in the coming years. Mobile phones have become an important part of individual life and are used for various communication purposes. A notable example is the introductions of smartphones that are not only appealing in terms of design and capabilities but also include wider range of services. Service features include communication services (telephony, emails, SMS, MMS web browsing, personal information management (PIM) such as calendar, contacts, memos among others as well as social network services (SNS) such as facebook, twitter, instant messaging services and various applications. This will lead to more challenging task of service classifications and segmentation strategies. Thus, use motivations, willingness to pay for new services and user's readiness

among others, would provide useful basis for segmentation strategies not only in a particular mobile market but also across markets.

This research intends to identify mobile service features and classify those services based on utilitarian and hedonic values. In particular, it poses the following questions: (i) How do users use their mobile phones? (ii) What kind of services users consider as functional or useful, and what kind of services they regard as enjoyable and experiential? Do differences exist among users of a same group leading to classification of mobile services and use motivations? The research focuses on service attributes and use motivation from consumer perspective which is believed to influence consumption decision of mobile users. Mobile services can be classified based on relative importance of utilitarian and hedonic benefits they generate for the users. Utilitarian values of mobile services relate to functional, instrumental and practical benefits. Hedonic values refer to aesthetic, experiential and enjoyment benefits as perceived by the users.

The next sections proceed as follows; section two reviews existing literature relevant to the constructs i.e. utilitarian and hedonic values. Section three briefly describe data collection, elucidates mobile services evolution and provide analysis of mobile services categorization which incorporates the utilitarian and hedonic values from users' perspective. This will be followed by several propositions and methodological suggestions. Finally, section four concludes the study and provides theoretical and managerial implications.

II Literature Review

Mobile communications sector has significantly extended its boundaries after its convergence with internet and computer industry. Following the introduction of smartphone, mobile phone is being perceived as a mini and portable computer that keep individuals stay connected at anytime, anywhere and with anyone. At the same time the shift from voice to data communications also extended the usage of mobile phone. In any market, there exist differences among consumers in the demand for products and services. These differences are largely based on socio-demographic characteristics, product or service attributes and use motivations (Mazzoni et al., 2007). In the case of mobile phone, its adoption incorporates both product and service attributes. The developments of these attributes are made possible by continuous innovations and anticipation of consumer needs and behavior. Literature on consumption highlighted that product choice depends on its functional and/or emotional benefits (see Holbrook

and Hirschman, 1982 and Babin et al., 1994).

Although an increasing number of researchers (e.g. Balasubramanian et. al., 2002, Nysveen et. al., 2005) are starting to focus on mobile phone from a service perspective, precise and formal categorizations of mobile communications services are still scarce. Lovelock (1983) provided service classification of industry specific characteristics, however considering rapid introduction of new mobile services, there is a need to identify specific characteristics of mobile services in a timely manner and develop classification of those services for segmentation strategies. Mobile services differ from traditional interpersonal services due to their convergence with other information and communication technology (ICT) related services. In addition, mobile services are not delivered face-to-face or differ from other types of e-service where the service delivery is linked to a specific fixed local area network or location. Mobile users are able to access services at anywhere and anytime and even while they are on the move. Various aspects to categorize different types of mobile services remain largely unexplored and more research has been encouraged in the field (see Okazaki, 2005).

Furthermore, available studies of mobile phone services tend to focus on the provider's viewpoint rather than the users' perspective (e.g. Giaglis et. al, 2003, Sugai et. al, 2010). It has been argued that people use services based on different motives and consumption values. Different types of motivations for consumption are often categorized into hedonic and utilitarian value (see Babin et. al. 1994, Chitturi et al. (2007) among others. Previous literature also highlighted that consumption motives can be categorized into a product oriented (utilitarian) and/or an experience oriented one (hedonic) (see Holbrook and Hirschman, 1982). Decisions to adopt a new product or service vary according to individual needs, motivation, socio-cultural context or even shopping environment (Woodruffe *et al.,* 2002). Consumption is much more than the simple adoption of mobile products and services. The consumption motives was further studied by other researchers such as Okada (2005) and Chitturi et al., (2007, 2008); and the term "utilitarian benefits" generally refers to the functional, instrumental and practical benefits of consumption offerings and being considered as closer to necessities or needs. The term "hedonic benefits" is referred to aesthetic, experiential and enjoyment benefits as they are perceived as being closer to luxuries or wants.

Research in behavioral decision making are premised on the argument that consumers are often faced with types of choices between utilitarian and hedonic alternatives that are at least partly driven by emotional desires rather than cognitive deliberations. Yet much of the pioneering work in behavioral decision theories has largely focused on the cognitive aspects of decision

making without exploring its emotional dimensions (Kahneman, 1991). This argument is particularly applicable for mobile studies in which most previous research e.g. Wareham et. al, (2004) and Kauffman & Techatassanasoonthorn, (2009) focused on the dominant influence of technology (which enabled new product and/or service attributes) on product and/or service adoptions. Despite the development of many advanced features, service providers should regard mobile users as critical decision makers. In some cases, users remain constant to innovations that brought in new service features as they do not necessarily need those services.

Maslow (1970) proposed a hierarchy of needs that sought to explain why people are driven by particular needs at different times of their lives. These needs are categorized as physiological needs, safety needs; social or belonging needs, esteem needs and self-actualization needs. Maslow's theory provides a clear basis for understanding consumer motives and behavior; the need for communications is related to social needs that are placed in the third level of the hierarchy. However, the ICT era has evoked the need for mobility; and mobile phones became part of individual life as the devices satisfy various user needs beyond social interactions. Although the core feature of mobile service is of course, communication, users also use the phone for productivity purposes such as emails and web browsing, and to organize their lives through PDA functions or personal information management (PIM) such as calendars, contacts, memos etc., as well as various applications for entertainment, financial transactions, education etc. Thus, attributes and use motivations provide clear insights to classify various types of mobile services and renew current understandings of social needs (communication) with respect to hierarchy of needs theory.

From a global perspective, the introduction of new models with enhanced capabilities was supposed to drive a constellation of new mobile data services and application but they have generally not driven rapid growth in ARPU. For example Multimedia Messaging Service (MMS) was introduced, and expected to drive extensive sharing of photos over wireless connections. Although some users acquired the camera-phones, the taken photos mostly stay on the phones rather than being sent to others. The industry must recognize that in most cases, mobile users buy solutions to their problems rather than products and services themselves; some users rejected or appropriated some innovations in mobile services as evidenced by their rejection of wireless application protocol (WAP) in mid 1990s (Vincent et al., 2005).

In general, types of product or service and consumer involvement also influence the extent of which utilitarian or hedonic aspects play more dominant role in decision making. For example, luxury goods are often consumed based on hedonic motives instead of utilitarian ones,

while high involvement products such as computer are mostly purchased for their utilitarian purposes. Over the last three decades, mobile phone has evolved from merely a voice communication tool that was affordable and indispensible by few business executives into a daily multipurpose device owned by most individuals. At the same time, mobile service features also evolved from satisfying basic communication needs of voice transmission to include more functional and experiential features of data transmission, thus implies the utilitarian and hedonic values of its consumption.

III Data and Analysis

The analysis of this study focuses on communication services of both smartphones and feature (regular) phones. Smartphone is defined as a mobile phone that incorporates a public general purposes operating system, to which users can freely add applications, extend functionality or customize (MCPC, 2011). Distinctions between feature phones and smartphones can be vague; over time the capabilities of new models of the former can increase to exceed those considered as smartphones. The popularity and recognition of smartphones has increased rapidly due to exposure via printed and electronic media as well as the promotion at mobile phone retailers. The recognition rate, which was just 23% in October 2008, has climbed to 93% in September 2010 (MCPC, 2011).

As more and more new services were made available to users and often marketed as a bundled of services, it is becoming more challenging to formulate and implement effective segmentation strategies. In addition, mobile usage experience consists of both tangible and intangible aspects, thus considered as hybrids of product and services. The hybrids nature of mobile phone often caused ambiguity in defining the precise research context. This study draws on behavioral decision theories to conceptualize utilitarian and hedonic values, and intend to provide a solid ground for further segmentation studies of mobile services. Secondary data are gathered from industry publications and mass media to analyze the most recent trends of mobile communication services.

In addition, the study also conducted a focus group discussion with young early adopters of mobile services (from 20 to 29 years old) to explore emerging issues on usage experiences and use motivations from users' perspective. This allowed for preliminary understanding of how users use their mobile phone and their categorization of functional (needs) versus hedonic (wants) values of each mobile service available in the device. The focus group also provides

some methodological suggestions for further research i.e. unit of analysis, selection of variables and insights for questionnaires construction. It is believed that to improve understanding of the concept of use motivations i.e. utilitarian and hedonic values, and their relationships with consumption, a qualitative technique was the ideal first step of the empirical studies.

As the conducted focus group discussion focused on users in Japanese market, it is important to note the differences between Japan and other advanced markets. Although mobile product and services are considered universal, there are differences in smartphone usage patterns between Japan and Europe/North America (see Ito et. al, 2006); for example, e-mail service is gaining popularity among users in the West after the introduction of smartphones. However, in Japan mobile phone have been designed with advanced functionality, including i-mode, picture mail, official websites and so forth; thus, are considered as more of a 'mini-computer, used for web browsing and data processing. Data from Chetan Sharma's *"Global Wireless Data Market Update 2007"* shows that despite Japan's mobile subscriber base account is less than 3% of the world's mobile subscribers but Japanese market accounts for 40% of all global revenues generated from advanced mobile data use.

Before exploring the classification of mobile services, it is essential to briefly describe the evolution of communication services at 'anywhere & anytime' for two reasons; first, to understand the differences between core and augmented services within mobile context, and second, to elucidate the rapid transitions of mobile product and services. The core product of mobile phone during its early introduction was simply allowing users to make voice calls from anywhere and at anytime; mobile phones were well received and regarded as a great substitute to the fixed line phone. With rapid technological and market innovations, over time, mobile services went beyond offering voice communication and include various types of data services. Some example of those services is illustrated in Figure 1. In less than three decades there exist substantial developments of mobile product and services.

During the 1980s, characterized with highly technological driven product, high price and low penetration, mobile features are premised on what the product can do. In the early 1990s, the convergence of mobility and information technology has given rise to more augmented features such as text messaging and internet browsing. Rapid cost decline and increasing bandwidth enabled new applications that emphasized on the functionality aspects of mobile phone. Single-purpose phones with one dominant function such as messaging, data music and so forth are developed to meet various usage motives; and what matters is not just what the phone can do but also how well it can do whatever it does.
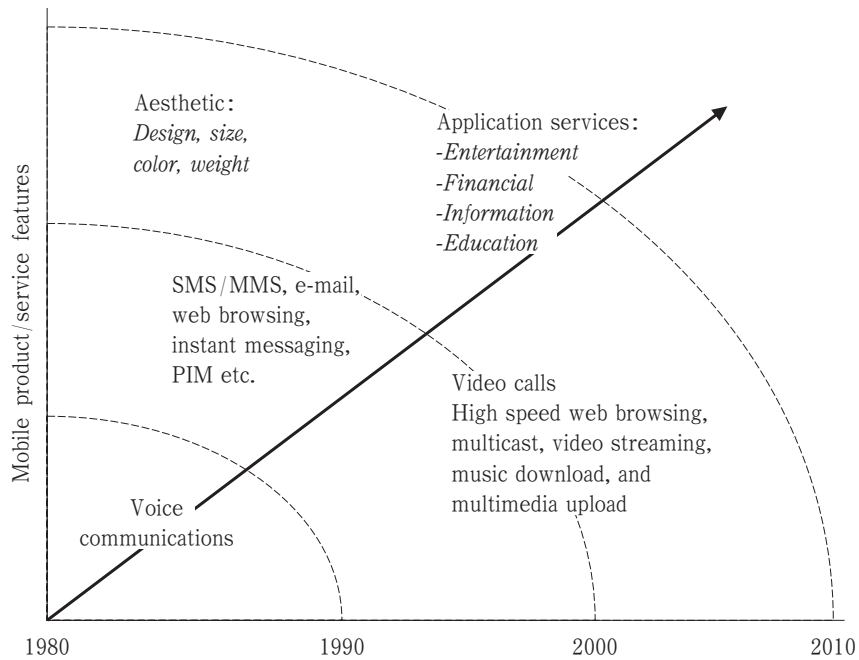
Figure 1: Development of mobile features over time

In the midst of digital transition, rapid growth and saturation, new categories and styles of mobile phone were developed to reflect various preferences and lifestyles. This is evident by the introduction of mobile phone with aesthetic features such as design and colors. Beside what the phone does and how well it performs, what it represents became another augmented feature of mobile phone. Faced with saturated market globalization and introduction of new services, differentiation of mobile phone is no longer just in the device but increasingly in the experience of using those devices. In other words, what matters is not just what the phone can do or represents but also what kind of experiences it can provide to the users. To further intensify usage and increase ARPU in developed market, mobile contents or applications are made available to users in saturated markets. This include services such as entertainment (music, video, games, MP3 music, radio) 3D games, mobile TV), financial (mobile wallet, m-money, stock market, e-banking, e-ticketing, online shopping), information service (Location Based Services (LBS) e.g., Friend-finder, search engine, GPS) and education (e-book, e-dictionary).

Table 1 summarizes mobile service attributes, and use motivation from users' perspective based on insights from focus group discussion. There exist differences of preferences and how

Table 1: Mobile product/service attributes, use motivations and values

Service Attributes	Motives	Values
Signal reception	To make calls anywhere anytime	Utilitarian, Hedonic
SMS/MMS/E-mail	To send/receive text messages anywhere anytime	Utilitarian, Hedonic
Bluetooth, Wi-Fi	To browse for information online	Utilitarian, Hedonic
MP3	To listen to music and entertain	Hedonic
Phone camera	To take and share photos	Hedonic
GPS	To look for direction in time of need	Utilitarian
Social Network Services (SNS)	To feel sense of belonging and updated with current news about friends and family	Hedonic
Applications: (education)	To develop language skills e.g. TOEIC	Utilitarian
Games	To have fun and entertain	Hedonic
Applications: (document)	To search for document for job related purpose	Utilitarian
One-seg TV	To watch favorite program on the move	Hedonic
PIM such as schedule book and memos	To plan and organize activities	Utilitarian, Hedonic
Video Streaming	To share videos with friend across the world	Hedonic
Net Shopping	To save time and efforts in purchasing decision	Utilitarian, Hedonic
Applications: Financial service	To make financial transaction from anywhere and at anytime	Utilitarian

each participant use their mobile phones, thus, the summary reflects attributes and motives which were repeatedly mentioned during the discussion.

Categorization of mobile service features, user motives and delivered values reveal how users use their mobile phone, what kind of purposes the devise served and what are the perceived values of those services. The categories of use motivations in Table 1 can also be summarized as 'communication, entertainment and productivity'. *Communication* related activities such as voice calls, text messaging and SNS are used for communication and self expression. *Entertainment* includes activities such as music and games that were aimed for relaxing and having enjoyable moments at anytime and anywhere. *Productivity* relates to job related activities or learning through targeted information such as accessing to online news or educational

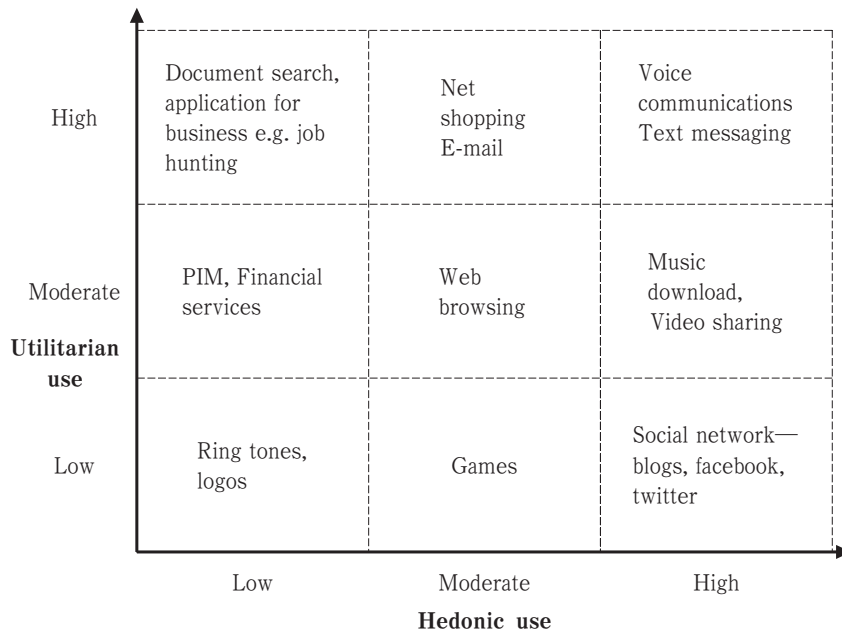| Utilitarian use	Hedonic use: Low	Hedonic use: Moderate	Hedonic use: High
High	Document search, application for business e.g. job hunting	Net shopping E-mail	Voice communications Text messaging
Moderate	PIM, Financial services	Web browsing	Music download, Video sharing
Low	Ring tones, logos	Games	Social network— blogs, facebook, twitter

Figure 2: Classification of Mobile Services Based on Use Motivations

services through web browsing. This also includes online transaction in which users initiate actions related to the transfer of money such as mobile banking.

To some extent, the categorization of mobile services helps to understand users' motives of using those services; and the values of those services as perceived by the users are critical to further analyze the constructs. As mentioned earlier, mobiles services are seen as providing utilitarian and/or hedonic values to the users, and the consumption of some services involved both dimensions to varying degrees. Accordingly, this study proposes a dynamic model of mobile services categorization which incorporates the utilitarian and hedonic values as depicted in Figure 2. Utilitarian and hedonic values are divided into; low, moderate and high across categorization of mobile services. Note that this study was intended to classify mobile services based on conceptualization and operationalization of the constructs, thus the figure only serves as examples of the approximate positions of mobile services and their perceived values as reflected from the focus group analysis. In other words, generalization of the proposed model across individuals or groups of users is beyond the scope of the study. To this end, the model merely provides directions to further validate the categorization of mobile services i.e. utilitarian and hedonic values and their influence on mobile consumption.

Voice communication and text messaging are perceived to have high utilitarian and hedonic

values. Users normally make their phone calls and send text message at anytime and anywhere for both personal and job related purposes. At the same time, users also felt connected to their loved ones, thus the high hedonic values. These services reflect the core benefits of owning a mobile phone. Mobile features such as ring tones and logos are considered as having low utilitarian and hedonic values as they are perceived as 'nice to have' but something that most users can manage without. Web browsing is an example of services that create rather moderate utilitarian and hedonic values. The service help users to perform personal and job related task but the performance and experience of browsing the web via mobile phone is less valuable if compared with using a computer for the same purpose. Highly hedonic features such as music download and social network services create fun experience and are used for entertainment goals. However, both services are perceived as having moderate and low utilitarian values respectively. High utilitarian values include services such as document search and application for job hunting purposes as most participants in the focus group involved graduate students who were looking for future employment.

In responding to the type of desired data services, basic responses indicate that users often care about type of data services and are attracted to new services and compelling content. Table 2 summarizes their responses on critical factors of desired contents and emerging issues which are important to them. As mobile market reached its saturation level, consumers are more informed and sophisticated; they want the best technology that does not only fit their needs and styles but also the multi-sensory experiences through the branded product and services.

Table 2: Users desired contents

Critical factors	Descriptions
Affordability	Reasonable prices to access content.
Accessibility / Mobility	Online content are to be delivered across broadband, broadcast and mobile networks. Users also want content on their mobile in the same way on any other device such as computer.
Quality / relevant content	Quality content which is believed to be both useful and fun or exciting.
Interoperability	Allows for interoperability between different networks and devices.

Following the analysis, several propositions on the relationships between utilitarian, hedonic and use motivations, and methodological suggestions are put forward:

1. Utilitarian and hedonic values are central to the understanding of the 'why' and to some extent, the 'how' of consumer behavior. Thus, focus group discussion which aimed at exploring how users use their mobile phone served to provide the groundwork for more empirical analysis in this area. A qualitative technique such as focus group is also useful to improve understanding of the constructs and provide current trends and emerging issues of mobile market. In addition, it provides methodological suggestions concerning unit of analysis, selection of variables and insights for questionnaires construction.

2. It is often challenging to conceptualize use motivations and specify 'what constitute utilitarian and hedonic values' within mobile context as technologies and users do evolve. This is demonstrated throughout rapid development of mobile product and services as well as changing in consumer needs and preferences. For example, a user may regard web browsing as having moderate value for both utilitarian and hedonic aspects at one time, but will regard the service as having high utilitarian value if the user needs to have access to specific online information at anywhere and anytime.

3. The level of influence of utilitarian and hedonic values on motivation and behavior indeed varies among individuals and/or under different circumstances. This was evident even among users of the same age group as noted during the focus group discussion. Thus, classifying mobile services into utilitarian and hedonic values across three different levels i.e. low, moderate and high provide directions to further analyze the concept of utilitarian and hedonic values. Accordingly, it allows to empirically examining their influence on user's choice of mobile service and usage patterns. The two constructs are presumed to have a direct impact on consumption and usage behavior across individuals and groups of users.

4. Decision to use new mobile service can also be seen as a function of utilitarian and hedonic values. The general aspect of user behavior can be measured by using scales like 'positive/negative' or 'favorable/unfavorable'. The utilitarian aspects can use scales such as 'valuable/worthless', foolish/wise, 'rational/irrational' while the hedonic dimensions can be measured by using scales such as 'pleasing/annoying', 'exciting/boring', 'happy/sad'. The next issue is to identify the influence of varying degrees of utilitarian and hedonic values on mobile consumption through a large sample size which allows for generalization of the findings.

Ⅳ Conclusions

This study is a preliminary effort to analyze the influence of utilitarian and hedonic values on mobile consumption. The main analysis was intended to develop a classification of mobile services based on utilitarian and hedonic values from users' perspective. The classification of mobile services described in this study rely on secondary data and focus group discussion of younger users, thus, the proposed model cannot be generalized across different groups of mobile users in other settings. However, the model provides deeper understanding of behavioral decision making and consumption motives that is not only applicable in mobile context but also other product or services which are viewed as creating both the hedonic and utilitarian values. The analysis also contributes to marketing practice in a couple of ways; insights for marketers to understand consumption motives as well as further segmentation of mobile service market.

Mobile services are often marketed as a bundled of services that users can use via their mobile phones. This led to homogeneous assumptions which undermine the real potential of using mobile services for different motives and preferences. Accordingly, it also results in a more challenging task to formulate effective segmentation strategies. As the struggles to increase ARPU are taking place, it is critical for service providers to identify segmentation bases which lie in deeper understanding of consumer behavior and provide a new source of value creation. So far, there is no agreement on whether the utilitarian dominated services or hedonic ones would bring more revenues to mobile business, and their influence on consumption, in turn ARPU is yet to be further explored.

There is often a gap between development of mobile technology and end users. The real issue is not how many advanced features mobile phone offers but how the device and services create values to the users as well as generate revenues to the companies. In this regards, services with high utilitarian and hedonic values is believed to have a positive impact on mobile consumption. Hedonic value is often gained from the entertainment related services and thus can be marketed as fun and enjoyable service experience. Utilitarian represent the core communication services that is functional and increase individual productivity. Depending on users' motives during various situation, services that allow for a specific task to be achieved effectively are also perceived as highly useful or having high utilitarian values. Thus, the utilitarian aspects of mobile services need to be emphasized in marketing new services.

Finally, beside further investigation on those values, efforts to empirically validate the classification of mobile services should also consider the fact that mobile technologies which

enabled product/service features and users continuously evolve, thus research in this area should regard those issues and be repeated over time. Future research that recognize this evolutionary aspect of mobile phone and clearly define the context i.e. markets, time frame, specific class of product/service would contribute to consumer research and more specifically, extend existing studies of mobile users' behavior.

References

Abraham H. Maslow (1970), *"Motivation and Personality"*, 2nd ed. New York: Harper and Row.

Babin, B. J., Darden, W.R. and Griffin, M. (1994), "Work and/or fun: Measuring Hedonic and Utilitarian Shopping Value", *Journal of Consumer Research,* Vol. 20, pp. 644-56.

Balasubramanian, S., Peterson, R. A., and Javenpaa, S. L. (2002), "Exploring the Implications of M-Commerce for Markets and Marketing", *Journal of the Academy of Marketing Science,* Vol. 30 No. 4, pp. 348-361.

Chitturi, R., Raghunathan, R. and Mahajan, V. (2007), "Form versus Function: How the Intensities of Specific Emotions Evoked in Functional versus Hedonic Trade off Mediate Product Preferences", *Journal of Marketing Research,* Vol. XLIV, November, pp. 702-14.

Chitturi, R., Raghunathan, R. and Mahajan, V. (2008), "Delight by Design: The Role of Hedonic versus Utilitarian Benefits", *Journal of Marketing,* Vol. 72, May, pp. 48-63

Giaglis, G. M., Kourouthanassis, P. and Tasmakos, A. (2003), *"Towards a Classification Framework for Mobile Location Services",* In Book Mobile Commerce: Technology, Theory and Applications, (Eds, Mennecke, B. E. and Strader, T. J.), pp. 67-85.

Gilbert, A. L. and Han H. (2005), "Understanding mobile data services adoption: Demography, attitudes or needs?" *Technological Forecasting and Social Change,* 72, page 327-337.

Holbrook, M. B. and Hirschman, E. C. and (1982), "Hedonic Consumption: Emerging Concepts, Methods, and Propositions", *Journal of Marketing,* Vol. 46 No. 3, pp. 92-41

Ito, M., Daisuke O. and Misa M. (2006), *"Personal, Portable, Pedestrian: Mobile Phones in Japanese Life",* The MIT Press.

Kahneman, D. (1991), "Judgment and Decision Making: A Personal View", *Psychological Science,* 2, pp. 142-145

Kauffman, R. J. and Techatassanasoonthorn, A. A., (2009) "Understanding Early Diffusion of Digital Wireless Phones", *Telecommunications Policy,* 33, page 432-450.

Lovelock, C. H. (1983), "Classifying services to gain strategic marketing insights", *Journal of Marketing,* 49 (summer), pp. 9-20.

MCPC (2011), *"The Japanese Smartphone Market and Case Studies",* Mobile Computing Promotion Consortium, Tokyo Japan.

Mazzoni, C., Castaldi, L. and Addeo, F. (2007), Consumer Behavior in the Italian Mobile

Telecommunication Market", *Telecommunication Policy,* Vol. 31, pp. 632-47.

Nysveen, H., Pedersen, P. E. and Thorbjornsen, H. (2005a), "Explaining intention to use mobile chat services: moderating effects of gender", *Journal of Consumer Marketing,* Vol. 22 No. 5, pp. 247-256

Okada, E. M. (2005), "Justification Effects on Consumer Choice of Hedonic and Utilitarian Goods", *Journal of Marketing Research,* Vol. XLII, February, pp. 43-53.

Okazaki, S. (2005), "New Perspectives on M-Commerce Research", *Journal of Electronic Commerce Research,* Vol. 6 No. 3, pp. 160-164.

Sharma, C. (2008) *"Global Wireless Data Market Update 2007"*

Steinbock, D. (2005), *"The Mobile Revolution: The Making of Mobile Services Worldwide",* London, Kogan Page Limited

Sugai, P., Koeder, M. and Ciferri, L. (2010), *"The Six Immutable Laws of Mobile Business",* John Wiley & Sons, Inc, New Jersey.

Vincent, J., Haddon L. and Hamill L. (2005), "The Influence of Mobile Phone Users on the Design of 3G Products and Services" *The Journal of Communication Network,* Vol. 4, Part 4, December 2005

Wareham J., A. Levy, and W. Shi. (2004) "Wireless Diffusion and Mobile Computing: Implications for the digital divide", *Telecommunications Policy,* 28: 439-457.

Woodruffe, B. H., Eccles, S. and Elliot, R. (2002), "Towards a Theory of Shopping: A Holistic Framework", *Journal of Consumer Behavior,* Vol. 1 No. 3, pp. 256-66.