An Exploratory Study of the Utilitarian and Hedonic Values on Buying Intention in Mobile Service*

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Abstract

Purpose - The main purpose of this study is to find consumers' usage behavior in mobile services. To achieve these research goals, we empirically estimate the relationship between characteristics related to the use and provision of mobile services and factors influencing consumers' intentions.

Research design / data / methodology - This study based on TAM, in which behavior is seen as a consequence of affect and intentions and used the theory of consumption values which is a means of explaining user decisions to employ a utilitarian and hedonic facet using by smart phone.

Results - The result of the study verified that specific factors, such as expectations about pleasure and monetary value, had the biggest influence on the service usage pattern of mobile consumers. And typically, when consumers are expected to monetary damages, it will be avoided. However, in result of this study, it was found that mobile service users pay a high cost, but they are in pursuit of pleasure and fun.

Conclusions - These results, a variety of applications in the mobile service are being provided to users. As information technology has developed, companies should have providing diverse application programs and good quality of services with advanced information technology.

Keywords : Mobile Service; Utilitarian and Hedonic Value; Attitude, Buying Intention.

JEL Classifications : C52, C83, M31.

1. Introduction

Industry of the mobile service in Korea, after starting out with services targeting 1st-gneration, has since then undergone rapid expansion and is supplying to 3rd-generation device markets such as WCDMA, HSDPA and 4G(LTE: Long Term Evolution). As a result of technological progress and improvement in income, consumers' needs in mobile products and services have been fast evolving in recent years, and this has, in turn, caused the market environment to change rapidly. With 3G/WiFi services, mobile consumers have not only a seamless access to all multimedia content, such as movies and music, but also can use data-heavy applications such as video on streaming. 3G/WiFi services, as a new alternative more adapted for transfer of data and multimedia content using by application programs, are expected to offer new revenue opportunities for the mobile market. In spite of this exponential growth of mobile services and leaps and bounds made in related technology, few attempts have been thus far made to understand consumers' usage behavior with considerate to these mobile services benefits(Sawng et al., 2011)

Mobile services offer an abundance of unique benefits not available through other channels: they are capable of adjusting to user-specific environment and area means to a connected life style for customers who increasingly spend time beyond the home and work. Despite the potency of mobile services, providers still lack understanding about how consumers perceive their value(Oh and Choi, 2010; Sawng et al., 2011). More specifically, it is not understood how value is constructed from a customer value creation perspective.

Consequently, more research is needed on value-in-mobile service usage.

A variety of theoretical perspectives have been advanced to address information systems acceptance and usage (e.g. Ajzen, 1980; Davis, et al.,1989; Goodhue and Thomson, 1995; Rogers 1995). The theory of technology acceptance model(TAM)(Davis, et al., 1989), planned behavior(TPB)(Ajzen, 1980), technology task fit model(Goodhue and Thomson, 1995) and the innovation diffusion theory(Rogers, 1995), and they are widely used to explain adoption and usage of information system.

Rogers(1995) explains that an individual decides to adopt innovation in five stages: recognition, conviction, decision, execution, and confirmation. In the recognition stage, an individual is exposed to innovation and understands how innovation works. The individual's tastes, desires, past experiences, and the rules of social system have influence on the building of knowledge related to innovation The Technology Acceptance Model is one of the most widely applied models in explaining and predicting the behavior of technology accepters. One of the most notable studies on the TAM was done by Davis, Bagozzi and Warshaw(1989). Based on the Fishbein and Aizen's rational behavior theory(1980), Davis, et al.(1989) set up and

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verified the technology acceptance model designed to explain the computer users' behavior of using computers. And technology task fit model(Goodhue and Thomson, 1995) is for user evaluation of information system that user evaluation of information system is of significant interest to MIS research. In relation to the user's satisfaction with information, attitude toward the system, and MIS evaluation, user evaluation of information system has been used by many as an indicator of the information system's quality and system usage.

The user of technology use have been a major theme in MIS research. Out of the many models developed for these purposes, TAM is probably the best known(Oh and Choi, 2010). Technology may be considered as either instrumental(useful) or non-instrumental-(enjoyable) to determine adoption behavior(Turel et al., 2010).

Hedonic technologies(such as online video games) provide little, if any, instrumental gains. Thus, instrumental drivers such as perceived usefulness may be less relevant in such contexts or lose their productivity-oriented meaning. In fact, even for multi-purpose technologies, not only hedonic in nature, the effect of perceived usefulness is marginal compared to that of intrinsic factors(Hong and Tam, 2006). Thus, a new method of analysis may be required for studying the adoption of hedonic digital artifacts(Turel et al., 2010).

The main purpose of this study is to find consumers' usage behavior in mobile services to provide pointers for future development of this field. Specifically, this study attempts to identify variables influencing the use of mobile service consumers. To achieve these research goals, we empirically estimate the relationship between characteristics related to the use and provision of mobile services and factors influencing consumers' intentions such as perceived mobile service usage values with utilitarian and hedonic.

This study based on TAM, in which behaviour is seen as a consequence of affect and intentions(Davis, et al., 1989) and used the theory of consumption values(Sheth et al., 1991), which is a means of explaining user decisions to employ a hedonic using by smart phone: according to this theory, consumers make informed purchase decisions after considering multiple value dimensions, such as enjoyment, quality, social, value-for-money, and their shopping. Thus, the potential users of pay-per-use hedonic mobile services follow cognitive decision processes and reflect on multiple value dimensions before they make a decision to purchase and use a hedonic mobile services.

This article is organised as follows in section 2. In the following section, we will discuss, based on prior literature, issues which may have an influence on attitude, intentions and mobile service behaviour. In Section 3, we introduce the research methodology. In the final section, we draw conclusions from the results of the study.

2. Theoretical Background

2.1. Hedonic and Utilitarian Values with Technology

Mobile services allow their consumers to exchange values and conduct transactions over wireless networks, using portable devices. It is a superior alternative to e-commerce in that transactions can be conducted at any time and from anywhere. Therefor research has suggested that consumers always distinguish between hedonic and utilitarian values, and that their perceptions, attitudes and intentions depend on the mobile service's nature. Moreover, deciding whether the mobile service is hedonic or utilitarian may have the consumers' decision whether to purchase or use the item(e.g. Batra and Ahtola, 1991; Dhar and Wertenbroch, 2001).

In this regard, the mobile service in the hedonic or utilitarian-related studies have been made through the Technology Acceptance Model. The first is to extend TAM by adding constructs that specifically incorporate the hedonic aspects of the mobile services. with perceived usefulness, perceived ease of use and behavioral intention left intact, and with the hedonic part represented by a single construct, such as perceived enjoyment(Agarwal and Karahanna, 2000). For example, an individual's emotional feelings: the 'feeling of joy, relation, or pleasure by an individual with a particular act'. These are motivational factor that may reinforce the individual's intention toward behaviour. This is to some extent consistent with in the Theory of Reasoned Action(e.g. Fishbein and Ajzen, 1975; Fishbein, 1980). The second, Emotions are characterised by the same elements as hedonic value, and consequences have similarities with utilitarian values. Intentions indicate how hard individuals are willing to try to perform a behavioral act; the stronger the intention to carry out the behaviour, the more likely it is to be carried out.

In this study, the more likely the individuals perceive the positive consequences of using mobile services to be, the more probable it is that they will use it. Expanding on the existing literature on consumer behavior, we investigate consumers' usage behavior in mobile services by examining the interaction between the different factors of influence delineated in the research model in <Figure 1>. We begin by constructing a theoretical model for explaining consumers' usage behavior in mobile services and formulating hypotheses about various influence paths. Next, we select variables for each of the constructs and set up hypotheses about relationships of influence that may exist between them.

2.2. Mobile Service Intention

Customer value has been defined differently over the years depending on the priory research focus. Perceived value is based on the aggregation of perceptions of various product benefits and associated exchanges. It is a consumer's overall assessment of the utility of a product or service based on his or her perceptions of what is received versus what is given(Zeithaml, 1988). The theories of fundamental offline value have defined value as either a one-dimensional, cognitive perception, or as a multi-dimensional perception that combines cognitive and emotive aspects of consumption. Cognitive value is expected to result from a exchange where the customer weights benefits and sacrifices against each other(McDougall and Levesque 2000; Zeithaml, 1988). It has been conceptualized as an ''overall assessment of the utility of a product based on perceptions of what is received and what is given Zeithaml 1988:14). The alternative view on value, that of value combining cognitive and emotional elements, has been taken up in hedonic value literature(e.g. Babin et al., 1994;

Hirschman and Holbrook, 1982), as well as in multiple consumption values(Sheth et al., 1991; Sweeney and Soutar, 2001).

Some researchers settle with one overall value dimension and define several anteceding constructs that typically consist of benefits and sacrifices(e.g. Kim et al., 2007; 2007; Vlachos and Vrechopoulos, 2008), whereas others have suggested several coexisting value dimensions(e.g. Kim and Han, 2009; Pihlstrom and Brush, 2008; Turel et al., 2007). Typically, the included value dimensions and anteceding constructs differ between studies. Value dimensions vary in number and type, most frequently including some type of utilitarian, hedonic, social, and monetary value(e.g. Gummerus and Pihlstrom, 2011; Swang et al., 2011).

The research of mobile value has studied the impact of context by creating a category for contextually embedded value. There are information technology artifacts, such as music downloads for mobile phones that offer intrinsic utilities to their users. As devices(smart phone) used for accessing wireless internet(WiFi or 3G/4G(LTE) are portable devices limited in data storage capacity and interface functionality, the medium emphasizes network-centered mobility and is evolving into a platform which is more personalized than mobile internet with service providers. And the characteristics of mobile service interface, applications and content services and mobile internet usage, related with personal pleasure and efficiency are the two most important factors influencing the attitude of mobile services. And customer expect benefits have a positive influence on the probability of adoption. Meanwhile, perceived benefits(benefits of service economic benefits, and social benefits) have significant influence on consumers' acceptance of mobile services(Swang et al., 2011).

Thus a broader view of relevant utilities may be needed for explaining individual decisions to use these mobile services.

Furthermore, as opposed to mobile service systems and some hedonic applications that are free of charge, many hedonic cost money for pay-per-use and require users to consider a range of utility exchange. According to Swang et al.(2011), measured expected benefits of mobile services, classifying dimensions in which benefits can be created and perceived into three categories: economic benefits, service-specific benefits and social benefits. Economic benefits, the most important benefits according to them, include benefits arising from time-saving, as time saved may have economic consequences for the consumer, even if it cannot fully or appropriately translated in monetary terms. Hence, both money saved and times saved are considered economic dimensions in the context of the adoption of a mobile service. Service-specific benefits are potential benefits arising from the use of a mobile service application. Given the great diversity of mobile services offered, qualities related to mobility of mobile services(ubiquity, reachability, personalization, localizability, etc.) are classified into two broad dimensions, for simplicity's sake: time independence and place independence. Therefore, even though a digital product may provide positive extrinsic and intrinsic utilities (it is useful, enjoyable, etc.), users may reject it if its cost is too high compared to its benefits.

The study of many behavioral outcomes that can be influenced by value perceptions, attitude to use the hedonic value and behavioral intentions to provide positive behavioral intention may be of interest to technology adoption models. Consumer who may not wish to use a mobile service may still say positive things about it, and affect its general acceptance. Given a positive value assessment of a hedonic value or an expectation of a positive value in mobile service usage, it is reasonable to hypothesize that individuals will be motivated to use the hedonic mobile services and will develop behavioral usage intentions. Similarly, a positive value assessment may create an atmosphere for affective commitment(Swang et al., 2011). Similar effects of hedonic value and assessments on usage and recommendation behaviors received support in studies which were conducted in various contexts. As such, based on the above structured model for this study, we set up the following three hypotheses concerning the relationship between hedonic value and the behavioral intentions of a mobile service usage:

H3a. The attitude of usage in mobile service is positively related to user behavioral intentions to post-purchase.

H3b. The attitude of usage in mobile service is positively related to user behavioral intentions to use it.

2.3. Mobile Service Value Acceptance

In research of rational decision making theory, decisions are made based on an evaluation of perceived benefits and costs(Goodhue and Thomson, 1995). And the task technology fit model(TTFM) is a tool to assess the extent to which an information system supports the tasks carried out by potential consumers. This model, developed by Goodhue and Thomson(1995), has been popularly employed in the context of research to gauge the satisfaction and attitude of consumers with regard to information systems(Sawng et al., 2011). The general value concept is further specified to consist of the utilitarian and hedonic value dimensions, indicating an assessment of overall worth of shopping activity in mobile services(Tural and Serenco, 2006; Oh and Choi, 2010). Similarly, expanding on the existing literature that overall value is positively related to customer usage and benefits in mobile services, as such, the following hypotheses were made:

H2. The overall value of usage in mobile service is positively related to user behavioral attitude to mobile service acceptance.

2.4. The Facet of Overall Value in Mobile Service

The reasons for using the wireless internet(WiFi, 3G, and LTE) for using mobile service and shopping are triggered by diverse attitudes and motivations. Consumers seek value, benefits(e.g., economic benefit and Social benefit), flexibility, and usability of exploring products and services in mobile environments(Kim and Oh, 2007, Oh and Choi, 2010, Sawng et al., 2011). The technology adoption model(TAM) suggests that technology use depends on factors like enjoyment, ease of use, usefulness, and navigability(Davis, Bagozzi, and Warshaw, 1989). For enhancing the perceived usefulness of mobile contents and applications, the devices and entertainment aspects of mobile service usage should be combined(Sawng et al., 2011). Hedonic motivations

have become increasingly important in attracting consumers to use the mobile services. The hedonic value, reflects worth found in the shopping experience itself, aside from any task-related motives, the flow construct embodying aspects of fun and playfulness, and multisensory, fantasy and emotive aspects of the shopping experience(Babin and Attaway, 2000, Childers et al., 2001, Noble et al., 2005, Jones et al., 2006, Bridges and Florsheim, 2008, Pahnila and Warsta, 2010). As following in Pahnila and Warsta(2010), some studies have conceptualized perceived value as a unidimensional construct that includes all the give(e.g., reasonable price) and take(e.g., quality) aspects together; this, however, may be too simplistic, because it does not break down value into its many components. They has been focused on a broad and varying set of dimensions in different contexts. As such, their "overall value" had only non-instrumental values. The non-instrumental value components of overall value assessment are visual/musical appeal, playfulness, and social value: playfulnessengagement in activities that are absorbing and allow individuals to escape from the demands of the day-to-day world. Thus, playfulness gains stem from the use of technologies for non-instrumental purposes generating value for hedonic technology users. Therefore consumer who feel that the pleasure and monetary value is inexpensive compared to its benefits are likely to adopt hedonic value in mobile service usage. Thus, the following hypotheses were posed:

H1a. The Pleasure value of usage in mobile service is positively related to user behavioral overall value.

H1b. The Monetary value of usage in mobile service is positively related to user behavioral overall value.

3. Methodology and Result

3.1. Data

For an empirical investigation on mobile phone(3G/LTE) users who had made use of hardware(device), software(application), and others services, the questionnaire used in this study was designed according to related literatures. A survey was conducted to collect the data needed to test the hypotheses advanced in this study. The target sample of the survey consist of college students, because they represent target population of mobile service users(Turel, et al., 2010, Sawng, et al., 2011). The sample was conducted on 200 respondents, and 169 responses were retained for analysis. The sample size is limited, but the extensive experience of members of this subgroup with various information technology media, including fixed internet and mobile service, and their proficiency with mobile devices also speaks favorably about the appropriateness of this choice of target population to our purpose.

3.2. Measures

The first section was intended to understand each respondent's basic personal data and usage of mobile phone and value-added services with application programs. All the measurement scales adopted were nominal(see <Table 1>). The second section measured the respondent's perception of each construct in the research model. All items were assessed using seven-point Likert scales from 1 = "strongly disagree" to 7= "strongly agree."

<Table 1> Construct and measure source

Construct	Abbreviation	No. of items (Measure source)	Items
1. Post-purchase intention	PPI	2 items (Venkatesh and Davis, et, al., 1989)	I will repurchase a brand new device.
			I will repurchase a brand new application.
2. Intention to use in the future	IUF	2 items (Zeithaml et al. 1988, Cronin et al. 2000)	I will frequently use mobile service.
			I will continue to use mobile service.
3. Attitude for m-service usage	ATT	4 items Triandis (l980) Agarwal and Karahanna(2000)	Using mobile service is smart.
			Using mobile service is enjoyable.
			Using mobile service is boring.
			Using mobile service is fun.
4. Overall value in m-service	OAV	2 items Cronin et al.(2000), Sawng et al.(2011)	It is fun using mobile device
			It is joyfull using applications
5. Pleasure value	PV	4 items Agarwal and Karahanna(2000)	Making a purchase totally absorbs me.
			The m-service does sell product or services–it entertains me.
			Making a purchase from an m-service 'gets me away from it all'.
			Making a purchase from an m-service truly feels like 'an escape'.
6. Monetary value	MV	4 items Sweeney and Lapp(2001) Sawng et al.(2011)	Using m-service is saving on purchase cost
			Using m-service is saving on usage cost
			m-srvice offers a good economic value.
			It's possible for transparency of price components

3.3. Results

The respondents break down as follows, by gender, age group, allowance a month, belonging to carrier(telecom company), very first time purchased a device(smart phone), charge of fare a monthly and dissatisfaction experience(complaints) of mobile service usage: people in their teens accounted for 35.5% of total respondents, people aged 20 to 25. 59.8% and people aged 26 to 30 and older, 4.7%. All respondents were enrolled in a college or university at the time of the survey, the sample population being college/university students. By gender, the number of women slightly exceeded that of men, representing 54.4% of total respondents. The average monthly income(allowance) of the sample ranged from 300,000 won to 400.000 won, and the distribution of the average monthly expenses also ranged between 100.000 won and 800.000 won. Most of them belonging to carrier is SK(45.6%) and purchased a device for the very first time six month ago or less than one year. The average charge of fare a monthly mobile phone use, amounted to 54,000 won for both men and women. For services, the 59.2% of respondents they have been dissatisfaction experience that network speed slow down and stop access(47.3%) and device failure, repair, return, exchange, such as compensation(25.4%). <Table 2> shows the research constructs and items included in the questionnaire. Operationalizations of the research constructs are as follows.

3.2. Scale Validity and Reliability

In this study, we construct drawn from the previous research were given operational definitions, and exploratory factor analysis was conducted using spss18.0 and amos18.0. Convergent validity was ensured by assessing the factor loadings and by calculating variance extracted. Principal component analysis was conducted to minimize the loss of data and reduce the number of variables, and varimax rotation was used to rotate factors while maintaining independence among them.

<Table 2> Testing Hypotheses

Measure	Items	Gender(Frequency)			Percent
		M.	F.	Sum	
Age	19<	31	29	60	35.5%
	20~25	53	48	101	59.8%
	26~30	8	0	8	4.7%
Allowance (KRW.10,000)	10~20	30	13	43	25.4%
	30~40	34	43	77	45.6%
	50~60	26	18	44	26.0%
	70~80	2	3	5	3.0%
Carriers	KT	30	19	49	29.0%
	SK	40	37	77	45.6%
	LG U+	21	21	42	24.9%
	Other	1	0	1	0.6%
First buy a device	6 month<	37	36	73	43.2%
	>1 year	39	32	71	42.0%
	>2 years	14	8	22	13.0%
	>5 years	2	1	3	1.8%
FareTable (KRW.1000)	34	13	7	20	11.8%
	44	7	6	13	7.7%
	54	55	48	103	60.9%
	64	13	13	26	15.4%
	78	4	3	7	4.1%
Dissatisfaction experience	Yes	53	47	100	59.2%
	No	39	30	69	40.8%
Total		92	77	169	100.0%

The rotated factor matrix based on the validity analysis of independent variables through rotation was shown in <Table 3>. As seen in <Table 3>, the characteristics of mobile services met factor loading of 0.5 or higher and a likelihood estimate of 0.5 or higher at the analysis of four factors through varimax rotation.

<Table 3> Results of validity analysis

Construct	Mean	1	2	3	4	5	6
PPI	1.86	0.690					
IUF	4.94	0.439	0.865				
AFT	5.32	0.197	0.581	0.723			
OAV	5.40	0.244	0.551	0.579	0.823		
PV	2.45	0.236	0.264	0.317	0.135	0.836	
MV	3.51	0.435	0.779	0.505	0.546	0.283	0.832

Also, <Table 4> presents all the research constructs and items, convergent validity, internal consistency and reliability. As <Table 4> shows, all the model items loaded well, values exceeding 0.50(Hair et al., 2006). Internal consistency reliability among the items was assessed by calculating Cronbach's alpha <Table 4> shows that this coefficient exceeds the suggested value of 0.60 for all constructs(Nunnally, 1978, Hair et al. 2006), except in the case of attitude 1 and monetary 1, which were dropped. The variance extracted of all the constructs exceeded 0.5(Fornell and Larcker, 1981, Hair et al.,1998). The composite reliability of all the constructs exceeded the suggested value of 0.7(Nunnally, 1978).

<Table 4> Results of reliability test of constructs

Construct		Standard deviation	Factor loading	Average variance extracted	Cronbach's Alpha	Composite reliability
PPI		0.690		0.787	0.951	0.870
	ppi1		.879			
	ppi2		.895			
IUF		1.380		0.619	0.933	0.849
	iuf1		.811			
	iuf2		.761			
AFT		0.860		0.564	0.885	0.971
	att1		.619		Dropped	
	att2		.799			
	att3		.743			
	att4		.825			
OAV		0.920		0.806	0.899	0.754
	oav1		.903			
	oav2		.892			
PV		1.240		0.602	0.817	0.776
	pv1		.731			
	pv2		.695			
	pv3		.828			
	pv4		.841			
MV		1.560		0.646	0.809	0.758
	mv1		.613		Dropped	
	mv2		.759			
	mv3		.766			
	mv4		.633			

3.3. Testing Hypotheses

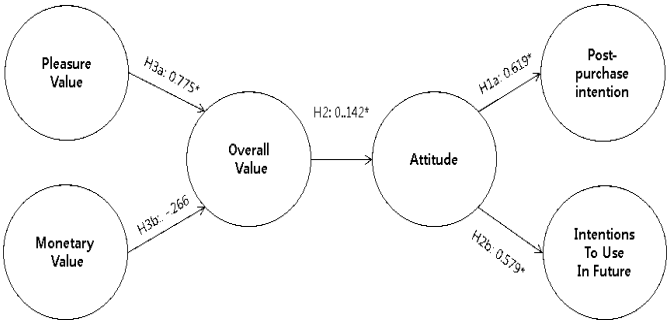
The result of this study are shown <Figure 1>, which shows estimated path coefficients and the significance of the path, which is indicated with an asterrisk. In order to conduct confirmatory factor analysis, AMOS Package 18.0 was used in this study. In order to verify the validity of each construct, Chi-square(=161.67), Degrees of

freedom(= 98), and Probability level(= .000) were achieved. The results of the confirmatory factor analysis are shown in <Table 5>.

<Table 5> The fit indices and analysis results for measurement model

Fit indices	Recommended value	Result
Chi-square/df	< 3.00	161.670
CFI(Comparrative Ffit Index)	> 0.90	0.968
GFI(Goodness-of-Fit)	> 0.90	0.960
RMSEA(Root Mean Square Erroe of Approximation)	< 0.08	0.062
NFI(Normed Fit Index)	> 0.90	0.922

The findings indicate that all the hypothesised paths are significant, and regression weight show that pleasure value(estimate 0.775) have a strong and significant influence on affect. Also the attitude of mobile service have a strong and significant influence on post purchase intention(estimate 0.619) and intention to use in the future(estimate 0.579). Overall value (estimate 0.142) also has a significant influence on attitude. But monetary value do not have a significant influence(estimate -.266) on overall value.



<Figure 1> Hypotheses testing result(*p<0.001)

The comprehensive result of the verification of hypotheses highlighted by this study is shown in <Figure 1>. According to the hypothesis verification, the attitude of mobile services had positive influences on post purchase intention(H1a) and intention to use in the future(H1b). According to hypothesis H2, hedonic value had positive influences on user acceptance. And H1a pleasure value had positive influences on hedonic value while having negative influences on monetary value, so the hypothesis H1b is not valid only in terms of the overall value facet between pleasure and monetary values. As monetary value were proven to have negative influences on user hedonic in mobile services, H1b was not confirmed.

4. Conclusion

In this study, we have developed and verified research models and hypotheses to explain the mobile services usage patterns of consumers. we choose a subset of constructs and casual relationship from technology acceptance model in which behaviour is seen as a consequence of affect and intentions(Davis, et al, 1989) and used the theory of consumption values(Sheth et al. 1991), which is a means of explaining user decisions to employ a utilitarian and hedonic values using by smart phone. According to data, the TAM model refined with attitude and utilitarian and hedonic values, both values play an important role in explaining individuals' mobile service customer behavior. The result of the study verified that specific factors, such as expectations about pleasure and monetary value, had the biggest influence on the service usage pattern of mobile consumers. This can be translated into the statement that consumers to obtain economic value is not to use mobile services. However, because of that the consumers are actively using mobile services based on high expectations, they don't consider of their ability to acquire and utilize information technology. And typically, when consumers are expected to monetary damages, it will be avoided. However, in result of this study, it was found that mobile service users pay a high cost, but they are in pursuit of pleasure and fun. Rather, they consider more important hedonic factors that can be seen. These results, a variety of applications in the mobile service are being provided to users. As information technology has developed, companies should have providing diverse application programs and good quality of services with advanced information technology. While use of mobile services, because of reason why that they are forgetting that a waste of time and money and specifically, 20 college students are more enthusiastic about using the mobile application.

As this study did not focus on the characteristics of mobile services of individual service providers, with the aim of discovering factors affecting domestic mobile service users' behaviors, there may be a limit in generalizing the result of this study due to the differences of individual service providers' mobile services. However, this study will contribute to the establishment of a detailed marketing strategy for specific target users, as it highlights the pattern of mobile service usage by age of users as samples representing the "wireless Internet generation", and diverse mobile services. In order to overcome the limitations of this study due to the narrow scope of mobile services covered by the study, it would be meaningful to conduct a comparative study relating to the method of research including with other consumers' sample, like a other generation in mobile service market.

Received: July 12, 2012.
Revised: August 10, 2012.
Accepted: September 18, 2012

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