

A CROSS-CULTURAL STUDY ON THE VALUE STRUCTURE OF MOBILE INTERNET USAGE: COMPARISON BETWEEN INDONESIA AND JAPAN

Ranti YuliaWardani

STIE YKPN, Yogyakarta
(ranti.yulia@stieykpn.ac.id or ranti.yulia.wardani@gmail.com)

Sony Warsono

Faculty of Economics and Business Universitas Gadjah Mada
(iarirfan@yahoo.com)

ABSTRACT

The number of mobile Internet users has been growing rapidly worldwide. Access to the Internet via mobile cellular networks has also grown rapidly. The effects of different culture of mobile Internet would be interesting to be investigated. The research objective is to investigate the usage pattern differences of mobile Internet users in Indonesia and Japan and to interpret them within the framework of a value structure. The data collection technique used in this study was the survey method. The same questionnaire written in mother language of each country was given to respondents in Japan and Indonesia directly. The result shows that value structures (functional value, emotional value, social value, and monetary value) simultaneously affect the satisfaction of mobile Internet usage of Indonesian respondents, which affect the satisfaction of Japanese respondents. Social value did not significantly affect the satisfaction of mobile Internet usage of Japanese respondents. The implications of cross-cultural differences of mobile Internet will be discussed in this paper. This paper will be ended with discussion, conclusion with practical implications and limitations.

Keywords: *mobile Internet, cross cultural, m-commerce, Indonesia, Japan*

INTRODUCTION

Today Internet has greater influence on the way people communicate, search for information and do their work than anything else in history. During the past years, information and communication technologies (ICTs) have continued to spread throughout the world, with the result that more people now have access to the Internet and its wealth of information and applications (ITU, 2009). Access to the Internet via mobile cellular networks has also grown rapidly with the increasing availability

of IMT- 2000/3G networks and enabled devices, including mobile handsets and data cards that allow users to access the Internet over the mobile cellular network using their computers (ITU, 2009). The facts show that the mobile Internet has grown rapidly so that mobile economy (m-economy) is both inevitable and imminent (Kalakota & Robinson, 2002).

The mobile Internet technologies, like WAP, are important for pervasive, anytime, anywhere computing (Buchanan *et al.* 2001).

In recent years, there has been much excitement and hype in relation to the promises epoch of the mobile, handheld epoch. The benefit of using the mobile Internet has urged people to be connected and access Internet anytime and anywhere. Gareth Hughes, managing director of Psion, states that the mobile Internet would empower people with information, communications, transactions, and entertainment reviews in their work and personal life (Hughes, 2009).

More and more people will use mobile phones to access Internet. Many forecasters, basing their predictions on the uptake of standard mobile telephones, suggest that in the near future most Internet access will take place using small, wireless devices, providing "anytime, anywhere" access (Buchanan *et al.* 2001). Businesses in the future will be mobile, integrated, and personal, with the widespread rollout of a wireless infrastructure, and a new wave of consumer and business applications will begin using airwaves for much more than just phone calls (Kalakota & Robinson, 2001). The demand for mobile communications is expected to be large owing to the low entry cost for users of purchasing a mobile phone compared with purchasing a networked PC or interactive, television system. This new market, therefore, is being actively targeted by many companies (Chen, 2001).

By looking at the phenomena, it would be interesting to further investigate the mobile Internet usage pattern in two different cultures. The adoption or usage patterns of the mobile Internet are quite different among different countries (Pedersen, 2001). The adoption of the mobile Internet might be different in different countries because of culture differences. That would lead to different usage or adoption patterns of the mobile Internet. People in different countries would also have different cultural values regarding the mobile Internet.

In the future, technologies will become more and more advanced. The mobile Internet will also provide us with better and more ad-

vanced services. The mobile Internet providers will be very careful to exercise their strategy in every different country. In order to meet customer satisfaction in a particular culture, the mobile Internet companies should better understand the mobile Internet usage pattern and implement their strategy accordingly. This investigation would give more insight about cross-cultural study in technology, particularly mobile Internet. It would give managerial implication regarding to mobile Internet management strategy in different cultures particularly in Indonesia and Japan.

The following section will discuss information from the literature survey; a review of hypotheses and results from previous studies related to culture and value, value structure, and satisfaction regarding mobile Internet and explain the research methodology. This article also provides a data analysis, and statistical procedures and results. The final section will discuss results from the previous two sections and provide discussion, conclusions, limitations and research implications.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

This study focuses on values as the core concept of culture for two reasons (Straub *et al.* 2002). First, value is a concept that is apt to change, which is appropriate to explain the change of behavior (Lee *et al.* 2002). Value can affect people's behaviors more than other components of culture that are relatively less sensitive to behavioral changes (Lachman, 1983). Second, different value and attitudes affect the way people behave in their lives (Lee *et al.* 2002; Hofstede, 1980). The Mobile Internet is used by people in their daily lives which take place in fast-changing societies. These things considered a value-based approach would be appropriated.

The research objective is to investigate usage pattern differences of mobile Internet users in Indonesia and Japan and to interpret them within the framework of a value struc-

ture. Most of the studies about cross-cultural mobile Internet usage patterns have been conducted in developed countries such as Japan and Korea. Developed countries are more concerned about advanced technology than developing countries. For example, Japan and Korea are the countries that always develop and improve their technology to become more advanced and sophisticated. This study is based on the previous study by Lee *et al.* (2002) to expand one of their suggestions to another geographical location. There is no cross-cultural study on the value structure of the mobile Internet usage between developed and developing countries.

This study is based on the following research questions:

1. Do functional values, emotional values, social values, and monetary values affect mobile Internet service satisfaction in Indonesia and Japan, respectively?
2. Is there any difference in value structures between Indonesia and Japan?

Culture is the belief and values about how a community of people should and do act (Kreitner & Kinicki, 2007). Hofstede defined culture as "the collective programming of the mind which distinguishes the members of one human group from another" (Hofstede, 1980). It is a collective phenomenon because it is at least partly shared with people who live or lived within the same social environment, which is where it was learned. Culture is learned, not inherited. It derives from one's social environment, not from one's genes (Hofstede, 2010). In the definition given by Hofstede, there is a general notion that culture is based on shared values (Straub *et al.* 2002, Hofstede 1980). The definition of culture by Hofstede is used as a basic definition because his definition is the best known and most applied in previous studies. A value is an enduring belief in a mode of conduct or end-state (Kreitner & Kinicki, 2007).

The value structure is an analytic framework that consists of various types of values that the mobile Internet provides (Lee *et al.* 2002). There are some interested various researches are related to the value. Based on the previous research on value, value then becomes recognized as a key tool for not only understanding human behaviors, but also in doing business (Lee *et al.* 2002).

Different people would have different aims in using the mobile Internet. There are four sub values regarding to mobile Internet usage: functional value, emotional value, social value, and monetary value. Functional value can be defined as the practical or technical benefit that users can obtain by using the mobile Internet (Sweeney & Soutar, 2001). For example, man will use mobile Internet to access such as bank website to make a transaction, to read news, to buy ticket. Emotional values are mental or psychological needs of the mobile Internet users (Sweeney & Soutar, 2001). For example, people use mobile Internet to access entertainment websites to fulfill their emotional need related to entertainment such as movie and music. Social value means benefits obtained by users when they are connected to others via mobile Internet (Sheth *et al.* 1991). Social value creates a feeling amongst users of the mobile Internet that they can be easily connected with each other. For example, people use mobile Internet to chat with the others by using Yahoo Messenger, or undertake social networking by using Facebook or Friendster. Monetary value means whether mobile Internet services are satisfactory compared to cost, time or effort spent in using the mobile Internet (Sweeney & Soutar, 2001). Monetary value cannot be neglected since users have to pay relatively high usage fee for mobile Internet services, while stationary Internet services often can be accessed free of charge (Lee *et al.* 2002). Four of these values will be explained with regard to how they affect satisfaction of mobile Internet.

From the literature reviews and explanations above, each of the theories breaks down into some hypotheses that measure the effect of each value structure on satisfaction for each country. In order to explore this more comprehensively, it would be better to break down the hypotheses that could measure all of the value structures which affect satisfaction simultaneously for Japan and Indonesia respectively. Hypotheses 1 of this study are as follows:

Hypothesis 1a: Functional Value, Emotional Value, Social Value, Monetary Value simultaneously affect satisfaction for the Japanese respondents.

Hypothesis 1b: Functional Value, Emotional Value, Social Value, Monetary

Value simultaneously affect satisfaction for the Indonesian respondents.

Hariss *et al.* (2005) classify m-commerce services in order to distinguish more clearly between synchronous and asynchronous services, hedonic and utilitarian services and in order to isolate specific m-commerce functions. The set of twenty m-commerce services used in their research was developed after extensive reviews of providers' functionality and with reference to the extant m-commerce literature. This classification is shown in Table 1.

Kim *et al.* (2004) classify m-commerce services as hedonic or utilitarian, and find similarities in patterns of m-commerce usage

Table 1. Classification of m-Commerce Services

M-commerce service		Characteristics	
Voice	Communication	Synchronous	Utilitarian/hedonic
SMS	Communication	Asynchronous	Utilitarian/hedonic
MMS	Communication	Asynchronous	Utilitarian/hedonic
Video call	Communication	Synchronous	Utilitarian/hedonic
Email	Communication	Asynchronous	Utilitarian/hedonic
Buy Ticket	Transaction	Asynchronous	Utilitarian
Mobile Payment	Transaction	Asynchronous	Utilitarian
Banking Services	Transaction	Asynchronous	Utilitarian
Lotto/betting/gambling	Transaction	Asynchronous	Hedonic
Entertainment News	Information	Asynchronous	Hedonic
Sport News	Information	Asynchronous	Hedonic
Headline News	Information	Asynchronous	Utilitarian
Traffic News	Information	Asynchronous	Utilitarian
Weather Forecast	Information	Asynchronous	Utilitarian
Local Map	Information	Asynchronous	Utilitarian
Local Information	Information	Asynchronous	Utilitarian
Game	Entertainment	Asynchronous	Hedonic
Ring tone	Entertainment	Asynchronous	Hedonic
Wallpaper/Screensaver	Entertainment	Asynchronous	Hedonic
Browsing Internet	Entertainment	Synchronous	Hedonic

Source: Hariss *et al.* (2005)

between Hong Kong and South Korea, with Japanese m-commerce users exhibiting very different patterns. Hedonic criteria are related to feelings and emotions such as fun, relaxation or pleasure while utilitarian criteria are concerned with quality of workmanship or delivery, fitness for purpose or the ability to perform a specific function (Kim *et al.* 2004). Kim *et al.* (2004) study found that Hong Kong and South Korean customers exhibit more hedonic m-commerce usage patterns than their counterparts in Japan.

According to Alexa.com, a web information company, the Indonesian sites, such as headline news and banking services, are not among the highest ranking sites in August 2009. Information websites which provide headline news, weather forecasts, local news, and local information, such as detiknews.com and kompas.com, are not the highest ranking sites. In Indonesia, the highest rank is on Facebook. Facebook also provides game which is related to entertainment characteristic classified by Hariss *et al.* 2005. This ranking sites information would indicate that Indonesian functional value relates less closely to satisfaction.

Japanese users regard functional value to be higher than other values. This seems to be reasonable in that e-mail service is convenient to use anytime, anywhere and Japanese users use Information services more frequently than Indonesian users. Japanese users are most likely to use email services, followed by download services, news and sports (Lee *et al.* 2002). For the Japanese respondents, functional value is closely related to satisfaction (Lee *et al.* 2002).

The information above distinguishes between hedonic and utilitarian m-commerce usage patterns. The information above shows the m-commerce usage pattern for Indonesian and Japanese users. Indonesian users are related closely to a hedonic usage pattern and Japanese users are related closely to a utilitarian usage pattern. This would imply that Japa-

nese functional value relates more closely to higher satisfaction than Indonesian functional value.

Hypothesis 2a: Functional value will positively affect the satisfaction of Japanese respondents.

Hypothesis 2b: Functional value will positively affect satisfaction of Indonesian respondents.

Hypothesis 2c: Functional value will affect more greatly the satisfaction of Japanese respondents than Indonesian respondents.

Indonesian people have high social networking characteristic (Subagyo, 2009). Some Indonesian people tend to satisfy their needs by interacting with their community, as shown by their high social networking characteristics. Related to this character, we could see how it affects the most frequently used website. The website that is accessed most by Indonesian people is Facebook. Indonesian Facebookers enjoy accessing this website because of their high social networking character. It could be seen in the alexa.com rankings that Facebook ranks the highest in Indonesia. From the classification of m-commerce service in table 2.1 by Hariss *et al.* (2005), Facebook is not one of the information websites and does not have utilitarian character.

Based on the information provided by Alexa.com, in August 2009 one of the highest ranking sites in Indonesia is Facebook. Facebook is the biggest social networking site in the world. This website could be classified as an entertainment site that could satisfy mental or psychological needs by using the mobile Internet. Entertainment is the action of providing or being provided with amusement or enjoyment (New Oxford American Dictionary, 2007).

Hedonic criteria are related to feelings and emotions such as fun, relaxation or pleasure, while utilitarian criteria are concerned with quality of workmanship or delivery, fitness for

purpose or the ability to perform a specific function (Kim *et al.* 2004). Hedonism is one of the behaviors that particularly happen in developing countries such as Indonesia. This behavior shows the way some people in Indonesia react to modernity as a priority value without fully recognizing how this modernity should be treated (Zubair, 1998). They catch modernity as a symbol of the “final result” without understanding the antecedent process of modernity. They own the latest and most advanced devices with high technology as a symbol of modernity, achievement and prestige (Zubair, 1998). “Getting/owning” these latest and most advanced devices is more important than understanding the important function of the devices (Zubair, 1998).

Arambewela *et al.* (2005) examined the differences in personal values among Asian international postgraduate students from China, India, Indonesia and Thailand studying in Australian universities based on nationality and discussed marketing implications of these differences. Personal values are one way in which insights can be gained of students, particularly with regard to their needs and preferences (Arambewela *et al.* 2005). Their study results found that Indonesian and Thai students attached greater importance to values associated with hedonism.

Based on the previous research, emotional value is less related to satisfaction for Japanese respondents (Lee *et al.* 2002). When they compared the average means of significant variables in two countries, the average means of functional value, emotional value, social value and monetary value were higher in Japan than in Korea. Kim *et al.* (2004) study found that Japanese people tended towards utilitarian usage patterns. The Japanese did not exhibit hedonic criteria of usage patterns of m-commerce that are related to feelings and emotions such as fun, relaxation or pleasure.

Based on the information above Indonesian people tend to have hedonistic criteria and they also use website services such as Face-

book to fulfill their emotional needs more than Japanese people. Thus, the emotional value would be positively related to satisfaction for both countries. Emotional value would affect more greatly the satisfaction of Indonesian respondents than Japanese respondents.

Hypothesis 3a: Emotional value will positively affect the satisfaction of Japanese respondents.

Hypothesis 3b: Emotional value will positively affect the satisfaction of Indonesian respondents.

Hypothesis 3c: Emotional value will affect more greatly the satisfaction of Indonesian respondents than Japanese respondents.

Social value creates a feeling amongst users of the mobile Internet that they could easily connect with each other. Some people use mobile Internet to chat with colleagues or friends by using Yahoo Messenger, or people use the mobile Internet to socially do network via Facebook or Friendster.

Indonesian people have high social networking characteristic (Subagyo, 2009). The Indonesian state is said to function as the highest expression of the nation as family. This model could be extended to cover some two hundred million people. These persons should live together in the spirit of *familism* or *kekeluargaan* (Mulder, 2000). Indonesian people also have social capital that could be found in some activities such as *koperasi* (co-operative organization of the economy), *kekeluargaan* (*familism*), *gotong-royong* (mutual assistance), and *musyawarah mufakat* (deliberations aimed at reaching consensus). Social capital consists of the stock of active connections among people: the trust, mutual understanding and shared values and behaviors that bind the members of human networks and communities and make cooperative action possible (Cohen & Prusak, 2001). Based on some of the characteristics of Indonesian peo-

ple, Indonesians tend to have high social value.

The information above could be proved by looking at the website preferences of Indonesian people. According to the Alexa.com, a web information company in August 2009, Facebook was the top-ranking website amongst Indonesian Internet users. Since Facebook is a social networking website that connects people, it is ranked to be the first on Alexa.com as most of the users feel they can easily connect with each other.

On the other hand, Japanese social value did not significantly affect satisfaction (Lee *et al.* 2002). Matsuda (2005) argues that most young Japanese people are becoming more selective rather than superficial in their social relationships, focusing on friends who they identify closely with. For most heavy users, the *keitai* (Japanese word which means mobile phone) reinforces ties between close friends and families rather than communal or weaker and more dispersed social ties (Ito, 2005). Matsuda's (2005) description of "selective sociality" also notes that *keitai* participates in a similar trend towards intentional contact with intimates at the expense of both given and serendipitous relation. While new communication technologies are tied to an expansion in the range of partners and means to communicate, most communication gets channeled into a narrow and highly selective set of relationships (Ito, 2005). Matsuda (2005) also locates *keitai* in ecology of personal communications in Japan which has increasingly valued the discursive production of intimacy, particularly between family members and couples. These intimate circles of contact are what Ichiyo Habuchi describes as "telecooing"; that is the production of social identities through small, insular social groups (Ito, 2005).

Social value does not seem to affect satisfaction in Japan. This may result from Japanese people being characteristically introverted. Although the mobile Internet is a con-

venient communication device, Japanese users may not want to use it for socializing with others (Lee *et al.* 2002).

By comparing Indonesia and Japan, it could be seen that social values affect Indonesian respondents positively and Japanese respondents negatively.

Hypothesis 4a: Social value will negatively affect the satisfaction of Japanese respondents.

Hypothesis 4b: Social value will positively affect the satisfaction of Indonesian respondents.

Hypothesis 4c: Social value will affect more greatly the satisfaction of Indonesian respondents than Japanese respondents.

Monetary value means how satisfactory mobile Internet services are compared to cost, time or effort spent in using the mobile Internet (Sweeney & Soutar, 2001). Monetary value cannot be neglected since users have to pay relatively high usage fee for mobile Internet services, while stationary Internet services often can be accessed free of charge (Lee *et al.* 2002).

Based on information from VivaNews.com (February 2009), in Indonesia up-to-date Internet fees are still expensive. One of the reasons for expensive Internet fees in Indonesia is that Indonesian Internet providers need high investment for their business. Some of the mobile Internet providers provide Internet cost with low price but with very low access speed. So, for the Indonesian people, monetary value would affect less to their satisfaction of using mobile Internet.

Monetary value affects satisfaction for Japanese respondents (Lee *et al.* 2002). In Japan, mobile Internet costs are cheap. Most of the mobile Internet providers give a fixed rate. For example, NTT Docomo provides a new package option: For the Biz-hodai simple option for smartphones, the monthly maxi-

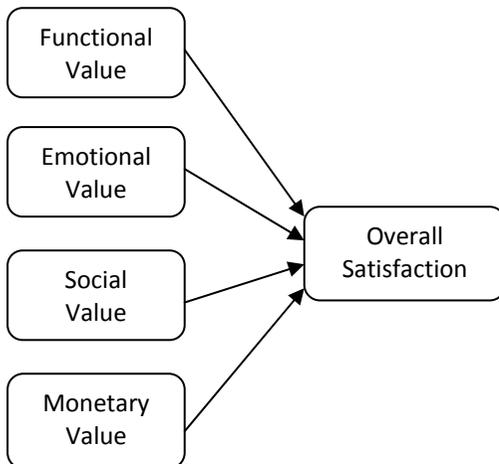
imum charge will be 5,985 yen. However, if the smartphone is connected to a PC or other external device, the maximum charge will be 13,650 yen (NTTDocomo, 2009).

Hypothesis 5a: Monetary value will positively affect the satisfaction of Japanese respondents.

Hypothesis 5b: Monetary value will positively affect the satisfaction of Indonesian respondents.

Hypothesis 5c: Monetary value will affect more greatly the satisfaction of Japanese respondents than Indonesian respondents.

The research model (for Indonesia and Japan, respectively) is established as shown in Graph 2:



Source: Lee *et al.* (2002)

Figure 1. Research Model

RESEARCH METHOD

Descriptive statistics will be used in this study. Descriptive statistics present quantitative descriptions and statistical computations describing either the characteristics of a sample or the relationship among variables in a sample (Babbie, 2004). This technique involves measuring the association/causality between two variables (independent and de-

pendent). This technique provides the information that explains the relationship between values as independent variable and satisfaction of mobile Internet as a dependent variable.

In this study, the unit of analysis is the individual whose characteristics sought to be described. In this case, respondents are people from Indonesia and Japan who have experienced in using the mobile Internet. The population of this research is all people in Indonesia and Japan who are using mobile Internet. The samples of this study are people who are using mobile Internet in Indonesia and Japan. In this study, non probability samples that are unrestricted are called convenience samples (Cooper & Schindler, 2001). Samples were selected according to convenience sampling. The reason why convenience sampling was used is that researchers have the freedom to choose whomever they find.

Based on the previous research, Lee *et al.* (2002) used 21 independent variable questions that are considered fit with the criteria such as sufficient correlation coefficients and reliability using Cronbach's Alpha. The questionnaires were written in Japanese language and Indonesian language.

The data collection technique used in this study is the survey method. The questionnaire was given to respondents in Japan and Indonesia directly. The survey questionnaire consisted of four parts: a question for frequently used mobile Internet services, questions regarding user satisfaction, those for value structures, and the final is the user's demographic information.

In assessing the degree of measurement error presented in any measure, Hair *et al.* (2006) stated that the researcher must address two important characteristics of a measure: validity and reliability. Validity is the degree to which a measure accurately represents what it is supposed to. Reliability is the degree to which the observed variables measure the

“true” value and is “error free”; thus, is the opposite of measurement error.

Multiple regressions are used in this study because there are four independent variables in this study. Multiple regression analysis will be used to identify the relationship between value structures and overall satisfaction in each country. The linear regression analyses will be conducted to identify the relationship between four types of values and satisfaction. Independent sample T-Test will be used in order to verify how value structures are different between the respondents in two countries.

DATA ANALYSIS

The Indonesian respondents consisted of 30.7% male and 69.3% female. For the Japanese respondents; 76.9% were male and 23.1% were female.

The age of the Indonesian respondents were as follows; 1 (0.7%) respondent was under 16 years old, 64 (46.7%) respondents were in the age range of 16-20 years old, 46 (33.6%) respondents were in the age range of

21-25 years old, 24 (17.5%) respondents were in the age range of 26-30 years old, and 2 (1.5%) respondents were in the age range of 31-35 years old. The age of the Japanese respondents were as follows; 1 (0.7%) respondent was under 16 years old, 58 (43.3%) respondents were in the age range of 16-20 years old, 60 (44.8%) respondents were in the age range of 21-25 years old, 12 (9%) respondents were in the age range of 26-30 years old, and 3 (2.2%) respondents were in the age range of 31-35 years old.

The education background of the Indonesian respondents were as follows; 83 (60.6%) had graduated from senior high school and are undergraduate students, 40 (29.2%) respondents had graduated from undergraduate studies (S1), 5 (3.6%) had graduated from post graduate studies (S2), 9 (6.6%) respondents were from another education background such as D3 (three-year education program after senior high school) and junior high school for the youngest respondent. The education background of the Japanese respondents were as follows; 81 (60.4%) had graduated from senior

Table 2. Gender, Age, and Education

Gender	Indonesia		Japan	
Male	42	30.7%	103	76.9%
Female	95	69.3%	31	23.1%
Total	137	100%	134	100%
Age				
< 16	1	0.7%	1	0.7%
16-20	64	46.7%	58	43.3%
21-25	46	33.6%	60	44.8%
26-30	24	17.5%	12	9.0%
31-35	2	1.5%	3	2.2%
Total	137	100%	134	100%
Education				
Senior High School	83	60.6%	81	60.4%
S1	40	29.2%	34	25.4%
S2	5	3.6%	7	5.2%
S3	0	0%	3	2.2%
Others	9	6.6%	9	6.7%
Total	137	100%	134	100%

high school and are undergraduate students, 34 (25.4%) respondents had graduated from undergraduate studies (S1), 7 (5.2%) respondents had graduated from post graduate studies (S2), 3 (2.2%) respondents have earned a doctoral degree, 9 (6.6%) respondents were from another education background such as a professional education program completed after senior high school and junior high school for the youngest respondent.

Validity Test and Reliability Test

The results of five variables show that correlations between each of the indicators with the total construct score show the significant results. It can be concluded that each of the questions regarding all of the indicators are valid.

The reliability results using Cronbach's Alpha show all variables that would be tested are reliable. The Cronbach's Alpha shows more than 0.60 until 0.90; this means that all variables are very reliable.

Table 3. Validity

		FV 1	FV 2	FV 3	FV 4	FV 5	FV6
Total FV	Pearson correlation	0.741**	0.783**	0.702**	0.755**	0.750**	0.694**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000
	N	271	271	271	271	271	271
		EV 1	EV 2	EV 3	EV 4	EV 5	EV6
Total EV	Pearson correlation	0.701**	0.783**	0.770**	0.798**	0.878**	0.818**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000
		SV 1	SV 2	SV 3	SV 4	SV 5	
Total SV	Pearson correlation	0.757**	0.821**	0.804**	0.814**	0.804**	
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	
		MV 1	MV 2	MV 3	MV 4		
Total MV	Pearson correlation	0.818**	0.892**	0.874**	0.671**		
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		
		SAT1	SAT2	SAT3			
Total SAT	Pearson correlation	0.828**	0.837**	0.833**			
	Sig. (2-tailed)	0.000	0.000	0.000			
	N	271	271	271	271	271	271

**Correlation is significant level at the 0.01 level (2-Tailed).

Table 4. Reliability

No	Value	Cronbach's Alpha
1.	Functional Value	0.832
2.	Emotional Value	0.881
3.	Social Value	0.859
4.	Monetary Value	0.830
5.	Satisfaction	0.780

Table 5. ANOVA Output

Country	F	Sig
Japan	15.952	0.000*
Indonesia	73.912	0.000*

* Predictors: Monetary value, Social value, Functional value, Emotional value

* Dependent Variable: Satisfaction

In table 5, the result for Japan shows that F score is 15.952 and F score for Indonesia is 73.912. P value score is 0.00. Since P value $0.00 < 0.05$, this means that regression model with Functional Value, Emotional Value, Social Value, Monetary value as independent variables can be used to predict Satisfaction. Hypothesis 1a and hypothesis 1b are supported.

The result showed in significant column in the table 6 will be used to analyze the hypotheses with 0.05 significant level. There are four independent variables in this regression that will be analyzed partially to test hypotheses 2a, 2b, 3a, 3b, 4a, 4b and 5a, 5b for the Japanese and Indonesian respondents as follows:

The result in the Japan significant column of functional value shows that significant value is 0.012, which is less than 0.05. This result supports hypothesis 2a. The result in the Indonesia significant column of functional value shows that significant value is 0.004, which is less than 0.05. This result supports hypothesis 2b.

The result in the Japan significant column of emotional value shows that significant value is 0.036, which is less than 0.05. This result supports hypothesis 3a. The result in the Indonesia significant column of emotional value shows significant value is 0.000, which is less than 0.05. This result supports hypothesis 3b.

The result in the Japan significant column of social value shows that significant value is 0.648, which is more than 0.05. The result also shows negative relationship of social value of Japanese respondents. This result aligns with the hypothesis 4a, which stated that social value negatively affects the satisfaction of Japanese respondents, but this result is not significant statistically. The output result in the Indonesia significant column of social value shows that significant value is 0.001, which is less than 0.05. This result supports hypothesis 4b.

The output result in the Japan significant column of monetary value shows that significant value is 0.000, which is less than 0.05. This result supports hypothesis 5a. The output result in the Indonesia significant column of monetary value shows that significant value is 0.000, which is less than 0.05. This result supports hypothesis 5b.

From the result of regression coefficient, then, it could be put in the regression equation for Japan and Indonesia as follows:

$$Y_{JP} = 3.449 + 0.130X_1 + 0.095X_2 - 0.022X_3 + 0.247X_4 \quad (1.1)$$

$$Y_{INA} = 0.115X_1 + 0.192X_2 + 0.107X_3 + 0.202X_4 \quad (1.2)$$

T-test sample was used in order to test how value structure is different between respondents in both countries.

Table 6. Japan and Indonesia Regression Coefficient

	Japan		Indonesia	
	B	Sig	B	Sig
(Constant)	3.449	0.013	-1.166	0.245
Functional Value	0.130	0.012	0.115	0.004
Emotional Value	0.095	0.036	0.192	0.000
Social Value	-0.022	0.648	0.107	0.001
Monetary Value	0.245	0.000	0.202	0.000

Table 7. T-Test and Independent Sample T-Test

Culture		Mean	t	Sig (2-tailed)
Satisfaction	Indonesia	13.49	0.690	0.491
	Japan	13.22	0.691	0.490
Functional	Indonesia	27.80	-2.350	0.020
	Japan	29.44	-2.354	0.019
Emotional	Indonesia	30.73	3.935	0.000
	Japan	27.57	3.939	0.000
Social	Indonesia	20.46	2.419	0.016
	Japan	18.75	2.424	0.016
Monetary	Indonesia	15.85	1.120	0.264
	Japan	15.20	1.120	0.264

Hypothesis 2c: Functional value will affect more greatly the satisfaction of Japanese respondents than Indonesian respondents. The result on functional value in table 7 shows that the t value is -2.350 and the P value is $0.020 < 0.05$. This means that there is mean difference between Japanese respondents and Indonesian respondents. From the result, it could be concluded that functional value average mean of Japanese is higher than functional average mean of Indonesian. Thus, the hypothesis 2c statistically is supported.

Hypothesis 3c: Emotional value will affect more greatly the satisfaction of Indonesian respondents than Japanese respondents. The emotional value shows that the t value is 3.935 and the P value is $0.000 < 0.05$. This means that there is mean difference between Japanese respondents and Indonesian respondents. The result shows that emotional value average mean of Indonesian is higher than emotional value average mean of Japan. Thus, the hypothesis 3c statistically is supported.

Hypothesis 4c: Social value will affect more greatly the satisfaction of Indonesian respondents than Japanese respondents. The social value shows that the t value is 2.419 and the P value is $0.016 < 0.05$. This means that there is mean difference between Japanese respondents and Indonesian respondents. The result shows that social value average mean of Indonesian is higher than social value average

mean of Japan. Thus, the hypothesis 4c statistically is supported.

Hypothesis 5c: Monetary value will affect more greatly the satisfaction of Japanese respondents than Indonesian respondents. The monetary value shows that the t value is 1.120 and the P value is $0.264 > 0.05$. This means that there is no mean difference between Japanese respondents and Indonesian respondents. Thus, the hypothesis 5c statistically is not supported.

Respondents were asked to check which mobile Internet services they currently use to find out preferred mobile Internet services in each country. The result is as summarized in table 8 for Japanese respondents and in table 9 for Indonesian respondents.

DISCUSSION, CONCLUSION, AND LIMITATION

Japanese users tend to perceive other values higher than social value. For the Japanese respondents, functional value is closely related to satisfaction. This result is aligned with the results from Lee *et al* (2004), finding that Japanese users regard the functional values higher than other values. Emotional values in this analysis affect Japanese respondents positively. Japanese respondents are satisfied with the benefits of the current price that they get from Japanese mobile Internet service providers.

Table 8. Frequently Used Services by Japanese Respondents

		Frequency	Percent	Cumulative Percent
Valid	Download	16	11.9	11.9
	Game	7	5.2	17.2
	e-mail	85	63.4	80.6
	Location	2	1.5	82.1
	Weather	5	3.7	85.8
	News	7	5.2	91.0
	Shopping	1	0.7	91.8
	Social Networking	8	6.0	97.8
	Information	1	0.7	98.5
	Others	2	1.5	100.0
Total		134	100.0	

Table 9. Frequently Used Services By Indonesian Respondents

		Frequency	Percent	Cumulative Percent
Valid	Download	4	2.9	2.9
	e-mail	15	10.9	13.9
	News	6	4.4	18.2
	Banking	1	0.7	19.0
	Chatting	7	5.1	24.1
	Social Networking	98	71.5	95.6
	Information	6	4.4	100.0
	Total		137	100.0

Indonesian respondents perceived functional value of mobile Internet usage. Emotional value is one of the values that could satisfy Indonesian respondents with the mobile Internet usage. Related to social value for Indonesian respondents, they get the benefit of mobile Internet usage when they can feel that they are connected to others by using mobile Internet easily. The results indicate that Indonesian respondents perceived monetary value by using mobile Internet.

The results proved that the average mean of functional value of Japanese is higher than Indonesian average mean. It aligns with the Lee *et al.* (2002) research result, which stated that Japanese users regard the functional value higher than other values and functional value closely related to satisfaction. This result is

aligned with Kim *et al.* (2004) study that found Japanese tended to have utilitarian patterns.

The Indonesian respondents perceived emotional value of mobile Internet users higher than other values. The results align with the Arambewela *et al.* (2005) study results, which stated that Indonesian people tend to be attaching greater importance on values associated with hedonism behavior. This behavior shows the way some people in Indonesia react to modernity as a priority value without fully recognizing how this modernity should be treated (Zubair, 1998). The results also align with Kim *et al.* (2004) research results, which mention that Japanese did not exhibit hedonic criteria of mobile Internet usage patterns that are related to feelings and emotions such as fun, relaxation, or pleasure.

The independent sample t-test shows that there is no mean difference between Japanese respondents and Indonesian respondent. The hypothesis 5c is statistically not supported. This case indicates that Japanese respondents and Indonesian respondents perceived that using mobile Internet usage at the same perspective regarding to monetary value.

To analyze the usage patterns from a cross-cultural perspective, this study proposed a framework of the value structure that composed of four dimensions of value. This study also focused on identifying differences in value structures across two countries. It is believed that a value-based approach allowed us to gain insights into the cultural differences that affect usage of the mobile Internet. There are two research questions to be discussed as follows:

1. Do functional value, emotional value, social value, and monetary value affect mobile Internet services satisfaction in Indonesia and Japan, respectively?

The result shows that functional value, emotional value, social value, and monetary value simultaneously affect satisfaction of Indonesian respondents. The functional value, emotional value and monetary value simultaneously affect satisfaction of Japanese respondents. However, social value does not significantly affect satisfaction of mobile Internet usage of Japanese respondents.

The Japanese social values have a negative correlation, it does not significantly affect on satisfaction when they tested this variable with other variables simultaneously. This point of view indicates that Japanese respondents may not want to use mobile Internet for socializing each other. This indicator aligns with the previous research results from Lee *et al.* (2002), which stated that social value does not significantly affect satisfaction for the Japanese respondents.

The social value average mean score for Indonesian is higher than Japanese average mean score. This results support Subagyo's (2009) statement that Indonesian people are the people with high social networking characteristic. While new technologies are tied to an expansion in the range of partners and means to communicate, most communication gets channeled into a narrow and highly selective set of relationship for Japanese (Ito, 2005).

From these results, it can be concluded that different people have different aims in using the mobile Internet. Their aims in using mobile Internet are influenced by their own culture. Japan and Indonesia have the similarity regarding to functional value, emotional value, and monetary value because each of these three values significantly affects the satisfaction of mobile Internet usage but not for social value. The reason is because of the different culture of Indonesia and Japan regarding to the important of social value. Hofstede (1980) defined culture as, "the collective programming of the mind which distinguishes the members of one human group from another."

2. Is there any difference in value structures between Indonesia and Japan?

From the data analysis, it could be concluded that value structures for the functional value, emotional value and social value are significantly different between Indonesia and Japan. The most frequently used mobile Internet services among Indonesian and Japanese users are different.

There are some differences of value structure between Indonesia and Japan. The results indicate that the relationship between satisfaction and value structure are different in both countries. The independent sample t-test shows that functional value, emotional value, and social value are significantly different between Indonesia and Japan.

Japanese functional value is more likely to affect satisfaction and Indonesian social value is a high influential effect on satisfaction. Japanese respondents are exhibiting more utilitarian in pattern of mobile Internet usage. On the other hand Indonesian respondents are exhibiting more hedonic in pattern of mobile Internet usage. It can be explained from the result that shows Indonesian emotional value is significantly higher than Japanese emotional value. The emotional value is one of the indicators that people tend to use mobile Internet to fulfill their emotional need by accessing preferred website. Hedonic criteria are related to feelings and emotions such as fun, relaxation, or pleasure. This means that Indonesian respondents perceived mobile Internet to fulfill their emotional need, which is higher than other values.

Social value does not seem to affect satisfaction in Japan. This result aligns with Matusda (2005) statement. Matsuda (2005) stated that most Japanese people are becoming more selective rather than superficial in their social relationships, focusing on friends who they identify closely with. The result also supports previous argument by Lee *et al* (2004) although mobile Internet is a convenient communication device; Japanese users may not want to use it for socializing with others. On the other hand, Indonesian mobile Internet users tend to use mobile Internet to socialize with each other.

The frequently used services of Indonesian respondents also show that 71.5% use social networking website services. It indicates that Indonesian people tend to have active connections among people: the trust, mutual understanding, and shared values and behaviors that bind the members of human networks and communities and make cooperative actions (Cohen & Prusak, 2001).

It could be concluded that the different usage pattern of mobile Internet could be affected by culture. The culture in this research is represented from the values, as a culture is

the belief and values about how a community of people should and do act (Kreitner & Kinicki, 2007).

The results of this study give contribution to managerial level about the cross-cultural knowledge in mobile Internet usage pattern particularly in Indonesia and Japan. By understanding about their market culture and behavior regarding to mobile Internet usage, they could execute a good strategy to win the competition among their competitor.

Global company players of mobile Internet providers should consider their strategic in order to meet the customer's expectation in different country with different culture. Global companies, themselves, do not merely satisfy with the global perspective by their own image, but they also should consider the global competitive advantage in order to win the competition. From the combination of this study's results and adaptation of local strategies for mobile Internet companies as global players, it is hoped that they could assess themselves how they would play their strategic in the global market and penetrate in every different local market.

This study represents some limitations as follows. First, although this study verified value structures that are different between two countries, different value structure may not be the only reason for different usage patterns. Different usage pattern also might be caused from demographic, mobile Internet infrastructure, and mobile Internet services provider itself.

For future research, it is necessary to prove causal relationship between value structure and behavioral patterns of users regarding to the same level of mobile Internet infrastructure and services. Second, this study is limited to only to Indonesia and Japan. It is not really feasible to generalize the results of other countries. Therefore, it would be recommended to extend this study to other geographical area. Third, in order to test the dif-

ferences, it would be better to use discriminant analysis in the research method to reduce wider alpha 0.5 percent. Fourth, the result implies that frequently used mobile Internet services are affected by culture. This implies that since mobile Internet users are influenced by various factors, personalized mobile services may be preferred. Therefore, identifying critical factors that highly affect usage behaviors is needed such as cultural factors, demographic or socio-economics.

REFERENCES

- Afuah, A. and C.L Tucci, 2003. *Internet Business Models and Strategies*. New York: McGraw-Hill.
- Apple Inc., 2007. "New Oxford American Dictionary 2.0.2." [Computer Software]. Available at <http://www.apple.com>.
- Arambewela, R., J. Hall, A.M. Hede, 2005. "Personal Values Of International Postgraduate Students From Asia: A Cross Cultural Study". ANZMAC, Conference: Marketing Education.
- Babbie, E, 2004. *The Practice of Social Research*, US: Thomson.
- Bolton, R.N. and J.H. Drew, 1991. "A Multi-stage Model of Customers' Assessments of Service Quality and Value". *Journal of Consumer Research*, 17, 375-384.
- Buchanan, G., S. Farrant, M. Jones, 2001. "Improving Mobile Internet Usability". WWW10, Hong Kong, China.
- Budde, P., 2009. *Indonesia-Telecoms, Mobile, Broadband, and Forecasts*. Australia: Communication Pty Ltd..
- Budi, T.P., 2006. *SPSS 13.0 Terapan; Riset Statistik Parametrik* [Applied SPSS 13.0; Parametric Statistic Research], 1st ed. Yogyakarta: Andi Offset.
- Chen, S., 2001. *Strategic Management of e-Business*. England: John Wiley and Sons, LTD.
- CIA (Central Intelligence Agency). "The World Fact Book". Available at <http://www.cia.gov/library/publications/the-world-factbook/geos/ja.html>. Accessed at September 2, 2009.
- Cohen, D. and L. Prusak, 2001. *In Good Company*. Boston: Harvard Business School Press.
- Cooper, D.R., and P.S. Schindler, 2001. *Business Research Methods*, 7th eds. New York: McGrawHill.
- Fitzpatrick, M., 2007. "Why Mobile Japan Leads the World". The Guardian. Available at <http://www.guardian.co.uk/technology/2007/sep/27/guardianweeklytechnologysection.mobilephones>. Accessed at September 2, 2009.
- Ghozali, I., 2006. *Aplikasi Analisis Multivariate Dengan Program SPSS* [Application of Multivariate Analysis Using SPSS Program], 4th eds. Semarang: UNDIP.
- Gupta, A. K., and V .Govindarajan, 2001. "Converting Global Presence into Global Competitive Advantage". *Academy of Management Executive*, 15(2), 45-58.
- Hair, J.F., W.C. Black, B.J. Babin, R.E. Anderson, R.L. Tatham, 2006. *Multivariate Data Analysis*, 6th eds. New Jersey: Pearson Prentice Hall.
- Hari, S., 2009. "Menkominfo: Tarif Internet Pasti Turun 2009 [Ministry of Communication and Information: Internet Tariff Shall Down in 2009]". Available at http://bisnis.vivanews.com/news/read/31705-menkominfo__tarif_internet_pasti_turun_2009. Accessed at September 2, 2009.
- Harris, P., R. Rettie, and E. Cheung, 2005. "Adoption and Usage of M-Commerce: A Cross-Cultural Comparison of Hongkong and United Kingdom". *Journal of Electronic Commerce Research*, 6 (3), 210-224.
- Hughes, G. "Psion and the Mobile Internet". Available at <http://investorrelations.psionteklogix.com/psionplc/uploads/reports/MobileInternet260500.pdf>. Accessed at November 8, 2009.

- Hofstede, G., 1980. *Culture's Consequences: International Differences in Work-Related Values*. CA: Sage.
- Hofstede, G., G. J. Hofstede, and M. Minkov, 2010. *Cultures and Organizations: Software of the Mind* (Rev. 3rd ed.). New York: McGraw-Hill.
- Ibrahim, A., D. Zaidah, and D. Ibrahim, 2006. "Significance of Cross Cultural Background on Internet Usage among University Students". *Unitar e-Journal*, 2 (2), 11-21.
- Ito, M., O. Daisuke, and M. Matsuda, 2005. *Personal, Portable, Pedestrian: Mobile Phones in Japanese Life*. Cambridge: MIT Press.
- ITU (International Telecommunication Union), 2009. *Measuring the Information Society: The ICT Development Index*. Switzerland : Geneva.
- Jhangiani, Ira, 2006. *A Cross-Cultural Comparison of Cell Phone Interface Design Preferences from the Perspective of Nationality and Disability*. Virginia: Blacksburg.
- Johnson, M.D. and C. Fornell, 1991. "A Framework for Comparing Customer Satisfaction Across Individuals and Product Categories". *Journal of economic psychology*, 12, 267-286.
- Kalakota, R. and M. Robinson, 2001. *E-Business 2.0 Road Map for Success*. Massachusetts: Addison-Wesley.
- Kalakota, R. and M. Robinson, 2002. *M-Business: The Race to Mobility*. New York: R. Donnelley and Sons Company, McGraw-Hill Companies Inc.
- Kim, J., I. Lee, Y. Lee, and B. Choi, 2004. "Exploring E-business Implications of the Mobile Internet: A Cross-national Survey of Hong Kong, Japan and Korea". *International Journal of Mobile Communication*, 2 (1), 1-21.
- Kreitner, R and A. Kinicki, 2007. *Organizational Behavior*. New York: McGraw-Hill.
- Lachman, R., 1983. "Modernity Change of Core and Peripheral Values of Factory Workers". *Human Relations*, 36, 563-580.
- Lee, Y., J. Kim, I. Lee, and H. Kim, 2002. "A Cross-cultural Study on the Value Structure of Mobile Internet Usage: Comparison between Korea and Japan". *Journal of Electronic Commerce Research*, 3 (4), 1-21.
- Matsuda, M., 2005. "Mobile Communications and Selective Sociality" in Ito, M., *Personal, Portable, Pedestrian: Mobile Phones in Japanese Life*. Cambridge: MIT Press.
- Miniwatts Marketing Group, 2009. "Asia Marketing Research, Internet Usage, Population Statistics and Information". *Internet World Stats*.
- Mulder, N., 2000. *Indonesian Images, the Culture of the Public World*. Yogyakarta: Kanisius Publishing House.
- NTTDocomo, 2009. "DOCOMO to Add Service Option for Flat-rate Data Service-Maximum charge reduced for use at selected access points". Available at <http://www.nttdocomo.com/pr/2009/001458.html>, accessed at November 8, 2009.
- Oliver, R. L., 1981. "Measurement and Evaluation of Satisfaction Processes in Retail Settings". *Journal of Retailing*, 57 (Fall), 25-48.
- Pedersen, P.E., 2001. "An Adoption Framework for Mobile Commerce". *1st IFIP Conference of E-Commerce*, Minitrack on Mobile Commerce, Switzerland.
- Sellen, A.J., and R. Murphy, 2002. *The Future of the Mobile Internet: Lesson from looking at Web Use*. CA: Hewlett-Packard Company.
- Sheth, J.D., B.I. Newman, and B.L. Gross, 1991. *Consumption Values and Market Choice*. Cincinnati: South Western Pub-

- lishing.
- Straub, D., W. Loch, R. Aristo, E. Karahanna, and M. Strite, 2002. "Toward a Theory-Based Measurement of Culture". *Journal of Global Information Management*, 10 (1), 13-23.
- Subagyo, Y., 2009. *Pemberdayaan Masyarakat Melalui POSDAYA Untuk Mengatasi Krisis Sosial* [Society Empowerment Through 'POSDAYA' to Overcome Social Crisis]. Jakarta: Himpunan Pandu dan Pramuka Wreda.
- Sweeney, J.C. and G. N. Soutar, 2001. "Consumer Perceived Value: The Development of a Multiple Item Scale". *Journal of Retailing*, 77, 203-220.
- Telecomworldwire, 2009. "The ARC Group Expects a Rise in Mobile Services Revenue to 2008- Brief Article". Available at http://findarticles.com/p/articles/mi_m0ECZ/is_2004_Jan_15/ai_112215143/. Accessed at July 19, 2009.
- Tsuja, P.M.Y., and M. Matsumoto, 2003. *Lessons Learned from the Adoption of Mobile Internet Services in Japan*. Giti: Waseda University.
- Wijaya, T., 2009. *Analisis Data Penelitian Menggunakan SPSS* [Analysis of Research Data using SPSS]. Yogyakarta: UniversitasAtma Jaya.
- Williams, M., 2006. "More Mobile Internet Users than Wired in Japan". Available at <http://www.infoworld.com/d/networking/more-mobile-internet-users-wired-in-japan-259>, accessed at November 8, 2009.
- Zubair, A. C., 1998. "Tinjauan Moral dan Kultural Terhadap Hedonisme di Kalangan Generasi Muda [Moral and Cultural Review of Hedonism in Young Generation]". Available at <http://filsafat.ugm.ac.id/downloads/artikel/hedonisme.pdf>. Accessed at November 8, 2009.