

## Analysis of user's attitude toward apps, intention to use and continual consuming intention - Focused on mobile commerce

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### ABSTRACT

*This study tries to identify the determinants of user's attitude toward apps, intention to use and continual consuming intention. This study holds the two main constructs: (1) user's intrinsic determinants- value, innovativeness, gender, Well-being and superordinate influence - on the attitude toward mobile apps, (2) the relation between attitude and app purchase & repurchase intention, and the affecting factors among this relation. In the empirical test result, value, innovation and superordinate influence were identified to affect the attitude. All the relation among attitude, purchase and repurchase intention showed positive significant relationship. In addition, satisfaction intensified the relation between purchase and repurchase intention.*

**Key words:** App, Attitude, Consuming Intention, Repurchase (Royalty), Intrinsic Determinants.

### 1. INTRODUCTION

Smart phone users are increasing continuously and the other smart device user market is growing with high speed in the developed countries, which telecommunication infrastructure is well equipped. Smartphone is also gradually distributed in the developing countries. So we can expect the high growth potential in the application market even in the developing countries.

Because of this potential of fast world application market expansion, Korean government and telecommunication-based companies made the market growing strategy and increasing investment in this field since beginning of 2010. They also started MOU contract with the foreign telecommunication companies in 2011 for the international expansion to the countries which telecommunication infrastructure are well equipped like China [1].

According to the 2012 smartphone user survey result of KCC and KISA [2], average 46.1 apps are downloaded on each Korean user's smartphone and 12.1 apps are mainly used ones. 21% of mobile users download apps more than once per a day and 13.1 apps per a week. Game and entertainment (73.7%) among the mobile app appeared the most downloaded and utilizing field. And then communication (54.4%) and weather (51.8%), map and music (46.9%) were following popular apps. Mobile Shopping apps are also one of the popular app (26%). This statics means that mobile users appear high intention to pay money for downloading and usage.

Apps consumers generally get the new app related information through WOM, Internet searching, social media, iTunes and so on. Among those information sources, 34 % of app consumers get the information from WOM. Smartphone is strong interactive mobile device so that useful apps could get the good reputation easily and spread quickly in the market. Additionally, SNS helps mobile device users purchasing applications for the devices through automatic recommendation system. Some website like APPLYZER.COM and TOPAPPCHARTS.COM provide the app rankings. Even iTunes.COM supplies free and paid app ranking based on the category like education, entertainment, etc. so that app consumers can access to the ranking information and then get help when they choose. Therefore, the app developer or distributor considers these mobile consumer and market characteristics, and utilizes the marketing and sales.

Whether they use apps or not, most smart phone users install apps on the device because huge number of apps are free and then deleted easy without any deficit. However, refund is impossible. In those reason, only less than 33% smartphone user pays for the apps. Compared to the volume of apps market, apps developer experiences low profitability. Therefore, how to transfer free-trial consumers to paid consumers is a critical issue in the current apps market.

Currently new launching apps are linked to the social networking site. Consumers are also able to use apps in the smartphone, tablet PC and smart TV simultaneously based on the Samsung and Apple's 3-screen distribution strategy. Therefore, app users' experience environment and the value of contents are becoming diverse and advanced.

Because of this mobile market trend, various studies related to app development have started to appear in the

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academic research field. However, only limited academic researches generally focused on the app development not the consumption.

For filling this gap, this paper explores the customer's attitude toward mobile apps, and app purchase intention and repurchase intention. This paper will try to identify the antecedent of app purchasing and repurchase intention based on the customer's intrinsic users' characteristics before- and after-usage. In addition, this paper tries to find the relationship between intention and continual use intention toward apps. In the relation, app satisfaction as the after-use intrinsic variables, and perceived monetary value will be moderated.

## 2. THEORETICAL BACKGROUND

This paper intends to understand the consumer's psychological process of making decision for mobile apps. To do so, we adopted the theory of planned behavior (TPB) as the basic concept. The TPB explains that behavior is directly influenced by one's decision to act and the control one perceives one has over the behavior, intention to act, in turn, is dependent on attitudes toward the act, subjective normative pressure to act, and perceived behavioral control [4]. The TPB [4] extended the Theory of reasoned action (TRA) to include a measure of perceived control. TRA [6] predicted behaviors that were relatively straightforward under circumstances where there were constraints on action. The mere formation of an intention was insufficient to predict behavior [3]. TPB is focused on the two variables: Attitude and perceived behavioral control. Attitudes are cognitive reaction to an action and are thought to reflect predispositions to respond in a favorable or unfavorable manner [5]. They are indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior. Perceived behavioral control refers to a decision maker's judgment that he or she can perform an act and is thought to help account for behavior not fully under volitional control. According to the TPB, perceived behavioral control with behavioral intention can be used directly to predict behavioral achievement.

The TPB postulated three conceptual determinant of intention: attitude, subjective norm, and perceived behavioral control. Subjective norm refers to the perceived social pressure to perform or not to perform the behavior. As a general rule, the higher the extent of these three determinants, the stronger should be an individual's intention to perform the behavior under consideration. The relative importance of these in the prediction of intention is expected to vary across behavior and situations [4]. Thus, The TPB explains that the specific action in the specific situation is greatly attenuated by other presence. Indeed, it may be argued that the specific behavior is affected by the broad attitude and personality traits [6]. As prior explained, TPB shows how human behavior is predicted and explained.

## 3. RESEARCH MODEL

This paper tries to identify the determinants of user's attitude toward apps, intention to use and continual consuming intention. For explaining how the users' behaviors on the apps are affected by their personal traits and other circumstance, I applied TPB as the base model.

This paper holds the three main constructs: (1) user's intrinsic determinants- value, innovativeness, gender, Well-being and superordinate influence - on the attitude toward mobile apps, (2) the relation between attitude and app purchase & repurchase intention (3) the moderator among attitude, app purchase and repurchase. The huge number of apps can download free on the each device. Digital entertainment contents are basically low price so that consumers are very sensitive on the monetary value of contents. Thus, the financial factors are critically important in the consumption of apps because most mobile content prices are basically low around \$0.99- \$9.99. Because of this consumer's tendency, perceived monetary value is used as the moderating variables between attitude and purchase intention, and between purchase intentions and repurchase (royalty). Additionally, for identifying the meaning of perceived the monetary value more specifically, income as the antecedent is used.

To find the importance of celebrities influence on the apps market, this paper adopts the superordinate influence as the mediator between attitude and purchase intention. Last, for identifying how the customer's satisfaction affects to the apps repurchase, satisfaction is tested as a moderator between purchase-intention and repurchase-intention (royalty).

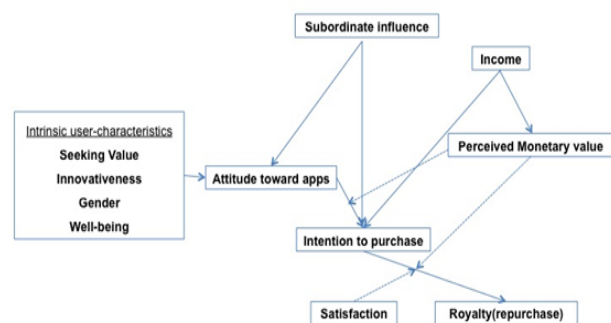


Fig. 1. Research Model

### 3.1 Intrinsic user characteristics

**Value :** Value is generally recognized as (1) the utilitarian outcome resulting from conscious pursuit of an intended consequence and (2) the output related to spontaneous hedonic response. It reflects the distinction between performing act "for getting something" and doing it "because I like it". People can get extrinsic rewards like prize and monetary award from participating in event. They can also get a more intrinsic, personal and emotional rewards from competitively derived pleasure [16]. Those behaviors, which seek utilitarian and hedonic value, are generally appeared during shopping [7]. Utilitarian consumers' shopping is just finishing the necessary work or mission so that they spend minimum time on shopping itself but don't think information searching time as a waste of time [7]. On the other hand, hedonic shopping value reflects shopping's potential entertainment and emotional worth [9]. Actual purchase act can produce hedonic value and serve as the

climax of the buying process [7]. For example, impulse purchase results more from a need for purchase than a need for a product [48]. This hedonic shopping value is appeared on the cheap price product consumption like mobile apps. Therefore, hedonic value seeking consumers show positive attitude toward apps.

H1-1: The consumer who seeks hedonic value may show more positive attitude toward apps than the opposite consumers.

**Innovativeness** : Innovativeness is defined on the two broad views in the past literature. According to [49], innovativeness is the degree of early adopting an innovation than other members of one's social system. This is the adoptive innovativeness. Fisher and Price [21] also mentioned that people seek the innovation as a means of building the social differentiation. In the other perspective, innovativeness is defined as the degree of receiving new ideas and making innovative decision independently of the communicated experience of others [51]. Through this innovativeness, the individual can adopt the product concept and knowledge without adopting product itself. This is the vicarious innovativeness.

The adoptive innovativeness is closely associated with the product consumption. The people, who seek the difference with adoptive innovativeness, generally show the early consumption behavior in the new product, technology, fashion and so on. App products have fast evolving technology and trend seeking characteristics. Currently, some apps links to SNS site so that users can enjoy the app contents during using the SNS. This trend reinforces the adoptive innovators' desire to show the difference through their own new contents (apps). Therefore, consumers, who have strong tendency to seek the adoptive innovativeness, will express more positive attitude toward apps.

H1-2: The consumer who has the strong adoptive innovative characteristics may show more positive attitude toward apps than the opposite characteristic consumer.

**Gender** : Previous literatures [53], [54] found that male and female are different in the motivation of web use. Male are more likely to use Internet for entertainment, leisure and functional purpose. However, when men find the information on the internet, they want more detailed and accurate information about the investment, purchase and personal interest, but prefer to minimize the information search time and effort [31]. On the other hand, females are more likely to use the web for communication and social interaction such as e-mail, chat, ideas exchange and search for reference materials [51]. This web surfing pattern may appear in mobile content purchase similarly. These different gender characteristics are also reflected on the app market place. Currently apps provide the various function including information, entertainment and social networking so the giving value is almost close to the PC-based Internet contents. In addition, app searching is much simpler than web searching. This app providing values and the Men's seeking tendency [31] are basically very similar. App searching is so easy that only short time spending is needed. Therefore, men may show favorable attitude on the app

shopping. On the other hand, women generally spend more time communicate others on the online and offline community like blog and social network site [31]. However, app price is basically too low (\$0-\$9.99) to spend much searching time. Considering this gender difference, app providing value and shopping condition is attractive to male more than woman.

H1-3: Men may show more favorable attitude on the apps than woman.

**Well-being** : A prior literature disclosed the three types of approach about the Well-being: hedonic, commodity-specific and income-specific approach [50]. Among those approaches, commodity-specific approach is based on the consumer's access to given minimum or increasing quantity of certain commodities, commodity bundles, commodity ingredients, activities, or demographic attributes. On this approach, wellbeing relies on input of goods and services, perhaps time and technology consumption. Living level then is a set of commodity-specific accomplishment. It means if a person consumes products above the minimum level of quantity and quality, he or she satisfies and feels happiness [50]. This reflects the close connection between consumption and Well-being. Therefore, the people, who aware the high level of Well-being, might have consumed high volume of product in past time. Therefore, these people might favors product shopping and high potential to buy the new and fancy products. This logic can be applied to app consumption context. So the higher level of Well-being consumers aware, the more favorable attitude they express on the app products

H1-4: The consumers, who aware higher well-being state by themselves, may show more positive attitude to the apps

### 3.2 Superordinate influence

Individuals look to reference for building the validity of their action [20]. Consumers admire members of superordinate groups on culture related dimension [40]. The superordinate's fame or popularity attracts attention to the endorsed product so that this enhances expectations about consumption visibility [21]. The closer the association between a new product and a superordinate group, the clearer the potential for early adoption to create a favorable social linkage. Therefore, the superordinate endorsement may increase consumer's early adoption visibility of the new product. In addition, superordinate adoption of new product may encourage the early adoption behavior by influencing the product evaluations [40]. It means that an endorsement superordinate group may increase the perception of product performance like technical function and design [21]. Currently the celebrity app usage contexts are easily exposed to the public through the broadcasting, YouTube, SNS and the other various media. Therefore, the people who are sensitive to the trend and admire the superordinate's new product early adoption behavior may have the positive attitude toward apps and high purchase intention.

H 2-1: The customer, who admires the superordinate group's consumption may show more positive attitude to the apps.

H 2-2: The customer, who admires the superordinate group's consumption may show high purchase intention.

### 3.3 Attitude and purchase intention

Theory of Reasoned Action (TRA) postulates that belief influence attitude (an individual's positive and negative feelings associated with a particular behavior), which in turn shapes a behavioral intention [39]. According to [23]'s study, the overall confidence and behavioral intention have direct relationship. [10] also verified that overall confidence the buyer feels toward a brand is directly related to the brand use intention. Thus, customers' positive attitude toward product increases the purchase intention to the product. Applied this theory to the app purchase context, it is inferred that the positive attitude to the app product might intensify the purchase intention to app products.

H 3: The more positive attitude toward apps, the higher intention to purchase it

### 3.4 Income

Customers often engage in mental budgeting process in order to control their spending behavior. One of affecting significant factors in budgeting process is in customer's income [27]. In addition, prior researches noted that income affects customer's price search [52], their price sensitivity [22] and price knowledge [19], [27]. High-income customers are more flexible in their budgets and thus perceive a lower risk of overspending in a particular category of expenses [27]. Thus, when this behavior is applied to the consumption of mobile app contents, high-income consumers have small need to control their consumption and are less strict on the purchase within the budget. On the other hand, the low-income customers constrain budget more and want to limit the risk of overspending in a budget category [45]. Those customers are critically sensitive to price change and less likely to purchasing in the future [25]. Therefore, when considering the mobile app purchase, low-income consumers PMV (perceive monetary value) more highly than high-income consumers do. In addition, they have high possibility to show the low intention of purchasing the apps.

H 4-1: The low income-level consumers may show higher PMV compared to high income-level.

H 4-2: The low income-level consumers may show lower intention to purchase mobile apps than high-income levels.

### 3.5 Perceived monetary value

Most consumers encode price in ways that are meaningful to them such as "expensive" or "cheap" [33]. When they are not familiar with the product, even this tendency is occurred. [42] announced that perceived price could be an indicator of sacrifice cost associated with a product purchase and at the same time an indicator of product quality. Generally consumers connect the high price to high quality of product. Simultaneously, it may means a high perceived sacrifice cost in

the exchange for the good one. Consumers take a mental accounting process, which result in a balanced PMV (perception of monetary value) [17]. When a consumer's perception of product quality is greater than perception of sacrifice, the PMV is positive [42]. According to past literatures [15], [17], [34], [57], PMV positively affect to consumer's intention to adopt a product. Therefore, when a consumer perceives the high monetary value about a product, they feel the product quality relatively high compared to the alternatives so they will have high intention to use the product and then keep their positive intention to the repurchase if the app experience was satisfied.

H 5-1: When customers perceive an app as the high monetary value product, customers' positive attitude toward apps may transfer to high intention to use.

H 5-2: When customers perceive an app as the high monetary value product, customers' intention to repurchase may be continued more positively

### 3.6 Satisfaction and loyalty

The definition of loyalty was defined on the multidimensional (attitudinal, motivational and conative component) basis in the past literature. This paper restricts the definition of loyalty to the core concept of repeated consumption (action loyalty or repurchase loyalty). [44]'s definition is "a deeply held commitment to rebuy a preferred product or service consistently in the future, despite situational influence and marketing effort having the potential to cause switching behavior". The repeated buy is closely related to the satisfaction in the past use. In addition, customer's repurchase is affected by the cumulative satisfaction [56]. Cumulative customer satisfaction is a fundamental indicator of a firm's current and future performance. Thus, satisfaction on the app may affect the extent of customer's loyalty. Cumulative customer's satisfaction also may intensify the loyalty. Thus, the satisfaction toward app use will affect the repurchase intention in the future.

H 6: When the extent of satisfaction is high, the intention to purchase may intensify the royalty (repurchase possibility) major heading.

## 4. METHOD

### 4.1 Sample and measures

This paper surveyed to the general smart phone users in the South Korean residents during 3 weeks on March, 2012. I chose Mapo in Seoul as the survey area because it is one of the main metropolitan zones and consisted of many kinds of offices and Korean top-level universities covering relatively young generation and various working groups. The questionnaires delivered to the respondents directly and explained briefly about the questions for 5 minutes to improve understanding of each question before checking the answers. Finally 191

samples were used for the hypothesis analysis after deleting inappropriate samples with banked or double checked.

The final samples' demographic characteristics are followings. All the respondents are between 20s to 40s. Thus, all of them are consisted of the X(26- 44) and Y(15-25) generation. Y generation respondents are consisted of the 83% (159) of the total samples. 109 males (57%) and 176 single respondents (92%) are feature on the samples. In addition, 69% (131) of the samples are college student and salary man featured 26%. The other sample characteristics are described on the appendix 2.

#### 4.2 Measures

All the variables' measures are adopted the prior literature's methodological definition. The references of each variable are described on the Table 1.

Table 1. Measure & reference

Measures	Reference
Demographic characteristics	Bendini, L.A., Gladwell N. J., Dudley, W.N., Clandy E. J.
Value	G.C. Bruner and A. Kumar (2005)
Innovativeness	Chia-Liang H., Jerome C. C. and Tse-Ping D(2011)
Gender	Hupfer and Deltlor(2006)
Well-being	Hsu-Hsien Chi(2011)
Superordinate influence	Michael A. Kamin (1990)
Attitude toward apps	Lu, Hus and Hsu(2005)
Intention to purchase	Schlosser, White and Lloyd (2006 )
Repurchase intention	Yi and La(2004)
Perceived monetary value	Hong and Tam (2006)
Income	Homburg, Koschate and Tozek(2010)
Satisfaction	Yi and La(2004)

#### 4.3 Reliability and validity

In order to verify the construct validity and the determinants composing factors reliability, Warp PLS 2.0 analysis is used. Warp PLS is the currently invented convenient statistical analysis method for the path analysis, and show the reliability, validity and multi-collinearity simultaneously with various test result.

First of all, all the components of each variable are fully met the composite validity standard index through appearing more than 0.70 factor loading. In addition, AVE index is showed more than 0.70 and the square roots of AVE are higher than the other correlation index on each variable so discriminant validity is met the standard. The reliability is also verified with C.R. (more than 0.80) and Cronbach's alpha (more than 0.70). Each validity and reliability test result is shown the following table 2 and 3.

Table 2. Reliability and validity test result

	Factor loading	C.R.	Cronbach alpha	AVE
value1	0.955	0.954	0.904	0.912
value2	0.955			
innovation1	0.903	0.920	0.833	0.742
innovation2	0.894			
innovation3	0.827			
innovation4	0.818			
wellbeing1	0.869	0.921	0.892	0.701
wellbeing2	0.880			
wellbeing3	0.862			
wellbeing4	0.845			
wellbeing5	0.722			
superordinate1	0.910	0.906	0.793	0.829
superordinate2	0.910			
satisfaction1	0.918	0.914	0.813	0.842
satisfaction2	0.918			
purchase1	0.950	0.949	0.892	0.902
purchase2	0.950			
repurchase1	0.951	0.950	0.895	0.905
repurchase2	0.951			
monnetary value1	0.891	0.930	0.886	0.815
monnetary value2	0.907			
monnetary value3	0.910			

V: value, I1: innovation, G: gender, W: well-being, A: attitude, S1: subordinate, S2: satisfaction, P: purchase, R: repurchase, M: monetary, I2: income

Table 3. Correlation and validity result

	V	I1	G	W	A	S1	S2	P	R	M	I2
Value	<b>0.955</b>	0.160	0.061	0.410	0.473	0.075	0.210	0.337	0.059	0.046	0.113
Innovation	0.160	<b>0.861</b>	0.250	0.215	0.155	0.240	0.292	0.301	0.403	0.269	-0.027
gender	0.061	0.250	<b>1.000</b>	0.100	-0.011	0.061	0.007	0.074	0.096	0.096	-0.078
well-being	0.410	0.215	0.100	<b>0.838</b>	0.160	0.320	0.192	0.119	0.156	0.220	0.031
attitude	0.473	0.155	-0.011	0.160	<b>1.000</b>	0.041	0.299	0.519	0.211	0.208	0.041
subordinate	0.075	0.240	0.061	0.320	0.041	<b>0.910</b>	0.479	0.298	0.482	0.463	-0.050
satisfaction	0.210	0.292	0.007	0.192	0.299	0.479	<b>0.918</b>	0.635	0.525	0.466	0.090
purchase	0.337	0.301	0.074	0.119	0.519	0.298	0.635	<b>0.950</b>	0.479	0.378	0.065
repurchase	0.059	0.403	0.096	0.156	0.211	0.482	0.525	0.479	<b>0.951</b>	0.507	-0.035
monetary	0.046	0.269	0.096	0.220	0.208	0.463	0.466	0.378	0.507	<b>0.903</b>	0.000
income	0.113	-0.027	-0.078	0.031	0.041	-0.050	0.090	0.065	-0.035	0.000	<b>1.000</b>

Note: Square roots of average variances extracted (AVE's) shown on diagonal.

#### 4.4 Hypothesis test

For testing the hypotheses, this paper used the path analysis through the WarPLS 3.0. In this program, APC, ARS and AVIF index are used for the model fit index. This paper model is verified the model fit by appearing each index p-value and indices less than standard (APC=0.224 p<0.001, ARS=0.240 p<0.001, AVIF=1.075 good if< 5).

The test results are shown in the following table 4. First, value and innovativeness among extrinsic determinants have positive effect on attitude toward mobiles apps (value coefficient=0.537 p<0.001, Innovation coefficient=0.115 p<0.023). Therefore, H1 and H2 are supported on the 95%

significance level. On the other hand, gender and wellbeing have no significant effect on attitude toward mobile apps (gender coefficient=-0.068, wellbeing coefficient=-0.064).

Second, superordinate influence increased intention to purchase significantly (superordinate influence coefficient=0.270 p<0.001). Thus, H5-2 is supported on the 99% of significance level. However, superordinate didn't affect the attitude toward mobile apps significantly.

Third, mobiles apps intention to purchase intensified the repurchase intention significantly (coefficient=0.452, p<0.001). And satisfaction on the mobile apps use is verified to significantly moderating between purchase intention and repurchase intention (coefficient=0.133, p<0.012). Therefore, H6 and H9 are supported on the 95% significance level.

Fourth, income both didn't affect on purchase intention and perceived monetary significantly (income - intention to purchase coefficient: 0.052, income-perceived monetary value: 0.063). Perceived monetary value also didn't moderate significantly between attitude and intention to purchase, and between intention to purchase and repurchase intention (coefficient =0.000, 0.131 P<0.271, 0.479).

Table 4. Hypothesis test result

	V	I1	G	W	A	S	P	I2	R
<b>Attitude</b>	0.537**	0.115*	-0.068	-0.064		0.18			
	(1.145)	(1.088)	(1.06)	(1.186)		(1.040)			
<b>Purchase</b>					0.496**	0.270**		0.052	
					(1.678)	(1.007)		(1.020)	
<b>Repurchase</b>							0.452**		
							(1.107)		
<b>Monetary</b>								0.063	
<b>Monetary* attitude</b>									0.000
									(1.680)
<b>Monetary* purchase</b>					0.131				
					(1.060)				
<b>Satisfaction* purchase</b>								0.133*	
								(1.131)	

\*\* ( ):VIF index – VIF only exist for rows referring to latent variables with more than one predictor.

V: value, I1: innovation, G: gender, W: well-being, A: attitude, S: subordinate influence, P: purchase, I2: income, R: repurchase

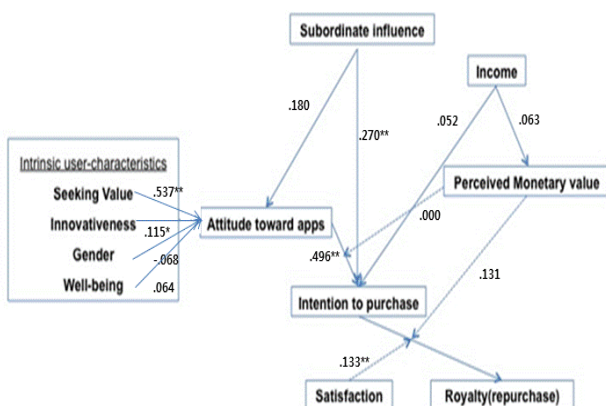


Fig. 2. Empirical test result

## 5. RESULT

This paper tries to showing the customer psychological and demographic characteristics of affecting mobile apps consumption intention and repurchase. For finding the psychological determinants to increase the positive attitude to mobile apps, this paper adopted hedonic value seeking tendency, innovative intent, level of well-being and subordinate respecting intent.

According to the empirical test result, hedonic value seeker and innovative people appeared the high positive attitude toward mobile apps. Currently most consumed mobile apps are entertainment related products so this result is corresponding to the [9]'s insist which hedonic value reflects shopping's potential entertainment. Mobile apps are very fast evolving and adopting the trends earlier than other mobile products so that innovative people have positive attitude toward mobile apps. This is corresponding to the [21] research. High Subordinate respecting people showed more positive attitude to the mobile apps according to this research result. This has corresponding meaning to the [40] and [21]'s study which subordinate endorsement increase consumer's perception of new product and encourage early adoption behavior.

However, gender difference and level of individual's well-being didn't have the significant effect on the attitude toward mobile apps. Mobile apps are basically low price level (most around \$0.99- 9.99) and consume easily without the much information seeking and consideration. Therefore, there is no gender and level of well-being gap in the consumption.

Secondly, this research tried to identify the relation among attitude toward mobile apps, purchase intention and repurchase. For finding this relation more specified, this paper tries to find the effect of perceived monetary value and satisfaction as moderators. In addition, income effects on perceived monetary value and mobile apps purchase intention are tested.

Test results revealed that the positive attitude toward mobile apps increases the purchase intention. This result is consistent to the [39] and [10]. The test result was also identified that satisfaction on the mobile app use intensifies the relation between purchase and repurchase intention in the empirical test. It means cumulative satisfaction affects customer's repurchase. This result is corresponding to the [56].

However, income and perceived monetary value didn't show any significant result. This reflects that money related variables don't affect to the purchase of mobile apps. It means mobile apps are early trend reflected and entertainment centered product. Thus, app consumers didn't show cost sensitive behavior and weren't affected by the perceived monetary value.

## 6. DISCUSSION

In the web 2.0 generation, mobile apps are the important consideration all over the m-commerce research. Consumption of entertainment related content (game, music, movie, drama and comics, SNS) is affected by fast trend change and celebrities exposure on the various media. Even the social network community like Facebook, Twitter, Cyworld, and

MySpace is significant information source to get early trend, innovation and celebrities information. In addition, app developers launch the new product connected to social network sites more. Therefore, marketers should consider the early adopting consumers and innovative opinion leaders in SNS.

Generally mobile apps are provided at low price around \$0.99 – \$9.99 in Apple and Android marketplace. This price is relatively low compared to the other e-commerce product so that apps may be consumed without much consideration. Therefore, the innovation and early trends seeking trend is appeared very prominently on the mobile app market. Even hedonic seeking and celebrity endorsement behavior is shown extremely on the mobile app consumption. In addition, when the customers satisfied on app use, they show the high repurchase rate. These app customer's consumption characteristics can be applying into the app development and even utilized in the app market already. Mobile app providers build the structure which users consume the item continuously to use the app in the advanced environment such as item consumption in the online game market. In addition, some app operators manage the app as a subordinate method of the online brand website and then provide the tool to connect to the users' consumption. Furthermore, some apps connects to the SNS so that app users share the use records to the other SNS user automatically or optionally, and even share the user owning information like music items. Thus, this operating system helps the app promotion to the potential consumers who have the similar taste in the SNS. These variable app operating strategies make the marketing strategy trend movement from online to mobile as the past transfer from off-line to online. This active movement gives the marketing managers duties to develop dynamic methods for creating new market in the mobile context. Even this provides marketing managers an opportunity to converge the offline, online and mobile marketing strategy for intensifying customer's loyalty and repurchase. Representatively, retailers do launch branded app to ensure that they are part of a total customer-facing integrated platform [47].

Our test result shows that the satisfaction increases the repurchase or loyalty. Brand marketing managers must consider consumer satisfaction enhancement when they provide the contents in the app such as personal matching price, easy payment process, customized recommendation, appropriate coupon and promotion [47]. These customized satisfaction tools in the app ultimately will empower consumers to shop when, where, and how they want. Thus, the brand app is ultimately one of the multiplatform strategies for intensifying customer's brand loyalty.

However, demographic characteristics don't have any meaning in the mobile apps market according to our empirical test result. This result implies the marketing managers see the app market with the different perspective from the traditional online market because jobs, education, gender and age don't have significant meaning in the recent content consumption in the mobile market. An elementary school student and a professional accountant may enjoy the same mobile game in the app context. CEO and new young employee can listen the contemporary music in the music app at the same time. Retiree and adolescents could be members of the same car community members and share their idea in the mobile app community

connected to Facebook or Twitter. Therefore, marketers have to seek different market segmentation standard on the mobile app market. Thus, it is necessary to consider that similar music preference group, celebrity fan club, hot trend brand community club might be the new base to segment the market in the mobile app context.

## 7. CONCLUSION

This paper researched the user characteristics in order to identify the affecting factors in the mobile app consumption. The empirical test result showed that app user's hedonic value seeking tendency, innovative intent and subordinate respecting intent affect the attitude and consumption intention toward mobile apps. In addition, the satisfaction of prior consumption increased the repurchase intention. I expected that perceived monetary value might show significant effect on the app consumption intention. However, consumers consider the trend more than monetary value in the app consumption. In addition, the app consumption didn't relate to gender difference and generation gap. Thus, this research result might provide marketing manager new approach in the marketing strategy, which includes new market segmentation direction, online, mobile and off-line integration, and a new customer satisfaction tool.

The app market consists of various players so that the research about app can approach with their perspectives. It means that usage environments like type of mobile device (smart phone, tablet pc, e-book and smart TV), app market operator (apple and android store) and telecom charge types are also important considerations on the app related research. Thus, the application of external environmental variables in the app researches might provide the fruitful implication to the various parties consisting of the mobile app market.

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Appendix 1. Methodological definition

Variables	Definition
Demographic characteristics	Marriage status: single, married Age: 10s, 20s, 30s, 40s, 50s Jobs: student, salary man, professional, business owner, the others Education: high school graduation, college student, undergraduate, graduate school student, graduate
Value (Hedonic value)	Enjoying life (enjoying food, sex, leisure etc.) Pleasure (gratification of desires)
Innovativeness	Leading edge Satisfaction on new function Eagerness to obtain new functions Getting benefits when using earlier.
Gender	Gender: male, female
Well-being	closeness of current life status to my ideal extent of satisfaction on my life conditions of my life Extent of getting important things what I want Extent of changing current life
Subordinate influence	The degree of advised by referents Believability and credibility of the subordinate
Attitude toward apps	Worth of Using apps willingness to use apps
Intention to purchase	Degree of likeness Degree of possibility Degree of probability
Repurchase intention	Frequency of repurchasing the apps Probability of repurchasing the apps
Perceived monetary value	Providing with reasonable price offering a good value for the money Providing a good value at current price level
Income	Income level (- \$45/ \$45-89/ \$90-134/ \$135-179/ \$180-224/\$225-)
Satisfaction	Satisfaction after use The extent of feeling happy after use

Appendix 2. Samples Characteristics (total=191)

characteristics	range	number	ratio (%)
age	20's	148	77.5
	30's	37	19.4
	40'	6	3.1
gender	male	109	57.1
	female	82	42.9
marriage status	single	175	91.6
	married	16	8.4
Income	\$45	32	16.8
	\$45- 89	9	4.7
	\$90 - 134	17	8.9
	\$135 - 179	18	9.4
	\$180 - 224	30	15.7
	\$225 -	85	44.5
education	highschool	3	1.6
	college student	112	58.6
	undergraduate	53	27.8
	graduate student	23	12
	graduate	0	0
job	student	132	68.7
	salaryman	51	26.7
	professional	2	1
	business owner	5	2.6
	the others	2	1

Appendix 3. Test result

	path	result
H1-1	Seeking value -> attitude	support
H1-2	Innovativeness-> attitude	support
H1-3	Gender-> attitude	reject
H1-4	Well-being-> attitude	reject
H2-1	Subordinate-> attitude	reject
H2-2	Subordinate -> intention	support
H3	Attitude ->intention	support
H4-1	Income -> intention	reject
H4-2	Income-> monetary value	reject
H5-1	Attitude->monetary value -> intention	reject
H5-2	Intention -> monetary value -> royalty	reject
H6	Intention -> satisfaction -> royalty	support



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