



The Purchasing Intention of In-app Players on Free-to-play Games in China

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ABSTRACT

Korea game makers operating in China have adopted the P2P(Pay to Play) business models which have to pay a certain amount each month by user. However, as casual games become popular, P2P model was gradually disappeared and other monetization model (F2P, Free to Play) began to receive attention. The majority of Korea research papers for the Chinese game market have focused on online games. This paper investigated the F2P revenue model from the perspective of game industry and examined what makes F2P users in China have purchasing intention. The major findings are summarized as follows. First, regression analysis showed that benefit, expectation, self-presentation, challenge and social interaction have significant effect on flow of Chinese F2P game users. Second, self-presentation and challenge had a strong significant impact to purchasing intention. The implications based on the results of analysis of research questionnaires are like following. First, game developers should place the elements which can give fun and interesting in the game around. Second, the F2P game should be more focused on user interface to improve interaction. Third, game designer should display the winning rate or the missions of level to inspire challenges of players. Lastly, game designer must understand the Graphics preference of Chinese users.

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KEYWORDS : F2P game, Purchase intentions, Flow, Social influences, Self-presentations

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1. Introduction

Free-to-play(F2P) means giving out the initial product for free and the revenue is charged from advertisements and in-game micro-transactions or as they called in mobile industry, in-app purchases. F2P is a business model that has been dominating in the mobile game industry for the last couple years. F2P has become an increasingly popular revenue model for the APP games industry.

A F2P game can be acquired and played free of charge while players are encouraged to buy virtual goods during game play. Utilized on multiple platforms such as gaming consoles, computers and mobile, F2P has found its way into massively multi-player online(MMO) games, social network games, multi-player shooter games, mobile casual games, gambling type of games etc. F2P business model is free of charge for getting into online game space but is required to purchase various game items such as clothing, swords, and guns, if they want to enhance the power or appearance of their virtual characters. Although online gamers buy game items in the cyberspace, they need to purchase a game company issued prepayment card in real world for recharging the points into their own game accounts.

Lehdonvirta(2005) has formed a model of ten groups of players and their possible perception on real-money trade of virtual goods[1]. His study is based on earlier research, such as model of player motivations,

and some case studies. His results are shown in <Figure. 1> below.

Achievement	Social	Immersion
Advancement If RMT enables status to be bought, it violates the achievement hierarchy	Socialising RMT allows players to express themselves through their buying behaviour	Discovery RMT breaks the magic circle, but gives more choice over which content to experience
Mechanics RMT makes it easier to obtain different asset configurations to examine	Relationship RMT allows those with less time to catch up and play together with their friends	Role-Playing RMT allows players to obtain the props that are needed for their chosen fantasy
Competition RMT is cheating if it can be used to obtain competitive advantages	Teamwork RMT provides objectives for teamwork and motivation for effective organisation	Customisation RMT makes it easier to obtain a set of assets that correspond to the player's taste
		Escapism RMT breaks the magic circle, introducing real-life worries into the virtual world

그림 1. 게임사용자 그룹과 인식
 Figure 1. Ten groups of players and their perception

It seems more and more difficult to increase the users' willingness to pay for playing online games, especially with a lot of new games' are adopting F2P models. Fortunately, there are still many willing-to-pay players try to set aside time from busy daily life to play online game, and this gives game companies chances to lure those who want to expedite the game process to buy game items. In addition, the younger or developing country gamers with limited budget also prefer F2P games and use prepayment card to buy game items for better balancing their expenditures and entertainment. To secure these revenue sources, online game companies need to find ways to attract critical mass of players as soon as possible and trigger their desire to purchase prepayment card for buying

items in game. Therefore, it is important for online game companies to study how to promote and strengthen the purchase intention of online prepayment card thereby results in a strategic marketing approach to revenue generation.

P2P(Pay to Play) is a system that allows the game to pay a certain amount. P2P is mainly being applied to the business model of online games. Since Korea game makers operating in China have adopted the P2P business models which have to pay a certain amount each month by user, most online games have adopted a P2P service models. However, as casual games become popular, P2P model was gradually disappeared and partial monetization model(F2P, Free to Play) began to receive attention.

The majority of Korea research papers for the Chinese game market have focused on online games. However, this paper introduced the partial monetization business models based on the flow theory, and theoretically derived business models for enhancing market dominating power.

2. Literature Review

Refer to the literature review, there are many factors on purchase intention in mobile social network game[2][3][4]. Expectation, perceived value of non-monetary, and the benefit from the F2P game revenue model are also supposed to influence the players flow affection into the purchasing intention. This

paper grouped these factors into three categories as emotional influence, functional influence and the social influence.

Emotional factors of a product means “the perceived utility acquired from a products capacity to arouse feelings or affective states”[5]. A product acquires emotional value when associated with specific feelings of when precipitating or perpetuating those feelings. Emotional factors, also commonly known as hedonic or experiential value, has been influenced by theory and research in several other pertinent areas of inquiry. Research in F2P game has suggested that marketing and promotional mix variables arouse emotional responses that may be generalized to marketed products. According to Holbrook and Hirschman[6], hedonic consumption involves the multi-sensory, fantasy and emotive aspects of one’s experience with products.

Social factors means “the perceived utility acquired from a product with one or more specific social groups”. Consuming a product can represent a social act where symbolic meanings, social codes, relationships, and the consumer’s identity and self may be produced and reproduced[7]. The motive of buying and using in game depends on how a customer wants to be seen and/or how he wants to see himself by other players[5][8]. Products have been known to possess symbolic or conspicuous consumption value in excess of their functional utility. To find our which factors affect the flow and the purchasing

intention most, we will define social value as the utility of a digital item derived from its perceived ability to enhance social well-being. This study identifies two factors corresponding to social value, social self-presentation and social interaction. Social self-presentation represents the in-app item's perceived capability to enhance social self-presentation i.e., the projection of how one appears to others[8]. Social relationship represents the F2P game items' perceived capability to help form, maintain, and enhance interpersonal relationships.

This study is based on the advanced research, founded on the flow theory. Flow has been described as an optimal psychological state reached during engagement in numerous activities, including sports, writing, work, games, and hobbies[9].

3. Research Model and Hypothesis

3.1 Research Model

We develop the research model (see <Figure 2>) and the corresponding hypotheses based on the above conceptual discussion. Price utility here is a component of functional value which positively contributes to total customer value. Adapted mainly from Zeithaml[10], price utility is defined in our context as the utility derived due to the perceived efficient use of money to minimize what is sacrificed to obtain the product. From the transaction utility theory, the more

favourable the price of a product, the higher the perceived price utility from the customers' point of view as they perceive that their money would be used more efficiently. Therefore, with a higher price utility, the higher the perceived acquisition utility, and the higher their purchase intentions because they view the transaction as more valuable.

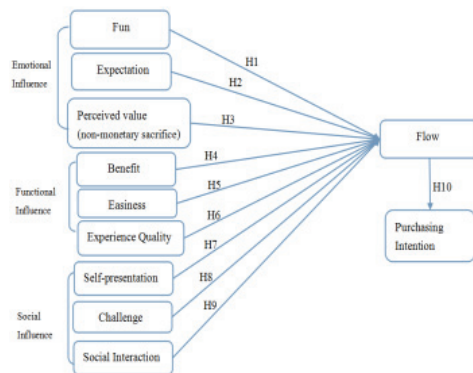


그림 2. 연구모형
Figure 2. Research Model

3.2 Research Hypothesis

Playfulness is expected to be associated with increased behavioral intention, and possibly purchase intentions[5]. Perceived playfulness responses of fun and fantasy evoked through consuming digital items can be seen as a kind of emotional value for consumers. Therefore, this intrinsic value brought about by perceived playfulness during the consumption process may trigger purchase intentions of community members.

H1: Fun as a emotional factor have a positive effect on the flow.

The factor in the foundation of the F2P researcher with his theory for the success of free game explain the factor expectation influence the players get into the flow affection[11]. To find our if expectation has effect on the flow we suppose:

H2: Expectation has a positive effect on the flow.

A number of consumers in the process of obtaining a specific product obtained from a business perspective and consumer perceived value(perceived value) is defined as the sacrifices of the "relative proportions" and a number of them to pay to get "benefits", is defined as a subjective evaluation according to the personal perspective of the consumer. Benefits can be defined briefly as a sacrifice or exchange relationship between the benefits [10], including the monetary or non-monetary. Sacrifice is defined as the perceived costs of any business relationship.

H3: Perceived value(no-monetary sacrifice) has a positive effect on the flow.

H4: Benefit has a positive effect on the flow.

The functions of game design is easy to use and the interface in game is easily understandable by players when they are operating in reality[12]. In F2P game specific feature, easiness make users quickly get into the game story and process, make a easy tourial of the game introduction and finally make affection on the game flow into purchasing intention of In-game behavior.

H5: Easiness has a positive effect on the flow.

In marketing and e-commerce literature, quality and price are commonly associated with the functional dimension of customer value. App in-game items are products which are characterized by indestructibility, transmutability and reproducibility. In-app items, which appear in the form of multimedia elements can encompass more abstract dimensions of quality, such as aesthetics, features and perceived quality image. Items with higher perceived quality may lead to greater perceived customer value, inducing higher purchase intentions from consumers.

H6: Experience Quality has a positive effect on the flow.

Prior studies showed that social self-presentation expression and social interaction are social theory of consumption values for virtual goods. This paper applies the findings to intent to purchase virtual goods in online games. The study tests the hypotheses that social self-presentation expression support affect intent to purchase virtual goods in online games. This tendency was in studies on the effect of purchasing intention on-line community for the impact of self-presentation, to compare with others to determine their ability individuals and Koh[13] refer the need of self-presentation also has a directly effect on the intention of purchasing in digital items area.

H7: Self-presentation has a positive effect on flow.

Online game players are faced with the

challenge of competition from other players during a game[14], including situations in which players must seek information online. Thus, according to the research cited above, challenge is operationally defined as the overcoming of perceived difficulties, including competition from other players, in app games, which provides a sense of accomplishment.

H8: Challenge has a positive effect on the flow

Social network game causes the user on the characteristics of network game between visual and reality. This kind of social interaction of frequent users achieve more fun, users feel more Flow experience with can be judged as the reflection in the game. Based on the above judgment, social interaction between Flow and purchase intentions, can affect the antecedent selected variables.

H9: Social interaction has positive effect on the flow.

Flow is an enjoyable, exploratory state and as an optimal experience, both in work and leisure[15], flow provides a holistic experience of total immersion[16]. Furthermore, online game players may be persuaded to purchase commodities through online transactions. As the amount spent on other purchases during an online transaction increases, the probability of consumers buying an extra item that they did not originally intend to purchase also increases[17].

H10: The proposed positive relationship between flow and purchasing intention.

4 Research Method

4.1 Operational Definition of Variables

표 1. 변수의 조작적 정의

Table 1. Operational Definitions of Variables

Variables	Operational Definitions	References
Fun	The feeling for happiness and entertainment when players in game.	[5] [16]
Easiness	The degree of f2p game players don't need to make much effort that allows people to access their information and realize adequate communication in a simple and quick manner.	[12] [16]
Self-presentation	A matter of regulating one's own behaviors to create a particular impression on others, or of "showing oneself [to an audience] to be a particular kind of person"	[13]
Challenge	F2P game players are faced with the challenge of competition from other players during a game, or even challenge with themselves to beat the enemies in the game.	[3]
Perceived Value	Non-monetary sacrifice include time costs, search/effort costs, convenience costs and psychological costs.	[8]
Benefit	In F2P game, while the process of downloading a F2P game with no purchasing behavioral that will make players perceived the feeling of benefit. Include the role in game achieving for free to players.	[16]
Experience Quality	Include the visual quality, sound quality and game process quality to make players satisfied while in operating the game.	[4]
Expectation	A feeling of curiosity for next level or next missions, and expect to the upgrade the role power and skills in game.	[3]
Social Interaction	To play as a social experience with friends or in-game players in communities.	[8] [15] [16]
Flow	To the experience of a person so completely immersed in an activity that material changes in the environment go unnoticed.	[15] [17]
Purchasing Intention	The purchase intention is a necessary condition to direct the real purchase behavior and is influenced by various incentives. In this study, we discuss the influential factors of purchase intention from three aspects: perceived value, price and promotion programs.	[2] [3] [4]

The measures used to operationalize the

constructs included in the research model are mainly adapted from previous research with modifications to fit the F2P. The operational definition of each construct is given out in the <Table 1>.

4.2 Data Instrument

SPSS 19.0 was used to analyze the data in this research. Frequencies, mean, median and mode were computed through SPSS. Also, the reliability of the questions were tested using Cronbach’s alpha. Cronbach’s alpha determines the consistence of internal consistency. A reliability coefficient of 0.6 or higher is considered acceptable in most social science research. Moreover, a linear regression analysis was conducted to prove the relations between dependent variables and independent variable.

4.3 Data Collection

표 2. 인구통계
Table 2. Demographic Information

Variables		Respondents = 222	
		Frequency	(%)
Gender	Male	105	47.3
	Female	117	52.7
Age	10-20	16	7.2
	20-30	106	47.7
	30-40	59	26.6
	41 above	41	18.5
Job	Student	57	25.7
	Civil Servant	78	35.1
	Private Enterprise	73	32.9
	Non-job	14	6.3

The data of questionnaire was collected from 222 Chinese residing in China. <Table 2> shows the demographic information of the respondents.

Respondents were male compare to 47.3% percent of the sample. 52.7% of the samples were female. 7.2% of respondents were on the age bracket of 10-20. 47.7% of respondents were on the age bracket of 20-30 and 26.6% of respondents were on the age bracket of 30-40. The over 40 ages respondents took the share of 18.5% of the samples. In the 222 respondents, 25.7% were students, mainly combine with highschool students and university students. 35.1% were civil servant and 32.9% were enterprise members. 222 samples had the experience of playing the F2P game, the other 10 samples without the experience of F2P game. All of the respondents were taken random selection online.

5 Data Analysis

5.1 Validity and Reliability

All the constructs and measures must be inferred valid before the test of hypothesis. Each variables was measured by multiple items. In order to analysis the data validity, here we used the factor analysis to access their unidimensional.

All of the factor loading of items in this research model were greater than 0.5, with some of them above 0.7. In addition, if the

factor loadings are statistically significant, we could consider validity to be significant. Therefore we could conclude that all the constructs in this model had adequate validity. The results of factor analysis is in <Table 3> and <Table 4>.

표 3. 요인분석(독립변수별)

Table 3. Factor Analysis(Independent Variable)

ITEM	Component								
	INTER	EXPQUA	FUN	EXPECT	SELF	BENEFIT	EASINESS	CHAL	NOMON
INTER4	.819	.192	.163	.024	.099	.082	.094	.121	.031
INTER3	.761	.169	.170	.140	.207	.145	.003	.143	.141
INTER2	.757	.137	.091	.244	.187	.183	.068	.060	.098
INTER1	.704	.094	.091	.311	.137	.218	.176	.102	.164
EXPQUA2	.117	.763	.257	.206	.180	.121	.077	-.051	.142
EXPQUA1	.162	.719	.132	.057	.060	.039	.201	.401	.133
EXPQUA4	.185	.701	.142	.239	.079	.138	.268	.208	.121
EXPQUA3	.234	.673	.145	.338	.201	.063	.132	.067	.134
FUN3	.147	.163	.823	.009	.033	.172	.005	.071	.102
FUN2	.095	.163	.796	.035	.106	.196	.176	.103	.110
FUN4	.134	.209	.680	.231	.277	.157	-.015	.062	-.013
FUN1	.171	.035	.612	.102	.113	.049	.408	.129	.262
EXPECT4	.283	.262	.146	.755	.156	.052	.127	.040	.181
EXPECT3	.214	.371	.020	.648	.070	.136	.170	.299	.075
EXPECT2	.338	.428	.151	.522	.046	.043	.243	.144	.051
SELF3	.165	.248	.029	.218	.785	.130	.119	.003	.124
SELF2	.223	.026	.268	.046	.641	.120	.132	.259	.112
SELF4	.258	.144	.226	.005	.600	.195	.078	.314	.134
BENEFIT3	.173	.125	.230	.247	.008	.764	.184	.176	.162
BENEFIT2	.265	.047	.260	.029	.300	.761	.000	-.011	.138
BENEFIT4	.298	.229	.256	-.103	.292	.546	.170	.057	.235
EASINESS4	.159	.259	.107	.219	.177	.142	.773	-.033	.110
EASINESS3	.069	.324	.198	.117	.103	.095	.682	.350	.023
CHAL1	.282	.159	.138	.116	.267	.082	.126	.702	.203
CHAL2	.118	.339	.174	.400	.211	.103	.093	.591	.043
NOMON3	.094	.134	.172	.217	.091	.258	.000	.184	.780
NOMON2	.242	.250	.146	.031	.227	.115	.176	.039	.732
TOTAL	3.290	3.171	2.852	2.126	2.102	1.922	1.700	1.607	1.607
Variance	12.186	11.743	10.561	7.873	7.786	7.120	6.297	5.951	5.951
Accrue(%)	12.186	23.929	34.490	42.363	50.149	57.268	63.565	69.516	75.467

* INTER:social interaction, EXPQUA: experience quality, FUN:fun, EXPECT:expectation, SELF:self-presentation, BENEFIT:benefit, EASINESS:easiness, CHAL:challenge, NOMON:non-monetary sacrifice

Reliability analysis was examined by Cronbach's alpha values to verified the internal consistency of the items. From <Table 5> in all variables, the values of

Cronbach's alpha are above 0.8 except self-presentation, easiness, challenge and non-monetary sacrifice, which are higher than the threshold level of 0.7 suggested by Nunnally.

표 4. 요인분석(종속변수별)

Table 4. Factor Analysis(Dependent Variable)

ITEM	COMPONENT	
	PURINT	FLOW
PURINT2	.877	.252
PURINT3	.850	.183
PURINT1	.808	.286
PURINT4	.745	.363
FLOW2	.191	.866
FLOW1	.232	.818
FLOW3	.360	.791
FLOW4	.283	.775
TOTAL	3.002	2.956
Variance(%)	37.519	36.945
Accrue(%)	37.519	74.464

* PURINT:purchase intention, FLOW:flow

표 5. 신뢰도 통계량

Table 5. Reliability Statistics

Variables	Reliability Statistics	
	Cronbach's alpha	Number of entry
social interaction	.880	4
experience quality	.872	4
fun	.832	4
expectation	.834	3
self-presentation	.752	3
benefit	.807	3
easiness	.730	2
challenge	.707	2
non-monetary sacrifice	.715	2
flow	.878	4
purchase intension	.887	4

5.2 Correlation Analysis

Correlations is a measure of the relation

between two or more variables, and when the absolute value between variables is below 0.2, there is no relation between variables, while having a relation with the value over 0.4, there has a strong relation with the value over 0.7. <Table 6> shows the Pearson correlations between variables and the items are valid to use in this paper.

표 6. 상관계수

Table 6. Pearsom Correlation

Pearson Correlations									
	INTER	EXPQUA	FUN	EXPECT	SELF	BENIFIT	EASINESS	CHAN	NOMON
INTER	1								
EXPQUA	.521**	1							
FUN	.448**	.509**	1						
EXPECT	.605**	.723**	.418**	1					
SELF	.564**	.509**	.506**	.464**	1				
BENIFIT	.577**	.462**	.590**	.423**	.577**	1			
EASINESS	.410**	.616**	.464**	.565**	.457**	.429**	1		
CHAL	.532**	.620**	.467**	.613**	.591**	.447**	.513**	1	
NOMON	.470**	.504**	.460**	.456**	.497**	.563**	.402**	.472**	1
Ave.	3.748	3.730	3.555	3.779	3.536	3.523	3.695	3.635	3.551
Std. Deviation	.791	.7670	.730	.764	.753	.7827	.801	.761	.783

*: p<0.05, **: p<0.01, ***: p<0.001

5.3 Hypothesis Testing

SPSS 19.0 was used to analyze the data in this research. Frequencies, mean, median and mode were computed through SPSS. A linear regression analysis was conducted to prove the relations between dependent variables and independent variable.

A regression analysis was conducted to test the hypotheses and shown in <Table 7>, <Table 8>. Nine independent variables were used in this research, while user's flow was

used as dependent variables.

표 7. 회귀 분석(독립변수별)

Table 7. Regression Analysis(Independent Variable)

Dependence variable	Unstandardized Coefficients		Standardized Coefficients beta	t	significance probability	Collinearity Statistics	
	B	Std. Error				Tolerance	VIF
(CONSTANT)	.034	.192		.178	.859		
INTER	.410	.055	.421	7.423	.000	.473	2.116
EXPQUA	.087	.065	.087	1.348	.179	.364	2.747
FUN	.053	.055	.051	.963	.337	.551	1.815
EXPECT	.227	.064	.225	3.528	.001	.373	2.680
SELF	.125	.057	.122	2.178	.030	.484	2.064
BENIFIT	.153	.057	.156	2.694	.008	.454	2.201
EASINESS	-.041	.051	-.043	-.814	.417	.548	1.825
CHAL	.124	.058	.123	2.139	.034	.464	2.157
NOMON	.098	.050	.100	1.946	.053	.580	1.725
R ² = 0.667 corrected R ² = 0.664				F = 49.430 Significant Probability=0.000			

<Table 7> shows the results of linear regression analysis conducted to 9 independent variables while flow as dependent variable. All independent variables are considered to have relationships with the user's flow with p-values less than 0.05. Those factors are expectation, benefit, self-presentation, social interaction, challenge.

Hypothesis 1 examined the relationship between fun and flow. The result shows fun has no significant impact to flow(Beta=.051, P>.05). Therefore, hypothesis 1 is rejected.

Hypothesis 2 examined the relationship between expectation and flow. The result shows expectation has a positively significant impact to flow(Beta=.225, P<.01). Therefore, hypothesis 2 is accepted.

Hypothesis 3 examined the relationship between non-monetary sacrifice and flow. The

result shows non-monetary sacrifice has no significant impact to flow(Beta=.100, P>.05). Therefore, hypothesis 3 is rejected.

Hypothesis 4 examined the relationship between benefit and flow. The result shows benefit has a positively significant impact to flow(Beta=.156, P<.01). Therefore, hypothesis 4 is accepted.

Hypothesis 5 examined the relationship between easiness and flow. The result shows easiness has no significant impact to flow(Beta=-.043, P>.05). Therefore, hypothesis 5 is rejected.

Hypothesis 6 examined the relationship between experience quality and flow. The result shows experience quality has no significant impact to flow(Beta=.087, P>.05). Therefore, hypothesis 6 is rejected.

Hypothesis 7 examined the relationship between self-presentation and flow. The result shows self-presentation has a positively significant impact to flow(Beta=.122, P<.05). Therefore, hypothesis 7 is accepted.

Hypothesis 8 examined the relationship between challenge and flow. The result shows perceived usefulness has a positively significant impact to flow(Beta=.123, P<.05). Therefore, hypothesis 8 is accepted.

Hypothesis 9 examined the relationship between social interaction and flow. The result shows social interaction has a positively significant impact to flow(Beta=.421, P<.001). Therefore, hypothesis 9 is accepted.

<Table 8> shows the results of linear regression analysis conducted to a independent

variable while purchasing intention as dependent variable. Independent variable is considered to have relationship with the purchasing intention with p-values less than 0.05. This factor is flow.

표 8. 회귀 분석(종속변수)

Table 8. Regression Analysis(Dependent Variable)

Dependence variable	Unstandardized Coefficients		Standardized Coefficients	t	significance probability	Collinearity Statistics	
	B	Std. Error	beta			Tolerance	VIF
(CONSTANT)	.721	.253		2.849	.005		
FLOW	.734	.068	.591	10.863	.000	1.000	1.000
R ² = 0.349 corrected R ² = 0.346				F = 118.006 Significant Probability=0.000			

Hypothesis 10 examined the relationship between flow and purchasing intention. The result shows flow has a positively significant impact to purchasing intention(Beta=.591, P<.001). Therefore, hypothesis 10 is accepted.

표 9. 가설 검증 요약

Table 9. Summary of hypothesis test

Hypothesis	Content	Result
H1	Fun affects on the flow	Rejected
H2	Expectation affects on the flow	Accepted
H3	Non-monetary sacrifice affects on the flow	Rejected
H4	Benefit affects on the flow	Accepted
H5	Easiness affects on the flow	Rejected
H6	Experience quality affects on the flow	Rejected
H7	Self-presentation affects on the flow	Accepted
H8	Challenge affects on the flow	Accepted
H9	Social interaction affects on the flow	Accepted
H10	Flow affects on the purchasing intention	Accepted

<Table 9> shows the summary of hypothesis test.

When studying the F2P game, such as intention, the flow of the players should be studied for further use of these games. In this study, we analyzed at how players of F2P games became intentional payers with the function, emotion and social affection which the F2P games provided. To do this, we proposed a research framework composed of three kinds factors such as emotional, functional, and social factors that can directly influence on the flow to purchasing intention. We also identified the differences among functional, emotional, and social factors among from 10-40 even above 40 ages people.

From regression analysis, nine independent variables are being tested and five out of nine are proven to be related on flow to affect the intention of purchasing. All these variables have a positive impact 222 respondents. However, four out of nine are proven to have less related on flow to affect the intention of purchasing. On the other hand, the four remaining independent variable such as fun, non-monetary sacrifice, easiness and experience quality.

5.4 Discussion

In addition to this analysis, the research shows about the mentality of Chinese users in F2P games in China. Even the funny and easy games will faced the high reflection but low income situation. So in order to figure out the key factors to influence the flow of

the games. We finally find five of nine factors, that means they are more important to provide to the players in the game setting design.

(1) FUN

As being defined from the previous pages, fun is a factor where the people need it in game setting. However, to influence the flow into the intention of payment, it still didn't have the relative evidence. Chinese respondents gave the surprising result, people are almost like to play funny games but when the funny game is played into the pay-to-win process. Players would give up to purchasing the items or other purchasing part of the game.

(2) Expectation

It is not surprising to know that this variable has a direct impact to both male and female users, since expectation is to dependent on the in-game persons' intentions and motivations. Nowadays, since a lot of F2P game turned to be popular, everyone can get into the game with the same level. But in the game process, it kept changing to be harder and harder. If players want to get into the next part of the game or expect themselves to be stronger, it always attract players to produce the intention of purchasing the game items.

(3) Non-monetary Sacrifice

From the result, non-monetary sacrifice is proved to be denied in the hypothesis. Through analysis the 222 respondents survey it have a weak relationship with the flow of

the F2P game. When time and spirit spent on the game over the satisfy need in the game by the game players. They always chose to give their time to wait or even just give up to play the game again.

(4) Easiness

This is the variable which is surprisingly proved to have no affection to the flow in the game. F2P games usually started with a easy situation but when the difficult part of the game appear the items start to be useful and important to players. However the through analysis, the easiness sometime oppositely make the game players feels boring and uninteresting. Actually many difficult F2P games can be better to attract players to be fascinated with the game.

(5) Benefit

This is the variable have positive impact on the flow into the purchasing intention of the F2P game. Respondents considered the free game gain as the achieved benefit in the game. The free game offered the players game experience that attract the players to pay more time and finally lead the purchasing behavior for the F2P game. It can be considered as the natural human psychology variable in the research.

(6) Experience Quality

This is the variable which is denied in the model hypothesis. In fact we have expect the variable in the result because the previous article proved it can have effect on the normal DVD games. But in our F2P field research, respondents considered the

experience of the quality for the game is important but not enough to influence the purchasing intention of the F2P game. The visual quality and the game design for every F2P game is good enough to accept.

(7) Self-presentation

This is a variable have effect on the flow in the F2P game processing. Especially in China market. F2P games were born to satisfy game players to show their character in the game. Most of the respondents proved that they thought they can present themselves by getting high scores and have a good performance in the game.

(8) Challenge

This variable is also proved having effect on the flow in the F2P game purchasing intention in this research. This is a psychology natural need by human beings. From the analysis of the survey result, respondents want to have a higher score and beat the enemies in the games to release the desire of challenging which they can not in the reality society.

(9) Social Interaction

Social interaction has a direct impact to the flow of the F2P game in this research. The variable is also be considered as the basic feature of the F2P app game. Recent social communities is almost be hold online. People in game wish to have connection with the real game players in the process of the F2P game. The team mates and all kind of groups in the games can quickly lead them into the flow situation. The interaction of other friends

and some other relationship members attract the game players to increase in-game time and more game plan when there off-line.

6. Implication and Conclusions

The implications based on the results of analysis of research questionnaires are like following. First, basically we should place the elements which can give fun and interesting in the game around. Especially, Chinese people prefer the martial arts and fantasy series, and form a close community inside of game with sinocentrism for only Chinese. And also lots of events outside of game will help make game more fun.

Second, The F2P game is not just focus on the character's level up but more focus on the communities between players like team work and PVP (Player Vs Player) or PVE(player vs environment), it was be called by interactivity in the research. For promoting interactivity in the game its need to design an UI (user interface) to make an easier chatting or talking environment. And also communities in game can extend to the real world for achieving exchange, by inserting the SNS messengers(ex. QQ) into the game.

Third, game designer should display the winning rate or the missions of level to inspire challenges of players. And it is necessary to present a continuous goal which user can solve and challenge. It is necessary to make a new environment (new Map, new items, and so on) with continuous update.

Fourth, players also bring themselves inside of game characters so the graphics design is very important. Game designer must understand the Graphics preference of Chinese users. And in the game, items always be most important elements for a characters, so a unique or rare item also can bring enthusiasm to players.

“Benefits” is the strengths of the F2P policy. F2P can make everyone easy to enter to the game. It's like buying licensed version of shareware after using it if it need more. It is more advantageous on F2P policy, if the demand of game is expected to be insufficient, or if you need to develop a user network to participate in the game. In this regard, the partial charge is recognized contrast to the apparent subscription with users "free". It is the different between F2P and P2P game policies.

The advantage of F2P policy is to make a new opportunity of Self-presentation. It means that for customers who simply seek to enjoy the game and don't like to pay cash should be compensated with the event. And for customers who wants strengthen their skills by purchasing game items should be provided the cash. This customer action increases the consumer involvement with respect to the services provided by the company. In other words, customers have responsibility for any unsatisfactory fact caused by their own choice. Policy that gives options which can be charged game items by customer himself produces the results of enticing customers.

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Free-to-play 게임에서 중국사용자의 앱내 구매의도

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요 약

중국에 진출한 한국 게임업체는 유저가 게임을 하려면 매월 일정 금액을 지불해야 하는 P2P(Pay to Play) 비즈니스 모델을 채택해왔다. 캐주얼 게임의 강세가 두드러지면서 점차 P2P 모델이 사라지고, 부분 유료화 모델(F2P, Free to Play)이 각광을 받기 시작했다. 중국 게임 시장에 대한 한국의 논문들은 온라인 게임 위주의 논문이 대다수를 차지하고 있다. 본 논문은 게임 산업 관점에서 F2P 수익 모델을 살펴보고 무엇이 중국에 있는 F2P 사용자로 하여금 구매 의도를 갖게 하는가를 알아보았다. 주요 연구 결과는 다음과 같이 요약된다. 첫째, 회귀분석에서 이득, 기대, 자기표현, 도전, 사회적 상호작용이 중국 F2P 게임 사용자의 플로우에 유의적으로 영향을 미친다. 둘째, 자기표현과 도전은 구매 의도에 특히 강하게 영향을 끼친다. 설문조사 결과를 바탕으로 한 F2P게임의 기획 전략과 마케팅 전략 수립을 위한 시사점은 다음과 같다. 첫째, 게임 개발자는 게임에 재미와 흥미를 주는 요소를 배치해야 한다. 둘째, F2P 게임은 상호작용을 향상시키기 위한 사용자 인터페이스 개발에 집중해야 한다. 셋째, 게임 개발자는 사용자의 도전감을 고취하기 위해 승률 혹은 미션 레벨을 나타낼 수 있어야 한다. 마지막으로, 게임 개발자는 중국 사용자의 그래픽 선호도에 대해 이해해야 한다.



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