

The relationship of online game attachment and online game community participation : focused on tam

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Abstract- This study approaches online games from the perspective of the hedonic information system and presents a theoretical model to explain online game attachment and online game community participation. The important variables of this model included perceived usefulness, perceived easiness, and perceived pleasure by expanding the study of van der Heijden and the Technology Acceptance Model (TAM). Also, we investigate the effect of online game attachment on online game community participation. Using the SEM(Structural Equation Model) method, an empirical analysis of the subjects found that perceived usefulness of the game influenced online game attachment and online game attachment influenced online game community participation.

Keywords- Online Game Acceptance Model, Technology Acceptance Model, Online Game Attachment, Online Community Participation

1 Introduction

The e-sports industry in Korea has the infrastructure for developing into a mature industry with a wide variety of game events, TV broadcasting focus on MMORPG, professional e-sports groups, and an audience that is excited over e-sports. E-sports spread rapidly in young people in Korea. For example, E-Stars Seoul 2012 Tournament hold from 2007, gamers participate from all over the world. Local game company also hosted the global league final of its shooting game Crossfire in 2014.

Traditionally, many studies have used the TAM(Technology Acceptance Model) with regard to consumers' acceptance of IT. TAM is to predict the acceptance of the technology by perceived usefulness and perceived easiness[1][2]. However, the TAM can predict not only to consumers' acceptance of IT but also to consumers' attachment of IT. Because the TAM based on an attitude model that focused on utilitarian behaviors, The original TAM may not be appropriate for an interpretation of the acceptance or the attachment of hedonic system like a online games, which is entertainment technology based on hedonic value[3]. Because a player of MMORPG differ gaming purposes and preferences, their game play styles using their

behavioral similarities can grouping. Each player group may consist of both human and bot player with similar behaviors [4]. The bot players shows utilitarian behaviors, and the human players shows hedonic behaviors.

The attachment of online game is an individual variable that has a decisive influence on consumer acceptance of product, online social networks service, and blog. The Attachment on online game is particularly important in the interpretation of online game community acceptance [5]. People are willing to be involved in online game because they believe the games offer social values to individuals, "guilds," and "clans." That is, Activation of the online game is based on Activation of online community. Playing games provides their players with many benefits fun, which is a direct reward and other benefits such as sharing information about the games or participating in relevant game communities [6]. With respect to these benefits, the most important component of online game is a "guild," where users generate social values by interacting with online game[7].

In this regard, this study has the purposes that presents a representative model of online game attachment expanded for the hedonic information system and TAM. This study also examines the effect of online game attachment on online game community participation.

2. Theoretical Background and Hypothesis

Davis and Davis, Bagozzi and Warshaw made TAM, based on TRA(Theory of Reasoned Action) theory, to predict the acceptance of the technology by perceived usefulness and perceived easiness[1][2]. The perceived usefulness that is more influence in use intention than perceived easiness. Their study's findings support so many studies. But, these suggested TAM which omit attitude in researches differing after their study have studied primal [8].

We study for on-line gamer's game attachment, utilizing TAM model which include pleasure of online game, adopting hedonic information system. Attachment means of relationship between two parties and interactive relationship as stable and sustainable emotional bond among individuals[9]. Brand attachment means process in which

consumers establish active, affective, and interactive relationship with brand as an emotional bond connecting specific brand and consumers[10][11]. Perceived easiness not only improves the perceived usefulness and intention to accept an online game but also allows flow experience as perceived pleasure [12]. Therefore, the perceived easiness of an online game will have a positive influence on the perceived usefulness, online game attachment, and perceived pleasure. The perceived usefulness of an online game include the personal fun of playing games, social intercourse with other gamers, and self-expression through an avatar[13]. Therefore, the higher the perceived usefulness and the more benefits from online games, the higher attachment of online game. Internet users who have more experiences of flow as an element of perceived pleasure have higher attachment of online game and purchasing on the Internet [14]. In other words, cognitive absorption or perceived enjoyment as an element of perceived pleasure of online game is related to the fun and absorption in entertainment-oriented online games [15], to the perceived enjoyment in hedonic nature of an information system [3], to pleasure, arousal, and brand personality arising from the shop have influence on the shop attachment[16], like affecting the attachment of online game. Moreover, online game provides their players attached on games with many benefits fun, which is a direct reward and other benefits such as sharing information about the games or participating in relevant game communities [7].

H1: The perceived easiness of an online game has a positive influence on the perceived usefulness of the online game.

H2: The perceived easiness of an online game has a positive influence on the perceived pleasure of an online game.

H3: The perceived usefulness of an online game has a positive influence on the perceived pleasure of an online game.

H4: The perceived easiness of an online game has a positive influence on online game attachment.

H5: : The perceived usefulness of an online game has a positive influence on the online game attachment.

H6: The perceived pleasure of an online game has a positive influence on the online game attachment.

H7: The online game attachment has a positive influence on the online game community Participation.

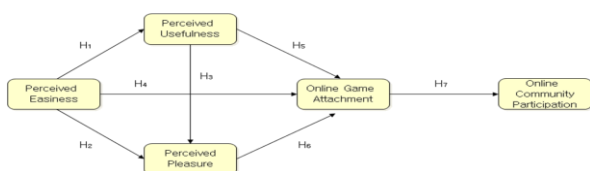


Fig 1. The Research Model

3. Research Methodology

To verify the model and hypotheses, relevant data was collected through an online survey using a questionnaire on variables. This study conducted a preliminary research on the characteristics of online gamers' attitudes toward online game communities through an offline focus group interview and then, based on the results of the preliminary research, carried out the main research online. The questionnaire was

composed in the form of a web page. The survey was advertised using web banners on the first pages of online game websites and hyperlinks on several college websites.

A total of 334 respondents participated. The sample consists of more males (90.4%) than females (9.6%), most (85.7%) are between the ages of 20 and 29, and the majority have a university or lower level of education (93.7%), implying that people with lower education are more likely to use online game.

The instruments in this study are based on previous studies and reworded to suit the context of online game. Perceived easiness and perceived usefulness is measured by three items adopted from Venkatesh and Davis[8], Agarwal and Karahanna[17]. Perceived pleasure is measured by three items adopted from Park and Chung[13]. Online game attachment is measured by three items adopted from Thomson et. al[10]. Online game community participation is measured by two items adopted from Dutton et. al[18].

4. Structural Model Analysis and Result

Overall measurement quality is assessed using confirmatory factor [19]. Although measurement quality is sometimes assessed factor by factor, in the current study each multiple-item indicator is considered simultaneously to provide for the fullest test of convergent and discriminant validity. As shown in Table 2, all statistics support the overall measurement quality given the number of indicators. Furthermore, As shown in Table 2, all of the Composite construct reliability(CCR) and Average variance extracted(AVE), according to this assessment, appear to have acceptable levels of validity.

Table 1. Measurement model resulting from confirmatory factor analysis

Construct and variables	Factor Loadings	CCR ^b	AVE ^c
Community participation 01	.877	.892	.897
Community participation 02	.917		
Game Attachment 01	.957	.932	.906
Game Attachment 02	.900		
Game Attachment 03	.858		
Perceived pleasure 02	.860	.794	.753
Perceived pleasure 01	.777		
Perceived pleasure 03	.598		
Perceived usefulness 01	.763	.787	.744
Perceived usefulness 02	.768		
Perceived usefulness 03	.698		
Perceived easiness 01	.972	.833	.848
Perceived easiness 02	.702		

Table 2. Structural Model Analysis Results

	Path	Coefficient	T-value	Result
H ₁	perceived easiness → perceived usefulness	0.224	2.825	accept
H ₂	perceived easiness → perceived pleasure	0.115	2.260	accept
H ₃	perceived usefulness → perceived pleasure	0.339	5.420	accept
H ₄	perceived easiness → game attachment	-0.039	-0.641	reject
H ₅	perceived usefulness → game attachment	0.243	3.149	accept
H ₆	perceived pleasure → game attachment	-0.114	-1.565	reject
H ₇	game attachment → community participation	0.766	14.721	accept

a $\chi^2 = 77.352$, $df = 55$ ($\chi^2/df = 1.406$), $p = 0.000$, $GFI = 0.966$, $AGFI = 0.943$, $RMSEA = 0.035$, $NFI = 0.0661$, $CFI = 0.990$.

b Composite construct reliability.

c Average variance extracted.

d The item was deleted after confirmatory factor analysis.

To verify the theoretical model and the hypotheses, this study used the AMOS program. AMOS is a technique of the structural equation model that can analyze both the theoretical model and measurement model, including many hierarchical variables.

The verification found that the five hypotheses were statistically significant <table 3>. Perceived usefulness of a game had the greatest influence (path coefficient = 0.243) on attachment of online game, whilst the perceived and perceived easiness was not statistically significant.

One interesting fact was the result of the hedonic information system, which is an online game. The path coefficient of perceived pleasure was 0.339 in the relationship between perceived usefulness and perceived pleasure. Also, the path coefficient of perceived pleasure was 0.115 in the relationship between perceived easiness and perceived pleasure. This signifies that users will accept an online game as hedonic system. Because user accept online game as hedonic system, online game attachment also influence on online community participation These result are identical to the results of the study by Van der Heijden and Hsu and Lu.

$\chi^2 = 85.945$, $df = 58$ ($\chi^2/df = 1.482$), $p = 0.010$, $GFI = 0.962$, $AGFI = 0.940$, $RMSEA = 0.038$, $NFI = 0.962$, $CFI = 0.987$.

5 Conclusions

This study regarded an online game as a type of hedonic information system, focus on online game attachment and online game community participation. This study found that perceived usefulness were important influencing factors in the interpretation of online game attachment and perceived pleasure were important factor in online game. Furthermore, This study found that activation of online game community like a gild or clean influence online game attachment.

This result indicates that perceived pleasure is commonly an important element in online game acceptance,

regardless of reference group level. This research is extending TAM to be suitable for online game combining perceived pleasure and investigate the relationship online game attachment and online game community. Also, we are supplying registration point so that enterprise can take advantage of these result and rear successful on-line game. But, this study has a few limitation and suggestions for future studies.

First, we have tried to collect more generalized data. But this study were used for 334 data sample. Most of the respondents were college students in their twenties. Therefore, through additional study, need effort that generalize study finding. Specially, need to consider weight of woman gamers. Second, future study need to consider additional game style. Third, additional studies focused on another online game attachment behavior like trial behavior. User behaviors for self-presentation and self-expansion could be tried as online game attachment getting higher. Therefore, studies that examine trial behavior as behaviors following online game attachment are required.

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