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**Article**

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## Genre matters in determining success factors for online game service

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### ABSTRACT

**Purpose:** The purpose of this study is to highlight the importance of the game genres for identifying an online game's success factors.

**Design/methodology/approach:** In this study, perceived enjoyment, ease of use and quality were suggested for probable success factors of online game service and then research model was developed to identify which factors are related with gamers' satisfaction and continuance intention. The model was tested on three major genres of online game service, role playing game (RPG), real time strategy (RTS), and first person shooter (FPS), respectively.

**Findings:** The results showed that different online game genres were impacted differently by each element of perceived quality. The findings of this study highlight the importance of the game genres for discovering success factors of online game service.

**Research limitations/implications:** Data used in this study may not be representative of the population of online game users because the data were gathered only in South Korea. If the future study can replicate the results with the data from other countries, it can contribute more practically to the online game market.

**Originality/value:** This study contributes to both online game literature and genre theory by examining the relationships between success factors and satisfaction across various game genres. The empirical test results, which are meaningful not only for researchers but also for online game service providers, give evidence that each genre has different success factors.

*Keywords: Online game service, Genre, Success factors, Perceived quality, Satisfaction*

## 1. Introduction

With the widespread adoption of high-speed Internet, gamers from all over the world can play together by connecting multiple devices such as computers, consoles and smartphones via networks. This new generation of e-service, called online game service, can be defined as game service in which

many people can participate at the same time through online communication networks (Choi & Kim, 2004). Currently, the online game service is one of the most popular content services on the Internet. According to the Statista (n.d.), user penetration of online game service is 11.8% worldwide and global revenue is forecast to reach about USD 17 billion in 2020. Because of the fast-growing online game service market, game developers are making various efforts to ensure that customers continue to use the service. This is important because most of the online games earn money from a monthly subscription fee, advertising

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revenues and/or in-game purchases. In other words, the success of online game services depends on how satisfied and loyal their customers are.

Numerous studies have been conducted to examine which factors enable users to come back to play online game services. Lee and Tsai (2010) proposed interactions and flow experience as well as constructs adopted from the technology acceptance model (TAM) and the theory of planned behavior (TPB) to explain continuance intention of online game user. Agag, Khashan, and ElGayaar (2019) suggested integrated model of the innovation diffusion theory (IDT), TAM, and TPB to understand gamers' intention and loyalty. A study of Wei et al. (2017) found social migration and offline social value play key roles to increase loyalty of online game service user. Chan, Cheung, and Lee (2014) examined achievement, social, and immersion motivations as potential antecedents of continuance intention of online games.

However, these studies are limited either because they fail to differentiate genres of online game service or because they restrict their data to only one genre of games. For these reasons, their results may not be replicated in other studies or not generalized to other genres of online game service. In order to address above-mentioned issues, this study intends to highlight the importance of the game genres for identifying an online game's success factors.

The rest of this paper is organized as follows: Section II provides a review of relevant literature and hypotheses. Section III presents measurement items, data collection method and descriptions of the sample. Section IV shows the results of hypotheses test and Section V discusses the conclusion, implications and limitations of the study.

## II. Literature Review and Hypotheses

In this section, genres of online game service are reviewed. Then, success factors and indicators of success for online game service are discussed.

Thereafter, research hypotheses will be introduced.

### A. Genres of Online Game Service

According to the genre theory, genre is not just a tool for classification but a form of cultural knowledge that constructs and mediates the way we understand and act in various situations (Bawarshi & Reiff, 2010). Consumer's intention of purchasing varies greatly depending on the genre of the products and services (Chung, 2019; Han, 2019). Each genre has its own unique expectations, motives and goals, therefore why, when, where, how and to whom each genre is consumed are inevitably different. For this reason, understanding of genre conventions is essential to success (Beaufort & Williams, 2005; Orlikowski & Yates, 1994).

Genre has been focused on traditional cultural objects such as novel and film. But more recently, there is growing interest in applying genre theory to interactive digital service (Ye, 2004). Although online game service has been a very popular topic in recent years, a major limitation is that there are very few studies that directly compare game genres across various variables (Ghuman & Griffiths, 2012). King, Delfabbro, and Griffiths (2010) claimed that genre should be considered to find out what affects time of playing games. Griffiths, Davies, and Chappell (2004) stressed the need to check whether the results of an online game study with one game genre can be replicated in a study with other genres. There are many different genres of online game service in the market, but the mainstreams are 'role playing game (RPG)', 'real time strategy (RTS)', 'first person shooter (FPS)' (Kim et al., 2010).

#### 1. RPG

The RPG service provides an enormous virtual space for exploration with the goal of completing missions and defeating opponents (Billioti de Gage et al., 2018). Within those online environments, game users should choose their own cyber avatars, control

them to role-play, and level up them by achieving the objective in the game (Williams, Kennedy, & Moore, 2011). RPG is also called as ‘massively multiplayer online role playing game (MMORPG)’ when thousands of game users are allowed to simultaneously control their characters at the same time and interact with others (Robertson & Maloney, 1997). World of Warcraft, Maple Story, The Elder Scrolls Online, Final Fantasy Online, Lineage series are the examples of online RPG services.

## 2. RTS

The RTS service is basically a strategy-based online game. Players have to choose their strategy and tactics in ‘real-time’ rather than ‘turn-based’. The goal is to defeat opponents by managing resources, units and structures. (Mora, Fernandez-Ares, Merelo, Garcia-Sanchez, & Fernandes, 2012). RTS genre differs from RPG in that avatar role-play is absent. In addition, RTS usually does not support large-scale multi-playing and limited to 6 to 8 players at most (Ghuman & Griffiths, 2012). The best well-known RTS online game services are Starcraft series, Warcraft series, Heroes of the Storm, and League of Legends.

## 3. FPS

The FPS is a shooting game played at the view of the first person. In other words, game users are playing in the eyes of the character. Unlike RPG, the goal of FPS is very specific. It is a single or group competition game to eliminate enemies with various weapons, typically guns. Online FPS service provides some forms of team play, thus making a cyber team and becoming a part of it is a prevalent way of playing FPS (Robertson & Maloney, 1997). Battleground, Overwatch, and Sudden Attack are currently one of the most popular FPS online games.

# B. Success Factors of Online Game Service

## 1. Perceived Enjoyment

What makes people pay for an online game service? Online game is a well-known service consumed for hedonic purposes (Holsapple & Wu, 2007; Lin & Bhattacharjee, 2010; van der Heijden, 2004). Unlike service used for practical and functional purposes, enjoyment is important factors for success of online game service. Venkatesh (2000) defined perceived enjoyment as “the extent to which the activity of using a specific system is perceived to be enjoyable in its own right, aside from any performance consequences resulting from system use.” For the people who are after pleasure-purposed service such as an online game, enjoyment is the primary experience they aim for. As users play an active role in the online games, they become the co-creators of pleasant value. In fact, perceived enjoyment has stronger effects on user attitudes towards hedonic systems than any other factors (Childers, Carr, Peck, & Carson, 2001). Therefore, if users cannot experience enjoyment, they are less likely to report satisfaction towards an online game (Chan et al., 2014; Lin & Bhattacharjee, 2010).

## 2. Perceived Ease of Use

‘Ease of use’ is a widely studied construct. Perceived ease of use was used in the TAM to explain user acceptance of computing technology. Specifically, it refers to “the degree to which the prospective user expects the target system to be free of effort” (Davis, Bagozzi, & Warshaw, 1989). Many studies have supported this theory in a variety of situations and contexts, including online games (Ha, Yoon, & Choi, 2007; Hsu & Lu, 2007). As stated by Juul (2001) and Eskelinen (2001), an online game is perceived as an exercise of control systems, such as a keyboard and mouse, which involve physical reactions. If the game is easy to learn and play, less time is needed to experience the same return. For this reason, easy-to-learn and easy-to-use control system is

important because it makes a good impression on the players' feelings (Wu, Li, & Rao, 2008). As a result, users will be unsatisfied when they have difficulties in commanding characters' movements in the game.

### 3. Perceived Quality

Perceived quality has been identified as a key factor contributing to the success of e-service (Tran & Vu, 2019). In this study, perceived quality of online game service will be discussed in four aspects: visuals, contents, interaction and connection quality.

In the online game context, perceived visual quality means user's perception of attractiveness toward visual graphics of the game. Specifically, visual graphics indicate "the visual information players receive during the game, which are presented in the form of pictures, images, or drawings" (Wu et al., 2008). Thanks to the remarkable progress in technology, visual graphics have evolved to an amazing extent. The next-generation visuals such as three-dimensional (3D), virtual reality (VR), and augmented reality (AR) have shown that attractive graphics can offer a whole new experience. According to the study of Wood, Griffiths, Chappell, and Davies (2004), realistic visual graphics ranked one of the most wanted features and more than four-fifths games users agreed the importance of visual graphics. Since online game service is regarded as visual entertainment, perceived visual quality is an important indicator of online game success (Smith, 2002).

This study defines perceived contents quality as the extent to the contents of the online game is rich enough to make the user to play the game longer and repeatedly. If the online game cannot expand to experience new challenges, the game would be monotonous and users might feel boredom. Therefore, an online game should provide assorted selections to the player to fit a variety of needs of the people. It is proved in the studies that the game with diverse facility to make flexible playing strategies can give better experience (Wu et al., 2008). Releasing an expansion pack are also a good way to manage

customers' satisfaction because it adds new characters, weapons, options, game areas, and storylines to an already released game (Koivisto, 2003). Online game providers put this on the market not only to hold existing players but also to draw new users into their game ecosystem. The result of an event study shows that contents update is significantly valuable especially for RPG genre to extend its life cycle (Kim, Kim, & Kim, 2015). In conclusion, perceived contents quality is essential to long-term success of online game.

From an online game perspective, perceived interaction quality stands for overall quality of the service with respect to capabilities for interaction, communication, and socialization in the game system in order to promote online relationships and collaboration among users (Lin & Bhattacharjee, 2010). Playing online game is not a solitary activity but a social experience (Ducheneaut & Moore, 2004). Unlike classic video games or computer games, an online game is free from restriction of space. That is, gamers do not have to get together in one place to take part in. For that reason, hundreds and thousands of players can interact with one another in the game. An online game itself also encourages interaction between game users. Collaboration with other players may be a prerequisite for making progress in a game, or a game may be based on competition between players (Choi & Kim, 2004; Koo, Lee, & Chang, 2007). Previous studies showed that a high level of interactivity make people continue to play online games by increasing customer satisfaction and loyalty (Choi & Kim, 2004).

Perceived connection quality refers user impression on the availability of stable service and prompt responses without connection interruption. The number of concurrent players in an online game is very large. In order to match the requirements of overall bandwidth, the game server should handle large amount of network traffics (Chen, Huang, & Lei, 2006a). In the study of Chen et al. (2006b), they observed network quality of service (QoS) as a strong indicator of user satisfaction because when the network service quality was poor, average playing time was significantly diminished. In other words, extensive loading time,

delay, dropped packets, jitter, out-of-order delivery, and error can irritate the customers' experience. These deficiencies in stability and responsiveness may fail to urge or tempt the players come back to use the game again. Thus, the perceived connection quality is another critical success element of online game service.

### C. Indicators of Online Game Service Success

#### 1. Satisfaction

What instruments can be used to measure success of online game service? In perception studies, user satisfaction has been viewed as one of the most critical criterion in measuring computer system success and failure (Bailey & Pearson, 1983; Powers & Dickson, 1973). Especially, satisfaction of online game user is important for the survival of the service because gamers are likely to continue paying for a game that is perceived as satisfying them (Lin, 2009). In the context of an online game, satisfaction is defined as overall evaluation based on the total consumption experience with the online game service over time (Anderson, Fornell, & Lehmann, 1994; Fornell, 1992; Johnson, Anderson, & Fornell, 1995).

#### 2. Continuance Intention

The second indicator for success of online game service suggested in this study is continuance intention. It is defined as degree of intention to continue playing online game service. Loyal customers are important not only because they can increase the revenue of the company but also decrease the cost of recruiting new customers (Reichheld & Schefter, 2000). The more loyalty users have toward a specific online game service, the more likely that players come back to play again, spend money on the game, and bring new users through positive word-of-mouth. Continuance intention can be measured using a customer's preference on the game, willingness to recommend the game to others, and desire to continue to play

the game (Choi & Kim, 2004; Lu & Wang, 2008; Yang & Peterson, 2004).

### D. Hypotheses

The original version of TAM proposed by Davis et al. (1989) introduced two notable factors that influence attitude toward technology: perceived usefulness and perceived ease-of-use. The TAM was later expanded by adding perceived enjoyment in the model (Davis, Bagozzi, & Warshaw, 1992). Previous research on online game failed to find empirical evidence of perceived usefulness affecting user's motivations (Hsu & Lu, 2004) and later replaced perceived usefulness with perceived enjoyment (Hsu & Lu, 2007). The following two hypotheses were proposed in accordance with the TAM and online game literature:

**Hypothesis 1.** Perceived enjoyment positively affects satisfaction.

**Hypothesis 2.** Perceived ease of use positively affects satisfaction.

When using the service, consumers can perceive the quality and the satisfaction level at the same time. Perceived quality has been suggested as a significant antecedent of customer satisfaction in the service quality literature (Anderson & Sullivan, 1993; de Ruyter & Bloemer, 1997; Ravald & Grönroos, 1996; Tam, 2004). In the context of online game service, service quality would be recognized mainly from four perspectives: visuals, contents, interaction and connection quality. Therefore, this study proposes the following four sub-hypotheses:

**Hypothesis 3a.** Perceived visual quality positively affects satisfaction.

**Hypothesis 3b.** Perceived contents quality positively affects satisfaction.

**Hypothesis 3c.** Perceived interaction quality positively affects satisfaction.

**Hypothesis 3d.** Perceived connection quality positively affects satisfaction.

From the service provider's point of view, customer

satisfaction itself is not directly related to profits, so it is mainly used as a means to increase the repurchase intention (Mittal & Kamakura, 2001). The argument that a user's continuance intention depends on the level of satisfaction is widely accepted in the previous studies (Chan et al., 2014; Chen, Chen, & Chen, 2009; Dick & Basu, 1994; Johnson et al., 1995; Yi & La, 2004). Moreover, studies have found the link between the perceived value and continuance intention is mediated by satisfaction (Patterson & Spreng, 1997; Tam, 2004). Thus, the relationship between satisfaction and continuance intention is hypothesized as:

**Hypothesis 4.** Satisfaction positively affects continuance intention.

### III. Methods

#### A. Measurement Items

Data was collected using online survey questionnaire to test the hypotheses. The questionnaire was developed based on a comprehensive literature review and was further elaborated through various stages of in-depth interviews and pilot tests. A detailed list of measurement items is shown in Table 1. The variables were measured using a 7-point Likert type scale from 1 (strongly disagree) to 7 (strongly agreed).

**Table 1.** Measurement items

Constructs	Measurement items	References
Perceived Enjoyment (EJ)	EJ1. I enjoy playing this online game for its own sake.	(Hsu & Lu, 2007; Koo et al., 2007; Mathwicka, Malhotra, & Rigdon, 2001)
	EJ2. I play this online game for the pure enjoyment of it.	
	EJ3. I experienced pleasure while playing this online game.	
Perceived Ease of Use (EU)	EU1. It is easy for me to become skillful at playing this online game.	(Hsu & Lu, 2004, 2007)
	EU2. Learning to play this online game is easy for me.	
	EU3. This online game is easy to play.	
Perceived Visual Quality (VQ)	VQ1. The graphics of this online game is attractive.	(Mathwicka et al., 2001; Wood et al., 2004; Wu et al., 2008)
	VQ2. The graphics of this online game is aesthetically appealing.	
	VQ3. This online game provides high-quality realistic graphics.	
Perceived Contents Quality (CQ)	CQ1. This game provides diverse facilities for the player to make flexible playing strategies with characters and items.	(Choi & Kim, 2004; Wood et al., 2004)
	CQ2. Various selections are provided to the player according to preference.	
	CQ3. This game provides frequent updates to enrich the feature, story and/or character.	
Perceived Interaction Quality (IQ)	IQ1. Interacting with other users is important in this game.	(Choi & Kim, 2004; Lin & Bhattacharjee, 2010; Wood et al., 2004)
	IQ2. This online game provides appropriate methods for communicating with others.	
	IQ3. This online game supports users in forming communication groups (e.g., guilds or cyber teams) in the game.	
Perceived Connection Quality (NQ)	NQ1. This online game is stable to use.	(Chae, Kim, Kim, & Ryu, 2002; Koivumaki, Ristola, & Kesti, 2008)
	NQ2. The system is quick to respond to my commands (e.g., clicks, movements, etc.).	
	NQ3. The service has few network errors.	
Satisfaction (ST)	ST1. Overall, I am satisfied with this online game.	(Lu & Wang, 2008)
	ST2. Overall, this online game meets my needs.	
	ST3. Overall, this online gaming service works well in handling my gaming behavior.	
Continuance Intention (CI)	CI1. I would re-use this online game when I want to play online games later.	(Choi & Kim, 2004; Hsu & Lu, 2007; Lu & Wang, 2008)
	CI2. In comparison with other online games, I prefer this online game.	
	CI3. I would recommend this online game to others.	

## B. Data Collection and Sample Description

The online survey was taken in South Korea because it offers a remarkable opportunity to study online game service for several reasons. First of all, South Korea's game industry has been growing significantly in recent years (Lee, Hong, & Lee, 2019). In addition, Korea has a unique 'PC-Bang' culture, so it is well-known for an ideal test bed for online game services. PC-Bang is full of state-of-the-art computers with high-speed Internet connectivity and provides multiplayer online game service for an hourly fee. For this reason, it becomes a place for online gaming culture (Lee, O'Keefe, & Kyounglim, 2003). A survey link has been provided to online communities where topics related to online games are frequently posted and discussions are conducted lively. First of all, respondents were asked to choose the online game service that they played most recently and then the main questions followed. The chosen online games were categorized by genre based on the description of the developer's website.

373 completed questionnaires were received. Upon analysis, three major genres of online game service, RPG, RTS, and FPS, were found. Other genres such as 'Sports' and 'Racing' were very minor therefore dropped from the hypotheses testing. Consequently, total 358 responses were used. Table 2 shows descriptive statistics of the sample.

## IV. Results

### A. Reliability and Validity

The Cronbach alpha test was performed to measure reliability. It is an evaluation of the degree to which a set of variables measures a single construct without random measurement errors. Nunnally (1978) proposed 0.70 or higher as an indicator of reliability. It was concluded measurement items are highly reliable because the Cronbach alpha results range from .792 to .916 as shown in Table 3.

Validity was measured in two ways: convergent and discriminant validity. The convergent validity evaluates the degree to which two measurements of the same concept are correlated. Two common methods are factor loading and average variance extracted (AVE). All factor loadings of measurement items were greater than 0.70 and AVEs for each construct exceeded 0.5 as suggested by Fornell and Larcker (1981). The results are summarized in Table 3. Discriminant validity can be used whether a construct is unique and observes some existing state that other constructs do not. If the square root of AVE is greater than its correlation with other constructs, the discriminant validity is met (Fornell & Larcker, 1981). In Table 4, the on-diagonal value is the square root of AVE and the off-diagonal value is the correlation between the two constructs. Although some correlation values are close to 0.6, data has good evidence of discriminant validity because every structure has a greater square root

**Table 2.** Descriptive statistics

		Frequency (%)			
Classifications		RPG	RTS	FPS	Total
Gender	Male	135 (91.8%)	99 (97.1%)	101 (92.7%)	335 (93.6%)
	Female	12 (8.2%)	3 (2.9%)	8 (7.3%)	23 (6.4%)
Age	< 20	13 (8.8%)	17 (16.7%)	22 (20.2%)	52 (14.5%)
	21-25	36 (24.5%)	32 (31.4%)	33 (30.3%)	101 (28.2%)
	26-30	66 (44.9%)	29 (28.4%)	39 (35.8%)	134 (37.4%)
	31-35	27 (18.4%)	18 (17.6%)	14 (12.8%)	59 (16.5%)
	> 36	5 (3.4%)	6 (5.9%)	1 (0.9%)	12 (3.4%)
	Total	147 (41.1%)	102 (28.5%)	109 (30.4%)	358 (100%)



**Table 3.** Results of reliability and convergent validity test

Constructs	Variables	Factor loadings	AVEs	Cronbach's Alphas
EJ	EJ1	.773	.797	.880
	EJ2	.854		
	EJ3	.807		
EU	EU1	.891	.656	.808
	EU2	.744		
	EU3	.844		
VQ	VQ1	.907	.814	.916
	VQ2	.911		
	VQ3	.838		
CQ	CQ1	.747	.594	.792
	CQ2	.793		
	CQ3	.726		
IQ	IQ1	.842	.746	.873
	IQ2	.806		
	IQ3	.826		
NQ	NQ1	.831	.759	.878
	NQ2	.733		
	NQ3	.879		

**Table 4.** Results of discriminant validity test

Constructs	EJ	EU	VQ	CQ	IQ	NQ
EJ	0.893					
EU	0.296	0.810				
VQ	0.419	0.068	0.902			
CQ	0.487	0.223	0.428	0.771		
IQ	0.601	0.246	0.363	0.565	0.864	
NQ	0.575	0.314	0.358	0.590	0.520	0.871

\*on-diagonal: square root of AVE

\*\*off-diagonal: correlation between two constructs

of AVE than its correlations with other structures.

## B. Hypotheses Testing

Before testing hypotheses, the goodness-of-fit indices were examined to evaluate the overall fit of the model. Recommended values (Hadjistavropoulos, Frombach, & Asmundson, 1999; Marsh & Hocevar, 1988; Raykov, 1998; Vassend & Skrondal, 1997) and the results were presented in Table 5, indicating that the research model has a good fit.

The hypotheses were then tested three times by performing structural equation modeling (SEM)

analysis using RPG, RTS, and FPS data, respectively. Unanimous results were found for H1, H2, H3a and H4. That is, perceived enjoyment has positive effect on online game satisfaction (H1 supported) and satisfaction has positive effect on continuance intention of online game service (H4 supported) while perceived ease of use and perceived visual quality of online game service are not related to satisfaction (H2 and H3a not supported).

However, contradictory results were obtained for H3b, H3c and H3d. The path results using RPG data revealed that the perceived contents and interaction quality had positive effects on online game satisfaction (H3b and H3c supported) but not the perceived

**Table 5.** Results of fit indices

Measures	$\chi^2/df$	GFI	AGFI	NFI	CFI	TLI	IFI	RMSEA
Results	3.173	.868	.828	.894	.925	.910	.925	.076
Recommended values	2~5	> .85	> .8	> .8	> .9	> .9	> .9	< .05

**Table 6.** Results of hypotheses tests

Hypotheses	Paths	Results (Path coefficients)		
		RPG	RTS	FPS
H1	EJ ► ST	<b>Supported</b> (.244*)	<b>Supported</b> (.284*)	<b>Supported</b> (.250*)
H2	EU ► ST	Not supported (.080)	Not supported (.087)	Not supported (.063)
H3a	VQ ► ST	Not supported (-.047)	Not supported (.093)	Not supported (-.030)
H3b	CQ ► ST	<b>Supported</b> (.236*)	Not supported (-.002)	Not supported (.136)
H3c	IQ ► ST	<b>Supported</b> (.261**)	Not supported (.184)	<b>Supported</b> (.278*)
H3d	NQ ► ST	Not supported (.164)	<b>Supported</b> (.237*)	<b>Supported</b> (.221*)
H4	ST ► CI	<b>Supported</b> (.889***)	<b>Supported</b> (.849***)	<b>Supported</b> (.877***)

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

connection quality (H3d not supported). Exactly opposite outcomes were found for RTS online game service. Perceived contents and interaction quality did not have positive effects on online game satisfaction (H3b and H3c not supported) while perceived connection quality did (H3d supported). For FPS online game service, the path coefficient between perceived contents quality and satisfaction was not significant (H3b not supported) but perceived interaction and connection quality were significant (H3c and H3d supported). Table 6 summarizes the overall results of hypotheses tests and path coefficients.

## V. Conclusion and Discussion

The main objective of this study was to identify success factors of online game service using three

disparate game genres, which are RPG, RTS and FPS. The results show that perceived enjoyment is the common key factor influencing satisfaction of online game service users. In addition, this study also found out that perceived ease of use is not related to customer satisfaction. Previously, perceived ease of use has been regarded as an important factor for acceptance of an information system, thus the result of this study may look somewhat embarrassing. In order to explain this finding, one needs to understand fun-oriented systems such as online game service require less skills than practical systems such as ERP or database (Lin & Bhattacharjee, 2010). Furthermore, majority of the respondents in this study was less than 30 in their age. They are generally familiar with computers and online games, so they have less fear of learning and using them (Stewart & Choi, 2003).

However, different online game genres were impacted differently by each element of perceived quality. First of all, perceived contents quality was

recognized as important only for RPG service. Storytelling and player-controlled avatar are big parts of RPG. If the RPG service does not provide assorted options, diverse achievements and frequent updates, the gamers will experience a sense of boredom as time passes. Therefore, RPG developers should focus on rich contents in order to satisfy game users and keep them playing repeatedly. In contrast, RTS and FPS are relatively free from strict criteria of contents quality possibly because their flow experiences are based on volatile and unpredictable strategy and competition. Second, perceived interaction quality was highly correlated with satisfaction of RPG and FPS service but not with RTS. Social interaction is considered imperative to achieve goals and defeat enemies in RPG and FPS. Since users enjoying those games would rather play with others as a team, providing proper tools of text and/or voice chat for quick communication is the salient factor. On the other hand, making a team and becoming a part of the group is not a prevailing way of playing RTS games, so perceived interaction quality is a less important aspect. Third, perceived connection quality was essential to the satisfaction and continuance intention of RTS and FPS service. Both games focus on defeating others players and win/lose is decided in the blink of an eye. This means stable and fast connection should be emphasized in those genres. But there was no evidence supporting the importance of connection quality in the RPG case. It may be because there are various long-term purposes being pursued in the RPG. Lastly, the fact that perceived visual quality does not affect service satisfaction is a consistent result of the three genres of online games. Even though people appreciate the high-quality visual graphics in online games, it is not an indispensable component needed to satisfy gamers as going by the results of this study. These days, online game developers compete against one another for higher 3D graphics and effects although developing 3D games is expensive and complex. This study shows that the trend of focusing only on next-generation 3D graphics should be avoided. It is true that a user can have a lot of fun with games that are not

graphically beautiful by today's standards.

In conclusion, the game genre provides a lens that will allow you to grasp the key factors in online gaming success. This study contributes to both online game literature and genre theory by examining the relationships between success factors and satisfaction across various game genres. The empirical test results provide evidence that each genre has different success factors. Therefore, online game researchers should be careful in using data without distinction of genre. This research also gives insights to online game service providers that one-size-fits-all approach won't work when developing online game. That is, distinct characteristics of the genre should be considered to make a successful online game.

Although the findings are meaningful, the present study has limitation that require future study. Data used in this study may not be representative of the population of online game users because the data were gathered only in South Korea. It is questionable whether the empirical findings can be generally applied in other regions of the world. If the future study can replicate the results with the data from other countries, it can contribute more practically to the online game market.

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