

2011

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Recommended Citation

Weiss, Thomas, "Fulfilling the Needs of eSports Consumers: A Uses and Gratifications Perspective" (2011). *BLED 2011 Proceedings*. 30.

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Fulfilling the Needs of eSports Consumers: A Uses and Gratifications Perspective

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Abstract

eSports services are situated between cooperation - distinctive for many hedonic activities - and competition - relevant to the creation of hedonic behavior. This raises the challenge for eSports providers to offer services that fulfill consumers' needs. Against this background, we apply Uses and Gratifications theory (Rayburn and Palmgreen, 1984) and investigate which competitive and hedonic need gratifications drive continuous use of eSports. We conduct ten in-depth expert interviews and a multiple regression analysis based on survey data collected from 360 eSports players. With competition, challenge, and escapism both competitive and hedonic need gratifications drive continuous eSports use.

Keywords: Online Gaming, eSports, Uses and Gratifications.

1 Introduction

eSports denotes playing competitive games according to generally accepted rules of leagues and tournaments on the Internet (Weiss, 2008). It allows for the formation of social relationships and develops individuals' physical abilities.

eSports providers such as the Electronic Sports League, the National Gaming League, and the European Xtreme Gamers host eSports platforms. They organize and occasionally also broadcast eSports events. In this regard, eSports providers offer services in the B2B- and in the B2C-segment. Concerning B2B services, eSports providers sell advertising space on their websites. They also offer name rights to eSports events. Recently, they have diversified towards video and IPTV productions and web services. In the B2C context, eSports providers build their businesses on free-to-play offers with micro-transactions and subscription services. They typically manage a multitude of different leagues in which a variety of different games are played and aim at covering the entire breadth of eSports. Additionally, eSports providers often also provide value-added services such as voice applications or game forums.

eSports players are consumers who share tips and tricks on the Internet while competing in games such as FIFA or Counterstrike for money and prestige. Different from real-life sport activities, they often lack physical proximity and communicate predominately through game forums. Hence, eSports players immerse in a virtual environment.

While research in eSports has so far only attracted little scientific interest (Ho and Huang, 2009; Jansz and Tanis, 2007; Weiss and Loebbecke, 2008), the literature on more general online gaming use has developed within two broad themes.

The first theme is acceptance and use (Choi and Kim, 2004; Hsu and Lu, 2004). Through examining psychological processes, empirical studies of online gaming use emphasize the importance of various types of cooperation or dependency between players (e.g., Ho and Huang, 2009; Hsu and Lu, 2007).

The second theme, within which this research is situated, is Uses and Gratifications. Studies considering players as active online gaming users highlight the continuing use of online games through players' need gratification (Yee, 2007). However, this research stream rarely addresses competitive online contexts. In particular, it excludes the investigation of negative need gratifications such as escapism, which are typically associated with game addiction, in competitive contexts (Chen, Chen, and Ross, 2010; Jansz and Tanis, 2007). Competitive environments however provide a different use experience to players compared to collaborative game surroundings. In contrast to collaborative online gaming, eSports involves watching games on websites and meeting others regularly at real-life tournaments.

By illuminating need gratifications in the competitive environment of eSports, we aim to make a contribution to the Uses and Gratification stream of online gaming research. More specifically, we investigate *which competitive and hedonic need gratifications drive continuous eSports use?* Based on qualitative interviews and a multiple regression analysis we examine players' eSports expectations, their needs, and their exposure to corresponding need gratifications (Weiss, 2009).

2 Theoretical Background

2.1 Uses and Gratifications Approach

The Uses and Gratifications approach¹ (Rayburn and Palmgreen, 1984) stems from media effects research and is geared to the perception of information, attitude, and behavior of individuals (Ruggiero, 2000). It examines individuals' need gratifications regarding media use with relation to life cycles and corresponding changes in attitudes and needs.

The Uses and Gratifications approach rests on the assumptions that differences in the costs of mass media consumption occur between different audience members and that such differences correlate with other communication-relevant factors (Ruggiero, 2000). It rests upon three main pillars, (1) beliefs and evaluations, (2) need gratifications sought, and (3) need gratifications obtained. Beliefs and evaluations describe the subjective probability of individuals that a medium possesses distinct characteristics. In turn, the search for gratifications leading to media consumption is a result of beliefs. Finally, need gratifications obtained refers to the individual outcome of actual media consumption.

The Uses and Gratifications approach differs from acceptance and use studies through modeling individuals as active IS users (Ruggiero, 2000). It typically clusters resulting basic need gratifications in extrinsic and intrinsic motivations (Ryan and Deci, 2000).

Extrinsic motivation "refers to doing something because it leads to a separable outcome" (Ryan and Deci, 2000, p. 55). It denotes need gratifications such as personal integrative, social utility, and surveillance needs (Ruggiero, 2000; Sangwan, 2005; Song et al., 2004). In contrast, intrinsic motivation "is defined as the doing of an activity for its inherent satisfactions rather than for some separable consequence" (Ryan and Deci, 2000, p. 56). It refers to need gratifications such as affective, cognitive, personal identity, social integrative, and tension release / diversion needs (Wei and Lo, 2006).

¹ Due to space constraints, we do not provide an in-depth discussion of Rayburn and Palmgreen's (1984) model.

Yet, the selective clustering of the basic need gratifications into categories according to extrinsic and intrinsic motivations does not hold when IS serves hedonic purposes. In the case of online gaming, for instance, players' social integrative needs of belonging to a group in part refer to extrinsic need gratifications such as personal integrative needs or social utility needs (Jansz and Tanis, 2007; Yee, 2007). In turn, surveillance needs may constitute intrinsic need gratifications as they support the formation of a 'virtual self' (Cerulo, 1997).

2.2 Need Gratifications in Gaming

Uses and Gratifications literature on the use of eSports is rare. Yet, several sources (e.g., Mäyrä, 2008; Phillips et al., 1995; Sherry and Lucas, 2003; Yee, 2007) examine the gratifications obtained through more general online and competitive offline gaming. Those studies highlight ten need gratifications: five competitive ones (competition, achievement, challenge, reputation, and rewards) geared towards prosperity through competition, and five hedonic ones (social relationship, escapism, self-fulfillment, fun, and virtual identity) relating to immersion and socialization (Sherry and Lucas 2003; Yee 2007).

Concerning the competitive need gratifications, *competition* refers to head-to-head competition involving striving for power in open groups. Similar to organizational contexts (Baer et al. 2010), it determines continuous use in gaming environments (Lucas and Sherry, 2004; Sherry and Lucas, 2003; Taylor, 2006). *Achievement* denotes the accomplishment of personal in-game goals. It is of particular relevance for the use of competitive offline games (Sherry and Lucas, 2003). *Challenge* mirrors the self-set in-game challenges of players used to improve personal skill-level. Such self-set challenges are closely linked to in-game progress (Mäyrä, 2008) and said to determine gaming use (Jansz and Tanis, 2007; Sherry and Lucas, 2003). *Reputation* defines an individuals' status within a community (Wasko and Faraj, 2005). As need gratification, it is crucial for online gaming use (Yee, 2007). *Rewards* are benefits of IS use (Kankanhalli, Tan, and Wei, 2005). As such, they drive the use of competitive offline games (Griffiths, 1991).

Regarding hedonic need gratifications, *social relationship* denotes the motivation of players to play games in order to gain social recognition in terms of social interaction and long-term relationships. It drives IS (Brown, Venkatesh, and Bala, 2006; Venkatesh and Brown, 2001), media (Wei and Lo, 2006), and online gaming use (Hsu and Lu, 2007; Yee 2007). *Escapism* refers to employing the virtual environment to suppress thinking about real world problems and avoid responsibility (Chen, Chen, and Ross, 2010; Yee, 2007). In gaming contexts, it involves players' immersion in virtual realities (Taylor, 2006). *Self-Fulfillment* describes the non-instrumental satisfaction of individuals' needs for endorsing own beliefs and attitudes (Ruggiero, 2000). It determines hedonic IS use (v.d. Heijden, 2004; Jansz and Tanis, 2007). *Fun* denotes the perceived enjoyment of players when playing for the sake of the games themselves (Phillips et al. 1995). It is the dominant driver of hedonic IS (v.d. Heijden, 2004) and online gaming use (Jansz and Tanis, 2007). *Virtual identity* mirrors players' ability to step into different roles and to do things they are not capable of in real life (Sherry and Lucas, 2003). For players, it presents a survivable 'other' in the formation of self (Cerulo, 1997).

3 Research Approach

Building on the literature review on need gratifications in gaming, we organized our research in two steps, a round of qualitative semi-structured interviews and a quantitative multiple regression analysis based on survey data.

Firstly, in order to check whether the need gratifications identified in the literature are suitable for a study on eSports, we conducted semi-structured in-depth interviews with ten industry experts of Europe's largest eSports league in Cologne Germany in early March 2008. Due to the exploratory nature of our study, we agreed to keep interviewee names confidential (available upon request). As a result of the interview round, only five of the ten need gratifications were unanimously judged relevant to eSports. The five selected gratifications were competition, challenge, social relationship, escapism, and fun (see Figure 1).

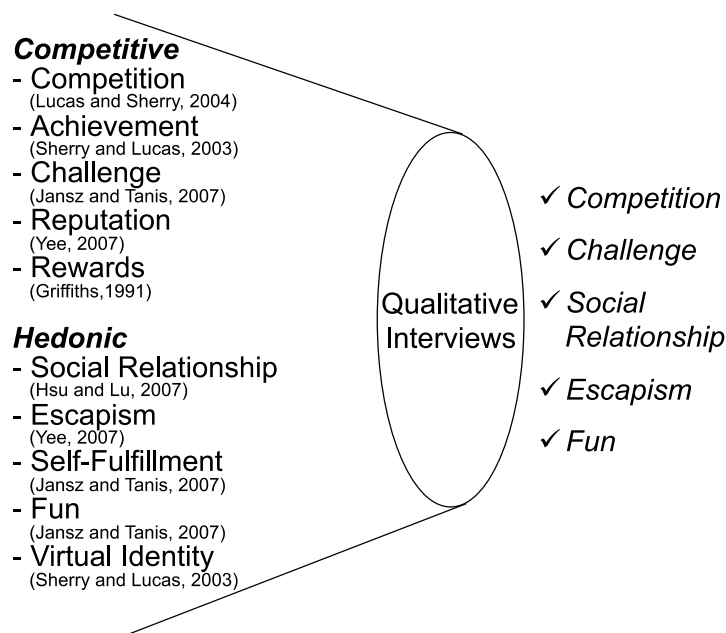


Figure 1: Results of Semi-Structured Expert Interviews

Secondly, we conducted a regression analysis based on survey data collected from eSport players. We thereby aimed at highlighting the effect of the remaining gratifications on continuous eSports use (hereafter eSports use). For the survey, we developed single-item measures (Phillips et al., 1995; Rossiter, 2002). We weighted each measure on a seven-point Likert scale ranging from '1 = applies fully' to '7 = does not apply at all'. In order to determine eSports use, we divided each day of the week into six-hour periods starting at 12am and calculated the corresponding variable through summing up the periods during which respondents play in the course of an average week (Sherry and Lucas, 2003).

Through two sets of pre-tests, we assessed item reliability prior to the final survey of eSports players. For the first pre-test, conducted in late March 2008, we sent a questionnaire to 35 eSports players in order to learn about any content discrepancies between the item measures. We observed that the differentiation between challenge and competition appeared vague, especially considering the connotation of the terms in different cultures (the questionnaire was provided in Chinese, English, and German). We modified the wording of the items and then conducted a second pre-test among 60 players in April and June 2008. The second pretest did not reveal any content or comprehension discrepancies. To collect survey data, we attended the World Cyber

Games (WCG) in Cologne in November 2008 and randomly sampled 360 eSports players who we addressed face to face. To avoid common method bias, we outlined the objective of the survey and guaranteed respondents anonymity (Podsakoff et al., 2003).

To analyze the survey data, we used SPSS 18. We assessed multi-collinearity through computing the Variation Inflation Index (VIF) for every independent variable in our model. A VIF below the threshold of 10 points to linear independence of the corresponding instruments. We applied multiple regression analysis using standardized coefficients in order to avoid distortions resulting from varying measurement dimensions of the variables in our model. We investigated corresponding model fit through a t- and an F-test and checked for minimum required sample size through Green's (1991) sample size index. Further, we examined convergent and discriminant validity through Average Variance Extracted (AVE).

4 Data Analysis

We tested for convergent and discriminant validity through AVE. AVE from a construct should exceed 0.5 to reveal sufficient convergent validity. Our independent variables with the exception of Fun exceed this threshold (see Table 1). We therefore *excluded fun from further multiple regression analysis* and *continued with* the four independent variables *competition, challenge, social relationship, and escapism*.

Use Motive	Competition	Challenge	Social Relationship	Escapism	Fun
Competition	0.794	0.294	0.014	0.023	0.009
Challenge	0.294	0.794	0.073	0.063	0.027
Social Relationship	0.014	0.073	0.648	0.064	0.011
Escapism	0.023	0.063	0.064	0.569	0.007
Fun	0.009	0.027	0.011	0.007	0.110

Table 1: AVE and Squared Correlations

To assess discriminant validity, the squared correlations between two constructs should be statistically lower than the AVE by individual constructs. All shared variances are significantly lower than the AVE for the four remaining independent variables (see Table 1).

The sample of $N = 360$ is sufficient for running a multiple regression analysis (min. $N \geq 46$) as the R^2 exceeds 0.023 (Green 1991). Model fit on the $p < 0.001$ significance level is given as revealed by our t- and F-test (F-value = 14.856).

Assuring the reproducibility of our multiple regression analysis results, the covariance matrix of our independent variables shows that the independent variables possess identical effect directions (Table 2).

Use Motive	Competition	Challenge	Social Relationship	Escapism
Competition	3.062	1.466	0.348	0.507
Challenge	1.466	2.377	0.694	0.735
Social Relationship	0.348	0.694	2.790	0.805
Escapism	0.507	0.735	0.805	3.631

Table 2: Covariance Matrix of Multiple Regression Analysis Independent Variables

Through multiple regression analysis, we found one of four independent variables insignificant based on the p-statistic ($p > 0.01$; Table 3). The remaining three independent variables, *competition*, *challenge*, and *escapism*, are significant ($p \leq 0.01$). The linear independent variables ($VIF < 10$) explain 15.7% (R^2) of the variance in eSports use. Since we measured constructs reversely, all three independent variables positively influence eSports use.

Use Motive	Mean	Std. Dev.	VIF	Std. β	t-Value	p-value	Sig.
Competition	2.858	1.681	1.354	- 0.213	- 3.561	0.000	< 0.01
Challenge	2.771	1.484	1.461	- 0.180	- 2.892	0.004	< 0.01
Social Relationship	2.920	1.651	1.113	- 0.038	0.042	0.966	> 0.01
Escapism	4.457	1.897	1.127	- 0.144	- 2.634	0.009	< 0.01

Table 3: Significance and Betas of Multiple Regression Analysis Independent Variables

In summary, our analysis shows that competition, challenge, and escapism are need gratifications obtained through eSports (see Figure 2).

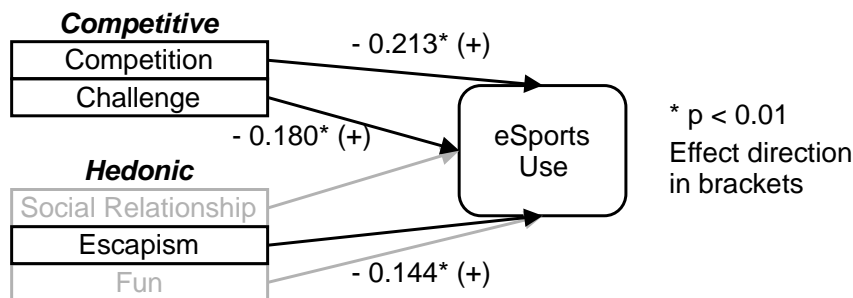


Figure 2: Regression Results

5 Discussion

According to our study, *competition*, *challenge* and *escapism* positively effect eSports use (Figure 2). The finding regarding *competition* is in line with Jansz and Tanis (2007), Sherry and Lucas (2003), and Yee (2007). It confirms that players expect eSports to provide opportunities for power obtainment (Taylor, 2006).

The importance of *Challenge* also reflects the literature (Jansz and Tanis, 2007). Yet, in contrast to Mäyrä (2008), who stresses challenges arising from new in-game directions, it highlights the sportive connotation of eSports. Since eSports games are single-level games, we guess that challenging oneself is less about self-affirmation through mastering games but about the striving for fame within the eSports community.

Similar to Chen, Chen, and Ross (2010), and Yee (2007), we find *escapism* positively effecting eSports use. However, one may argue whether escapism in the context of eSports belongs to hedonic need gratifications (Jansz and Tanis, 2007; Sherry and Lucas 2003). Different from collaborative online gaming environments, escapism in eSports is not about the social experience of slipping into avatars' roles and becoming the virtual 'other' players would like to be (Cerulo, 1997; Yee, 2007). Rather, it is about gathering the capabilities of highly skilled avatars while immersing into the virtual world in order to gain competitive advantage, i.e., an instrument that leads to in-game power.

It is worth noting that *social relationship* is insignificant within our multiple regression analysis (see Table 2). This is in contrast to prior literature on gaming (Griffiths, Davies, and Chappell, 2003), acceptance and use (Brown, Venkatesh, and Bala, 2006), and Uses and Gratifications (Sangwan, 2005). The often-pronounced social relationship functionality of gaming (Griffiths, Davies, and Chappell, 2003) seems to fade. Hence, it has to be seen whether social interaction in eSports serves the improvement of players' performance instead of sociality.

Finally, we need to discuss the exclusion of *fun* from the multiple regression analysis due to a lack of convergent validity. Players did not appear to associate fun with eSports being an end in itself. Possibly, they have a different comprehension of fun in the competitive context of eSports; one that we were unable to identify through our semi-structured expert interviews and pre-tests.

6 Summary and Future Research

Overall, we reveal the dominance of competitive need gratifications in the eSport context; players observe eSports as a competitive activity (Weiss, 2009). This insight itself sheds light on the specificities of digitizing established contexts and transferring them to the 'e'world.

One may criticize that our overall finding may be due to the fact that we survey top-league eSports players. Redoing our study for instance with real-world football players would possibly generate similar results should we only ask champions-league participants. However, considering sports in the 'e' world, most activities seem to be organized in leagues. As there are far less eSports players than 'real world football players, a high percentage of eSports players seems to be mainly after competitive need gratifications. In future research, one may want to confront the issue of a potential tautology further. To us, it seems to be mainly a sampling topic, which is closely related to a context-specific research design.

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