The Impact of Social Support of Guild Members and Psychological Factors on Flow and Game Loyalty in MMORPG

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Abstract

The objective of this study is to identify the relationships in which social support influences flow and game loyalty through character control, character identity, guild identity and self-esteem. For the study, focus group interviews were carried out with MMORPG gamers and, as a result, important factors such as social support and self-esteem were found. Based on prior research and the focus group interviews with MMORPG gamers, the independent variables of social support and character control were identified. Character identity, guild identity and self-esteem are proposed as mediating variables with flow and loyalty as the dependent variables. The research model and hypotheses were developed and then verified empirically. The data was collected from 244 WOW gamers to verify the research model and SEM analysis was then used to test goodness-of-fit of the model. The results were as follows: First, social support had a statistically significant impact on character control, character identity, guild identity and self-esteem. Second, character control had significant effects on character identity, guild identity and self-esteem. Third, character identity had a clear effect on self-esteem. Fourth, guild identity affected self-esteem, flow and loyalty. Fifth, self-esteem had a positive influence on flow.

1. Introduction

Due to the dramatic growth in the number of users of online games, the revenue of the Internet game industry has dramatically increased. As a consequence, different genres of games have been developed, many of which are designed to interact with individual gamers. With the rapid development of the game industry, there is a growing recognition that online games are an accepted leisure activity. People tend to establish interpersonal relationships and/or a virtual community by playing online games [31]. Massively Multiplayer Online Role Playing Game (MMORPG) is a representative game which incorporates both of these features. Nowadays, online gamers have a lot of social interaction and active communication in the virtual community, when they play online games. It is possible for many people to simultaneously participate in a game; so, communication is necessary for cooperation and negotiation during games. The gamers can greatly influence each other [39]. There is some research on the factors that influence the sharing of information and cooperation amongst gamers through guilds [6][50][58]; such research is nevertheless exploratory. The present research focuses on identifying the factors that arise through interactions between gamers in a guild where people develop interpersonal relationships through frequent interactions.

2. Theoretical Background

2.1. MMORPG and Guild

MMORPG is an online, role-playing game wherein many gamers create their own characters and interact with each other in a virtual community [58]. According to MMOGCHART (2006), top three games that currently lead in the game market are World of Warcraft, Lineage, and RuneScape [62]. MMORPG is the best concern among developers. Obviously, each game has its unique characteristics, however, the genre of games definitely has in common, MMORPG. The most striking feature of MMORPG, when compared to offline games, is the guild system [50]. The members who belong to the guild share information about games and regularly play games within a virtual community [6][60]. Many MMORPGs offer guild-chatting or guild-messenger services to encourage guild members to actively communicate with each other [56]. Using adaptive structuration theory, Lee and Kwon [59] analyzed the influence of appropriation on performance in a MMORPG game.

The guild refers to a virtual community whose sole purpose is to enable gamers to interact with each other all the time [6][58]. Lee et al. [46] set high value on the interaction between users and invoke the concept of a sense of community. However, they did not clarify the meaning of 'guild.' Jo et al. [50] defined the term in terms of a community of players of a particular game and suggested an integrated model by mapping out two strategies, namely,
a control-enhancing strategy and an interaction-enhancing strategy. A guild is sometimes also called a ‘clan.’ Many MMORPGs provide game players with both chatting and instant-guild-messenger services for better communication amongst the guild members [56]. Through an ethnographic approach involving WoW gamers, Williams et al. [14] developed a typology of players and guilds to examine the social dynamics of guilds targeting Wow gamers. Social interaction tends to increase due to the enjoyable environment of the guild and gamers build a social network over time. Williams et al. [14] found that playing WoW is as social as any team sport. After reviewing the literature it was found that there is some research on guilds, and that some scholars are focusing their attention on guilds. Since the guild is a major factor of game loyalty, in which interactions between gamers are developed, it is considered important in an investigation of the psychological factors of gamers and their relationships.

2.2. Social support

Social support has been examined in the field of psychology. It is usually studied as an intervening factor of the relationship between stress and adaptation. Cohen and Hoberman [47] defined social support as the best positive resource that an individual can achieve from the personal relationships they have. Richter [23] defined two types of social support: informational support (through the sharing of information) and physical support (where there is personal relational support). House [26] considered social support as personal behavior that involves emotional interest, instrumental support, information on one’s surroundings, and positive evaluations about oneself.

According to Cohen and Hoberman [47], social support falls into four divisions according to function: emotional support; informational support; instrumental support; and appraisal support. Emotional support makes people feel comfortable through the expression of sympathy and the demonstration of respect or affection. Informational support refers to the provision of information or advice that is helpful for problem-solving. Instrumental support refers to the provision of an instrument or property that is useful for handling problems. Appraisal support is something that helps people to evaluate themselves by letting them see themselves through others’ eyes. The virtual community also offers consistent social relationships. Through these relationships, people exchange the same type of social support online as they do offline [43].

Through focus-group interviews, it was found that social support within guilds is also divided into emotional, informational, instrumental, and appraisal categories, as suggested by Cohen and Hoberman [47]. In other words, we found that the members of a guild are accustomed to an environment where they share information, give items for free, and evaluate themselves through others. Gamers at the higher levels usually help their comrades at the lower levels and teach them the skills that are needed to play the games.

2.3. Identity theory

Much of the research on identity, from a social-psychological viewpoint, is conducted within organizations and based on social-identity theory [17][21]. Dutton et al. [21] divided the concept of ego into two parts: personal identity and social identity. The identity that is related with an individual or group plays a significant role in influencing the concept of ego, i.e., the sense of one’s social identity, and subsequently leads to self-definition. The process of building up self-definition is called identity. It is obvious that personal identity is complementary to group identity. Prior research classifies identity into three kinds: organizational identity [3][17]; identity with the online environment [18][33][38][54]; and identity with the virtual community [52].

According to community theory, the community identity refers to a wide range of psychological mechanisms that recognize the community [10]. The community identity has many psychological mechanisms that guide members’ behavior in interactions within the community. By eliciting commitment and responsibility and emotionally connecting members, identity plays an important role in the conduct of members of a community [41].

The degree of online-community identity depends on how strong an individual’s self identity is and/or how firm the social identity is toward the community [4][48]. As previously mentioned, identity is classified into two parts: personal identity and social identity [38][57]. Personal identity is defined as the degree of similarity between the image of the product/service and the image the individual has of themselves [57], whereas social identity implies individual knowledge about a specific social group that is important and valuable for the individual’s membership [9]. The field of organizational behavior has suggested the concept of cognitive factors of social identity as an example of self-categorization that is established by members on their own [34]. Bergami and Bagozzi [34] noted three different aspects of the concept of social identity, pointing out that social identity in terms of a valued group involves cognitive, affective, and evaluative components, and motivates behavior that is consistent with identity maintenance.

As social identity theory explains, the degree of community identity reflects the individual’s psychological attachment for the community [20][30]. It can be said that community identity persuades people to change their way of behavior and makes them aware of the necessity of community. In other words, the greater is the awareness or sense of community, the more that people identify with the community. In this study, using identity theory, we recast personal identity as character identity, and social identity as guild identity, so that we can employ them as research variables for the environment of MMORPG.

2.4. Self-esteem

Self-esteem is defined as the degree to which someone regards himself/herself as a valuable person [35]. That is,
we can say that self-esteem affects the ego. Individuals, who have high self-esteem, can protect themselves from mental illness, recover quickly from stress, and are strongly motivated to solve problems. Individuals with high self-esteem tend to experience greater satisfaction with life [15]. As the motivation theory of Maslow [5] proposes, there are two forms of esteem needs, a lower form and a higher form. People with low self-esteem need respect from others. They may seek fame, glory, dignity, attention, and reputation, which again depend on others. These types of people think of themselves as important beings when they receive high evaluations from others. The higher form involves the need for self-respect, including such feelings as confidence, competence, achievement, independence, and freedom. People with the higher form of self-esteem feel that they are skilled, confident, and competent when they achieve what they desire. If they do not achieve what they originally seek, they suffer from depression and experience helplessness, inferiority, and spiritlessness. Maslow [5] noted that self-respect is much more important than the respect of others, because, unlike the respect of others, self-esteem is a lot harder to lose. Likewise, members of the guild will continue to take part in the guild by evaluating their own value through communication with each other.

From focus-group interviews, this study found that self-esteem is established through information sharing and social support with guild members. That is, when gamers win games by their own clever tactics, they think of themselves as important beings, who receive favorable comments and respect.

3. Focus group interviews (FGI)

Based on the experience of playing WoW games, the authors proposed a research model and conducted focus-group interviews (FGI). FGI involve formulating a hypothesis and then collecting some relevant data. Williams and Skoric [13] insisted that researchers of games should be able to actually play the game they are studying before they carry out a survey. If they do not, they will not know what questions they should ask, they will not be able to decipher the local language, they will not understand the mechanics of the game and they will not have a sense of the social context of play.

FGI were conducted face-to-face with students of C University in Korea. We formulated structured interview schedules, which included questions that were based on our research variables and personal experience. Then, the key point of the questions and the order of questions were explained to respondents.

The questions for the interviews encompassed: (a) the demographic characteristics of the focus group; (b) the number of years for which respondents had played online games; (c) the motive for starting a game; (d) the number of game-characters assumed by each gamer; (e) the type of game played; and (f) other issues such as the reasons for involvement in the play, the willingness to reuse the game in case new versions were released, etc. In general, it took two hours to interview each of three groups. A tape-recorder was used to record the content of the interviews. Table 1 lists the demographic characteristics of each group. All respondents were heavy users [61], who spent more than three hours each day playing games, had more than two years’ experience in playing games, possessed more than two game-characters, and reached the highest level, i.e., 70. Therefore, the focus groups definitely represented general users of games, since the members had rich experience and profound knowledge of games.

![Table 1: Characteristics of the focus groups](image)

<table>
<thead>
<tr>
<th></th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of respondents</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Age</td>
<td>28</td>
<td>25–26</td>
<td>24–26</td>
</tr>
<tr>
<td>Title of the game</td>
<td>WoW</td>
<td>WoW</td>
<td>WoW</td>
</tr>
<tr>
<td>Years for which they have played the game</td>
<td>2, 3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>The number of game-characters they possess</td>
<td>2</td>
<td>2–5</td>
<td>3–5</td>
</tr>
<tr>
<td>The highest level</td>
<td>70</td>
<td>60–70</td>
<td>60–70</td>
</tr>
<tr>
<td>Average duration for which a game is played</td>
<td>5–8 hr</td>
<td>3–5 hr</td>
<td>3–5 hr</td>
</tr>
<tr>
<td>Character race</td>
<td>Horde</td>
<td>Alliance</td>
<td>Horde</td>
</tr>
<tr>
<td>Playable server</td>
<td>Normal</td>
<td>Combat</td>
<td>Normal</td>
</tr>
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</table>

3.1. The results of the first FGI

A primary set of FGI was conducted with three groups on the premise that there would be some differences by character race (Horde vs. Alliance) or by playable server (Normal vs. Combat). The three groups were of the same level of ability and there were no obvious differences. Responses did not vary across races and servers. The second interview was constructed targeting just one group which consists of four- five respondents chosen at first interview. With respect to the manner of playing, it was found that guild members shared information, felt a sense of belonging, and played computer games for quite a long time through the guild; however, they did not undergo these experiences when playing alone. Gamers who belonged to a specific guild helped other players without claiming compensation, shared information about the game, gave items for free, and forgave others who made mistakes. They were mutually aware of their existence and experienced a sense of belonging through interactions with, and evaluations from, other players. It was clear that social support was shown within the guild and that it played an important role as a major research variable. Using the results of the first FGI, a second set of in-depth FGI was carried out where the psychology of the individual within the guild and the social community of the guild were the focus.

3.2. The results of the second FGI

A second set of FGI was undertaken that focused on the guild and offline meetings. Gamers recognize the necessity of joining a community, not only in real life, but also in the
online world of the guild. They admit that the guild is important and is needed so they can easily and conveniently enjoy playing online computer games. The active behavior and positive attitudes of existing guild members can motivate new members of the guild to adapt themselves to the guild environment. They then adopt the same behaviors and attitudes of established guild members. In this manner, the new members of the guild strengthen the bonds between gamers, feel a sense of belonging, and develop social identity. It was discovered that the interaction among guild members and the social support encouraged new gamers to quickly develop a sense of social identity and increase their self-esteem. The guild seemed to play the role of socializing gamers. Sometimes, even in the real world, the guild members helped one another; so, the features of the guild also spilled over into the offline environment. We intend to use self-esteem, which was found through the second set of FGI, as an important research variable.

4. The Research Model and Hypotheses

4.1. The research model

Considerable research is being carried out on MMORPG from various angles; however, studies that deal with the concept of guilds are very rare [6][14][50]. Based on both FGI and prior theory, seven variables are drawn that focus on the guild. Among them, social support and self-esteem, which were discovered in the FGI, are considered to be important variables at the level of the guild. Therefore, we intend to reveal the impact of social support on flow and loyalty, as mediated by character control, character identity, guild identity, and self-esteem.

We developed the following research model and hypotheses based on prior research [9][11][12][16][17][22][24][29][35][50][51][56] and the results of focus group interviews (Figure 1).

Social support [47] can be construed as offering information about how to setup game-characters, how to achieve quests, etc., to members of the guild. Character control is conceptually related to manipulating game-character directly[25], character identity is defined as a feeling of identity with the character and guild identity is defined as a feeling or a sense of belonging to a guild. Self-esteem is related to the degree to which gamers think of themselves as important beings in a guild. The greater is the social support the guild members are given, the greater are the character identity and character control that they have. Based on the results of FGI, four hypotheses were formulated that deal with the relationships between social support, character control, character identity, guild identity, and self-esteem.

H1. Social support will be positively associated with character control.
H2. Social support will be positively associated with character identity.
H3. Social support will be positively associated with guild identity.
H4. Social support will be positively associated with self-esteem.

4.2.2. The relationships between character control, character identity, guild identity, and self-esteem

The concept of control is the psychological desire of a human being that affects their ego and self-esteem [1][40][42][45]. It is directly related to the manipulation of a target [24][25]. The gamers in MMORPG make an effort to skillfully manipulate their characters. The higher is the level of the character, the more is the character control they have. It encourages gamers to identify themselves with their characters and the guild and can increase their self-esteem. Based on the results of FGI, Hypotheses 5, 6, and 7 can be formulated as follows.

H5 Character control will be positively associated with character identity.
H6 Character control will be positively associated with guild identity.
H7 Character control will be positively associated with self-esteem.

4.2.3. The relationships between character identity, self-esteem, flow, and game loyalty

Personal identity is evident when a client is aware of the similarity between him/her and the online community [2]. Where the self-image matches the online community image and users have the chance to express or improve their image though the online community, they will highly rate the community. They will provide information about the community and frequently interact with gamers from the community [4][55]. In other words, gamers become immersed in the online community. Based on the results of FGI, Hypotheses 8, 9, and 10 are:

H8 Character identity will be positively associated with flow.
H9 Character identity will be positively associated with self-esteem.
H10 Character identity will be positively associated with game loyalty.
4.2.4. The relationship between guild identity, self-esteem, flow, and game loyalty

Williams [14] suggested that gamers have social interaction when they enjoy participating in the guild; from this interaction, social networks are created. Gamers who have strong guild identity try to increase their self-esteem through social interaction within the guild. Based on the results of FGI, Hypotheses 11, 12, and 13 are:

H11. Guild identity will be positively associated with self-esteem.
H12. Guild identity will be positively associated with flow.
H13. Guild identity will be positively associated with game loyalty.

4.2.5. The relationships between self-esteem, flow, and game loyalty

Like sports and dancing [19][32], games are also considered to be related to self-esteem and may be one of the factors that affect pleasure. Self-esteem that is built through social interaction with guild members will increase flow and game loyalty. Based on this, Hypotheses 14 and 15 are:

H14. Self-esteem will be positively associated with flow.
H15. Self-esteem will be positively associated with game loyalty.

4.2.6. The relationship between flow and game loyalty

Based on research that established the relationship between flow and game loyalty [8][12], Hypothesis 16 is formulated.

H16. Flow will be positively associated with game loyalty.

5. Research Methodology

5.1. Variables and their definitions

Based on the prior study and FGI, a measuring device was developed to determine the constructs of the research model. Some constructs have been adjusted to fit the purpose of the study (Table 2).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Definitions</th>
<th>Ref.</th>
</tr>
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<tbody>
<tr>
<td>Social Support</td>
<td>Positive resource that gamers get from personal relationships.</td>
<td>[56]</td>
</tr>
</tbody>
</table>

5.2. Data collection

To collect data, an online survey was designed with a questionnaire to be completed by WoW gamers, who belong to a guild. The survey was registered on the best three domestic game-sites: ‘WoW playforum;’ ‘WoW gamemeca;’ and ‘Wow invent.’ The items to be measured that were included in the questionnaire were based on prior research and data from FGI. To verify the content of the questionnaire, we carried out a pilot test with the same participants to correct ambiguous questions and ensure there were no misunderstandings. A total of 244 responses were analyzed from the 250 questionnaires that were completed.

6. Results

6.1. Descriptive statistics

After the survey was carried out, the demographics of the respondents were checked. Of all the respondents, 87.7 percent (n=214) was male and 12.3 percent (n=30) was female. Most of the male respondents were university students (36.9%), who were aged between 25 and 29 years. Gamers with more than three years’ experience had, on average, more than five game-characters (48.8%). Some gamers owned the highest level (a level of 70) of characters and played computer games for four-five hours (30%) on average per day. In relation to the time they spent on online games, most of the respondents were heavy gamers. However, although it was obvious that they were heavy gamers, they seemed unwilling to admit the fact and said that they were only light gamers.

6.2. Reliability

Cronbach’s α was used to assess whether the variables were reliable or not. For each item, Cronbach’s α (0.883~0.924) was higher than the acceptable criterion of 0.8, which indicated that all items were highly reliable (Table 3).
6.3. Validity

Validity is the degree to which an item actually measures what it is intended to measure. A confirmatory factor analysis was used to analyze validity. The results after the exclusion of some items (cont1, sup1, sup5, cide1, cide5, gide3, gide4, gide5, flow4, flow5, loy1, and loy5) that would hinder unidimensionality are shown in Table 4. The goodness-of-fit indices for each measurement model were: $\chi^2=133.40$ (with 98 degrees of freedom); GFI=0.94; RMR=0.06; RMSEA=0.03; AGFI=0.91; CFI=0.99; and NFI=0.97. All were higher than the standards generally suggested. Construct reliability exceeded 0.7, which is a suggested standard value, and AVE exceeded 0.5, which is a suggested standard value [22]. In conclusion, each item of this study is valid for the associated research variables (Table 4).

6.4. Verifications of the structural model and the hypotheses

In Figure 2 below, among 16 paths suggested in the research model, 13 paths were verified as statistically significant. The effects of social support on character control (H1), character identity (H2), guild identity (H3) and self-esteem (H4) were all proved to be statistically significant. The effects of character control on character identity (H5), guild identity (H6) and self-esteem (H7) were all proved to be statistically significant. The effects of character identity on self-esteem (H8) and loyalty (H10), the effects of guild identity on self-esteem (H11) and game loyalty (H13), and the effect of self-esteem on flow (H14) were all proved to be statistically significant.

7. Conclusion

This study focuses on the relationships in which social support influences flow or game loyalty through character control, character identity, guild identity, and self-esteem, which are present within a guild in the MMORPG game environment. The facts discovered are as follows. First, the
effects of social support on character control, character identity, guild identity and self-esteem are proven to be statistically significant. It was found that character control improves character identity, guild identity and self-esteem. Among the seven variables, social support, which is derived from FGI, plays an important role in this study. With the active support of other guild members, gamers can improve their ability to develop good characters and to control them.

Second, character identity has a positive effect on self-esteem and game loyalty, while guild identity has a significant effect on self-esteem, flow and loyalty. Self-esteem affects the flow. It was found that the higher are the character and guild identities, the greater is the self-esteem that is established. Contrary to the findings of prior research [32][38], it was found that the relationship between character identity and flow is not significant. Rather, it was found that character identity directly affects game loyalty. Even though character identity had no direct effect on increasing flow, it secondarily affected flow through self-esteem. The significant relationship between self-esteem and flow indicates that gamers achieve flow, i.e., a feeling of pleasure and excitement, through social support.

Several important implications of this study should be noted. First, both qualitative and quantitative methods were used to conduct this study. Through FGI, it was observed that both social support and self-esteem are important variables. Second, research relating to guilds has rarely been carried out. This research has focused on the guild [37], which is expected to play an important role in the online community. Third, according to the result, six hypotheses (H1, H5, H6, H7, H8, and H11) which were setup based on FGI, were statistically significant; so, we can suggest the corresponding relationships among the variables as a guideline for follow-up research. Fourth, social support, self-esteem and identity are important variables that affect flow and game loyalty in the MMORPG game. Fifth, game developers should provide extra communication functions for the guild community so that gamers can play online games in collaboration with each other. It is suggested that positive self-esteem, which is built up through social support, can help gamers to achieve flow and reduces negative motivation. Sixth, on the basis of FGI, we suggest that gamers have strong loyalty towards WoW, as all respondents agreed that they would consistently play WoW, even if new RPG games are released by other companies.

References


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