http://dx.doi.org/10.5392/IJoC.2014.10.4.018

Exploring the Meaning of College Students' Leisure Activity: Means-end Chain Analysis of Social Network Game Playing

Ju Hyoung Han, Ph.D.
Sustainable Tourism and Protected Area Management Program
Department of Community Sustainability, Michigan State University, East Lansing, MI, USA

ABSTRACT

Social network games (SNGs), a rapidly growing online game genre, are built and played on social network sites. SNGs provide an online world for enjoying leisure time and interpersonal communication, and an increasing numbers of college students are involved in such game-playing as a leisure time activity. Despite the popularity, relatively few studies have been conducted to investigate the nature of game players, especially the meaning of such leisure time behavior by college students. This paper's aim was to explore a subjective meaning structure of online social network game play. The means-end chain model was used to link attributes of SNGs to the underlying values of game playing as a leisure activity. The results revealed two emerging end-values: the need for bridging and a sense of belonging. This study sheds light on the meaning of college students' leisure activities when playing social network games.

Key words: social network games, college student leisure, means-end chain model, need for bridging, sense of belonging

1. INTRODUCTION

Social Network Games (SNGs) are an emerging form of Internet applications, built and played on Social Network Sites (SNSs). As of 2013, it was reported that over 250 million users regularly play games each month on Facebook [1]. Another report about social network gaming industry anticipates that the worldwide SNG market size would reach 8.64 billion by the end of 2014, and 50% of social networking users and 34% of total Internet users will play SNG by that time [2]. These interactive game applications are increasingly popular and already entertain hundreds of millions of game players, particularly among college students. A unique characteristic of SNGs is that these games are designed to grow players' social networks, which consequently improves their game experience. For example, *FarmVille*, a SNG available in Facebook, has incorporated a user's degree of online networking into game play progression and success. The growth of these online social applications potentially influences how leisure time is spent, especially by young adults such as college students. A number of studies have been conducted on SNSs and online games, but the study of SNGs in connection with the meaning structure of leisure time activity remains largely untouched. Considering the emerging popularity and uniqueness of this form of leisure activity, it is desirable to understand why college students play SNGs in their leisure time. This study's primary objective is to understand the subjective meaning structure of social network game playing for leisure time activity, particularly among college students. The research uses qualitative method, one-on-one laddering interviews, to understand underlying value structure that game players link to their game play in their leisure time.

* *Corresponding author, Email: juhyounghan@gmail.com*
Manuscript received Jul. 22, 2014; revised Nov. 03, 2014; accepted Nov. 10, 2014

2. LITERATURE REVIEW

2.1 Social network sites

Social Network Sites (SNSs) provide individual users with opportunities to present themselves in public, and to communicate with others on the Internet. Many users of social networking sites log in daily, with Facebook specifically claiming that 50% of their active users log on to Facebook in any given day at the time this study was conducted [3]. U.S. college students have reported using Facebook an average of 10-30 minutes daily [4]. Since inception of the online social networking phenomenon, many researchers have postulated that computer-mediated communication and online social networks foster connections between individuals, and support a wide array of relationships as well. Computer-mediated communication can have both positive and negative effects on interpersonal communications. Extensive use of the Internet is thought to bring about decreased communication among family members, reduction in the extent of one's social circle, increased depression, and loneliness [5]. Positive aspects of computer-mediated communication include maintenance of close interpersonal relationships, facilitation of long-distance relationships, and generating new relationships [6].

Characteristics of SNS, such as demographic profile availability and offline connection components, provide a diminishment of the anticipated de-individuating experiences [7]. Regardless, interpersonal communication within the realm of online social networks, particularly SNS, has been become pervasive among young adults. SNSs allow users to construct a public or semi-public profile within a bounded system; articulate a list of other users with whom they share a connection; and view and traverse their list of connections and those made by others within the system [8]. Also, SNSs allow people connecting and interacting with each other on a particular subject, 'hanging out' together online [9], and maintaining broader sets of weak ties in their social networks [4]. People merely want to keep in touch with others they know, and to benefit from the resources [8].

2.2 Online social network games

Online games are referred to as a type of entertainment-oriented and Internet-based information technology, and provide a tool for understanding collective human phenomena and social dynamics [10]. One type of online gaming genre is the multiplayer game; the so-called Massively Multiplayer Online Games (MMOGs). MMOGs are on–line, text-based Multi-User Dungeons (MUDs) [11]. Starting with MUDs developed in the late seventies, players and designers quickly took advantage of the capabilities offered by the Internet to build complex online social worlds where people could meet and play [12]. The proliferation of SNSs and MMOGs has created a phenomenon wherein many individuals engaged in SNSs become involved in online social network games. Social Network Games (SNGs), a sub-genre of online games, are those built and played on social network sites. The difference is that SNGs are designed to enhance ones social experience with friends on their social networks. Compared with MMOGs, SNGs typically have a smaller group of players. Another difference between SNGs and MMOGs is strength of the ties. SNGs are not played among anonymous gamers. SNGs operations are based on SNSs therefore, SNG players are interconnected through SNSs. Given SNGs' popularity and underlying value structures, and their potential influence on young adults' lives - e.g., those of college students -lives, it is important to understand the underlying values explaining why they play SNGs, and how playing the game is relates to their leisure time activity and their everyday lives.

One of Facebook gaming applications is *FarmVille*, and this game is used in the present study to understand the subjective meaning structure of SNG players. The game was launched in 2009 and, had approximately 57 million active monthly at the time this study was conducted [13]. Basic concept of the game is to become an online farmer and to farm virtual plots. Players can virtually grow various crops, and raise livestock. This game serves as an illustrative example of the gaming experience and characteristics of SNGs that shed light on the meaning of game playing as a leisure time activity.

3. METHODS

3.1 Means-end chain model

To understand how college students translate SNG attributes into meaningful associations with their subjective values or meanings of game playing, this study followed a means-end chain model [14]. Gutman's [14] means-end chain model, widely used in market research, identifies three levels that map cognitive structure across three types of schema: attributes, consequences, and values. Attributes represent the physical or observable characteristics of a product. Consequences are more abstract meanings and reflect the perceived benefits or costs associated with the product's specific attributes. Finally, values are highly abstract meanings and refer to centrally held, enduring beliefs, or end states of existence that consumers seek to fulfill through their consumption behavior [14], [15]. In this sense, these schema represent which physical attributes of SNG are associated with players' perceived benefits, which in turn become means of achieving end goals of playing the game.

3.2 Data collection

The primary methodological manifestation of means-end chain model is the laddering interview. A special form of in-depth, one-on-one interview forces respondents up a ladder of abstraction, thereby bridging relatively concrete product meanings at the product attribute level with more abstract meanings at the consequence and personal value levels [16]. The laddering technique, based on means-end model, is then applied to gain insights into game players' motives or meanings through the development of a hierarchical structure from attributes to values.

In-depth interviews were conducted to understand students' behavior in playing SNGs. The first part of the interview involved the grand tour technique, approached by asking participants to 'Generally describe your last seven days,' as well as 'What do you usually do when you have free time?' and, at the end of this section, 'Did you play *FarmVille* in the last seven days?' These questions helped understanding of current perceptions and behaviors relative to game playing as a leisure activity. The second part comprised a series of questions to describe their reasons for playing the game. The question 'Which attributes of the game do you like, and why are these attributes important to you?' was used to trigger the user's thoughts about game play and the functions it serves. In this study, participants were asked to identify attributes contained in *FarmVille*, then at a more abstract level to describe further benefits. This was repeated until no additional benefits were identified (i.e. having reached the *end* values). For example, a respondent mentioned that "gift" attribute is one of favorite attributes of the game playing because it is a means of "making one's friends happy", which also becomes a means of "useful for networking", and so on. College students were chosen as the population of interest for this study. This study used a snowball sampling method to reach SNG players among college students. The interview lasted April 1-20, 2010. Twenty U.S. college students - 12 female, 8 male, aged 19-26 - were solicited for voluntary participation in this study. Study participants reported that they logged on *FarmVille* on a daily basis, spent an average 35 minutes playing the game per day, and played the game about 4.5 days per week.

3.3. Data analysis

The qualitative data generated from the in-depth interviews was transcribed and analyzed. In this study the validity and reliability of the qualitative data was primarily achieved through a combination of: pilot-testing of the in-depth interview guide; debriefing interview scripts with each of respondents; peer debriefing and discussions with an academic personnel specialized in qualitative research methods; and inviting an external auditor in analysis process. Data analysis using laddering followed four steps: (1) specify the elements of schema according to the means-end chain model for each of individual interviews; (2) do a content analysis with all the interviews and coding to combine and generalize the meaning across interviews; (3), develop the implication matrix by quantifying the relations between the content codes; and (4) create a hierarchical value map to illustrate the connections between the different levels of abstraction [14], [15]. The map showed the hierarchical schema of users representing linkages from attributes (A) level, to consequences (C) level, and to the more abstract values (V) level (see Fig. 1). Given the large number of ladders generated complexity which was difficulty to interpret, while a smaller number of ladders created a simplified map yet revealed higher levels of abstraction. To determine which associations and elements should be illustrated on a final map, a cut-off value of four was used as this brought the most interpretable results without losing important elements and associations. Each association was compared to that cut-off value, and only associations greater or equal to the cut-off value were included in a final map [14].

4. RESULTS

The analysis revealed that game attributes such as 'help friends' (A) or 'gift' (A) came to represent relationship-oriented consequences such as 'avoid troublesome' (C) or 'useful for network' (C). And 'useful for network' (C) diverged in two different directions, either 'superficial relationship' (C) or 'mutual networking' (C) at a higher level on the map. A key attribute of *FarmVille*, 'help friends,' was important to those striving to make their friends happy or manage their own reputations. They thought these attributes were useful for mutual networking, and gave them a 'sense of belonging' (V). Respondents also were concerned about their reputation among friends and other players, and wanted to be connected. 'Communication through the Internet' (A) was a fundamental attribute, but one that carried different meanings for different respondents as the ladder went up. Some indicated that Internet-mediated communication was useful for 'mutual networking' (C), which became a means of 'sense of belonging' (V); others mentioned the Internet as a tool for a 'superficial relationship' (C), which led to an end value of 'need for bridging' (V).

Another important consequence that respondents associated with the attributes 'tractor' (A) and 'player level' (A) was 'efficient time-spending' (C). This, in turn, was linked to keeping a 'non-annoying relationship,' (C) which finally led to the attainment of the value 'need for bridging' (V). There are some important points about the player level in the game that should be explained here. To upgrade one's level on the farm, a player needs as many friends as possible, and needs a great deal of activity among those friends. Levels matter if a player wants to plough more plots and expand his or her farm. Tools are also dependent on level; tools are salient to reducing repeated clicking. For example, a tractor is expensive but enables a player to do farm work more rapidly, an important attribute for those wanting to finish farm work quickly but still sustain their social network. Again, however, only players who have achieved a higher level are eligible to purchase these tools by paying cyber-cash. If players want to use their time effectively, to sustain and enhance communications with existing neighbors, they need to devote time to both inviting new neighbors and to helping them. Accordingly, such game attributes were meant as a tool for time efficiency, which was important to respondents because they wanted to keep in touch with friends by utilizing their free time while playing the game. In doing so, *FarmVille* became a means of bridging with friends.

While 'superficial relationship' and 'mutual networking' represented central motivations for respondents, there were differences in the way in which related elements were linked to each other. Respondents associated 'efficient time-spending' (C) and 'concern my reputation' (C) with 'non-annoying relationships' (C) and 'avoid troublesome' (C), respectively in a hierarchy value map. In contrast, although respondents shared similar elements in the lower level of the map, the cognitive networks toward the end value, 'sense of belonging' was reached through 'make friends happy' (C). Players can set up their farms next to friends' farms, or can invite friends to join *FarmVille* and be neighbors. The player can visit a neighbor's farm and help with chores, or can merely leave messages to talk to his or her friend. When friends are acquired as neighbors, it benefits the game play. A player can earn coins or experience points by helping neighbors. A player has the option of sending gifts, like crops, to neighbors or to other friends not involved in the game. Accordingly, the attributes 'play together,' (A) 'gift,' (A) and 'help friends' (A) served the respondents to both develop and sustain superficial relationships and mutual networking, while playing the game.

This study subsequently brought out two end values used in playing social network games at an abstract level. The two emerging end-values were: 'need for bridging' and 'sense of belonging'. The value 'bridging' refers to the formation of relatively weak ties, whereas the value 'belonging' refers to desiring an emotional connection or bonding. Because online relationships are not supported by face-to-face communication, and do not necessarily involve simultaneously sharing time together, the Internet provides an opportunity to maintain light relationships with few conflicts. At the same time, however, sometimes people seek a sense of belonging beyond weak ties. In this sense, social network game-playing enables this because these types of online games are designed not only for maintaining physical connections but also for developing emotional belonging by sharing virtual goods and assistance, and by spending/sharing a certain amount of time on a regular basis. These two values were explained by college students' spending their leisure time on the game play. That is, an online social network game can facilitate both strong and weak ties in social relations among college students.

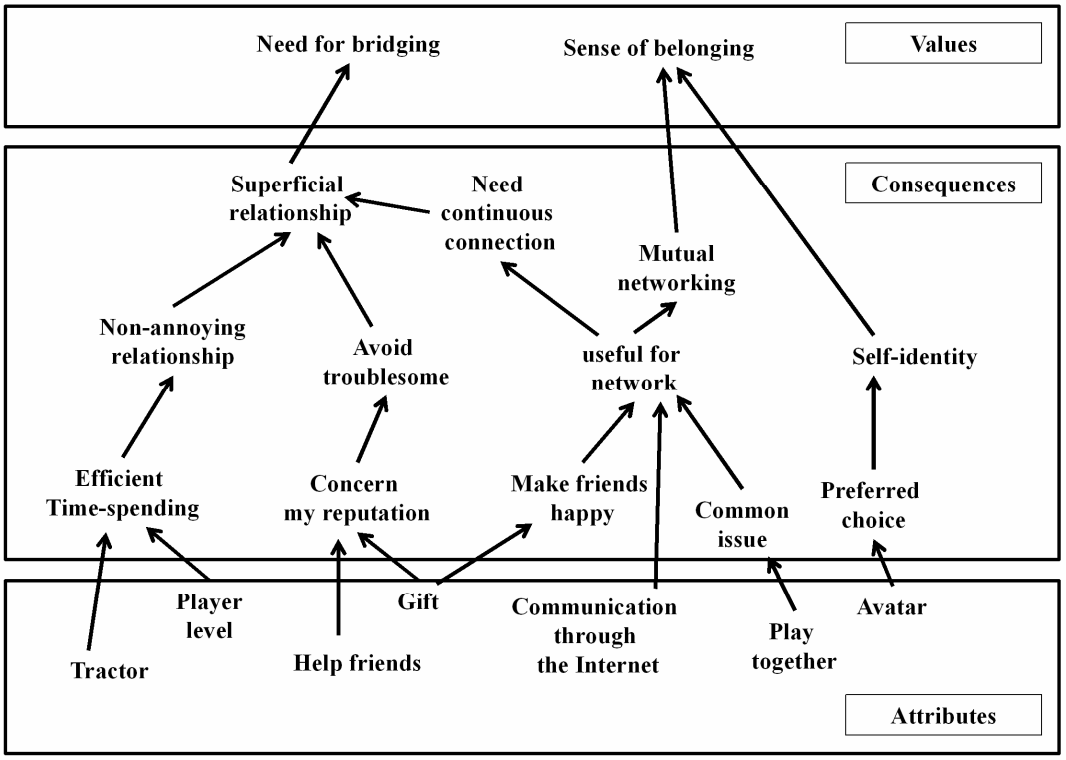


Fig. 1. Hierarchy value map for meanings of social network game playing (cut-off=4)

5. DISCUSSIONS AND CONCLUSION

This study provides a preliminary understanding of why college students play social network games for their leisure time activity. Previous literature addressed positive and negative aspects of using the Internet for communication [5], [6] and playing the online games [10], [12]. By focusing on rapidly growing form of Internet applications, this study expands an understanding of underlying meaning structure of online social network game playing. Clearly, the Internet facilitates new connections, in that it provides an alternative way of connecting with others with shared interests or relational goals [9]. Young adults moving to college need to create and maintain networks not only for campus life but also for their future networks. This study's participants spend a certain amount of leisure time playing the social network games on a regular basis, and develop and maintain relationships with those of their friends who also play the game. Two end values were discovered: the need for a bridge, and a feeling of belonging; these explain college students' subjective meaning structure of leisure activity by playing the games. Following theoretical discussion provides opportunities to look at or interpret results, and enhances understanding the meaning of college students' social network game play for their leisure activity.

Those identified values of game play in association with game attributes can be considered as 'push and pull motivational framework.' This framework is useful for examining motivations underlying leisure behavior [17]. In this framework, *push* factors are specific forces influencing a person's decision to undertake a behavior (e.g., need for bridging), while *pull* factors are forces that influence the decision (e.g., efficient time-spending by using tractor). These two motivational factors help explain the underlying meanings of game playing for leisure time activity among college students. Identifying motivational factors is central to behavioral studies. Two basic motivational dimensions of leisure behavior are: escaping, and seeking, which simultaneously influence people's leisure behavior [18]. For example, a student may want to play the game to escape from his/her routine in everyday life, such as studying, and to seek out psychological (intrinsic) rewards in personal or interpersonal dimensions, such as friendship building and interpersonal communication. Thus, the combination of these motivational factors explain what type of experiences or values college students look for while playing for their leisure time activity.

Facework theory [19] meaningfully explains how people start playing social network games, and why people play them. The theory defines 'face' as a positive social value a person claims, and the delineated self-image formed by approved social attributes. One tends to conduct oneself in a way that will maintain both one's own face and the face of other participants. Therefore, those invited to be a neighbor tend to accept the invitation, to sustain both one's own face and one's friend's face. One may be afraid of losing one's 'being social' face or of ruining another's 'kindness' face if the request is declined. Also, people do face-work for various

reasons, depending on the interaction conditions. Two viewpoints regarding self in interaction are the effort to save one's face to maintain one's emotional attachment to the image of self, and the desire to save the other's face to sustain one's emotional attachment to an image of others. That is, those concerned with the social network value in their lives are likely to feel good when they maintain their self-image - by being social also - they tend to feel relief or self-satisfaction when they are able to maintain the other's self-image - that of being a good friend. This is also an alternative explanation of positive face. If better face is established, good feelings come, thus face can continuously be saved. People expend considerable effort to form and manage face when initially engaging in interactions, as well as in maintaining relationships in a positive manner. And these associated meanings are the end-values of playing online social network games when they want to spend their free time effectively. Regardless the above explanation, a reason to be cautious: Ways of valuing and maintaining face could vary across cultures, and must be applied carefully when adapting face theory to understanding game players. Nevertheless, this theory provides a meaningful perspective for such understanding.

This study explored meanings of college students' leisure activity by illustrating the value structures of social network game playing in a hierarchical value map. However, this study limits the focus on social relationships as meanings of college students' leisure activity. But a focus on academic lives is necessarily connected to the meaning of students' leisure activity, which was excluded in this study. Future study can be expanded by looking at the meaning of students' online game-playing in relation to academic stress and leisure activities. Also, this study provided a limited body of data, with the potential of reflecting solely the perception of study participants. It is recommended for future studies to expand this research by recruiting more students throughout an academic year, and by applying this research into other social network games. Accordingly, results should be read as preliminary evidence of subjective meaning structure and viewed while bearing in mind the mentioned weakness. More comprehensive study can be conducted in future study.

REFERENCES

[1] Inside Social Games. Facebook reveals new growth stats. Retrieved from http://www.insidesocialgames.com/, accessed in Nov. 2013.

[2] Go Gulf.com. Social gaming industry statistics & trends. Retrieved from http://www.go-gulf.com/blog/social-gaming-industry/, accessed in Feb. 2014.

[3] Facebook. Statistics. Retrieved from http://www.facebook.com/press/info.php?statistics, accessed in Apr. 2010.

[4] N. B. Ellison, C. Steinfield, and C. Lampe, "The benefits of Facebook "friends": Social capital and college students' use of online social network sites," Journal of Computer-Mediated Communication, vol. 12, 2007, pp. 1143-1168.

[5] R. Kraut, M. Patterson, V. Lundmark, S. Kiesler, T. Mukophadhyay, and W. Scherlis, "Internet paradox: A social technology that reduces social involvement and psychological well-being?," American Psychologist, vol 53, 1998, pp. 1017-1031.

[6] J. A. Bargh and K. Y. A. McKenna, "The Internet and social life," Annual Review of Psychology, vol. 55, 2004, pp. 573-590.

[7] C. L. Kujath, "Facebook and Myspace: Complement of substitute for face-to-face interaction," Cyberpsychology, Behavior, and Social Networking, vol. 14, 2011, pp. 75-78.

[8] D. M. Boyd and N. Ellison, "Social network sites: Definition, history, and scholarship," Journal of Computer Mediated Communication, vol. 13, 2008, pp. 210-230.

[9] K. E. Murray and R. Waller, "Social networking goes abroad," International Educator, vol. 16, 2007, pp. 56-59.

[10] E. Castronova, "On the research value of large game," Games and Culture, vol. 1, 2006, pp. 163-186.

[11] C. L. Hsu and H. P. Lu, "Why do people play on-line games? An extended TAM with social influences and flow experience," Information & Management, vol. 41, 2004, pp. 853-868.

[12] L. Cherny, *Conversation and community: chat in a virtual world*, Palo Alto, CA: CSLI Publications, 1999.

[13] Facebook Application, Statistics. Retrieved from http://statistics.allfacebook.com/applications, Accessed in Apr. 2010.

[14] J. Gutman, "A Means-End Chain model based on consumer categorization processes," Journal of Marketing, vol. 46, 1982, pp. 60-72.

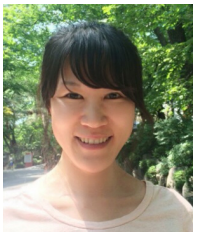
[15] J. P. Peter, J. C. Olson, and K. G. Grunert, *Consumer behavior and marketing strategy*, London: McGraw-Hill, 1999.

[16] C. E. Gengler, D. B. Klenosky, and M. S. Mulvey, "Improving the graphic representation of means-end results," International Journal of Research in Marketing, vol. 12, 1995, pp. 245-256.

[17] G. M. S. Dann, "Anomie, ego-enhancement and tourism," Annals of Tourism Research, vol. 4, 1977, pp. 184-194.

[18] S. E. Iso-Ahola, "Toward a social psychological theory of tourism," Annals of Tourism Research, vol. 12, 1982, pp. 256-262.

[19] E. Goffman, *Interaction Ritual: Essays on face-to-face behavior,* New York: Pantheon Books, 1967.



Ju Hyoung Han

She received a Ph.D. in the Sustainable Tourism and Protected Area Management Program from Michigan State University. Her research areas include sustainable tourism, event tourism, and leisure/ recreation.