Continuance Intention to Use Social Network Game: The Philippines Case

Arceli Piguing
Chonnam National University
arcelipiguing@yahoo.com

Ilseang Ko
Chonnam National University
isko@jnu.ac.kr

Abstract

Social Networking Sites (SNS) offer online games to their users. The evolution of social network games in the Philippines is very popular today. The aim of this study is to identify the factors that most affect the reason why people continue to play social network games in the Philippines. This study views online games as entertainment technology and their behavior in using this social network games. This research adopts continuance theory and extensions to the basic model to examine the effects of perceived playfulness and habit. The online survey was conducted in the Philippines.

1. Introduction

Social networking games are utilized through sites such as Facebook, Friendster, Google plus and etc. Users join a game, receive a basic character and then work to advance up through the levels by expanding their farm, homestead, clan, etc. This can be time-consuming and addictive for many people. Building up one’s character and the character’s home and acquiring such items as new clothes, pets and vehicles require an ever-increasing circle of friends. Many items and achievements cannot be received or accomplished without adding more friends. This pushes the player to send requests to join the game for everyone on his friend list in order to advance. Social networking games such as Candy crush, Farmville, Fishville, Vampire Wars, Cityville and Petville may seem like child’s play or time wasters to some, but they are actually valuable resources for keeping friends and family connected even when they are on opposite sides of the country.

Playing a game with a friend who is in another state can make the two players feel connected and bonded. Playing social networking games can also help new family members get to know each other and feel more connected. Social networking games are much more complicated than they appear on the surface because they require and help build relationships to succeed. All kinds of games present on Facebook are competing against each other to get the number of users participating in the game activities. To entice users, developers follow a sequence of steps that make sure that users stay involved. The game play of each and every Facebook game is very simple. It does not involve a lot of thought or strategy. It mostly involves a series of clicks to go forward in the game and the player gets rewarded with something like points that the user needs to move forth in the game. Facebook applications always use the entire social network sites and somehow encourage and motivate the user to involve their friends. When a user and his friends are playing a game together, they can help each other out which would help them to advance ahead. When friends are involved, users feel more compelled to play the games and they are more interested in the games as they are virtually communicating with people they know. This makes them feel that they are staying more connected with their friends and family. Some games directly ask users to involve their friends as they are required to proceed in the game.

2. Research Background

2.1. Social Network in the Philippines

In the Philippines one of the most active web-based activities is social networking. According to the study conducted by Universal McCann entitled “Power to the wave 3”, it shows that 83% of Filipinos are declared as the most active users on a social network sites such as Facebook, Friendster, Twitter, Multiply and etc. The Philippines has already reached 30 million Facebook users and 43% of the users are male and 46% are female, according to the study conducted by Digital marketing get hooked 360. Facebook is the country’s most popular website, more so than Google, and has a penetration rate of 93.9%. The Philippines is also the eighth most popular country for Twitter use...
on a global scale, with a penetration rate of 16.1%. Due to largely used of Facebook the popularity of photo sharing has increased by 46% in the country in one year. Social networking is so popular among Filipinos and the country has been named as “The Social Networking Capital of the World”, according to the report of 24/7WallSt.com.

2.2. Expectation-Confirmation Theory

In 2001, Bhattacherjee set forth the expectation-confirmation theory (ECT). The Expectation-Confirmation Model (ECM) is an IS-related early research model that has its origin in expectation-confirmation theory (ECT) which introduced by Bhattacherjee in 2001. ECM is a mature model and has been widely applied to investigate behavior in the areas of marketing, service quality and human resources [52]. According to Oliver [33] [35], this theory was primarily extended in order to investigate consumer relationship satisfaction and repeat decisions in the consumer behavior literature. Bhattacherjee concentrated on the accordance between individuals’ continued IS usage decisions and consumers’ repeat purchase decisions. The ECM in the IT literature was suggested by Bhattacherjee to explain the perception of consumers’ continuance intention. Bhattacherjee implemented an empirical verification of the ECM using a survey of online service users to explain the process through which users develop continuance intention. Bhattacherjee’s [6] model relates the constructs of perceived usefulness and satisfaction to the extent of confirmation of a user’s expectations about an IS, where by expectations that are carried out greater satisfaction and perceived usefulness. High levels of perceived usefulness are also considered to contribute to greater satisfaction with a system. However, the result variable of continuance intention is determined by the level of satisfaction with an IS and the perceived usefulness of the system. Bhattacherjee’s model has been successfully applied to individual user contexts involving the Web, such as other online services in the internet more broadly [6] [29].

3. Research Model and Hypotheses

3.1. Confirmation

Bhattacherjee’s ECM posits that confirmation of users’ expectations will have a positive effect on their perceived usefulness of IT. Perceived usefulness of IT could be affected by the confirmation experience, particularly when the users’ initial perceived usefulness is not concrete due to uncertainty over what to expect from IT usage.

Confirmation is a cognitive evaluation of an IS at the post- adoption stage [6]. According to the cognitive dissonance theory, [13] users experience cognitive dissonance when their pre-adopted expectations are higher than their perception of performance after using the service. However, when users perceive their actual experiences with an IS as exceeding their expectations, confirmation positively influences perceived usefulness [6] [21] [19].

Users have expectations on certain system before usage, and such expectations influence on the attitudes towards the system and the intention to use it again. On the other hand, after users using the system, they will gender cognitive performance for the system. The gap between such expectations before usage and cognitive performance after usage is proven to have significant influence on perceived usefulness [19] [28] [41] [47]. Therefore, hypothesis 1 is:

H1: Confirmation will be positively associated with perceived usefulness in social network games.

Deci and Ryan [14] suggested that people are both intrinsically and extrinsically motivated. Perceived playfulness is an intrinsic motive, whereas perceived usefulness is extrinsic. Based on the original ECT model, perceived usefulness is influenced by confirmation. Since perceived usefulness and perceived playfulness are common motivations, it is reasonable to believe that confirmation would impact on perceived playfulness. Theoretical support for this association comes from cognitive dissonance theory [15], which suggests that users may experience cognitive dissonance or psychological tension if their pre-acceptance playfulness perceptions are not confirmed during use. Rational users may try to reduce this dissonance by distorting or modifying their playfulness perceptions to be more consistent with reality. Therefore, hypothesis 2 is:

H2: Confirmation will be positively associated perceived playfulness in social network games.

Numerous studies have indicated that confirmation exerts a significant role in the formation of user satisfaction [6] [21]. Users generally obtain expected benefits through their direct experiences with the use of the SNS. When they regard their direct usage experiences with the SNS as being better than their expectations, they tend to be satisfied with the use of the SNS. Satisfaction is generally recognized as “a positive affective state resulting from a global evaluation of performance based on past purchasing
and consumption experience" [3] [23] [45]. According to the ECM, confirmation of initial expectations of a web-based service leads to subsequent satisfaction, while the reverse leads to dissatisfaction and discontinuance intention.

In ECT it mentioned that expectation before usage and the cognition performance of the system after usage will together influence on users’ satisfaction. It also proved that users’ “confirmation” will affect “satisfaction” after usage [6] [28] [33] [41] [47]. Confirmation of expectations is a cognitive evaluation construct based on the cognitive dissonance theory [15]. Users experience cognitive dissonance when their pre-adopted expectations are higher than their post-adoption perceptions. When SNG users perceive their actual experiences within SNG as exceeding their expectations, their levels of perceived usefulness and enjoyment are likely to be higher, in turn, enhancing their levels of user satisfaction. Therefore, hypothesis 3 is:

H3: Confirmation will be positively associated satisfaction in social network games.

3.2 Perceived Usefulness

The user’s perception of usefulness is originally derived from TAM, and it represents how IS increases the user’s task performance in an organizational setting. [11] [12] Some research on SNS continuance has provided evidence for the notion that perceived usefulness has a significant impact on user satisfaction with the SNS. [38] [30] This is because the more likely an SNS enable the users to achieve their goals, the more likely the users are to be satisfied with the SNS. According to the ECM, users’ satisfaction with IT is determined by its perceived usefulness. The ECM posits that users’ perceived usefulness of IT has a positive effect on their satisfaction with it. Perceived usefulness works as a baseline for reference as users look for confirmation. Hence, we assume that users’ perceived usefulness of a web-based service use has positive influences on their satisfaction with the web-based service use. Related researches also proved that users will have afterward expectation (usefulness and ease of use), and the expectation will influence on users’ satisfaction towards the information system [5] [41]. In related literature on post-acceptance model of IS continuance, it has been proved that perceived usefulness strongly relates to the satisfaction degree [5] [6] [41] [47] [8]. Therefore, hypothesis 4 is:

H4: Perceived usefulness will be positively associated satisfaction in social network games.

Perceived usefulness is a strong predictor of behavioral intentions in many contexts. In addition to the traditional application of the construct to business contexts, it has also been shown to be a predictor in new media contexts including the Internet, the Web and mobile commerce. However, while perceived usefulness has consistently proven to be an important construct in longitudinal adoption to post-adoption behavior and in prior continuance studies, perceived ease of use has not. As Bhattercherjee stated: "ease of use has an inconsistent effect which seems to further subdivide and become non-significant in later stages". This has been confirmed in numerous other studies. Hence, we did not include perceived ease of use in our model.

When Davis first introduced perceived usefulness (PU) as one of the constructs in TAM, it was defined as "the perceived degree to which an individual believes that using a specific service or system improves his or her task performance" [11] [13]. That study focused on the aspect of an "individual’s performance", meaning the concept of perceived usefulness from the perspective of job and task performance to all kinds of performance, including personal productivity. Previous studies related to SNSs and games support the relationships between PU and attitude, and PU and intention to use. For example, Shin and Shin found that there are positive relationships (specifically between PU and user attitude and PU and intention to use) in playing SNGs [43]. Many scholars [40] [44] [54] have found that user’s thinking as to the usefulness of a system had great influence and positively related to adoption of information technology. An SNS user cares about whether the SNS allow him to effectively build and maintain relationships among the mechanisms that allow strangers to become acquainted and keep in touch, and that provides for the individual to form profiles and enable people to reach out toward one another [27] [39]. Some scholars [20] [22] [44] have discovered that users’ perceived usefulness in SNS affects positive intention to use the SNS.

User perception of usefulness is justified by its consistent predictive power of user satisfaction and behavioral intention about IS [19] [47]. To continue to use SNG, the user must believe that SNG provides better performance than alternative options such as other online games. The more useful the website is in enabling the users to accomplish their tasks, the more it is likely to be used. This is the users’ rational reaction when they elect to use a website [16]. Bhattacherjee [6] indicated that the usefulness-intention association originally derived in an acceptance context still holds true in continuance contexts, because human tendencies for subconsciously pursuing instrumental behaviors are independent of the timing or stage of such behaviors. IT adoption literature has consistently found that
perceived usefulness is the most important determinant of users' adoption intentions [12] [46] [50]. As a result, the ECM posits users' perceived usefulness of IT has a positive effect on their intention to continue IT usage. Therefore, hypothesis 5 is:
H5: Perceived usefulness will be positively associated with continuance intention in social network games.

3.3. Perceived Playfulness

More and more research has emphasized the hedonic use of information technologies [47] [17]. Hedonic use implies that people use the information system in pursuit of self-filling value, such as happiness and enjoyment, rather than instrumental value [17]. Thus the dimension of playfulness focuses on the enjoyment and pleasure individuals derive from partaking in an activity. Such experience may result in better performance perception of the technology use. A few studies found that playfulness or enjoyment was positively related to user satisfaction in the post-adoption of mobile Internet services [47] and social network services [20].

Researchers argue that people who rank higher in playfulness will interact more playfully; they exercise and develop skills through exploratory behaviors, resulting in enhanced task performance [32]. Previous research has shown that higher degrees of pleasure and involvement during computer interactions lead to concurrent subjective perceptions of positive affects and satisfaction. Webster et al. [53] [49] noted that "higher playfulness results in immediate subjective experiences such as positive mood and satisfaction." Playfulness is also positively associated with positive affect and satisfaction [26]. Sandelands [42] found that attitudinal outcomes, such as positive affects, pleasure, and satisfaction, resulted from playful experiences. Therefore, hypothesis 6 is:
H6: Perceived playfulness will be positively associated satisfaction in social network games.

If an individual "feels good" about an activity, it is intrinsically motivating, and he/she is more likely to engage in it. Individuals using a web portal and experiencing playfulness are more absorbed and interested in the interaction. This shapes their intention to visit this portal again later. Davis et al., [12] [13], found that perceived playfulness explained significant variance in usage intentions. Therefore, hypothesis 7 is:
H7: Perceived playfulness will be positively associated continuance intention in social network games.

3.4. Satisfaction

Satisfaction is defined as a sense of contentment that arises from an actual experience in relation to an expected experience [18]. In the IT/IS context, it refers to the user's comfort with and positive attitude toward the use of a computer application or a website [31]. Lee [25] revealed that satisfaction is positively correlated with continuance intentions. In information systems, including electronic commerce sites, the intention to continue use is related to satisfaction. Accordingly, based on past literature, it defines satisfaction as the overall affective evaluation of a user regarding his or her experience related to SNGs. The more positive the user is and feels about a particular SNG after satisfaction, the more likely user is to return to that SNG.

Studies using the ECM have also suggested that users' satisfaction with IT has a positive effect on their continuance intention. Moreover, satisfaction is one of the most important concepts in the marketing of both services and products. Bolton and Lemon [7] empirically demonstrated that users with higher levels of satisfaction have higher usage than users with lower levels of satisfaction. Bhattacherjee [5] studied the continuance intention of information system. He pointed out that users' continuance intention is use is mainly resulted from satisfaction gendered after usage in reality. Danaher and Rust [10] found empirical evidence that a user who is satisfied with a service will have higher subsequent use. According to the ECM, user satisfaction is affected by the intensity and direction of the gap between the expectation and perceived performance of a service. Users are more likely to be satisfied if the performance meets or exceeds their expectation [6] [34]. A significant body of research in the area of IS and marketing suggests that user satisfaction is liable predictor of intention of continued IS use [21] [29] [47].

Many previous studies have shown that perceived satisfaction with a particular service positively affects the intention of users to use the service on an ongoing basis [9] [37]. Park and del Pobil [37] indicated that service and system satisfaction has a significant effect on behavioral intention to use. In addition, Battacherjee [6] found that satisfaction that is initially formed about an information system positively affects the continual intention of users to keep using the system and subjective services. This study defines satisfaction as affective state of emotion achieved by evaluating the experience of using SNG as being pleasurable. Therefore, hypothesis 8 is:
H8: Satisfaction will be positively associated continuance intention in social network games.
Oliver [33] concluded that satisfaction is a function of an initial standard and some perceived discrepancy from the initial reference point after reviewing many past studies. In this study, satisfaction refers to a user’s feeling of pleasure or disappointment resulting from comparing the perceived performance (or outcomes) of using SNG in relation to his or her expectations. If a user evaluates his or her SNG using experience positively, say, because he/she accomplished the task of product acquisition in an efficient manner and found the SNG process interesting, it is likely that his or her willingness to play again will increase. Thorngate [48] noted that “If a response generated in an interaction is judged to be satisfactory, it will tend to be reproduced under subsequent, equivalent circumstances from habit rather than thought.” Satisfactory experiences with a behavior are a key condition for habit development, as they increase one's tendency to repeat the same course of action again under similar circumstances [2]. Support for the role of satisfaction in habit formation is also provided by Lankton et al. [24] and Limayem, et al., [29].

Satisfactory experiences are likely to be a repetition of the same action when the action is closely associated with the goal that the individual initially wished to obtain [1]. Limayem et al. [29] identified user satisfaction as the key antecedent of IS habit. Once SNG users have successfully attained their intentioned goals using it, they tend to repeat the SNG use under same situational cues and relevant goal. Thus, it is expected that user satisfaction with the SNG usage is closely associated with the formation of habitual use. Therefore, hypothesis 9 is:

H9: Satisfaction will be positively associated habit in social network games.

3.5. Habit

Use continuance can be predicted by the extent to which a behavior has become automatic because of prior learning; thus habit is considered a moderator between intention and actual behavior, with a direct effect on actual behavior and an indirect effect on behavior that determines intentions. Continuance intentions have shown to be an effective proxy for measuring actual behavior [51]. Habit can predict one’s future behavior [4]. When behavior has been performed many times in the past, subsequent behavior increasingly becomes under the control of an automated cognitive process [1]. People are likely to form favorable intentions about acts they have frequently performed in the past [36]. When habit is strong, people rely much more on habit than they do on external information and on choice strategies [16]. Therefore, once the use of a specific web site becomes routine, habit should become an additional force that increases the behavioral intention to continue using the website. Therefore, hypothesis 10 is:

H10: Habit will be positively associated continuance intention in social network games.

4. Research Method

4.1. Data Collection

The survey was conducted in the summer of 2013. We chose to examine social games on Facebook due to the high number of Facebook users. We initially sent out 400 invitations through the Facebook mail to friends who used to play games on Facebook. Invitees were invited to participate in an online survey. After they finished the survey, they were asked to forward an invitation to the survey to five of their Facebook friends. Three hundred twenty two questionnaires were completed and used for analysis. SPSS statistical software was used to compute the frequencies, means, and percentage. In addition, correlation and regression were used to analyze the relationship of each construct. SNG users respond to those statements on a five-point Likert scale which ranged from strongly disagree (1) to strongly agree (5).

4.2. Data Analysis and Results

The purpose of this study was to know the reason behind the continuance usage of Social Network Games and what factors affect the users to continue using this online service in the Philippines. To analyze the users’ continuance intention in using the social network games, we proposed a research model which is composed of confirmation, perceived usefulness, satisfaction, continuance intention and additional factors of perceived playfulness and habit.

From the structural equation modeling, four variables are proven to be related to continuance intention usage of SNG namely, satisfaction, perceived playfulness, perceived usefulness and habit. Among these four variables, the results show that habit has a highly
significant effect on continuance intention ($\beta = .34$, $p<.000$). We can conclude that if the users’ feels positive about the SNG after using, the more likely user is to return to that SNG. When habit is strong, people rely much more on habit than they do on external information and on choice strategies [16]. As the additional variable, Perceived playfulness has a positive significant effect on continuance intention to use ($\beta = .21$, $p<.000$). We can also conclude the intention to use is developed if the SNG users’ feels better and experiencing playfulness are more engaged and interested in particular system [11] [12]. Perceived usefulness has a positive significant effect on continuance intention to use ($\beta = .15$, $p<.005$). If the user believes that SNG provides better performance than other online games. The more useful the SNG is in enabling their task and more likely to used [19] [47]. Another additional variable which also has a significant effect on continuance intention is satisfaction ($\beta = .17$, $p<.000$). If the users’ feel positive about the SNG after satisfaction, the more likely user is to return to that SNG. If the user has a higher level of satisfaction has higher usage of a particular system compared with users who has a lower level of satisfaction [7].

Furthermore, from the regression analysis, three variables are proven to be related to satisfaction on SNG namely, confirmation, perceived playfulness and perceived usefulness. Among these three variables, the results show that confirmation has a highly significant effect on satisfaction ($\beta = .56$, $p<.000$). When the users regard their direct usage experiences with the SNG as being better than their expectations, they tend to be satisfied with the use of SNG. It also proved that users’ “confirmation” will affect “satisfaction” after usage ([6] [28] [33] [41] [47]. Perceived playfulness has a positive significant effect on satisfaction ($\beta = .18$, $p<.000$). Trevino & Webster [49] [53] noted that “higher playfulness results in immediate subjective experiences such as positive mood and satisfaction.” And perceived usefulness has a positive significant effect on satisfaction ($\beta = .12$, $p<.030$). If the users enable to achieve their goals, the more likely the users are to be satisfied with the SNG [38].

Moreover, Perceived Usefulness has a significant effect on confirmation ($\beta = .26$, $p<.000$). Users have expectations on certain SNG before usage, and such expectations influence on the attitudes towards the system and the intention to use it again. Perceived playfulness has a significant effect on confirmation ($\beta = .23$, $p<.000$). Perceived playfulness is a common motivation, it is reasonable to believe that confirmation would impact on perceived playfulness. Making a particular SNG more enjoyable or playful could contribute more to users’ satisfaction levels. In addition, habit has a positive significant effect on satisfaction ($\beta = .21$, $p<.000$). Oliver, 1980, Users’ feels the pleasure or disappointment resulting from comparing the performance of using SNG in relation to his or her expectations. If a user evaluates his or her SNG using experience positively, say, because he/she accomplished the task of product acquisition in an efficient manner and found the SNG process interesting, it is likely that his or her willingness to play again will increase. We may conclude that when designing an application for SNS, perceived playfulness rather than the usefulness will be a new focus. Because it is obvious that playfulness can determine whether the user would return.

### Table 1. Factor Analysis AVE and Cronbach’s $\alpha$

<table>
<thead>
<tr>
<th>Variables</th>
<th>Measures</th>
<th>Factors Loadings</th>
<th>Construct Reliability</th>
<th>AVE</th>
<th>Cronbach’s $\alpha$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirmation</td>
<td>Conf 1</td>
<td>.847</td>
<td>.894</td>
<td>.678</td>
<td>.827</td>
</tr>
<tr>
<td></td>
<td>Conf 2</td>
<td>.746</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conf 3</td>
<td>.736</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conf 4</td>
<td>.760</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Usefulness</td>
<td>PU 1</td>
<td>.838</td>
<td>.890</td>
<td>.669</td>
<td>.849</td>
</tr>
<tr>
<td></td>
<td>PU 2</td>
<td>.817</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PU 3</td>
<td>.768</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PU 4</td>
<td>.819</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Playfulness</td>
<td>PP 1</td>
<td>.907</td>
<td>.814</td>
<td>.523</td>
<td>.955</td>
</tr>
<tr>
<td></td>
<td>PP 2</td>
<td>.889</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PP 3</td>
<td>.914</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PP 4</td>
<td>.918</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>Satis 1</td>
<td>.904</td>
<td>.827</td>
<td>.545</td>
<td>.944</td>
</tr>
<tr>
<td></td>
<td>Satis 2</td>
<td>.849</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Satis 3</td>
<td>.838</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Satis 4</td>
<td>.893</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Habit</td>
<td>Hab 1</td>
<td>.704</td>
<td>.806</td>
<td>.509</td>
<td>.779</td>
</tr>
<tr>
<td></td>
<td>Hab 2</td>
<td>.756</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hab 3</td>
<td>.756</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hab 4</td>
<td>.800</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuance Intention</td>
<td>CI 1</td>
<td>.869</td>
<td>.813</td>
<td>.522</td>
<td>.936</td>
</tr>
<tr>
<td></td>
<td>CI 2</td>
<td>.896</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CI 3</td>
<td>.794</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CI 4</td>
<td>.894</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 4.2.1. Fitness of the research model

The fitness indices of the research structure model are presented in Table 4. They indicated a good fit of the model: $X^2=437.46$, degree of freedom $=242$, $X^2/df=1.80$, $RMR=0.046$, $RMSEA=0.050$, $GFI=0.903$, $AGFI=0.88$, $NFI=0.93$, $CFI=0.97$. The figure 2 shows the results of the path analysis of the proposed research model.

![Figure 2. The analysis of the path analysis of the research model](image-url)
Table 2. The results of hypothesis testing

<table>
<thead>
<tr>
<th>No.</th>
<th>Path</th>
<th>Direction</th>
<th>Path coefficients (Measurement errors)</th>
<th>t-value</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Confirmation → Perceived usef</td>
<td>+</td>
<td>0.23 (0.07)</td>
<td>3.55***</td>
<td>Accept</td>
</tr>
<tr>
<td>2</td>
<td>Perceived usefulness →</td>
<td>+</td>
<td>0.21 (0.06)</td>
<td>3.31***</td>
<td>Accept</td>
</tr>
<tr>
<td>3</td>
<td>Perceived usef → Satisfaction</td>
<td>+</td>
<td>0.48 (0.07)</td>
<td>7.85***</td>
<td>Accept</td>
</tr>
<tr>
<td>4</td>
<td>Perceived usef → Continuance</td>
<td>+</td>
<td>0.12 (0.05)</td>
<td>2.17*</td>
<td>Accept</td>
</tr>
<tr>
<td>5</td>
<td>Perceived playfulness →</td>
<td>+</td>
<td>0.16 (0.05)</td>
<td>2.83**</td>
<td>Accept</td>
</tr>
<tr>
<td>6</td>
<td>Perceived playfulness →</td>
<td>+</td>
<td>0.17 (0.05)</td>
<td>3.42***</td>
<td>Accept</td>
</tr>
<tr>
<td>7</td>
<td>Perceived playfulness →</td>
<td>+</td>
<td>0.23 (0.05)</td>
<td>4.26***</td>
<td>Accept</td>
</tr>
<tr>
<td>8</td>
<td>Satisfaction → Continuance</td>
<td>+</td>
<td>0.19 (0.05)</td>
<td>3.36***</td>
<td>Accept</td>
</tr>
<tr>
<td>9</td>
<td>Habit → Continuance</td>
<td>+</td>
<td>0.30 (0.04)</td>
<td>4.53***</td>
<td>Accept</td>
</tr>
<tr>
<td>10</td>
<td>Habit → Continuence</td>
<td>+</td>
<td>0.27 (0.08)</td>
<td>4.26***</td>
<td>Accept</td>
</tr>
</tbody>
</table>

5. Conclusions and implications

From a theoretical perspective, the study contributes to the understanding of the habit and perceived playfulness. This research extends previous work about social networks by providing existence and findings on the extended model of continuance theory. The analysis results indicate that once SNG users are satisfied with the performance of SNGs use compared to those of other alternative options such as online games using SNG becomes habitual act if all other conditions are equal.

Understanding the user’s affective factors has become crucial to the success of a SNG. The users continue using the SNG not only because the SNG is useful but also because they have a sense of satisfaction with the SNG. It would be interesting to consider negative factors and examining the process of discontinuance intention. The SNG developers need a better understanding concerning the level of habit and its influence on continuance intention. The SNG developers can draw several implications from this study. The findings lead to important recommendations to SNG developers. We found that habit and user satisfaction should be managed to enhance for sustainable continuance intention. When habit is strong, people rely more on habit than they do on external information and on choice strategies (Gefen, 2003). This research recommends that SNG designers to develop applications that encourage the SNG members to use such a platform continuously.

This study adopts continuance theory and extension to the basic model to examine the effects of habit. It is important to note that the additional variable, habit, is compatible with the extended ECM variables. This approach is likely to ensure a firm theory development. Thus, the proposed model makes an important contribution to the emerging literature on SNG. The results show that all the factors have significantly direct and indirect effects on continuance intention to use SNG. Habit and satisfaction has the strongest effect. The future research may explore what factors influence these variables and how they can be manipulated to improve the SNG users’ continuance intention to use.

The tested research model combines the ex post continuance intention model of Bhattacherjee (2001) with additional constructs for habit (Limayem et. al 2007), that posited to play an important role in the continuance intention usage on SNG. This paper represents an early attempt to understand the reasons behind continuance intention usage in a SNG. Using 322 respondents collected on Facebook, we found strong support for the validity and reliability of all constructs. Furthermore, the model is tested using SPSS 20 and SPSS Amos 22, four determinants of continuance intention are clearly supported in the model (perceived usefulness, perceived playfulness, satisfaction and habit).

The SNG providers should focus on efforts to improve the level of continuance intention usage by enhancing the level of satisfaction and usefulness. Perceived usefulness was significantly associated with the intention to continue using a web portal. When users perceive a web portal as less useful, their return is very unlikely. Game programmers need to design high quality social network games that provide a clear benefit and that provide a satisfying experience, but
also permeated within a users’ daily routine activity to such an extent that usage become habitual.

6. References