A STUDY ON FACTORS INFLUENCING USER’S CONTINUANCE INTENTION OF MOBILE SNS

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Abstract
Social Network Service in mobile is receiving the important attention. The fever of smart-phone is increasing the interest in Social Network Service. Users communicate with each other using mobile SNS and companies seek for plans to communicate with consumers and to strategically use it as a new business model. There is still a lack of studies on mobile SNS, even though the interest of users and companies in mobile SNS is increasing worldwide. Based on such purpose, this study was carried out as following: Firstly, differentiated factors of characteristics of web and mobile SNS users were examined and then, the main variables were used for this study. Secondly, a variety of intentions to use mobile SNS were applied for this study. Lastly, models regarding continuance intentions of mobile SNS and implications were suggested. In this study, Post Technology Acceptance Model(PAM) which is simple and effective to explain use behaviors of users, was used, and the effects of mobile SNS were studied from various perspectives by expanding technologies of the existing researches and acceptance of system characteristics. In addition, after constructing research models to investigate how characteristics of mobile SNS service, mobile service characteristics have influence on use intention, research models and hypotheses were verified by carrying out a questionnaire. As the result, it was found that we need to approach mobile SNS with different methods, and that various effects are very important for continuance intention. Also, it was shown, companies should establish strategies to improve accessibility to mobile SNS by understanding various characteristics. In conclusion, these research results provide guidelines and lay the foundation to discuss strategic plans to develop new business model or service model through mobile.

Introduction
With a rapid growth of IT technology dissemination and use of wireless internet have shown a remarkable tendency to form the proliferation of online social network. People attempts to form various network across social phenomena through participation, openness, sharing, which is represented by the advent of Web 2.0 social networks. Social SNS, for example their influences and significant impact on modern communication. SNS is a reflection of self-expression with other people relationships desire with social needs and their situation with other user’s desire. In the beginning, Cyworld, Facebook, MySpace and others are the one whose started to appear in the wired web-based social network services actively. However, smartphone, Tablet PC and others which are kind of mobile devices with advanced technology were introduced mobile social network services such as Twitter, Kakao Talk, and Foursquare attract users attention and increase a significant change of the mobile devices development itself. The integration of mobile and SNS has developed a unique properties and provides various new services of the existing mobile service characteristics such as mobility, promptness, location-based and portability factors. In
addition, increases of wireless internet usage and the development of a various applications due to the new “killer app” of mobile SNS service is also begin to create attention.

Until now, there were many studies on mobile SNS but the related studies on the empirical analysis between the factors of Mobile SNS users’ satisfaction and continuance usage is still lacking. Therefore, this study will focus on the new mobile user satisfaction and continuance use of SNS as well as considering the factors affecting technology acceptance. Also, this study will provide suggestions and future implications through the activation of Mobile SNS marketing strategies and customer relationships.

**Related Studies**

*Mobile SNS*

Mobile SNS is the concept of social network services which operates in the mobile environment, by expanded the services through wired to the SNS of the mobile environment. The implementation of location-based services using a local area network connection based services, mobile connections management or new connections can be connected. Mobile SNS combines mobile social networking in new ways, to an existing wired web-based SNS added in the PC, are now moving towards mobile. Mobile SNS is basically web SNS which have similar service structure but mobility, promptness, portability, combined with the emphasize by mobile devices as part of web SNS discrimination of appropriateness, inquiry, briefness and others have also increased.

**Table 1 Classification of Mobile SNS**

<table>
<thead>
<tr>
<th>Media classification</th>
<th>Explanation</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Find friends</td>
<td>Based on the location or status, and location of a friend to help you determine the current state of SNS</td>
<td>Loopt, Google Latitude, Find friend</td>
</tr>
<tr>
<td>Content sharing</td>
<td>This multimedia feature phones with various content sharing by absorbing the photos, videos, SMS, E-mail, address book, calendar etc.</td>
<td>Mobile Facebook</td>
</tr>
<tr>
<td>Micro-blocking</td>
<td>SNS which can easily post the story of everyday life through mobile devices</td>
<td>Twitter, Me2day (Naver), Recent (Daum), PlayTalk etc</td>
</tr>
<tr>
<td>Location-based SNS</td>
<td>Mobile location-based user-generated content is imprinted on the location information incorporated into SNS.</td>
<td>Nokia contacts on OVI, Friend View</td>
</tr>
<tr>
<td>Combined with other services</td>
<td>Community, such as games or types of services that compete with other services</td>
<td>Map, mobile vouchers, E-mail etc</td>
</tr>
</tbody>
</table>

Source: Kim Seung Yeol (2009)

The advantage of Mobile SNS is possibly using a simple real-time interaction in short writing text compare with the existing SNS which can be used several times a day to reduce the time to write text. Mobile SNS users consume content while producing a prosuser activity (Hwang Seong Won, 2010) and
at the same time users create and use information that make it away from one-sided information transmission channels. Therefore, users of mobile SNS can produce and consume information freely because it will contribute to spread mobile SNS (Hwang Yu Seon & Sim Heung Jin, 2010).

**Quality Factors of Mobile Services**

Existing research related to mobile services have performed the conceptual studies of the investigation of the mobile characteristics and mostly the conventional e-commerce on the internet service attribute or characteristics of the mobile. However, recent research on mobile services have investigated on mainly the basic characteristics of mobile mobility, portability and interoperability. Previous research on the characteristics of mobile services was studied by Durlarcher (2001) which suggested seven types of personal characteristics namely the necessity of mobile market, the ubiquity of the mobile services, accessibility, security, convenience, location, immediate connection, and also personal characteristics. Local study by Lee Tae Min & Cheon Chong Keun (2004) suggested that mobile services are provided based on the situation in conjunction with personal identification, whereas in terms of mobility and ubiquity conceptually everywhere and every time are easy to have a possible network connection and ubiquitous accessibility.

**Information Contents Quality**

Related information system quality include a successful model by Delone & Mclean (1992) on the information system. In their study, three types of quality were considered; information, system and service quality. Quality of the information system produced information and those system provides quality content which have a degree of value (Woo Chang Kyu, 2007). This related to where the value of information in decision-making information literacy and information based on the increased value means the difference between the cost of acquisition, the effective contribution and utilization of information in decision-making which depends on the degree and quality of information.(Chang Myeong Bok, 2000).

This study focuses on the factors of information content of an important characteristics to identify the quality attributes on user satisfaction and continuance usage in mobile SNS. Table 2 shows previous studies of information system performance which have the important recognition of quality factors and various characteristics factors.

<table>
<thead>
<tr>
<th>Previous studies</th>
<th>Constructs</th>
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<tbody>
<tr>
<td>Delone &amp; Melean (2003)</td>
<td>Completeness, ease of understanding, personality, relevancy and security</td>
</tr>
<tr>
<td>Ballou &amp; Pazer (1985)</td>
<td>Accuracy, completeness, timeliness, consistency</td>
</tr>
<tr>
<td>Liu &amp; Arnett (2011)</td>
<td>Accuracy, timeliness, reliability, understandability, sufficiency, relevance, usefulness, newness</td>
</tr>
<tr>
<td>Parker &amp; Case (1991)</td>
<td>Availability, understandability, relevance, usefulness, timeliness, reliability, accuracy, consistency</td>
</tr>
<tr>
<td>Lee et al. (2002)</td>
<td>Accessibility, adequacy, reliability, completeness, consistency, ease of operation, accuracy and ease of interpretation, objectivity, safety, timeliness, understandability</td>
</tr>
<tr>
<td>Woo Chang Kyu (2007)</td>
<td>Accuracy, completeness, timeliness, reliability, relevance, usefulness, playfulness</td>
</tr>
</tbody>
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Table 2: Information Contents Quality Factors
In this study a number of information quality characteristics factors are considered important, but three factors which are applicability, accuracy and information compliance were taken into consideration in the mobile SNS service content quality.

Post of Technology Acceptance Model

In Post of Technology Acceptance Model (PAM), Expectation Confidence Theory (ECT) was adopted in consumer behavior research (Oliver, 1980). In the behavioral study, Expectation Confidence Theory (ECT) is the theory which is widely used in the marketing field that describes the customer satisfaction and behavior and also repurchase process (Kim Yeong Taek, Woo Choog Cheol, Hong Sang Jin, 2006). Previously, Davis has reviewed Technology Acceptance Model with the use of information technology and attitude exploitation theory. However, the disadvantage of PAM with a specific technology acceptance in the present situation of consumption discontinuance of applicable services cannot be explained due to the variables of direct user experience of user acceptance.

These limitations can be filled up in the proposed model by considering Bhattacharjee (2001) of the TAM perceived usefulness and Oliver (1980) theory of the expected mismatch (EDT) variables with corresponding to the expectations of the post-match and user satisfaction and also the reviews of information system.

![Figure 1: Post of Technology Acceptance Model](image)

Source: Bhattacharjee (2010)

Research Model Development

This study aims to look into mobile service quality factors and information content quality factors as well as the existing Technology Acceptance Model (Davis, 1986) and also an independent factor by Battacherjee (2001) which applied in the Technology Acceptance model with user satisfaction and continuance intention. The conceptual research model is presented in Figure2.
Research Hypotheses

In this study, based on the previous findings of Dularcher (2001), Lee Tae Min and Jeon Jong Keun (2004), Delone & Mclean (2003), Battarcherjee (2001), the research hypotheses of the variables relationship were established as below:

H1-1: Ubiquitous connectivity of mobile SNS has significant effect on perceived usefulness.
H1-2: Ubiquitous connectivity of mobile SNS has significant effect on user satisfaction.
H1-3: Ubiquitous connectivity of mobile SNS has significant effect on pleasure.
H2-1: Context-based supply of mobile SNS has significant effect on perceived usefulness.
H2-2: Context-based supply of mobile SNS has significant effect on user satisfaction.
H2-3: Context-based supply of mobile SNS has significant effect on pleasure.
H3-1: Mutual applicability of mobile SNS has significant effect on perceived usefulness.
H3-2: Mutual applicability of mobile SNS has significant effect on user satisfaction.
H3-3: Mutual applicability of mobile SNS has significant effect on pleasure.
H4-1: Accuracy of mobile SNS has significant effect on perceived usefulness.
H4-2: Accuracy of mobile SNS has significant effect on user satisfaction.
H4-3: Accuracy of mobile SNS has significant effect on pleasure.
H5-1: Information integration of mobile SNS has significant effect on perceived usefulness.
H5-2: Information integration of mobile SNS has significant effect on user satisfaction.
H5-3: Information integration of mobile SNS has significant effect on pleasure.
H6-1: Simplicity of mobile SNS has significant effect on perceived usefulness.
H6-2: Simplicity of mobile SNS has significant effect on user satisfaction.
H6-3: Simplicity of mobile SNS has significant effect on pleasure.
H7: Perceived usefulness of mobile SNS has significant effect on continuance intention.
H8: User satisfaction of mobile SNS has significant effect on continuance intention.
H9: Pleasure of mobile SNS has significant effect on continuance intention.

Research Methods

This study employed survey approach which consists of 300 questionnaires have been distributed in October, 2011. Out of 300 questionnaires distributed, 270 were returned (response rate of 90%) and after excluded the missing value some of the returned questionnaires, 250 is usable for further analysis.

Measurement Model Test

To test the model of the research, the overall fit indices are above the acceptance level and the model test showed satisfactory level. All the factors were first analyzed through Cronbach’s α value to see the reliability of each construct and all of them were above 0.7 which considered reliable in this study.

Results and discussions

Hypothesis Testing

The model was analyzed using a post structural model analysis in order to test the hypotheses of the study. First, the results of the fit of the model which it was determined that most of the recommended fit indices are satisfied the acceptance level and all appeared in good structural model and generally good for overall variance. The result based on the goodness of fit test of the proposed structural model for hypotheses testing is shown in Figure 3.
Conclusions and suggestions for future studies

Recently, Mobile SNS is perceived as a highlight of a new industry as the potential customer-based services is also increase rapidly. Therefore, it is essential to develop a successful marketing and business models for SNS mobile. This study investigated the mobile service quality factors and content information factors on mobile SNS users’ satisfaction, perceived usefulness, pleasure and continuance usage in the mobile SNS. In addition, the effects of perceived usefulness and pleasure in conjunction with users’ satisfaction were also investigated by using structural equation modeling in order to fit the overall model of the study. Practically, this study provides practical insights through the most effective factors in determining continuance usage of mobile SNS.

First, to prove the service quality factors and content information quality have significant impact on mobile users’ satisfaction and also continuance usage of mobile SNS. Based on structural equation model estimation, the result was reject the hypotheses due to the examination of content information and quality factors on users’ satisfaction and continuance usage of mobile SNS have portion significant effects. Second, the empirical study has shown there was significant effect between content information factors and mobile service factors. This is due to the continuance usage of the mobile SNS among users which the increase of the importance of information to be shared in the mobile and social industry. Third, there are significant effects between both perceived usefulness and pleasure on continuance usage of mobile SNS. This finding explains that through the mobile SNS, consumer has positive effect when the time is shorten, the users’ satisfaction also increase and ultimately give a positive continuance usage of mobile SNS. Fourth, this study also provides the key understanding that this research on mobile SNS is only focused on web-based online media as the mobile SNS service users move away from focusing customer satisfaction and continuance usage. Fifth, the existing mobile SNS and mobile SNS services are different distinctly. Therefore, it is fruitful to conduct a marketing research at a different perspective of existing information services. Mobile SNS is relatively easy to use and very useful for consumers to recognize the services given. So that it is useful to be informed that by improving the technology and related applications in mobile devices as well as promoting the diversification of ease of access to active mobile users.

On the other hand, this study has provides important implications and limitations. First, this kind of study is most conducted on the respondents between 20s and 30s of age. Since the mobile SNS’s user range of age is gradually increased, it is suggested to consider various range of age of respondents in the future survey rather than on the certain age alone. Second, during the survey process, most of the respondents still have difficulties to understand the concept in the questionnaires clearly. Finally, it is also suggested for future research to consider additional factors in mobile SNS in order to extent more understanding.