An empirical examination of factors influencing the continuance intention to use of SNS based mobile payment service focusing on the network externality

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ABSTRACT

With the development of smartphone and mobile Internet, usage of mobile based banking and shopping services has been increased. Both of the financial world and the non-financial enterprises are releasing mobile payment services competitively. Specifically, many social network service (SNS) providers retaining a great number of subscribers, introduced mobile payment service occurs recently. Unlikely other services providers, SNS provider has an advantage in that it can induce existing subscribers to use its new payment service. Therefore, it can be seen as a service with network externality. However, only a few studies have documented the relationship between the network externality and the mobile payment service. This paper uses extended technology acceptance model(TAM) with the network externality as center in order to identify the factors that determine consumer continuance intention to use of the SNS based mobile payment service. The results indicate that user continuance intention are influenced by constructs of perceived ease of use, perceived usefulness, attitude, accessibility, compatibility and trust. Specifically, the model also confirms that both of the direct network externaility and indirect network externality effect on intention significantly. The proposed model has implications in that it can be presented to the side for the continued growth of mobile payment service business. Further, it is expected to propose a activation plan of emerging fintech industries

keyword : Continuance intention to use, Mobile payment service. Fintech, Network externality, Technology acceptance model

1. Introduction

Due to the recent development of the mobile industry, mobile-based banking and shopping have increased as mobile phones become more commonplace. As a result of the need for financial innovation based on ICT (Information and Communication
Technology), a new word, "fintech," which combines "financial" and "technology," has emerged. Fintech is a convergence of ICT and financial services, including mobile settlement, crowdfunding, remittance, and asset management, and is expected to meet the increasing demand for various financial services in light of the ubiquity of smart phones.

Currently, the most popular of the Fintech services in Korea is the mobile payment service. This is a payment method in which payment is made or funds are transferred online and offline using a mobile device. Mobile payment service is divided into mobile card, electronic money, micropayment of mobile phone, and mobile banking. [1] The new mobile payment service is much simpler than previous mobile payment services. If the user registers card information once, they can pay by simple authentication at the time of the next payment, without having to enter the official certificate or card information every time. This advantage has played a big role in popularizing mobile payment service. With this trend, domestic and foreign financial institutions, such as card companies and banks, along with electronic and communication companies, ICT/platform companies, and hardware/software manufacturers, are currently launching mobile payment services.

Social network services all around the world have adopted mobile payment service, which reaches a large number of existing subscribers. First, in the United States, Facebook announced in 2015 that it would introduce a mobile payment function to Facebook Messenger, thus bringing crucial movements in the mobile payment market. Likewise, Tenpay, China's largest mobile messenger platform, introduced mobile payment service in 2013. In Korea, KakaoPay, a mobile payment service based on KakaoTalk, Korea's largest mobile messenger platform, was launched in September 2014. This mobile payment service, based on SNS (Social Network Service), is called an SNS-based mobile payment service. [2]

In SNS-based service, the social network and the service providing the network have the characteristics of a two-sided market. [3] In addition, unlike other services, SNS-based service introduces the users of the existing SNS platform as a new service, and thus can be regarded as a service having characteristics of network externality. [4] Network externality means that the user's utility from using the same product or service increases according to the size of the network to which the product or service belongs. [5] Network externality can be divided into direct network externalities and indirect network externalities. Direct network externality means that consumers' utility increases as the number of consumers using the same product or service increases.
Indirect network externality is an increase in consumer utility as the number and variety of complementary products or applications of a product or service increases. [6] In particular, network externality has a positive effect on the intentions of the users of the SNS, as well as contributing to the increasing economic advantage. Therefore, network externalities need to be considered in research on SNS-based mobile payment services, where SNS and fintech services converge. Previous studies of mobile payment services, however, were limited to technology research and user-intention research. [8,9,10] Therefore, this study considers the sustainable use factor of SNS-based mobile payment service centered on network externality, so that this research can suggest aspects contributing to continuous business growth and present a plan for the future.

The purpose of this study is to identify the influencing factors on the intention to use the mobile payment service, based on the Technology Acceptance Model (TAM). Considering the problem of low continuous utilization rate of the mobile simple settlement service, a technology acceptance model that accounts for continuous use intention through user satisfaction is a suitable model for presenting solutions to the various mobile payment service issues.

Therefore, in this article I examine the influential factors in the continuous intention to use SNS-based mobile payment service, centered on network externality, through a technology acceptance model.

2. Literature review

Mobile payment refers to products, services, and billing based on mobile devices and has the advantage of being able to use the convenience of wireless infrastructure and other communication technologies. [11] In an earlier study of mobile payments, Kreyer et al. (2003) [12] demonstrated that consumers are generally interested in using mobile payment applications. Mobile settlement has been proposed as a solution for the activation of the electronic trading market (Ondrus and Pigneur, 2006). [13] There are also a number of studies showing that mobile payment has successfully settled into the market, including billions of dollars in profitable mobile content, Paypal, and mobile payments in public transit (Menke and de Lussanet, 2006). [14]

A number of studies have applied the Technology Acceptance Model or the Diffusion of Innovation Theory among existing mobile payment services. [15] In general, these are studies that investigate whether the theoretical model of research affects users'
intentions or actual use [16], or whether they are ready to accept mobile payment services. [17] And many studies have examined consumer acceptance intentions by adding factors that are considered important in mobile payment services.

The fifteen key variables of the typical mobile payment service are: price, convenience, compatibility, self-expression, mobility, network externality, observability, testability, personal information security, system security, perceived risk, social impact, quality, technical concern, and trust. First, the analysis of mobile payment services focuses on the perceived price—that is, the transaction cost and the registration cost. Kleijn, Wetzels and Ruyter (2004) added the perceived cost and social influence as a new factor in the technology acceptance model; both factors had a significant effect on the intention to use. Zmijewska, Lawrence and Steele (2004) also investigated the effect of perceived price on the attitudes of users and their motivation to use services. [19] Pousttchi (2003) verified that the concept of convenience—a combination of ease of use and transaction time, centered on the value-added theory—influenced the mobile payment process. In addition, Zmijewska (2004) and others have demonstrated that mobility, a typical feature of mobile devices, is also an important factor in the intention to use mobile payment services. [19] Niina Mallat (2007) adds a new criterion: the network mass externality and the critical mass, which is the minimum mass for diffusion, through qualitative research using focus group interviews. [22] Jiajun and Carl (2005) pointed to "Trialability"—that users should be able to experience the quality of service first without cost—and verified this variable effect on actual mobile payment service use by using both technology acceptance model and innovation diffusion theory. In addition, personal information security—worries about the collecting and use of personal information—has also been proved to be an important factor in mobile payment services (Chen, 2006). [24]. Dewan and Chen [17] investigated information security as an important cross-platform factor in the United States.

Dahlberg, Mallat and Öörni (2003) demonstrated that trust and security factors have a significant influence on the use of mobile payment services, and are important factors for consumers in payment method. [26] Despite this high level of growth, however, there is also a belief that mobile payments are not as fast or as prevalent as previously expected (Ondrus and Pigneur, 2006). [27] The majority of studies have been conducted especially on consumers in the US and Europe, which have led the proliferation of mobile payment services; there is a lack of research on new services in Asia. In addition, a very
few research studies on network externality, an important factor in mobile service, exist, and there is a limitation in that they are qualitative studies in which the direct and indirect networks are not separately classified. Therefore, this study attempts to overcome these limitations by examining the acceptance of users through setting externality of direct and indirect networks as important variables in Korean consumers.

3. Research model and hypotheses

3.1 Research Model

The purpose of this study is to investigate the influence of SNS-based mobile payment service on the continuous intention to use. The perceived ease of use, perceived usability, compatibility, accessibility, security, and attitude of the existing technology acceptance model were used as the predecessor of the intention to use the mobile payment service. The effects were also verified together. Based on the theoretical background, the research model is presented as shown in <Figure 1>.

![Research Model Diagram]

Figure 1. Research model

3.2 Research hypothesis

3.2.1. Compatibility
In Moore and Benbasat (1991), [28] "compatibility" refers to the degree to which new innovations or technologies are similar to those already used by potential users. Schiertz et al. (2010) [29] defined new information technology as a variable indicating how users perceive their harmony with existing values, behaviors, and existing experiences. Chen et al. (2009), Corrocher (2011), Wu and Wang (2005) [30,31,32], Mallat (2004) [33], Schiertz et al. Al. (2010) [29], among others, have suggested that, in the field of mobile services, compatibility directly or indirectly affects users’ attitudes toward and acceptance of information technology. Therefore, in this paper, it is assumed that if the compatibility of SNS-based mobile payment service is high, the switching cost of the new technology can be lowered and the ease of use can be increased.

H1: Compatibility will have a positive influence on the perceived ease of mobile payment service.

3.2.2. Accessibility

In Moore and Benbasat (1991) [28], accessibility means that a user can access a specific information system through a communication network or receive desired information without being restricted by space–time. In the case of Lin and Lu (2000) [34] and Lederer et al. (2000) [35], accessibility is influenced by consumers' websites. In this paper, we propose a new approach to mobile payment service, based on the idea that accessibility is a function of users' mobility increasing. It is assumed that it will positively affect the acceptance intention of mobile payment service.

H2: Accessibility will have a positive influence on the perceived usefulness of mobile payment services.

3.2.3. Indirect network externality

According to Katz and Shapiro (1985) [36], network externality refers to the utility or value consumers acquire as the number of users or components using the product or service increases. Network externality is divided into direct network externality and indirect network externality by Gupta and Mela (2008) [37], Katz and Shapiro [1985], and Lin and Bhattacherjee [2008]. In this paper, we propose a new model of consumer acceptance
of ICT products. In particular, Lin and Lu (2011) [7] proposed that indirect network external services, which provide various additional services such as sharing, have high intention of continuous use by users. In this study, based on previous research projects such as Powell (2009) [41], Tapscott (2008) [42], and Lin and Lu (2011) [7], it is assumed that not only products but also various applications and merchants that can use payment services are defined, and that high indirectness of indirect networks will positively affect the perceived usefulness of mobile payment services.

H3: Indirect network externality will have a positive influence on the perceived usefulness of mobile payment services.

3.2.4. Perceived ease of use

According to Davis (1989) [43], when people are more readily available when using a product or service, the perceived ease of use increases and the rate of use or acceptance of a product or service positively affects perceived usefulness and user attitudes. Moore and Benbasat (1991) [28] also demonstrated that perceived ease of use had an effect on perceived usefulness. In this study, we investigated the perceived ease of use of mobile banking service and the perceived ease of use of mobile payment service. It is assumed that it will have a positive effect on attitude.

H4: Perceived ease of use will have a positive impact on perceived usefulness of mobile payment services.

H5: Perceived ease of use will positively affect the user attitude of mobile payment service.

3.2.5. Perceived usefulness

Davis (1989) [43] verified that perceived usefulness in information systems is an important factor in accepting products or services by influencing user attitudes and willingness to use, Jung et al. (2009). [45] The results of this study suggest that the usefulness of mobile TV has a positive effect on user attitude. In addition, it has been verified that the perceived usefulness of the technology in the e-commerce environment has a particularly important effect on the consumers' satisfaction and persistent intention
to use. Thair, Suhuai, and Peter (2010) and Pavlou (2003) [47] suggested that perceived usefulness in the context of information technology, such as online or mobile shopping and payment environments, is one of the most important variables affecting user acceptance intention. Therefore, we also assume that perceived usefulness positively affects the user attitude toward mobile payment service.

H6: Perceived usefulness will positively affect user attitudes of mobile payment services.

3.2.5. Direct network externality

In Gupta and Mela (2008) [37], direct network externality means that when the total number of people using a product or service increases, or when people feel that there are more users around, the value they feel increases together. Pae and Hyun (2005) [49], and Gupta and Mela, (2008) [37] show that direct network externality has a significant effect on user utility. In addition, Sledgianowski and Kulviwat (2009) [50] verified that the total number of users has a significant effect on the intention to use SNS, and Baker and White (2010) And that the intention to join the SNS increases when the number of users who use the service increases. Therefore, this study assumes that direct network externality will have a positive effect on user attitude toward mobile payment service.

H7: Direct network externality will positively affect the user attitude toward mobile payment service.

3.2.6. Trust

Gefen et al. (2003) [52] began to include trust in the technology acceptance model in the online shopping environment, and Ratnasingham (1998) [53] reduces fear of trading partners and reduces risk costs associated with e-commerce. Trust is defined as a possible variable. In particular, in a virtual environment, trust is the primary means of social control. In this virtual environment, the importance of trust is greater than the physical environment. It's an especially important factor that makes mobile payment service, which is directly related to money, safe to use. Wang et al. (2003) [54] conducted an empirical analysis by introducing perceived credibility, a concept related to trust, as a factor of a new TAM to reflect users' security and privacy problems in online banking
acceptance research. Luarn and Lin (2005) [55] analyzed mobile banking intentions by adding perceived reliability to the technology acceptance model. Therefore, this study assumes that if the reliability increases, it positively affects the user attitude of mobile payment service.

H8: Trust will have a positive influence on user attitudes toward mobile payment services.

3.2.7. Attitude

Previous research by Davis (1989) [43] concluded that user attitudes toward information systems have an effect on people’s behavioral intentions, and many other studies support this. In addition, the attitude of the user makes it possible to predict the use of the system, rather than factors such as feasibility, value, user information satisfaction, and user involvement [56]. This study also assumes that user attitudes have a positive effect on the intention to use mobile payment service continuously.

H9: User attitudes will have a positive effect on the intent to use the mobile payment service.

4. Research methods

4.1. Construct measurement

In this study, the variables that are appropriate for the environment of the study were observed and analyzed, and the validated items were selected in order to secure the content validity of the measurement items of the set variables. All variables were measured using a 5-point scale.

4.1.2 Data collection and demographic analysis

In this study, data were collected by distributing the questionnaires through PC and mobile, in order to obtain data to test the proposed research models and hypotheses. A total of 322 Korean respondents who are using or intending to use the platform-based mobile payment service were asked to collect the questionnaire. The data were used for
the analysis of 313 copies of the questionnaire. The demographic characteristics of the sample are shown in Table 1, below.

Table 1
Demographic profile of respondents.

<table>
<thead>
<tr>
<th>Division</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>153</td>
<td>48.9</td>
</tr>
<tr>
<td>Female</td>
<td>160</td>
<td>51.1</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 19</td>
<td>68</td>
<td>21.7</td>
</tr>
<tr>
<td>20-29</td>
<td>59</td>
<td>18.9</td>
</tr>
<tr>
<td>30-39</td>
<td>63</td>
<td>20.1</td>
</tr>
<tr>
<td>40-49</td>
<td>61</td>
<td>19.5</td>
</tr>
<tr>
<td>50 or older</td>
<td>62</td>
<td>19.8</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under high school</td>
<td>13</td>
<td>4.2</td>
</tr>
<tr>
<td>high school student</td>
<td>51</td>
<td>16.3</td>
</tr>
<tr>
<td>High school graduate</td>
<td>37</td>
<td>11.8</td>
</tr>
<tr>
<td>University student</td>
<td>36</td>
<td>11.5</td>
</tr>
<tr>
<td>University graduate</td>
<td>142</td>
<td>45.4</td>
</tr>
<tr>
<td>Master student</td>
<td>4</td>
<td>1.3</td>
</tr>
<tr>
<td>Postgraduate</td>
<td>30</td>
<td>9.6</td>
</tr>
<tr>
<td>Earnings (won)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 20,000,00</td>
<td>37</td>
<td>12.1</td>
</tr>
<tr>
<td>2,000,000–3,000,000</td>
<td>50</td>
<td>16</td>
</tr>
<tr>
<td>3,000,000–4,000,000</td>
<td>52</td>
<td>16.9</td>
</tr>
<tr>
<td>4,000,000–5,000,000</td>
<td>63</td>
<td>19.5</td>
</tr>
<tr>
<td>5,000,000–6,000,000</td>
<td>0</td>
<td>12.8</td>
</tr>
<tr>
<td>6,000,000–7,000,000</td>
<td>25</td>
<td>8</td>
</tr>
<tr>
<td>7,000,000–9,000,000</td>
<td>30</td>
<td>9.6</td>
</tr>
<tr>
<td>10,000,000 or more</td>
<td>16</td>
<td>5.1</td>
</tr>
</tbody>
</table>

4.1.3 Verification of reliability and validity of measured variables
In order to determine the degree to which the measurement items used to measure the research units included in the model were correlated before the research hypothesis was verified, we used the SPSS statistics23 statistical program to determine the reliability of the coefficient calculations. As a result, all factors were analyzed to be over 0.7, which is the general acceptance standard, as shown in <Table 2>. The results of this analysis indicate that all of the latent variables used in this study have statistical internal consistency.

Table 2
Results of reliability and validity analysis.

<table>
<thead>
<tr>
<th>Items</th>
<th>Cronbach’s α</th>
<th>Factor loading</th>
<th>Standardized factor loading</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P*</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM1</td>
<td>.830</td>
<td>1.000</td>
<td>.482</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM2</td>
<td>.8301.107</td>
<td>.557</td>
<td>.154</td>
<td>7.176</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>COM3</td>
<td>.8301.825</td>
<td>.737</td>
<td>.220</td>
<td>8.279</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>COM4</td>
<td>.8301.797</td>
<td>.724</td>
<td>.219</td>
<td>8.215</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>COM5</td>
<td>.8301.100</td>
<td>.475</td>
<td>.169</td>
<td>6.504</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>ACC1</td>
<td>.898</td>
<td>1.000</td>
<td>.843</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACC 2</td>
<td>.8981.079</td>
<td>.837</td>
<td>.061</td>
<td>17.573</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>ACC 3</td>
<td>.8989.89</td>
<td>.759</td>
<td>.065</td>
<td>15.276</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>ACC 4</td>
<td>.8989.918</td>
<td>.752</td>
<td>.061</td>
<td>16.192</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>ACC 5</td>
<td>.8989.86</td>
<td>.790</td>
<td>.061</td>
<td>16.192</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>PEOU1</td>
<td>.855</td>
<td>1.000</td>
<td>.676</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEOU 2</td>
<td>.8559.49</td>
<td>.637</td>
<td>.091</td>
<td>10.442</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>PEOU 3</td>
<td>.8558.91</td>
<td>.587</td>
<td>.092</td>
<td>9.691</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>PEOU 4</td>
<td>.8558.16</td>
<td>.552</td>
<td>.089</td>
<td>9.140</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>PU1</td>
<td>.849</td>
<td>1.000</td>
<td>.742</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PU 2</td>
<td>.8491.107</td>
<td>.775</td>
<td>.082</td>
<td>13.578</td>
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<td>PU 3</td>
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<td>.088</td>
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<td>13.629</td>
<td>***</td>
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<tr>
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<td>1.000</td>
<td>.723</td>
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<tr>
<td>ATT 2</td>
<td>.8989.55</td>
<td>.669</td>
<td>.082</td>
<td>11.600</td>
<td>***</td>
<td></td>
</tr>
</tbody>
</table>
4.1.4 Research Model Fit

In this study, the independent variables expected to affect the perceived ease and usefulness of platform-based mobile payment services and the attitudes of users are: compatibility, safety, accessibility, direct network externality, indirect network externality. This variables is analyzed using regression analysis of structural equation model. The results of the fit of the model are shown in Table 3. The results of the fit exceed the reference value and can be judged as an appropriate model as a whole.

Table 3

Measures of model fitness.
4.2. Results

This study presents a research model based on the Technology Acceptance Model (TAM) and explains the relationship between compatibility, accessibility, trust, perceived usefulness, perceived ease of use, attitude, direct network externality, indirect network externality, and continuous intention to use. The result proposes an activation direction for mobile payment service by verifying this model. The results of this study can be summarized as follows. It was proven that the perceived ease, perceived usefulness, accessibility, compatibility, trust, direct network externality, and indirect network externality have positive effects on mobile payment service user attitude as independent variables. User attitude also has a positive effect on the intention to continuously use.

Table 4
Hypothesis test result

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Hypothesis status</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: IDN→PU</td>
<td>Supported</td>
</tr>
<tr>
<td>H2:ACC→PU</td>
<td>Supported</td>
</tr>
<tr>
<td>H3:PEOU→PU</td>
<td>Supported</td>
</tr>
<tr>
<td>H4:COM→PU</td>
<td>Supported</td>
</tr>
<tr>
<td>H5:PEOU→AT</td>
<td>Not supported</td>
</tr>
<tr>
<td>H6:PU→AT</td>
<td>Supported</td>
</tr>
<tr>
<td>H7:DN→AT</td>
<td>Supported</td>
</tr>
<tr>
<td>H8:TRU→AT</td>
<td>Supported</td>
</tr>
<tr>
<td>H9:AT→IU</td>
<td>Supported</td>
</tr>
</tbody>
</table>

First of all, direct network externality and indirect network externality have a positive effect on the intention to use mobile payment services continuously. In the case of direct network externality, as the number of users in a network increases, the utility such as information acquisition and acquisition cost reduction, information exchange, and experience sharing influence the attitude of users. Especially, users are affected by the emotional, material, and social support received from the adjacent people in the network, particularly in the mobile settlement service. Along with the SNS characteristics, users are motivated by other users and by the externality of the network. These results are directly related to new technologies such as those studied by Pae and Hyun (2002) [48], Limi (2005) [49], Kim, Park and Oh. The results of this study are consistent with the findings of the research that mobile internet service externalities affect the intention to use in the same manner in mobile payment services.

Secondly, support was found for the hypothesis that the degree of indirectness of an indirect network affects the usability. It was determined that the increase of the complementary materials for a mobile service can be considered as an influence factor that increases the expected benefit level of the users. This is similar to Lin and Bhattacherjee (2008) [58], Lin and Lu (2011) [7], for instance, messaging service research. It examines the use of complementary resources such as merchants and applications that can use payment services. The more users perceive that the possibility of benefit is high, the more useful the mobile payment service becomes, and the acceptance of intention increases as a result. As with the above-mentioned direct network externality, the results show that more attention is paid to developing and providing enhanced complementary functions or applications and merchants in order to raise user awareness of the scale of indirect networks and to promote more usage.

Another notable result found support for the hypothesis that perceived ease of use had a positive effect on perceived usefulness, but on the other hand, the hypothesis that such perception had an effect on attitude was rejected. In Gefen and Straub (2000) [59], the inconsistency of perceived ease of use implies that information technology is used for the purposes of information technology. In a study by Gefen and Straub (2000) [60] on e-commerce, the use of a website by a user to acquire information is related to the inherent characteristics of information technology. Using web sites to purchase goods is
classified as business related to external characteristics. When web sites are used to acquire information, perceived ease affects the acceptance of web sites. However, the use of perceived ease of use does not affect the acceptance of web sites. From this viewpoint, mobile payment services can be regarded as being used for purchasing information technology. Therefore, it can be explained that perceived ease of use does not directly affect the acceptance of mobile payment services. In other words, due to the nature of mobile payment services, it is important to deal directly with monetary matters, but it is difficult to attract a positive attitude toward the service. In addition, it can be said that marketing activities with messages emphasizing perceived usefulness rather than perceived ease may be effective in promoting the intent to use a mobile payment service continuously.

5. Discussion and limitations

5.1. Discussion

This study is meaningful in that it is the first paper to study the rapidly growing social network service-based mobile payment services. This study also analyzed the continuous intention to use SNS-based mobile payment services through analysis of variables from the Technology Acceptance Model (TAM). In the process of establishing exogenous variables, the main characteristics of the payment service were analyzed. The model was validated by applying variables in accordance with the characteristics of the mobile payment service. Future researchers will be able to conduct follow-up studies with reference to the Technology Acceptance Model (TAM) and the resulting analysis of this study.

In this study, we analyzed the variables that affected the intention to use SNS-based mobile payment services. The analysis revealed several implications for companies and SMEs to follow when considering integration with SNS-based mobile payment services. In this study, network externality, which is a newly emergent variable, is divided into direct network externalities and indirect network externalities. The influence of these variables on the intention to use has been verified. It suggests that SNS-based mobile payment services can enhance users' satisfaction by providing services that use network externality.
5.2. Limitations

Despite the various implications of this study, there are limitations to the research which necessitate further improvement and expansion. First, the sample size of this study was limited to a sampling of Korean consumers. However, in Korea, it is appropriate to analyze SNS-based mobile payment services because the Korean consumer space has high smartphone penetration and a variety of mobile payment services. In addition, since the collected data was a population evenly distributed across generations, it was expected that it would be an effective representation of all generations during data analysis of acceptance of mobile payment services. This is due to the fact that there are various age groups characteristic of the payment services field.

Second, SNS-based mobile payment services are a new concept that have appeared within the past 1 ~ 2 years, and there is not much previous research on the subject. Sufficient theoretical considerations were lacking in previous research related to SNS-based mobile payment services. However, by examining past papers related to mobile payment that cover these concepts, we could close the theoretical foundation by studying TAM-based consumer acceptance intention. Future research is expected to be more meaningful by refining the implications of this study and expanding on the research model.

References


