

Research Article

Antecedents of Continuance Intention of Social Networking Services (SNS): Utilitarian, Hedonic, and Social Contexts

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This study aims to identify the key factors that influence the continuance intentions of social network service (SNS) users through an integrative framework. It suggests a theoretical model that contains utilitarian, hedonic, and social contexts. Data were collected from 286 SNS users in South Korea. This study analyzed the data through partial least squares structural equation modeling (PLS-SEM). The results indicate that both perceived ease of use and perceived usefulness are not related to continuance intention. The findings show that perceived enjoyment has a strong and significant impact on continuance intention. The analysis results reveal that communication positively affects continuance intention. Moreover, system quality serves as the key factor of perceived ease of use, even though it has no significant effect on perceived usefulness. Information quality was found to have a significant impact on perceived usefulness but not on perceived ease of use. The results of the study intimated that service quality is significantly related to both perceived ease of use and perceived usefulness. Positive affect significantly affects both perceived enjoyment and communication. Negative affect significantly impacts perceived enjoyment while having no significant impact on communication. Theoretical contributions and practical implications are elaborated.

1. Introduction

Internet users use social network services (SNS) to view the daily life of others, communicate with people around them, and search for important information [1]. With the development of smart devices, the use of SNS has become easier. Users use the service through the SNS apps or the web by using a PC, smartphone, and tablet. Globally, 3.78 billion users are using social media, and it is expected to increase in the next few years [2]. The dominant dissemination and development of SNS create various derivative areas beyond the unique functions and roles of SNS. Many sellers and buyers trade goods through social media platforms [3]. Political parties promote their policies through social media and demonstrate the excellence of their candidates [4]. Celebrities lead the culture by communicating with their fans through SNS [5]. Life satisfaction can also be influenced by the use of SNS [6]. Due to the endless possibilities of SNS, continuous research on SNS is necessary. This study investigates the continuance intentions of SNS users who

utilize the extended functions of SNS. To analyze the main factors affecting continuance intention, three contexts are presented by incorporating existing studies.

Previous studies have applied theoretical models such as technology acceptance to explain the behavioral intentions of SNS users. Perceived ease of use was figured out to have a significant influence on the use of SNS [7]. Perceived usefulness significantly determines the continuance intention of social network users [8, 9]. It also affects SNS use [7]. Perceived ease of use and perceived usefulness provide utilitarian value to SNS users. Information system (IS) success factors have a significant effect on perceived ease of use and perceived usefulness. System quality plays a key role in the formation of perceived ease of use [10, 11] and perceived usefulness [12]. Information quality has a significant association with perceived ease of use [13, 14] and perceived usefulness [14, 15]. Service quality serves as a vital factor in generating perceived ease of use [10, 16] and perceived usefulness [16]. Users would perceive the utility of SNS through system quality, information quality, and service

quality. Therefore, this study assumes that perceived ease of use and perceived usefulness have a significant effect on the intention to continue use.

Empirical evidence from previous research supports that the perceived enjoyment of SNS users affects their intention to continue using SNS [8, 9, 17, 18]. It also significantly influences the use of SNS [7]. Moreover, the perceived pleasure was found to positively affect SNS addiction [19]. Perceived enjoyment provides hedonic value to SNS users. Reflective indicators measuring enjoyment are included in the hedonic value [20] and the hedonic motivation [21]. Users who feel more pleasure and joy through SNS will want to use it for a longer period of time. Thus, this research postulates that perceived enjoyment acts as the dominant factor in enhancing continuance intention.

Communication is the core function and value of SNS. The perceived quality of communication has a significant relation to the continuance intention of SNS [22]. Gan and Wang [17] posited that social interaction and social presence affect continuance intention. Social interaction and social presence are operationally similar to communication. Some people communicate horizontally on SNS [23]. Social influence positively affects the continuance intention of SNS [9]. As the level of communication increases, users will be more inclined to use SNS continuously.

While using SNS, users experience both positive affect and negative affect [24]. Both emotions significantly affect the satisfaction of SNS users [1]. Users who feel more positive emotions may have more fun and communicate with others more. Users who feel more negative effects would feel less pleasure. They may try to relieve negative emotions by changing communication. Therefore, this study assumes that positive affect and negative affect significantly determine perceived enjoyment and communication.

In summary, the questions to be addressed in this study are as follows.

RQ1. Does the utilitarian-hedonic-social (UHS) framework explain the continuing behavior of SNS users?

RQ2. What are the main factors in each context, and what are the formation mechanisms?

This paper fills the gaps in existing studies and makes new contributions in the following points. First, this study explains the behavior of SNS users based on the UHS framework. Previous studies have not reflected all three contexts in a balanced way when illuminating SNS user behavior. They have introduced only utilitarian context and hedonic context [7, 25], hedonic context and social context [19], personal inclinations and social impacts [3, 6, 26], social factors and security [27], or the impact of COVID-19 [28] in the process of building the theoretical models. However, the current study focuses on the unique roles of SNS and examines user behavior by employing utilitarian, hedonic, and social factors. Second, this research integrated the technology acceptance factors and IS success components that have been firmly verified in technology and ISs in the utilitarian context. Past studies have introduced the

technology acceptance model (TAM) [29–31] or IS success model [32–34] to describe SNS users. The current study reveals the paths and causal relationships among constructs specialized for SNS by combining the two models. Third, the present work applied affect as an antecedent of the hedonic factor. Previous studies including emotional or mental factors have not validated a path toward continuance intention via a hedonic context [23, 35, 36]. This paper will make a new academic contribution by examining how emotions shape hedonic factors. Finally, this research reflected the affect as a determinant of social context. Depending on the emotional states, SNS users may enhance their interactions with others or reduce their conversations. This may be influenced by two scales of affect. Former studies on SNS have rarely investigated the influences of affect on communication. This article will be able to contribute to the literature on SNS by discovering changes in communication according to users' affects.

2. Literature Review

SNS is a service used for daily sharing, information exchange, and relationship formation among users in the Internet space [1]. Since the advent of the service, it has grown rapidly and created various effects on society, culture, and economy [37]. Along with this trend, many studies have been conducted. Existing behavioral studies on SNS have performed empirical analysis to identify the key factors of adoption intention, intention to use, and addiction. Leng et al. [38] accounted for SNS acceptance intention by integrating the TAM, theory of planned behavior (TPB), and intrinsic motivation. They figured out that perceived usefulness has a significant effect on attitude and behavioral intention. In addition, perceived enjoyment was found to have a positive impact on attitude. Jabeen et al. [39] compared the SNS behaviors of Chinese and Pakistanis. The authors employed the constructs in TAM and variables in the IS success model in describing SNS use. It was shown that system quality and information quality are the key predictors of perceived usefulness in both groups. Kim [8] investigated the affecting factors in improving SNS continuance intention. They uncovered that the main determinants of continuance intention were perceived usefulness, perceived ease of use, and interpersonal influence. Sun et al. [9] examined the key factors in developing continuance intention toward online social networks by applying an integrative theoretical model. The major determinants were found to be perceived usefulness, perceived enjoyment, satisfaction, and social influence. Ramírez-Correa et al. [7] suggested the research framework to elucidate SNS users' behavior by modifying TAM. They pointed out that perceived ease of use, perceived usefulness, and perceived enjoyment significantly predict SNS use. Kim et al. [19] explored the impacts of subjective norms on SNS addiction. They found that subjective norms are significantly associated with connectivity and perceived pleasure. It also revealed that perceived pleasure positively affects SNS addiction. Qin et al. [18] identified the decision factors of intention to use

SNS based on TPB. They verified that perceived enjoyment, privacy risk, and subjective norms have a significant association with intention to use. Pujadas-Hostench et al. [3] clarified the influencing factors that affect the purchase intention on SNS by extending TPB. They showed that self-image congruity and gratifications have a significant influence on both attitude and intention in the context of the SNS brand page. Suti and Sari [40] attempted to identify the formation mechanism of knowledge-sharing behavior in the SNS domain. The authors pointed out that social capital and trust are the major precursors of knowledge-sharing behavior.

Several works have investigated the behavior of SNS users by reflecting utilitarian context, hedonic context, and social context. Yu et al. [20] explored the precursors of the intention to use SNS. They suggested hedonic value, utilitarian value, and social value as predictors. It was validated that hedonic value significantly impacts the intention to use. Social value was demonstrated to have a significant effect on the intention to use through satisfaction. Salehan et al. [21] studied the behavior of online SNS users by suggesting a motivation-participation-performance framework. They uncovered that vertical social motivation and horizontal social motivation are significantly related to sharing and collaboration. Moreover, it was unveiled that utilitarian motivation and hedonic motivation are the critical antecedents of sharing. Gan and Wang [41] proposed four types of gratification to explain the continuance intention of SNS. Four gratifications are hedonic gratification, social one, utilitarian one, and technology. Hedonic gratification consists of perceived enjoyment and passing time. Social gratification comprises social interaction and social presence. Utilitarian gratification is composed of self-presentation, information documentation, and information sharing. Media appeal is the technology gratification through technology. It was shown that perceived enjoyment, information sharing, and media appeal are the pivotal factors in enhancing continuance intentions.

Some research has paid attention to measures, affect, and attitudes in the context of SNS. Newman et al. [24] developed an SNS measure to understand SNS use in older adults. They established the psychometric scales, which are maintaining close ties, strengthening weaker ties, diversion, positive affect, and negative affect. Maintaining close ties and strengthening weaker ties resemble vertical social motivation in Salehan et al. [21]. Meier and Schäfer [42] threw light on the effects of inspiration on positive affect and negative affect. The authors asserted that inspiration is the main antecedent of positive affect, not negative affect. Bao [43] postulated that informational support, network management, and emotional support play a key role in shaping continuance intentions. As expected, information support, network management, and emotional support significantly influence continuance intentions. Based on the operation definition, it seems that information support belongs to a utilitarian component. Indicators of network management are similar to those of social motivation reported by Salehan et al. [21] and those of maintaining close ties reported by Newman et al. [24]. Mohammed and Ferraris [25] posited

that the leading factors of participation in SNS are attitude, subjective norms, perceived behavioral control, utilitarian value, hedonic value, and trust. It was discovered that all suggested factors were significant for participation.

Since the outbreak of COVID-19, the behavior of SNS users and related factors have changed. Several scholars have made new attempts. Islam et al. [44] studied how using SNSs can have negative consequences. They revealed that emotional support seeking through SNS has a significant influence on SNS exhaustion. Zuo et al. [45] identified the predictors that influence social connectedness on SNS. They showed that sharing physical activity experiences, positive self-presentation, and positive feedback have a significant effect on social connectedness. Vall-Roqué et al. [28] validated the impacts of the COVID-19 lockdown on SNS use, body image disturbances, and self-esteem. They pointed out that the frequency of SNS use and the number of women following Instagram appearance-focused accounts statistically increased during the social lockdown. Chakraborty et al. [46] investigated the psychological impact of COVID-19 on the intensity of SNS use. They verified that SNS users aged 21–35 were more likely to be active on social media than other age groups.

In summary, many previous studies have explored the behavior of SNS users by applying a TAM or TPB. On the one hand, several works examined the affecting factors by dividing them into utilitarian, hedonic, and social perspectives. After the emergence of COVID-19, different behaviors in infectious disease situations were studied.

This work makes a new attempt by integrating previous studies. It suggests three contexts to clarify the antecedents of the continuance intention of SNS. They are utilitarian, hedonic, and social contexts. Existing studies have directly measured user responses by using the scales such as utilitarian value or utilitarian motivation. This study rearranges related preceding factors from the perspective of three contexts. The utilitarian context reflects the perceived ease and perceived usefulness from TAM. System quality, information quality, and service quality are employed as predictors of perceived ease of use and perceived usefulness. The hedonic context includes perceived enjoyment. The social context contains communication. The predictors of perceived enjoyment and communication were selected to be positive affect and negative affect.

3. Research Model

Figure 1 shows the theoretical framework for understanding the antecedents of continuance intention in the context of SNS. This article clarifies the roles of perceived ease of use, perceived usefulness, perceived enjoyment, and communication in developing continuance intentions. It postulates that system quality, information quality, and service quality significantly affect both perceived ease of use and perceived usefulness. Moreover, this paper explores the effects of positive affect and negative affect in enhancing perceived enjoyment and communication. Positive affect and negative

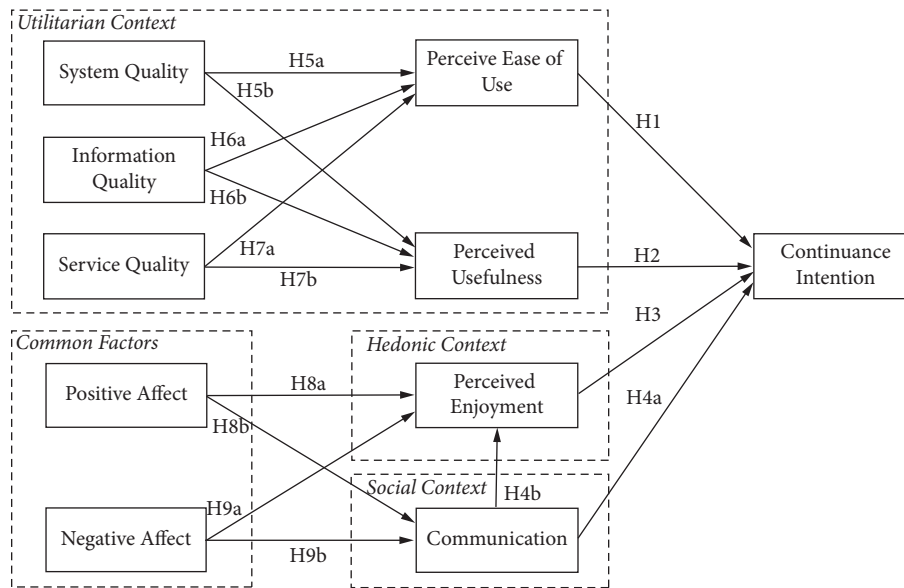


FIGURE 1: Research model.

affect are classified as common factors of hedonic variables and social components.

3.1. Perceived Ease of Use. Perceived ease of use refers to the extent to which a person believes that using SNS would be free of effort [47]. It has been proven to play a key role in shaping behavioral intention in various information technologies (ITs) [48–50]. It also leads to the flow, perceived usefulness, and perceived enjoyment of IT users [51]. Perceived ease of use enhances the behavioral intention [30] or the actual usage of social media [7, 31]. Empirical results on SNS support that perceived ease of use is the critical factor in continuance intention [52]. Therefore, the following hypothesis is proposed:

H1. Perceived ease of use has a positive impact on continuance intention.

3.2. Perceived Usefulness. Perceived usefulness is defined as the degree of confidence in the use of an SNS that can offer value to those who use it [53]. Previous studies in ISs pointed out that perceived usefulness has a significant effect on continuance intention [10, 54, 55]. It has been indicated in past works that perceived usefulness serves as the crucial antecedent of continuance intention [8, 9]. In the context of social media, perceived usefulness elevates the level of behavioral intention [8, 30] or promotes the users' desire to use social media [7, 31]. Based on the findings, the following hypothesis is proposed:

H2. Perceived usefulness has a positive impact on continuance intention.

3.3. Perceived Enjoyment. Perceived enjoyment is justified as the degree to which using an SNS is perceived to be enjoyable, apart from any performance consequences [56].

When users perceive SNS as more enjoyable, they are likely to use it more [7]. In previous research, perceived enjoyment was found to have a significant impact on continuance intention [8, 9, 36]. Thus, the following hypothesis is put forward:

H3. Perceived enjoyment has a positive impact on continuance intention.

3.4. Communication. Communication is defined as how many people and how deeply the SNS users can interact with each other [55]. It, as an item of cognitive social capital, determines the knowledge-sharing behavior of SNS users by enhancing cognitive-based trust and affective-based trust [40]. Previous studies pointed out that communication has a direct or indirect effect on continuance intention [22, 55]. Communication was figured out to have a significant association with perceived enjoyment [57]. With these investigations, this study proposes the following:

H4a. Communication has a positive impact on continuance intention.

H4b. Communication has a positive impact on perceived enjoyment.

3.5. System Quality. System quality represents the expected characteristics of an SNS, including adaptability, reliability, availability, and usability [58, 59]. Several studies triggered the conclusion that system quality has a significant effect on perceived ease of use [11, 60, 61]. Prior research revealed that system quality is significantly associated with perceived usefulness [10, 12, 62]. The system quality of SNS significantly determines behavioral intention through satisfaction [33]. System quality significantly shapes both perceived ease of use and perceived usefulness in the SNS domain [39]. Hence, one can expect the following hypotheses:

H5a. System quality has a positive impact on perceived ease of use.

H5b. System quality has a positive impact on perceived usefulness.

3.6. Information Quality. Information quality refers to the desirable attributes such as completeness, accuracy, and relevance of the outputs in SNS [58, 63]. It serves as the proximal predictor of satisfaction in forming behavioral intention [33]. Previous research indicated that information quality has a significant relationship with perceived ease of use [13, 64]. It was also pointed out that information quality significantly affects perceived usefulness [10, 15, 65]. Information quality plays an essential role in generating perceived usefulness in the context of SNS [39]. In light of these findings, the following hypotheses are put forward:

H6a. Information quality has a positive impact on perceived ease of use.

H6b. Information quality has a positive impact on perceived usefulness.

3.7. Service Quality. Service quality refers to overall user evaluations and judgments regarding the quality of SNS service delivery [66]. It has been shown in numerous studies conducted earlier that service quality has a significant association with perceived ease of use [10, 11, 16]. Service quality is a major precursor of both perceived ease of use and perceived usefulness [39]. Moreover, it has a significant impact on perceived usefulness [16]. Therefore, the following hypotheses are suggested:

H7a. Service quality has a positive impact on perceived ease of use.

H7b. Service quality has a positive impact on perceived usefulness.

3.8. Positive Affect. Positive affect represents the degree to which an individual feels enthusiastic, active, and alert [67]. It was validated that positive affect significantly influences satisfaction [1]. Positive affect is significantly influenced by inspiration on SNS [42]. As SNS users feel more positive affect, their enjoyment would increase. In addition, since SNS is a space that strengthens relationships through communication between users, increased positive affect may improve the level of communication. Based on the abovementioned discussion, this study establishes the following:

H8a. Positive affect has a positive impact on perceived enjoyment.

H8b. Positive affect has a positive impact on communication.

3.9. Negative Affect. Negative affect refers to a feeling of distress and nonpleasurable engagement that subsumes a variety of aversive mood states, including anger, disgust, etc.

[67]. Some people express negative emotions more than positive emotions [23]. It is closely related to social media behaviors such as addiction [68]. When users become addicted to SNS, they are less aware of their negative affect [69]. Negative affect is significantly linked to continuance intention [70]. As SNS users feel negative affect more, their enjoyment would decrease. SNS users may try to relieve negative affect through changes in communication on SNS. Therefore, the following hypotheses are formulated:

H9a. Negative affect has a negative impact on perceived enjoyment.

H9b. Negative affect has a significant impact on communication.

4. Research Methodology

4.1. Data Collection. Quantitative analysis has become a prevalent method in behavioral studies regarding technology adoption [71]. Hence, this research surveyed the relevant respondents because a survey is considered the best tool for analyzing the hypothesized relationships among the constructs [72]. The current study conducted online surveys for users who had used Facebook in South Korea. Facebook still dominates the global social media market with a share of 75.28%, with a huge gap to Twitter's 7.47%, Instagram's 6.11%, and YouTube's 4.38% [73]. If we know the behavior of Facebook users, it would be easy to see the behavior of other social media users as well. The survey informants were recruited using convenience sampling and nonprobability sampling. Convenience sampling is widely applied in the IT area due to its depiction of the population at hand and cost efficiency [74–76]. Three experts in ISs and quantitative research reviewed questionnaires. They commented on the appropriateness of the measurements, the number of questions, and the logical arrangement. Their opinions played an important role in improving the quality of the questionnaire. Before conducting the survey, a pilot test was performed on 20 respondents [77]. Respondents gave feedback on the simplicity of expression, the placement of questions, and ambiguous sentences. In total, 301 individual responses were gathered. 12 insincere responses and 3 aberrant responses with a uniform answer to the entire set of questions were discarded [78]. A total of 286 responses were selected for the final data analysis. Among the samples, 128 respondents were male and 158 respondents were female. The majority of respondents were in their 20s (38.1%), followed by their 30s (29.7%). The majority of participants (63.6%) were undergraduates. Table 1 shows the demographic information of the final sample.

4.2. Measurement Instrument. All questions were derived from previous studies to validate the measurements in the IS field. The measurement items were modified to fit the SNS context. The survey items consisted of three parts, which were as follows: (1) users' demographic information; (2) users' continuance intentions; perceived ease of use, perceived usefulness, perceived enjoyment, communication, positive affect, and negative affect; (3) SNS's system quality,

TABLE 1: Profile of respondents.

Demographics	Item	Subjects ($N = 286$)	
		Frequency	Percentage (%)
Gender	Male	128	44.8
	Female	158	55.2
Age	10s	23	8.0
	20s	109	38.1
	30s	85	29.7
	40s	40	14.0
	50s	29	10.1
Education	High school or below	98	34.3
	Undergraduate	182	63.6
	Postgraduate or above	6	2.1

information quality, and service quality. The questionnaire was initially prepared in English by the author. Afterwards, a Korean expert fluent in English translated the questionnaire from English into Korean. All indicators were measured based on a five-point Likert scale ranging between 1 (strongly disagree) and 5 (strongly agree). Before the main survey was undertaken, two researchers in the IS field meticulously checked the questionnaire to confirm content validity and logical arrangement. The indicators of each construct are summarized in Table 2.

5. Research Results

5.1. Data Analysis. This study demonstrated the measurement model and the structural model by using partial least squares structural equation modeling (PLS-SEM) through SmartPLS 3.3.3 [79]. PLS is a component-based technique that is most appropriate for exploratory research [80, 81]. It also offers some benefits in terms of fewer restrictions on sample size and residuals compared to covariance-based SEM such as AMOS and LISREL [82, 83].

As depicted in Figure 2, PLS-SEM verifies the proposed model in two steps. The first is to confirm a measurement model, and the second is to validate a structural model. In the process of measurement model test, reliability, convergent validity, and discriminant validity of suggested factors are checked. Reliability is verified by Cronbach's alpha and composite reliability (CR). Convergence validity is determined by average variance extracted (AVE) and factor loading. Discriminant validity follows the criteria of Fornell and Larcker [84]. The structural model verification proceeds in the following order: bootstrapping, hypothesis testing, and calculating the explained variance of the endogenous variables (R^2).

5.2. Measurement Model. This study evaluated the reliability and validity of the measurement model. To assess construct reliability, this research examined Cronbach's alpha and CR. If Cronbach's alpha and CR values are over 0.60, reliability is achieved [84]. As shown in Table 3, the lowest values of Cronbach's alpha were 0.605, which exceeded the threshold of 0.7. The CR values of the factors

ranged between 0.828 and 0.964. Therefore, the construct reliability is acceptable.

To evaluate the validity, this study investigated convergent validity and discriminant validity. Convergent validity was assessed by calculating both the AVE and the factor loadings of the items associated with each construct. AVE values ranged from 0.678 to 0.900, which are higher than the acceptable limit of 0.5 [84]. Factor loadings ranged from 0.763 to 0.969, supporting that the model has a satisfactory level of convergent validity [85]. Discriminant validity was satisfied because the square root value of AVE for each construct was greater than any other corresponding rows and entries [84]. Table 4 contains the analysis results for discriminant validity.

5.3. Structural Model. This study estimates the coefficient of determination (R^2) and path coefficients by conducting a bootstrapping resampling method (5000 resamples) [86]. Figure 3 illustrates the path coefficients for the hypothesized relationship. Ten of the fifteen hypotheses in the research model are accepted.

Contrary to expectations, perceived ease of use does not influence continuance intention, failing to accept H1. In contrast to the hypothesis, perceived usefulness has no significant association with continuance intention. Thus, H2a is not adopted. Consistent with predictions, perceived enjoyment is significantly related to continuance intention, thereby accepting H3. In line with expectations, communication significantly influences both continuance intention and perceived enjoyment. Hence, H4a and H4b are supported. System quality positively affects perceived ease of use, but it does not influence perceived usefulness. Therefore, H5a is supported and H5b is not supported. Information quality does not impact perceived ease of use, but it has a significant effect on perceived usefulness. Thus, H6a is not adopted and H6b is adopted. As expected, service quality is positively related to both perceived ease of use and perceived usefulness, providing empirical support for H7a and H7b. Consistent with hypotheses, positive affect has a significant and positive effect on perceived enjoyment and communication. Thus, H8a and H8b are supported. Negative affect significantly affects perceived enjoyment while having no significant impact on communication. Hence, H9a is accepted and H9b is not accepted. The structural model describes 43.5% of the variance in continuance intention, 35.4% of the variance in perceived enjoyment, and 5.2% of the variance in communication. Table 5 summarizes the results of structural modeling.

6. Discussion

This study aims to identify the factors influencing the continuance intention of SNS. This has been accomplished by reflecting utilitarian-hedonic-social contexts.

Although previous works showed that continuance intention was significantly affected by perceived ease of use [87–89] and perceived usefulness [10, 65, 90], the findings in this study pointed out that these two factors are not the determinants of continuance intention. The discrepancy might refer to the reason that perceived enjoyment and

TABLE 2: List of model constructs and items.

Construct	Items	Mean
Continuance intention [92]	COI1	I will continue to use SNS in the future.
	COI2	In the future, I will continue to use SNS without stopping.
	COI3	I will continue to use SNS more often.
Perceived ease of use [47]	PEU1	Learning how to use SNS is easy.
	PEU2	I think SNS can be used by anyone.
	PEU3	SNS can be conveniently used anytime, anywhere.
Perceived usefulness [47]	PUS1	The use of SNS makes work (study) more efficient.
	PUS2	SNS is useful for my work (study).
	PUS3	The use of SNS improves my work performance.
Perceived enjoyment [50]	PEN1	Using SNS is pleasurable.
	PEN2	Using SNS is interesting.
	PEN3	Using SNS gives me enjoyment
Communication [55]	CMU1	I can get closer to people you do not see often through SNS.
	CMU2	I can meet various people through SNS.
System quality [15]	SYQ1	The speed of SNS is fast.
	SYQ2	SNS has no obstacles, so I can always use it whenever I want.
Information quality [15]	INQ1	The information provided by SNS is the information I need.
	INQ2	The information provided by SNS is suitable for using the system.
Service quality [93]	SEQ1	SNS provides personalized service to me.
	SEQ2	SNS tries to understand my needs well.
Positive affect [94]	POA1	I get excited when I use SNS.
	POA2	I am passionate while using SNS.
	POA3	I am proud while using SNS.
Negative affect [94]	NEA1	I suffer while using SNS.
	NEA2	I get angry while using SNS.
	NEA3	I feel annoyed while using SNS.

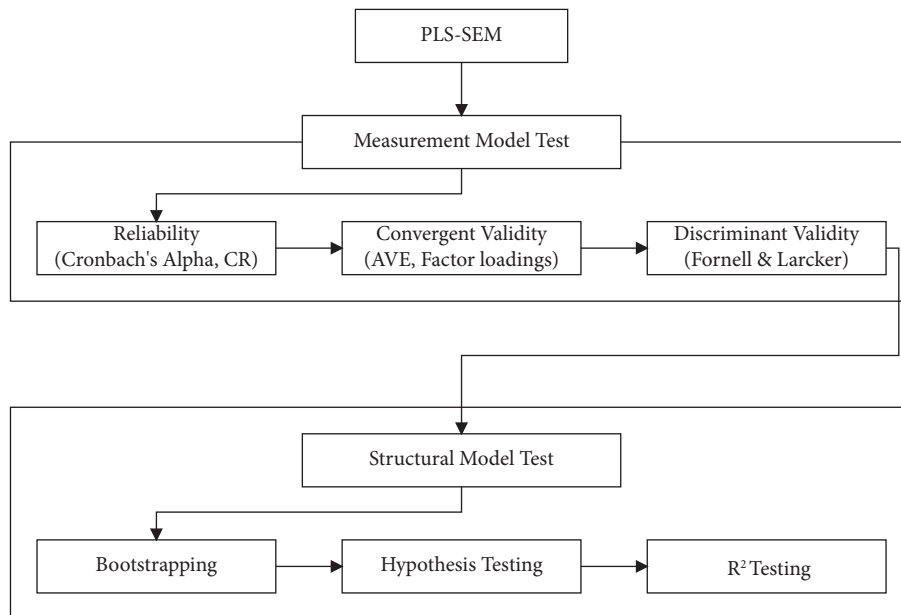


FIGURE 2: Flowchart of PLS-SEM.

communication have a greater impact on continuance intention than perceived ease of use and perceived usefulness.

The results indicated that perceived enjoyment is a strong and significant predictor of continuance intention. This finding further supports the conclusion obtained in previous research, in which continuance intention was

significantly affected by perceived enjoyment [8, 91]. A plausible explanation for this result is the fact that SNS users with higher levels of perceptions of enjoyment increase their willingness to use SNS continuously.

The findings also pointed out that communication has a significant and positive impact on continuance intention.

TABLE 3: The test results of reliability and validity.

Construct	Items	Mean	St. dev.	Factor loading	Cronbach's alpha	CR	AVE
Continuance intention	COI1	3.682	0.776	0.865	0.827	0.896	0.742
	COI3	3.430	0.845	0.870			
	COI4	3.297	0.823	0.848			
Perceived ease of use	PEU1	3.262	0.960	0.853	0.767	0.863	0.678
	PEU2	3.493	0.967	0.808			
	PEU3	3.780	0.830	0.808			
Perceived usefulness	PUS1	2.465	0.956	0.875	0.896	0.935	0.827
	PUS2	2.483	0.971	0.932			
	PUS3	2.367	0.928	0.920			
Perceived enjoyment	PEN1	3.374	0.759	0.933	0.925	0.952	0.870
	PEN2	3.430	0.753	0.933			
	PEN3	3.336	0.779	0.933			
Communication	CMU1	3.601	0.965	0.914	0.605	0.828	0.708
	CMU2	3.706	0.981	0.763			
System quality	SYQ2	3.503	0.923	0.934	0.719	0.871	0.772
	SYQ3	3.035	0.985	0.820			
Information quality	INQ2	2.808	0.763	0.874	0.747	0.887	0.797
	INQ3	2.972	0.779	0.912			
Service quality	SEQ1	3.000	0.861	0.807	0.665	0.852	0.744
	SEQ2	2.762	0.815	0.914			
Positive affect	POA1	1.909	0.793	0.841	0.860	0.914	0.781
	POA2	2.255	0.890	0.925			
	POA3	1.997	0.813	0.884			
Negative affect	NEA1	1.829	0.829	0.934	0.945	0.964	0.900
	NEA2	1.787	0.789	0.969			
	NEA3	1.878	0.906	0.943			

TABLE 4: Correlation matrix and discriminant assessment.

	1	2	3	4	5	6	7	8	9	10
(1) Continuance intention	0.861									
(2) Perceived ease of use	0.277	0.823								
(3) Perceived usefulness	0.285	0.143	0.910							
(4) Perceived enjoyment	0.642	0.328	0.310	0.933						
(5) Communication	0.326	0.154	0.285	0.335	0.842					
(6) System quality	0.019	0.210	0.162	0.110	0.074	0.879				
(7) Information quality	0.292	0.053	0.261	0.267	0.235	0.137	0.893			
(8) Service quality	0.270	0.191	0.254	0.281	0.287	0.139	0.376	0.862		
(9) Positive affect	0.370	0.096	0.427	0.463	0.217	0.073	0.154	0.245	0.884	
(10) Negative affect	-0.065	-0.113	0.184	-0.108	0.015	-0.089	0.000	0.069	0.373	0.949

Note. Diagonal values are the square root of AVE.

Communication is the representative purpose of using SNS. The more users perceive communication as valuable, the more frequently they use SNS.

According to the findings, system quality is significantly associated with perceived ease of use, but not with perceived usefulness. Prior studies have verified that system quality has a significant impact on perceived ease of use [11, 60] and perceived usefulness [10, 12]. These results could be elaborated by the fact that the better performance of the SNS system increases the level of perceived ease of use, but not perceived usefulness.

The empirical results unveiled that information quality is significantly related to perceived usefulness, but not to perceived ease of use. Several researchers have validated that information quality significantly impacts perceived

ease of use [13, 65] and perceived usefulness [10, 13]. One can infer that the perception of ease of use does not increase as SNS gives users more appropriate information. Moreover, it can be deduced that when SNS provides users with more adequate information, users perceive SNS as more useful.

The analysis provided evident support that service quality has significant effects on perceived ease of use and perceived usefulness. These results further support the discovery uncovered in past studies, in which information quality significantly affects perceived ease of use [10, 11] and perceived usefulness [15]. The experiential effects of service quality could be attributed to the fact that when SNS provides more specialized services to users, they evaluate it as easier and more useful.

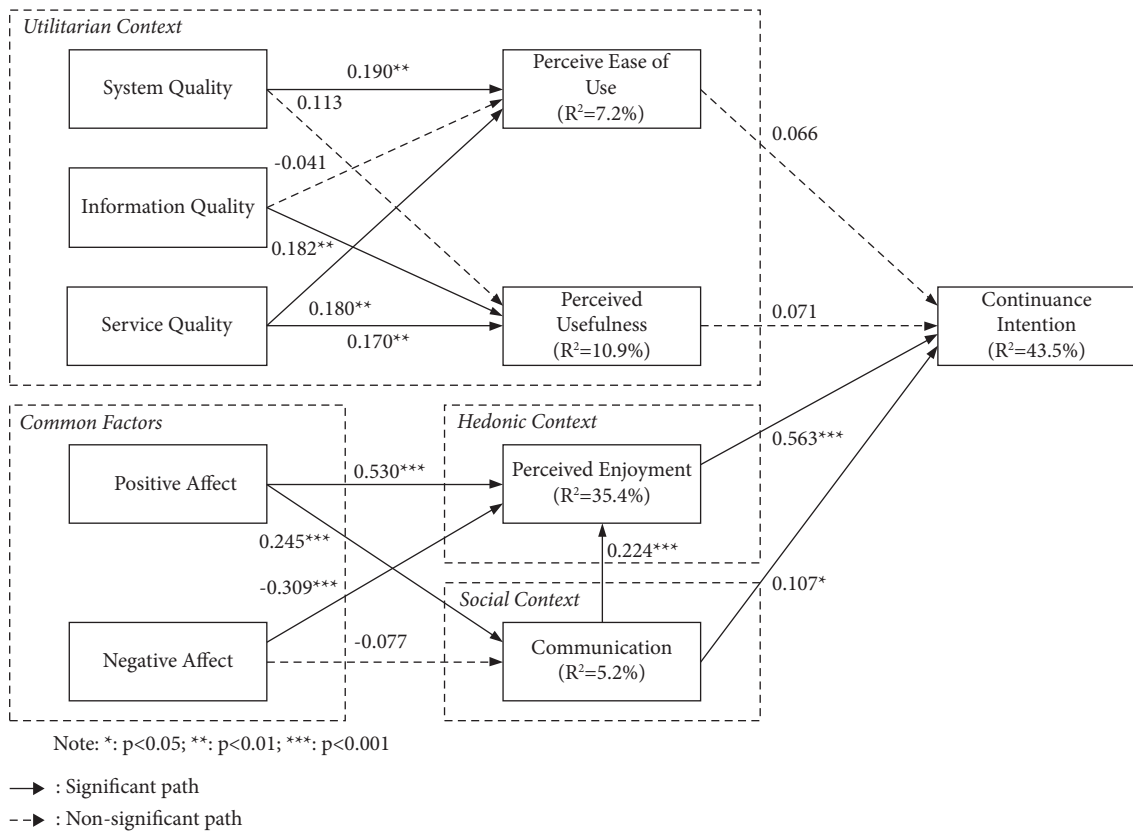


FIGURE 3: Analysis results.

TABLE 5: Summary of the results.

H	Cause	Effect	Coefficient	T-value	Hypothesis
H1	Perceived ease of use	Continuance intention	0.066	1.155	Not supported
H2	Perceived usefulness	Continuance intention	0.071	1.426	Not supported
H3	Perceived enjoyment	Continuance intention	0.563	11.042	Supported
H4a	Communication	Continuance intention	0.107	1.983	Supported
H4b	Communication	Perceived enjoyment	0.224	3.647	Supported
H5a	System quality	Perceived ease of use	0.190	2.971	Supported
H5b	System quality	Perceived usefulness	0.113	1.803	Not supported
H6a	Information quality	Perceived ease of use	-0.041	0.583	Not supported
H6b	Information quality	Perceived usefulness	0.182	2.707	Supported
H7a	Service quality	Perceived ease of use	0.180	2.822	Supported
H7b	Service quality	Perceived usefulness	0.170	2.611	Supported
H8a	Positive affect	Perceived enjoyment	0.530	12.504	Supported
H8b	Positive affect	Communication	0.245	4.043	Supported
H9a	Negative affect	Perceived enjoyment	-0.309	5.408	Supported
H9b	Negative affect	Communication	-0.077	1.123	Not supported

The results validated that positive affect has a significant association with perceived enjoyment and communication. One can think that when SNS users feel positive emotions more, they are more likely to enjoy SNS and communicate with others.

The empirical findings showed that negative affect has a significant negative effect on perceived enjoyment, but not on communication. These observations could be

explained by some facts. First, when users feel uncomfortable emotions, it becomes difficult to enjoy using SNS. Second, experiencing negative emotions can cut off communication with other people or increase communication at the same time. There are many ways people deal with emotional stress. The results suggest that the resolution of mental difficulty varies from person to person.

7. Conclusion

7.1. Summary. This study identified the precursors of the intention to continuously use SNS. It introduced perceived ease of use, perceived usefulness, perceived enjoyment, and communication as the key factors influencing continuance intention. This paper posited that system quality, information quality, and service quality have a significant effect on both perceived ease of use and perceived usefulness. In addition, positive and negative emotions were reflected as the determinants of perceived enjoyment and communication. A survey was conducted among users who frequently use SNS in various generations. PLS-SEM was used to verify the proposed theoretical framework. As a result of the study, perceived enjoyment and communication have a significant effect on continuance intention. System quality is significantly related to perceived ease of use and information quality plays a significant role in the formation of perceived usefulness. Service quality has a significant effect on both perceived ease of use and perceived usefulness. Positive affect is a strong antecedent of perceived enjoyment and has a significant effect on communication. Negative affect hurts perceived enjoyment and does not have a significant impact on communication.

7.2. Implications for Theory. This study provides four academic contributions. First, it explained the continuance intentions of SNS users by comprehensively reflecting the utilitarian, hedonic, and social viewpoints. Existing studies have analyzed the determinants of the intention to use SNS from the perspectives of IS and motivation [9, 21]. Some studies have considered utilitarian value, hedonic value, and social values in understanding continuance intention [20, 35]. Unlike previous studies, this study make a remarkable contribution to academia in that it specified and presented factors corresponding to utilitarian, hedonic, and social components. Future studies will be able to use the results of this study to subdivide the value domain.

Second, this paper contributes to the existing literature by revealing that the most important variable determining the continuance intention is perceived enjoyment ($b = 0.563$, $t = 11.042$). The findings of the results indicated that communication has the second-highest path coefficient ($b = 0.107$, $t = 1.983$). Contrary to expectations, perceived ease and perceived usefulness are not significant for continuance intention. The results of this study showed that SNS users continue to use SNS because it is fun and pleasurable. The more people communicate with others in cyberspace, the more they use SNS. This work contributes to academia by newly verifying that the hedonic factor is the most important among the predictive variables of SNS, followed by the social factors.

Third, this research confirms and strengthens the relationship between technology acceptance theory and IS success factors in SNS. The study results showed that system quality and information quality are partially significant for perceived ease of use and perceived usefulness. Service quality significantly determines perceived ease of use and

perceived usefulness. Users generally access SNS through mobile apps or PC programs. The servers, apps, and interfaces can determine the system quality, information quality, and service quality of the user interface. This study contributes to the existing literature by proving that key elements of IT play a significant role even in nonprofessional ISs such as SNS and mobile instant messengers.

Lastly, this article adds a worthwhile contribution to the literature on SNS by dividing affect into two dimensions (e.g., positive affect and negative affect) and revealing the effects of these two scales on hedonic and social factors. The results showed that positive affect has a strong and significant effect on perceived enjoyment. The positive affect also raises the level of communication. The negative affect undermined perceived enjoyment. However, it is not significantly related to communication. This study contributes to existing studies by finding that positive affect is the salient antecedent of hedonic and social factors.

7.3. Implications for Practice. This study provides three practical implications. First, it confirms the relative importance of factors influencing continuance intention in the SNS context. The most powerful factor is perceived enjoyment, and the second one is communication. SNS providers should design the SNS structure so that users can have fun while using SNS. They might consider providing a fun quiz or game in the middle of the page. UI developers need to diversify various functions such as hashtags, feeds, and direct messages so that users can communicate more effectively. Users will try to use SNS harder if they can quickly communicate their opinions, emotions, and information with others.

Second, this work confirmed that the IS factors also work robustly in the formation of the perceived ease of use and perceived usefulness in the SNS context. Service providers need to manage backbone systems such as servers, networks, and infrastructure so that users can use SNS easily and effectively. SNS developers are encouraged to display only necessary information on the UI and provide specialized services according to the users' tendencies and circumstances. Service providers can perform the abovementioned series of tasks to promote users to use SNS more easily and effectively.

Last, the current study demonstrates the effects of SNS emotional factors on perceived enjoyment and communication. The results indicated that positive affect enhances the level of both perceived enjoyment and communication. Negative affect was found to undermine perceived enjoyment. Service providers need to identify the determinants of positive affect and negative affect. They should reflect them in the upgrade process. Factors that form a positive effect may include news about your favorite celebrities, interesting articles, or the appearance of an acquaintance that you have not seen in a long time. Factors that shape negative affect may include relative deprivation, publicity of undesirable political parties, or unnecessary advertisements. It would be good for service providers to do in-depth research on objects, tags, and feeds created on SNS by

introducing methodologies such as big data analytics or content analysis.

7.4. Limitation and Further Research. Although this study has drawn some academic results, it has several limitations. First, the present research collected data from only one country, South Korea. Because SNS is involved in communication and networking between humans, research results may vary depending on national characteristics. Therefore, future research needs to survey more countries to improve the generality and validity of the research results. Second, this work verified the research model without classifying the types of SNS. SNS type may affect the hypotheses since the interface and communication method of SNS may be different for each type. Further research should validate the model for each type of SNS to confirm relationships between variables more systematically. Finally, this paper did not empirically support the significance of perceived ease of use and perceived usefulness. In future research, it is necessary to check whether the influence of these two factors is reduced by perceived enjoyment and communication or it is independently insignificant.

Data Availability

The datasets generated and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The author declares that there are no conflicts of interest.

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