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GETTING EMOTIONAL WITH THE SYSTEM THAT MIRRORS YOU: COGNITIVE AND AFFECTIVE ATTITUDES TOWARDS IDENTITY-REFLECTING INFORMATION SYSTEMS

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Abstract

Information system (IS) has been considered as the technology that is built on reasoning, so user evaluation is mostly based on cognitive aspects such as usefulness. Yet, this evaluation needs to be extended to include emotion, which can build a strong bond between the system and its users. This paper theorizes a model that shows how users adopt an IS to verify their actual or ideal identities within the context of cognition and affect. Furthermore, it investigates how these cognitive and affective attitudes lead to continuous intention to use IS. Our findings highlight that affective attitude is significant along with cognitive attitude, which has been considered as the most explanatory factor of the continuous intention. It is also found that actual identity-verification affects cognitive attitude, while ideal identity-verification is the antecedent of affective attitude. This study draws attention to the substantive effect of affect on the identity-reflecting IS use.

Keywords: Cognition, Affect, Identity-Reflecting IS

1. INTRODUCTION

The last decade has seen an increasing body of research on information system (IS) use. This is especially so given that often IS fails because of its misuse or nonuse. Whether IS performs the users' requirements efficiently has been a dominant antecedent of IS usage. Yet, recent IS development shows the potential of other antecedents in predicting its use. For example, online social network sites help people present themselves, communicate, and manage relationships with others. Blogs represent who the blogger is. In a game like Second Life, people create avartars and perform economic activities with their virtual identities. In this cyberspace, people perform different activities that they don't ordinarily perform. Something other than efficiency may be the important factor that draws people.

Although "thinking" and "feeling" are sometimes considered to be separate from each other, human beings "think" and "feel" in nature. In other words, people form their attitudes cognitively (thinking) and affectively (feeling). Attitude, which is an evaluation of the behavior of interest, causes certain behavior (Ajzen 1991; Ajzen and Fishbein 1972; Ajzen and Madden 1986). It sometimes goes unnoticed that attitude is linked with three elements - cognition, affect, and behavior (Breckler 1984; Eagly and Chaiken 1998; Zimbardo and Leippe 1991). These links imply that people behave in a certain way; attitude is the preceding factor that causes that behavior, and this attitude is formed based on cognition and/or affect.

Similarly, the IS literature has noted that cognitive attitude has different effects on user behavior (Ajzen 1991). Affective attitude has not been a major focus because of the underlying assumption that technology is built on a very rational basis. This assumption is based on the perception that IS artifacts are relatively safe from subjective feeling and guess (Malhotra et al. 2006). Yet, the recent evolution of technology such as aesthetic design puts weight on the importance of the affect toward IS.

In the past, IS did not employ any embedded identity or autonomy. Yet, today's IS substantially reflects the identity of its users. Here, we define identity-reflecting IS as the information system in which users' activities reflect who they are and users can control the way their identities are presented. Presenting self in blogs and creating new identities through avartars in Second Life is an example of using this kind of IS. Therefore, its evaluation may accommodate how IS can verify who they are. When the identity is verified, its owner develops emotional attachment toward the person who verifies it, and commits to that person (Burke and Stets 1999; Swann et al. 1994). In the case of this identity-reflecting IS, therefore, affect can be essential for deciphering the link between the identity owner and the following behavior. Thus, this paper is about this question - Does the user form an affective attitude toward identity-reflecting IS along with a cognitive attitude, if so, how? In order to decipher this research question, we investigate the blogosphere as the context of identity-reflecting IS. This paper attempts to investigate (i) how identity verification affects affective and cognitive attitudes and (ii) how these two different attitudes affect continuous intention to use the IS.

2. THEORETICAL BACKGROUND

2.1 Three Components of Attitude

Attitude is typically defined as predisposition to respond to some stimuli. These responses are cognitive, affective, or behavioral (Breckler 1984; Rosenberg and Hovland 1960). This categorization implies that attitude is not conceptualized as simple general evaluation or unidimensional entity, but as multicomponent entity encompassing cognition and affect (Eagly and Himmelfarb 1978). The affective component includes emotion or feeling, whereas the cognitive component includes belief, judgment, or thought (McGuire 1969). Affect and cognition seem to operate independently (Zajonc 1980), but they do not necessarily operate exclusively. In some circumstances, cognition comes first and then affect follows in a post hoc fashion (Ajzen and Fishbein 1975).

Although, people value cognition, several studies point out the importance of the affective-based perspective. As an example, the affective-based view is adopted for better understanding of consumer behavior in marketing (Bargh 2002; Cox and Blount 2000; Dube et al. 2003; Fitzmaurice 2005). Emotional attachment is considered particularly important, because when emotionally involved,

people tend to be strongly committed to pursing their goals (Cox and Blount 2000). For example, the emotional attachment is found to be the only significant antecedent to predict the willingness to pay price premium compared with satisfaction or brand loyalty (Thomson et al. 2005). Interestingly, affective-based evaluation is found to be more accessible in memory than cognitive-based evaluation (Berg et al. 2006; Verplanken et al. 1998).

2.2 Affective Attitude in IS

Cognitive attitudes such as usefulness and ease of use have been dominantly investigated as antecedents of IS use. This research stream assumes that technology is built on logic and reason, so its users evaluate it from the rational perspective. Yet, several studies adopted the affective-based view to explain IS user behavior. The examples include pleasure and arousal as feeling related constructs (Kim et al. 2007), anxiety and affect (Compeau et al. 1999), cognitive and affective factors in designing a communication system (Te'eni 2001), and the affective state of children using search engines for specific tasks (Bilal 2000). In particular, affect is found to be important in human computer interaction (Hudlicka 2003; McNeese 2003; Nahl 2007).

In sum, a content analysis of 242 sample articles from 716 articles collected from five journals - *MIS Quarterly, Annual Review of Information Science and Technology, Journal of the American Society for Information Science and Technology, Journal of Documentation,* and *Information Processing & Management*- showed that only 5% of the articles covered affective issues as a major theme (Julien et al. 2005). Therefore, the affective-based perspective sharpens the understanding IS user behavior. As user identity embedded IS becomes prevalent, understanding user affect is likely to be more than mandatory. This pivotal theoretical synergy deals with the systematic form of extension.

2.3 Identity-verification Theory

Identity-verification theory posits that people seek and value feedback to verify their own perception of who they are (Cooley 1902; Mead 1934; Swann 1987; Swann and Read 1981). When their own self is verified in others' views, they are attached to those who verify them, and feel positive. This attachment leads to further commitment (Burke and Stets 1999; Swann et al. 1994). Because this identity-verification gives a positive feeling, its failure leads to dissatisfaction, discomfort, and distress (Burke 1991). Therefore, people strategically manage to receive the feedback that corresponds to their own view of who they are (Gosling et al. 2002; Swann 1987; Swann and Read 1981).

One of the strategies of acquiring verified feedback is to utilize the cues to reveal identities (Swann 1987). In reality, facial or body expressions, which are relatively hard to control deliberately, contribute to composing an impression and become the cues (Goffman 1959; Gosling et al. 2002). They may provide information that feeds back to the brain, so they may influence our experiences of emotion. In contrast, identity-reflecting IS such as homepages or blogs is relatively easy to manage how the person is perceived (Papacharissi 2002; Schau and Gilly 2003). The fact that identity-verification can cause satisfaction and knowledge contribution in the online community highlights the importance of identity-verification in virtual space (Ma and Agarwal 2007). It is of value to investigate whether their identities, which are managed in the way they want, are verified or not through the identity-reflecting IS.

This paper proposes a framework for linking identity-verification to the three related components of attitude - affect, cognition, and behavior, as summarized in Figure 1. Identity-verification affects two components of attitude – (cognitive and affective attitude). They, then, together affect the subsequent component of attitude, the related behavior. The links expressed in these interdependencies clearly motivates the selection of items to be included in the characterization of the broader identity context.

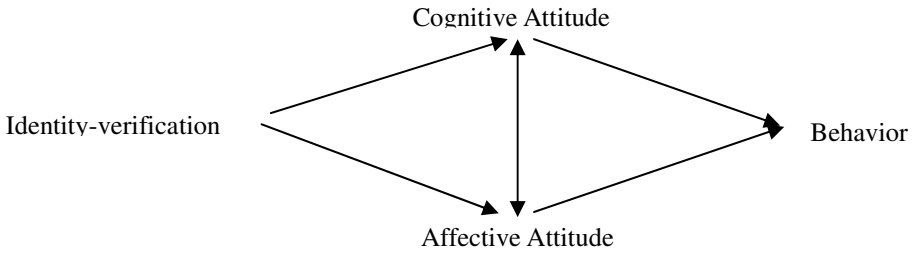

Figure 1. The framework for the research model

3. RESEARCH MODEL AND HYPOTHESES

Users tend to evaluate an identity-reflecting IS from the perspective of how useful it is to satisfy their motivation derived from their identity. Taking a blogosphere as an example of identity-reflecting IS, Miura and Yamashita (2004) delved into bloggers' motivation in view of self-describing, interacting with others, or knowledge-sharing. Similarly Lenhart and Fox (2006) reported that bloggers' major motivations include expressing themselves, sharing experiences and knowledge with others, staying in touch with others, and entertaining people. Bloggers want to show themselves as salient individuals and interact with other bloggers in the blogosphere.

Self-presentation is the way of communicating information of the self with others. Its motive influences the expression of and change in attitude (Baumeister 1982). People need a means of presenting themselves and gaining feedback (Swann et al. 1987). Identity-reflecting IS becomes, in this case, the tool for self-presentation. Therefore, cognitive attitude toward identity-reflecting IS consists of perceived usefulness of self-presentation and interaction.

While users form a cognitive attitude based on how well their self is presented, they also form an affective attitude. Thomson et al. (2005) pointed out that emotional attachment is the combination of three types of emotions - affection, connection, and passion for the object. Because emotional attachment is one of the consequences for those who verify the self, thus, it can offer the basic dimension of affective attitude in identity-reflecting IS.

We distinguish ideal identity-verification from actual identity-verification. This separation clearly goes beyond understanding the meaning of identity because it points the researcher to read behind the actual self. Actual identity means one's representation of the attributes that she believes she actually possess; the ideal identity implies her representation of the attributes that she would ideally like to possess. When people are subtly induced to think about how they might approximate their ideal selves, they show an elevated cheerful affect (Higgins et al. 1997; Shah and Higgins 2001). Emotional experience comes from our perception of physiological reactions. Hence, the following hypotheses are proposed to decipher the link among actual and ideal identity-verification and cognitive and affective attitudes toward identity-reflecting IS.

H1a: Actual identity-verification has a positive effect on the cognitive attitude arising from perceived usefulness of self-presentation, and perceived usefulness of interaction.

H1b: Ideal identity-verification has a positive effect on the affective attitude arising from affection, connection, and passion.

The identity-reflecting IS is considered to be useful for self-presenting and interaction if it can verify the identities. When the identities are verified in identity-reflecting IS, people may think it can be useful as a tool for self-presentation and interaction. At the same time, people may feel certain kinds of emotions toward it. Typically, there are studies on independent influences of affect and cognition. Yet, in certain circumstances, they can be highly interdependent (Storbeck and Clore 2007). Both of them are likely to affect each other, not particularly as the fashion that one comes first and the other follows. Therefore, the following hypothesis is suggested to explore interdependency between cognitive attitude and affective attitude.

H2: Cognitive attitude and affective attitude are positively correlated.

People tend to enforce the strategy that achieves self-presentation and interaction effectively (Swann 1987). Similarly, if emotionally attached to certain objects, they are likely to sustain in the relationship (Burke and Stets 1999; Swann et al. 1994). If they believe an identity-reflecting IS is useful to show who they are and they feel emotionally attached to it, they are more likely to continuously use it. Therefore, the following two hypotheses are suggested to explain the effect of cognitive and affective attitudes on continuous intention to use.

H3a: Cognitive attitude has a positive effect on continuous intention to use.

H3b: Affective attitude has a positive effect on continuous intention to use.

4. RESEARCH METHOD

4.1 Measurements

Eight first-order constructs were measured in this study. Items were reworded for the purpose of measurement. In order to measure actual- and ideal- identities, respondents were requested to write their own identities, based on the modified Twenty Statements Test (TST) (Kuhn and McPartland 1954). To minimize the effect of fatigue, 5 instead of 20 questions were employed (Ma and Agarwal 2007). Because emotional attachment is a consequence of identity-verification (Burke and Stets 1999; Swann et al. 1994), three items developed by Thomson et al. (2005) were adopted for the constructs related with affective attitude.

A seven-point Likert scale from "strongly disagree" to "strongly agree" was used for all items. Operational definitions and sources for these constructs are summarized as shown in Table 1.

Construct	Operational Definition	How Measured
Actual Identity-verification	The degree to which the actual identity of the respondents is perceived to be verified in the context of identity-reflecting IS	Based on Kuhn and McPartland (1954); Ma and Agarwal (2007)
Ideal Identity-verification	The degree to which the ideal identity of the respondents is perceived to be verified in the context of identity-reflecting IS	Based on Kuhn and McPartland (1954); Ma and Agarwal (2007)
Perceived Usefulness of Self-Presentation	The perceived extent to which the blogosphere enhances the effectiveness of self-presentation	Based on Davis (1989)
Perceived Usefulness of Interaction	The perceived extent to which the blogosphere enhances the effectiveness of communication and relationship management	Based on Davis (1989)
Affection	The extent of the user's warm-feelings toward the identity-reflecting IS	Based on Thomson et al. (2005)
Connection	The extent of the user's feeling of being connected with the identity-reflecting IS	Based on Thomson et al. (2005)
Passion	The extent of the user's intense and aroused positive feelings toward the identity-reflecting IS	Based on Thomson et al. (2005)
Continuous Intention to Use	The extent of the user's willingness to use self-reflecting IS continuously	Based on Bhattacherjee (2001)

Table 1. Operational definitions of first-order constructs

4.2 Survey Administration

Empirical data for this study was collected via a cross-sectional field survey of bloggers. In particular, the survey was conducted for the users of the Naver Blog (blog.naver.com). Naver is the largest blog provider and more than 50% of the blog users in Korea nest their blogs in Naver (KISDI 2008). In November 2008, it announced "Power Blogs" among its 15 million blogs on the basis of activity, popularity, and recognition. In order to ensure active bloggers participate in the survey, blogs are randomly chosen in the pool of "Power Blogs" and the blogs introduced in the main blog page of Naver. Messages were sent to the chosen bloggers introducing our research and the link to the online questionnaire.

Online questionnaires were sent to 1,331 bloggers and 322 bloggers responded (The response rate was 24.2%). Respondents were given 20 silver coins that can be used in Naver Blog for purchasing items such as music (1 silver coin corresponds to roughly 10 U.S. cents). Table 2 shows the demographics of the respondents.

Item	Category	Frequency	Percent
Gender	Male	137	42.5%
	Female	185	57.5%
Age	Less than 19 years	33	10.2%
	20 ~ 29 years	121	37.6%
	30 ~ 39 years	112	34.8%
	40 ~ 49 years	44	13.7%
	50 ~ 59 years	9	2.8%
	Equal to or more than 60 years	3	0.9%
Average time of blog usage per day	Less than 1 hour	14	4.3%
	1 ~ 3 hours	74	23.0%
	3 ~ 5 hours	42	13.0%
	5 ~ 10 hours	65	20.2%
	10 ~ 30 hours	106	32.9%
	Equal to or more than 30 hours	21	6.5%
Average usage period of blog	Less than 1 year	3	0.9%
	1 ~ 3 years	112	34.8%
	3 ~ 5 years	161	50.0%
	More than 5 years	46	14.3%
Average number of updates per week	Less than 1 time	3	0.9%
	1 ~ 5 times	187	58.1%
	5 ~ 8 times	76	23.6%
	Equal to or more than 8 per week	56	17.4%

Table 2. Demographic data of respondents

5. DATA ADMINISTRATION RESULTS

AMOS was used for the validity test of scales, confirmatory factor analysis for the second-order model, and the structural model.

5.1 Reliability

The results of exploratory factor analysis of our 10 items showed that 3 factors fall to the actual identity-verification and 2 factors to ideal identity-verification. Therefore, the first three items on the degree to which others know that a respondent defines herself as the identity she specified were used for each identity-verification. The third item measuring affection developed by Thomson et al. (2005) was dropped because it is too highly correlated with the items measuring connection and passion, yielding a negative variance problem in AMOS. Appendix A summarizes the composite reliabilities of the constructs. They are all higher than 0.82, well above the desirable level 0.70 (Bagozzi and Yi 1998), indicating good reliability.

5.2 First-order versus Second-order Factor Models

In order to investigate whether cognitive and affective attitudes as second-order factors account for the relationships among the first-order factors – perceived usefulness of self-presentation and interaction, affection, connection, and affection, we compare (i) goodness of fit statistics for the two models (Grover et al. 2002; Tippins and Sohi 2003; Venkatraman 1990), (ii) significance of the second-order factor loadings (Tippins and Sohi 2003; Venkatraman 1990) and (iii) significance of the structural links that connect to a criterion variable of interest (Venkatraman 1990). For the goodness of fit statistics, we compared 4 different models. Model 1 assumes a unidimensional model which posits that one first-order factor accounts for the variance among 17 items. Model 2 hypothesizes that 5 uncorrelated first-order factors account for the variance of 17 items. Model 3 hypothesizes that these first-order factors are freely correlated. Finally, model 4 hypothesizes two second-order factors

account for the relationship among the 5 first-order factors. Chi-square, degrees of freedom and goodness of fit indices of each model are presented in Table 3.

Model	Chi-square	d.f.	GFI	AGFI	NFI	CFI	RMSEA	PNFI
Model 1	Model in which one first-order factor accounts for the variance among 17 measurement items							
	2132.852	34	0.509	0.368	0.585	0.598	0.23	0.512
Model 2	Model of five uncorrelated first-order factors							
	1285.643	34	0.66	0.563	0.750	0.767	0.175	0.656
Model 3	Model of five freely correlated first-order factors							
	336.933	44	0.890	0.846	0.934	0.954	0.081	0.749
Model 4	Model of freely correlated two second-order factors							
	351.141	40	0.884	0.843	0.932	0.952	0.081	0.774

Table 3. Goodness of fit indices of four models

Comparison of Model 1 and Model 2 shows that Model 2 has a low chi-square for the same degree of freedom with better fit indices, implying that the model of five first-order factors is superior to the unidimensional model. The significant improvement of the chi-square value with an added constraint indicates superiority of the nested model (Hair et al. 2005). Compared with Model 2 (lesser constrained model), the significance of the chi-square change (Δchi-square=948.7, Δ d.f.=10, $p<0.0001$) indicates the superiority of Model 3 (nested model).

Typically, the first-order model always fits better in absolute terms because of more paths in capturing the same amount of covariance, while the second-order model is more parsimonious (Hair et al. 2005). Statistics for Model 3 and Model 4 are similar, but Model 4 is better in terms of the fit indices that reflect the model parsimoniousness (RMSEA, PNFI). This parsimony suggests that the second-order model should be accepted because it has with fewer parameters and consumes fewer degrees of freedom (Grover et al. 2002; Hair et al. 2005; Venkatraman 1990). All second-order factor loadings are highly significant and the structural links from cognitive and affective attitudes to continuous intention to use are significant as shown in Figure 2. This result confirms the cognitive and affective attitudes as second-order factors.

5.3 Dimensionality and Validity

For the test of convergent and discriminant validity, we compared 5 different models in a way that is similar to the method used in the previous section. The result is presented in Table 4.

Model	Chi-square	d.f.	GFI	AGFI	NFI	CFI	RMSEA	PNFI
Model 1	Model in which one first-order factor accounts for the variance among all 26 measurement items							
	3067.038	299	0.527	0.445	0.525	0.549	0.170	0.483
Model 2	Model of eight uncorrelated first-order factors							
	1793.170	299	0.644	0.582	0.750	0.757	0.125	0.665
Model 3	Model of eight freely correlated first-order factors							
	600.592	271	0.873	0.836	0.907	0.946	0.062	0.756
Model 4	Model of eight first-order factors of which correlations are fixed as 1							
	1027.691	299	0.800	0.765	0.841	0.881	0.087	0.774
Model 5	Model of freely correlated three first order factors and two second-order factors							
	628.6	284	0.867	0.836	0.903	0.944	0.061	0.789

Table 4. Goodness of fit indices of five models

Compared with Model 1, Model 2 has a low chi-square for the same degree of freedom and better fit indices, implying that the model of eight first-order factors is superior to the unidimensional model. The significance of the chi-square change (Δchi-squre=1192.578, Δd.f.=28, $p<0.0001$) indicates the superiority of Model 3 over Model2.

Affection, connection and passion are highly correlated because they are intertwined and build a higher level of affective attitude. Therefore, in order to test discriminant validity, the model fit between Model 3 and a model that specifies all correlations between constructs as 1 is compared (Anderson and Gerbing 1988; Bagozzi and Phillips 1982). The significance of the chi-square change (Δchi-squre=427.099, Δd.f.=28, $p<0.0001$) with the better fit of Model 3 indicate its discriminant

validity.

Compared with Model 3, Model 5 is better in terms of fit indices that reflect its parsimoniousness (RMSEA, PNFI), suggesting that the second-order model should be accepted. Furthermore, all factor loadings are highly significant. This result confirms the dimensionality and validity.

This study attempts to control common method variance. First, it carefully designed the questionnaire by the use of procedural remedies. It avoided vague concepts and double-barreled questions, and guaranteed response anonymity. A satisfactory level of reliability, convergent validity and discriminant validity provides evidence of acceptable design of the measurement instruments. Second, in order to check for common method variance, Harman's single factor test was conducted (Podsakoff et al. 2003). The poor fit of Model 1 showed that no single factor emerged or no general factor accounted for the majority of the covariance, indicating no significant common method variance.

5.4 Hypotheses Testing

The five hypotheses presents earlier were tested collectively using the structural equation modeling approach. This approach is particularly appropriate for testing theoretically justified models like ours.

First, the goodness of fit of the structural model assesses how well the specified model describes data. Typically a 0.9 or higher value for GFI, which is one of the absolute fit indices is acceptable. Yet, because different types of indices have their own advantages and disadvantages, multiple indices of differing types should be included (Hair et al. 2005). When the sample is more than 250 and the number of observed variable is between 12 and 30, significant p-values can be expected. In that case, the condition RMSEA of less than 0.07 with CFI of 0.92 or higher indicates an acceptable model. Chi-square/degrees of freedom of less than 3.0, AGFI of greater than 0.80 and NFI of greater than 0.90 are the recommended values of goodness-of-fit measures (Hartwick and Barki 1994; Segars and Grover 1993). As shown in Table 5, GFI is lower than the rule of thumb cutoff value 0.90, but other indices are satisfactory, indicating our structural model is acceptable.

Chi-square	d.f.	Chi-square/d.f.	GFI	AGFI	RMSEA	NFI	CFI	PNFI
735.983	289	2.547	0.850	0.817	0.069	0.886	0.927	0.788

Table 5. Goodness of fit indices of the structural model

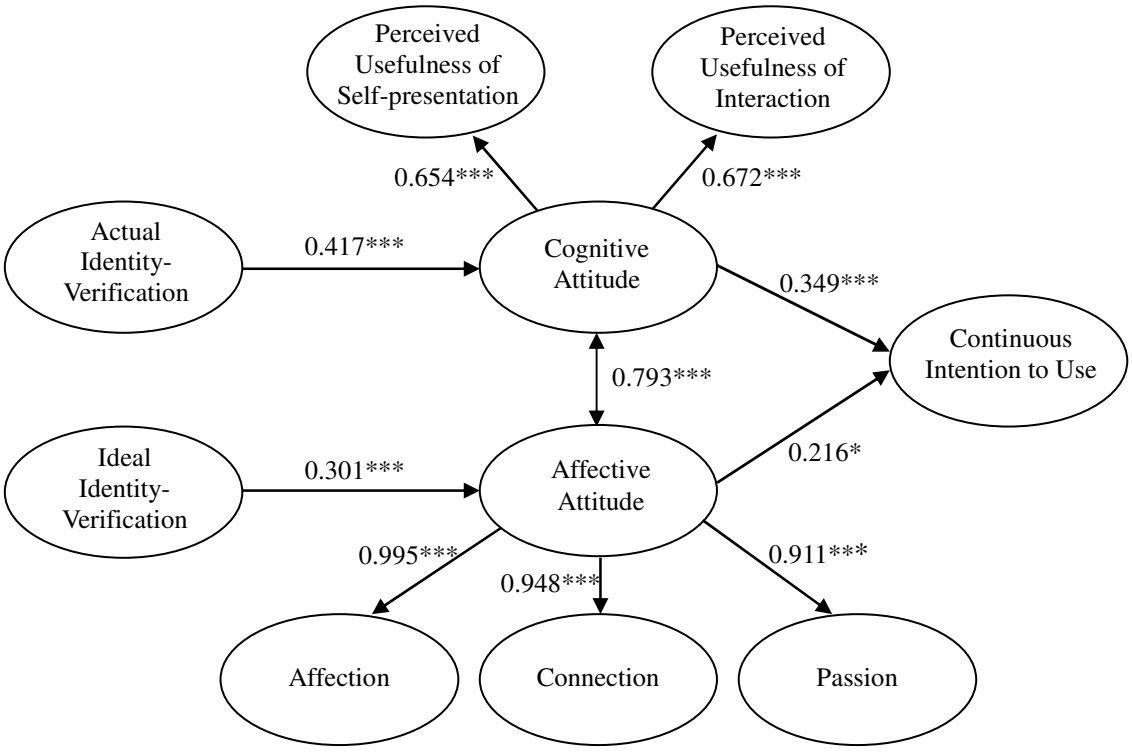

Figure 2. Structural examination of the research model

Second, in terms of the dependence relationship, the effect of actual identity-verification on cognitive attitude is positive and significant, as suggested in Hypothesis 1a. Hypothesis 1b, which suggests a positive and significant effect of ideal identity-verification on affective is also validated. The relationship between cognitive attitude and affective attitude in Hypothesis 2 is found to be positively correlated. Lastly, cognitive attitude and affective attitude have positive effects on continuous intention to use, supporting Hypothesis 3a and 3b. The above findings are depicted in Figure 2.

6. DISCUSSION

It is found that actual identity-verification affects cognitive attitude and ideal identity-verification affects affective attitude. Because actual identity is based more on reality and recognized relatively easily, users are likely to "think about" whether their fulfilled identity is the same as other's recognition on a rational basis. Otherwise, ideal identity is not necessarily revealed in reality and even its owner sometimes does not clearly describe what it is. Therefore, users are likely to "feel" instead of "think" in the IS that verifies their identities.

A strong and significant relationship between cognitive attitude and affective attitude is noted. Attention should be paid to the point that cognitive and affective attitudes still affect continuous intention to use significantly after explicitly stating the correlation effect between both of them. This finding confirms that affective attitude has its own effect on continuous intention to use.

7. IMPLICATIONS

7.1 Implication for Theory

We can draw on this study's findings to generate some interesting claims.

First, our study provides the deeper understanding of another perspective inherent in IS. IS has been a convenient servant that performs users' orders. Yet, identity-reflecting IS becomes inseparable complement of users. Bloggers post about their unfulfilled dreams, unfold their ideas in the way they never do in reality, and make interesting relationships they might not easily find in real life. Users find themselves in IS. Sometimes, the identity they establish in IS is better version of themselves. This new perspective infuses vigor in the current IS studies and further extends the IS position in our lives.

Second, our finding confirmed the importance of user identity verification in identity-reflecting IS. Cyberspace is useful to characterize various identities. This usefulness increases the importance of IS in its identity supporting role.

Third, caught between two elemental forces, cognitive and affective attitudes, we launch our exploration of both as second order factors. As a result, perceived usefulness of different dimensions representing unique characteristics of identity-reflecting IS better predicts continuous intention to use. In a similar vein, the affective attitude that consists of three types of emotions confirms the existence of a higher dimension that can aggregate the user's various emotions toward IS. This finding implies that users are likely to have various perspective of IS. Our story may be the first step for this exploration.

Fourth, we attempt to understand the user's evaluation of the identity-reflecting IS through the separation of cognitive attitude and affective attitude. Although attitude includes cognition and affect, traditional IS research has valued cognition. The underlying assumption is that technology is built on a rational basis and the attitude toward it is thus formed by reason. By contrast, our research confirms that IS includes not only rational functions but has also room to reflect the user's identity; the affective-based perspective is of importance and interest. The ignorance of affective factors in understanding IS user behavior will cause missing pieces of the puzzle when trying to examine the whole picture.

7.2 Implication for Practice

Our findings shed some insights on how identity-reflecting IS should be designed. Delving deeper into the blogging world illuminated the link between identity and attitude. Because identity

verification is revealed to influence attitude, the system should provide a space for various identities to unfold. This space needs to be flexible enough to accommodate different offerings of the system providers. Similarly, in order to check identity verification, a well tailored interaction and feedback mechanism is mandatory.

Information systems have kept some distance with its user's emotional use. Yet, the emergence of various kinds of IS highlights the fact that IS mostly for providing pleasure can be as useful as that for helping with tasks. Examples include games, blogs, and social network sites. They have not only accomplished the intended operation, but also changed the lifestyles. Virtual economic activities become real. The use of blogs as personal media represents this trend. Our research implies that IS can abandon the position as a rational object and become one's other self. This perspective of examining IS further embraces users who are the imperative driving force of IS.

8. LIMITATIONS AND FUTURE STUDY

This study suffers from several limitations. First, perceived usefulness of self-presentation and interaction were chosen for cognitive attitude to represent users' cognitive perspectives. Other cognitive-based variables may assist researchers in being externally valid.

Second, the novelty associated with the blogosphere mode of data collection may have biased the survey respondents. Other identity-reflecting IS such as online social network sites or games may sharpen the generalization.

Third, the influential set of IT artifacts may be incorporated for the further understanding of the interaction between identity-reflecting IS and its users.

Fourth, our finding hints that people are satisfied not only by feedback from others, but also by their own verified creation such as homepages or blogs. The more the creation resembles the ideal self, the more they are attracted to it. Their homepages or blogs somehow work like organic forms having their own reason for being. Therefore, an exploration of the potential of identity-reflecting IS as something that gives feedback to the creators would be an interesting research topic.

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Appendix A. Reliability Measures and Correlations of First-Order Constructs

Variables	Items	Composite reliability	AIV	IIV	PUS	PUI	AFC	CON	PAS	CIU
Actual Identity-verification (AIV)	3	0.816	1.00							
Ideal Identity-verification (IIV)	3	0.832	0.69	1.00						
Perceived Usefulness of Self-Presentation (PUS)	4	0.943	0.36	0.28	1.00					
Perceived Usefulness of Interaction (PUI)	4	0.965	0.39	0.35	0.47	1.00				
Affection (AFC)	3	0.906	0.37	0.41	0.53	0.51	1.00			
Connection (CON)	3	0.917	0.34	0.39	0.48	0.58	0.95	1.00		
Passion (PAS)	3	0.930	0.39	0.44	0.53	0.52	0.91	0.87	1.00	
Continuous Intention to Use (CIU)	3	0.933	0.39	0.29	0.35	0.35	0.54	0.43	0.43	1.00