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The Mediating Effect of Perceived Value on the Relationship between Social Influence and Usage Intention in Social Networking Sites

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Abstract

Purpose— Social networking sites (SNS) have become a major medium for social interaction, and research on the intention to use SNS has gained much attention in the academic field. Although social influence and perceived value are two critical determinants influencing the intention to use SNS, few studies have examined the mediating effect of perceived value on the relationship between social influence and usage intention in SNS. Thus, to understand why people use SNS, this study attempts to explore this causal relationship.

Design/methodology/approach— Structural equation modeling was conducted, and 445 experienced SNS users in Taiwan were surveyed. Moreover, Facebook was selected as the research target of SNS in the study.

Findings— This study finds that although social influence is not directly associated with usage intention, it indirectly affects the intention to use SNS through perceived value, including functional value, emotional value and social value.

Research limitations/implications— Based on the nature of SNS and the related literature, this study used functional value, emotional value, and social value as the elements of perceived value in SNS. Thus, this study focuses on an investigation of usage intention in SNS (i.e., Facebook). The findings of this study may apply to research regarding the adoption of SNS, but this may not be generalized in other

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research contexts.

Practical implications— This paper provides several managerial implications. First, the findings of this study can help service providers understand that the impact of social influence on usage intention has its limitations when the users have considerable experience with the service. Second, this study further suggests that service providers may exert sufficient social influence to acquire new users to participate in SNS and extend users' perceived value in the service, thereby increasing their usage intention.

Originality/value— This study advances the knowledge of the mediating effect of perceived value on the relationship between social influence and usage intention in the context of SNS.

Keywords: social influence, perceived value, usage intention, social networking sites

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社群網站使用者知覺價值對社會影響力與 使用意願關係的中介效果之研究

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摘要

社群網站已經成為一種主要的社會互動媒體，有關如何使用社群網站的研究也受到學術界的重視。雖然社會影響力和知覺價值是影響社群網站使用意願的重要因素，然而，很少研究探討知覺價值對社會影響力與使用意願關係的中介效果。因此，為瞭解人們為何使用社群網站，本研究擬探討這個因果關係。我們採用結構方程模型來驗證假設，調查台灣 445 位有社群網站經驗的使用者。本研究發現，社會影響力對使用意願沒有直接的影響效果，但經由知覺價值，包含功能價值、情感價值、社交價值，則有間接的影響效果。本研究提供兩點管理涵意，第一，本研究發現可幫助業者瞭解社會影響力對使用意願的影響是有限制的，當使用者已經擁有相當的使用經驗。第二，本研究建議業者運用適當的社會影響力來吸引新的使用者加入社群網站，然後擴大其知覺價值來提升使用意願。因此，本研究提升了使用者在社群網站，知覺價值扮演中介角色的知識。

關鍵詞：社會影響力、知覺價值、使用意願、社群網站

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1. INTRODUCTION

Currently, social influence has gained considerable attention in the fields of psychology, marketing, and strategy management because of the important role it plays in affecting consumer behavior in the service sectors (Miura & Yamashita 2007). Furthermore, with the rapid development of social networking sites (SNS), such as Facebook, Twitter, YouTube, and micro-blogs, social influence has become an important topic in academic research (Wang & Lin 2011). Indeed, the impact of social influence on usage intention has been examined, and the typical result reported in the literature is that of a positive correlation (Hsu & Lu 2004). However, some scholars find this result questionable. For example, Venkatesh and Davis (2000) found that social influence affects usage intention in mandatory situations, but when users have direct experiences with the target system, this effect declines. Lu and Lee (2010) indicated that users would not revisit a blog simply because friends recommended it. Conversely, however, they will remain on a blog longer because of relationships with others on the blog. In this regard, it appears that social influence may not be a direct predictor of the intention to use SNS, but that some factors may play important mediating roles in affecting the relationship between social influence and usage intention. For example, Wang and Lin (2011) found that perceived quality mediates the relationship between social influence and usage intention of blogs because people often rely on others' actions for quality evaluation while using blogs. Thus, social influence can provide information for the evaluation of the service quality for users, which, in turn, strengthens usage intention. However, compared with perceived quality, perceived value is determined to be a more important influencing factor when evaluating why users remain on websites. Zeithaml (1988) argued that perceived value differs from perceived quality in two ways. First, perceived value is more individualistic and personal than perceived quality and is thus a higher-level concept than quality. Second, perceived value, unlike perceived quality, involves a tradeoff of give-and-take components. Thus, when exploring why users are affected by social influence when using SNS, it is expected that perceived value, acting as a mediator, is more effective than perceived quality.

A simple case illustrates the assumption of the mediating effect of perceived value on the relationship between social influence and usage intention in SNS. Suppose a student is influenced by his/her classmates to join a certain SNS, even though he/she is not inclined toward the service. In this situation, social influence directly affects the

student's usage intention of the SNS. However, peer pressure from classmates may also influence the student's perceived value toward the service, and this intensity may enhance the student's usage intention of SNS. Thus, we assumed that social influence positively affects perceived value, which then increases usage intention. Indeed, aside from curiosity and voluntary intentions, most people use SNS because of the relationships among the users (Keenan & Shiri 2009). Thus, it is expected that social influence and perceived value are two important determinants affecting the intention to use SNS. While previous research has advanced our understanding of social influence and perceived value affecting usage intention of SNS (Hsu & Lin 2016; Zhou 2011), we know little of the causal relationship among social influence, perceived value, and usage intention. Therefore, we ask, "How does social influence directly affect usage intention of SNS or indirectly affect usage intention via perceived value?" The field has not yet provided a direct investigation into this question.

To help answer this question and understand the relationship among social influence, perceived value, and usage intention, we investigated the behaviors of a select group of users in Taiwan. Our research contributes a few significant new results to the field by extending the previous understanding of the effects of social influence and perceived value on usage intention in the context of SNS and by formulating a framework to explain the causal relationship in SNS.

2. THEORETICAL BACKGROUND

2.1 Social Influence Theory

To illustrate the social influence theory, Kelman (1974) first argued that compliance, identification and internalization are three social processes that influence individual behavior in different ways. Specifically, compliance suggests that a user follows others' opinions when deciding whether to use the service; identification signifies that a user has feelings of membership, influence and value as a result of a usage experience; and internalization implies that the user has adopted the community vision and values as his own. However, Fishbein and Ajzen (1975) defined social influence as the person's perception of what those who are important to him/her think he/she should or should not do with respect to a specific behavior. The rationale for the effect of social influence on intention is that people may choose to effect a behavior, even if they are not themselves favorably inclined toward that behavior, if they believe one or more important referents think they should do so and if they are sufficiently

motivated to comply with the referents. In this regard, social influence can be viewed only as compliance, and accordingly, to examine its effect on intention, much research has followed this rule (e.g., Wang & Lin 2011). Surprisingly, prior studies examining the direct effect of social influence on intention have yielded mixed results. For example, Chong, Chan and Ooi (2012) found a significant effect of social influence on the decision to adopt mobile commerce. However, Lu, Yao and Yu (2005) found no significant effect of social influence on the intention to adopt wireless mobile technology. Furthermore, Davis, Bagozzi and Warshaw (1989) argued that because social influence has no significant effect on intention over and above perceived usefulness and ease of use, they omitted it from the original TAM. It is evident that there exists no consensus regarding the effect of social influence on intention, and therefore, to understand why people use SNS, this study proposes a united framework that integrates social influence and perceived value in the model to explore the impacts on intention.

2.2 Perceived Value Theory

Perceived value theory has been widely used to explain behavior in shopping and technology acceptance (Setterstrom, Pearson & Orwig 2013). Prior studies have demonstrated that perceived value, defined as the customer's overall assessment of the utility of a product based on the perception of what is received and given (Zeithaml 1988), is a critical determinant of behavior intention (Ha & Jang 2010). In general, the definition of perceived value is the ratio or trade-off between quality and price. However, Zeithaml (1988) argued that some consumers perceive value when there is a low price, while others perceive value when there is a balance between quality and price. Thus, the components of perceived value may be differentially weighted for different consumers. In academic research, perceived value is considered either a uni-dimensional perception that includes cognition-based perception or a multi-dimensional perception that combines the cognitive and emotive aspects of the consumption of consumers (Rezaei & Ghodsi 2014). Indeed, the aspect of value as a multi-dimensional variable has long been recognized because of its many implications and its suitability for research (e.g., Kim, Lee & Kim 2012). For example, Babin, Darden and Griffin (1994) developed a shopping value that includes utilitarian and hedonic components. Sheth, Newman and Gross (1991b) categorized perceived value as social value, emotional value, functional value, epistemic value, and conditional value. Grönroos

(1997) classified perceived value as cognitive and emotional dimensions. Sweeney and Soutar (2001) proposed three dimensions of perceived value, including functional, social and emotional dimensions. Mortazavi, Rahim Esfidani and Shaemi Barzoki (2014) identified four attributes of social networks that promote engagement, namely, social relationships, entertainment, information access and ease of use. Roig et al. (2006) divided perceived value into six dimensions, including the functional value of the establishment, the functional value of the personnel, the functional value of the service, the functional value price, the emotional value, and the social value. Among these value categories, most scholars believed that functional value is the key influencing factor of consumer choice (Sweeney & Soutar 2001). However, Van der Heijden (2004) argued that for hedonic systems, perceived enjoyment, i.e., emotional value, is a stronger predictor of behavioral intention to use than perceived usefulness, i.e., functional value. Thus, it is clear that different value dimensions have various levels of importance depending on the type of product or service being considered (Sweeney & Soutar 2001). Therefore, according to the nature of SNS and user acceptance of information systems, this study, similar to prior studies, considered functional value, emotional value, and social value as the three elements of perceived value for SNS users (e.g., Hsu, Chen & Wang 2010). Functional value refers to the perceived utility of a service based on the capacity to perform the functions of the service. The value is related to the functional aspects of the services, such as the functional mechanisms for exchanging information or communicating with friends in SNS. Emotional value refers to the perceived utility of a service based on the capacity to arouse feelings and affective states. As such, it is an overall assessment of experiential benefits and sacrifices, such as the feeling of playfulness through member interaction in SNS. Social value, which refers to the perceived utility of a service based on the capacity to enhance one's social relationships through interaction, is the result of social connections and social development in the online community, such as the social relationships generated from creating new friendships and retaining existing friends in SNS. In fact, SNS not only allows users to create individual profiles but also provides additional functions, such as updating statuses, posting information, and sharing links for perceived functional quality or value, as an online platform that enables people to communicate with others for the purpose of playfulness and socialization (Keenan & Shiri 2009). Therefore, in the present study, functional value reflects the user's perceived quality of the services provided in SNS, whereas emotional value and social value reflect the user's affective evaluation and social relationships through interaction in SNS.

3. RESEARCH MODEL AND HYPOTHESES DEVELOPMENT

3.1 The Research Model

The proposed model is presented in Figure 1. This model is built upon perceived value and social influence theory. Accordingly, it is assumed that social influence, as an environmental motivation, affects consumers' perceived value, as an individual motivation, which, in turn, increases usage intention of SNS. Moreover, social influence also directly affects usage intention of SNS.

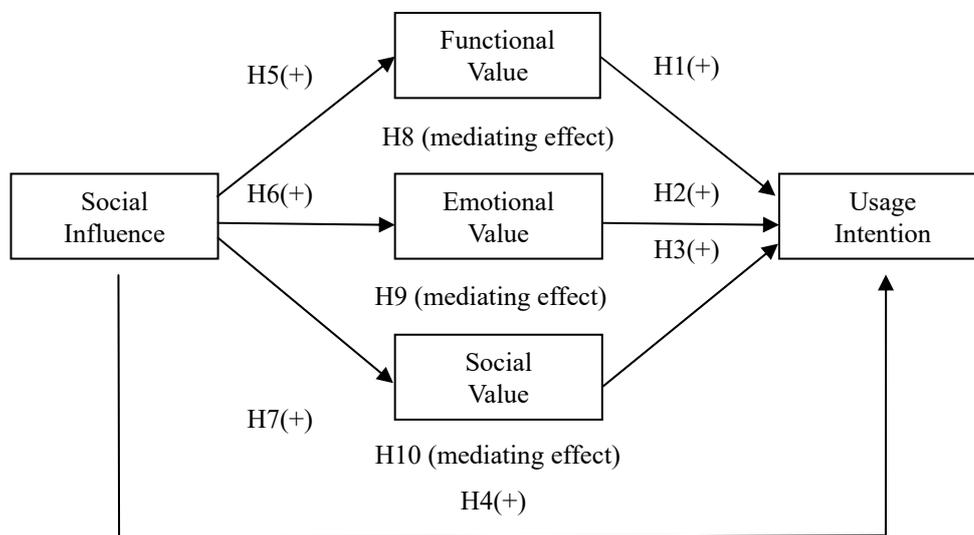


Figure 1: The proposed model of the study

3.2 Functional Value Affecting Usage Intention

The functional value of a product or service, similar to utilitarian value in the literature (e.g., Babin et al. 1994), can be derived from its characteristics and attributes, including reliability, durability, and price, and can be measured through a profile of choice attributes (Kim, Gupta & Koh 2011). However, the definition of functional value varies in the literature. For example, Sheth (1983) proposed that functional value relates to tangible needs, such as convenience, quality, and price. Bhat and Reddy (1998) noted that functional value satisfies practical needs. Sweeney and Soutar (2001) divided functional value into quality and price dimensions in evaluating consumer durable goods. Sanchez et al. (2006) adopted installations, professionalism, quality, and price

dimensions to assess the functional value of a tourism product. Since SNS are an online platform enabling people to exchange information or communicate with one another, function quality is a critical perceived value for SNS users (Kim et al. 2011). Thus, functional value in this study is defined as the perceived overall excellence and expected performance of the service in SNS, as in the functional quality construct used in the study by Kim et al. (2011). That is, the functional quality perceived by the users of SNS may include the mechanism behind the service to create personal profiles, search for friends, and exchange information, photos, videos and other standard forms of expression with friends (Keng & Ting 2009). Research on the adoption of SNS has strongly supported functional value as a crucial determinant of intention because users usually make rational assessments of the functional benefits of using SNS (Kim et al. 2011). The greater the functional quality perceived by users regarding the SNS, the more likely people will use the service and remain on the website. Thus, reliable performance when communicating with friends, and a degree of functional quality that is satisfactory for interactions, critically affect the user's intention to remain on the SNS. Accordingly, the first hypothesis (H1) is proposed:

H1. Functional value is positively associated with usage intention of SNS.

3.3 Emotional Value Affecting Usage Intention

The emotional value of a product or service, similar to hedonic value or affective value in the literature (e.g., Babin et al. 1994; Tsai 2005), can be derived from the specific feelings that a customer associates with it (Kim et al. 2011). In the literature, the definition of emotional value varies. For example, Rintamäki et al. (2006) divided hedonic value into entertainment and exploration to assess the value of department store shopping. Kim et al. (2011) identified aesthetics and playfulness as the two factors defining emotional value in social networking communities. Tsai (2005) used emotional and behavioral price as the components of affective value to assess brand purchase value. Since SNS enable computer-mediated communication between people with common interests, such as school, family, and friendship, perceived playfulness may have a significant effect on actual usage in SNS (Sledgianowski & Kulviwat 2009). Therefore, emotional value in this study is defined as the perceived value of playfulness while engaging in SNS, as the playfulness construct used in the study by Kim et al. (2011). That is, emotional value is based on providing the customer with perceptions of

fantasies, feelings and fun. Kim et al.(2011) found that many consumers prefer looking to satisfy their emotional needs rather than enhance their performance when using SNS. Yang and Jolly (2009) found that emotional value plays the most significant antecedent role in the adoption of SNS. Thus, SNS users communicate with friends based mostly on their emotional attraction. The more emotional value the user perceives with respect to the SNS, the greater his/her usage intention. Assuming that emotional value is positively associated with usage intention for SNS users, the second hypothesis (H2) is proposed:

H2. Emotional value is positively associated with usage intention of SNS.

3.4 Social Value Affecting Usage Intention

The social value of a product or service, similar to symbolic value in the literature (e.g., Tsai 2005), can be derived from the service to enhance one's social self-concepts (Jamal, Othman & Muhammad, 2011). Similarly, the definition of social value varies in the literature. For example, Rintamäki et al. (2006) classified social value as status and self-esteem dimensions. Kim et al. (2011) identified self-image expression and relationship support as the components of social value. Lin and Lu (2015) argued that in SNS, not only can users maintain existing interpersonal relationships, but they can also help expand relationships. Therefore, in this study, social value is defined as the social relationship as perceived by users based on their interactions in SNS, as the social motivation construct used in the study by To, Liao and Lin (2007). In general, SNS can be viewed as a social network comprising individuals and relationships. Wolfenbarger and Gilly (2001) found that users tend to interact online with those who share the same interests. Keng and Ting (2009) argued that online experience has become the subject of conversations for blog users. Therefore, people tend to join a social network to interact with others who share their interests and goals. Through interesting interactions, users can contact friends and develop friendships with other users, and thereby strengthen usage intention. Thus, assuming that social value is positively associated with usage intention of SNS, the third hypothesis (H3) is proposed:

H3. Social value is positively associated with usage intention of SNS.

3.5 Social Influence Affecting Usage Intention

The concept of social influence states that individuals adapt their attitudes and behaviors to their social situations. Elek, Miller-Day and Hecht (2006) demonstrated that an individual's behavior is subject to the influences of others. Salganik, Dodds and Watts (2006) found that people might form completely different evaluations of the same song due to the perceptions of others' behaviors. Chen (2008) argued that consumers could be influenced by the choices of others when making decisions about purchasing books online. Thus, people tend to believe that certain behaviors are sensible when they observe many others doing it (Wang & Lin 2011). In general, because most of their peers are using SNS, people feel compelled to also join SNS to remain part of their groups (Al-Debei & Al-Lozi 2014). Therefore, social influence in this study is defined as the influence that people who are important to an individual have on an individual's behavior, as the subjective norms construct used in the TPB model (Ajzen 1991). That is, social influence affects individuals' attitudes and intentions toward a certain behavior (Hsu & Lu 2004). Therefore, assuming that social influence is a direct predictor of usage intention in the use of SNS, the fourth hypothesis (H4) is proposed:

H4. Social influence is positively associated with usage intention of SNS.

3.6 Social Influence Affecting Perceived Value

In addition to the direct impact of social influence on usage intention, social influence may contribute to intention through perceived value. Drawing on social influence theory, a user will likely comply with the opinions of other users who are important to him/her (Zhou 2011). Al-Debei and Al-Lozi (2014) showed that consumers' perceptions of value are particularly influenced by social influences in mobile data services. Thus, social influence may have a significant effect on the value dimensions that can be derived from the use of SNS (Phan & Daim 2011). Previous studies have shown that people believe that they would exchange information, gain playfulness, and enhance their social relationships by using the SNS, given that the motives are from peer pressure (Kim & Han 2009). SNS comprise members sharing common interests, and users interact with each other to exchange ideas, tell jokes, and contact friends (Keenan & Shiri 2009). Thus, users participating in SNS are subject to peer pressure, and this social influence affects users' perceived values in using SNS. Therefore, assuming that social influence is positively associated with perceived value,

including functional value, emotional value, and social value in SNS, the following hypotheses (H5 to H7) are proposed:

- H5. Social influence is positively associated with functional value in SNS.
- H6. Social influence is positively associated with emotional value in SNS.
- H7. Social influence is positively associated with social value in SNS.

3.7 The Mediating Effect of Perceived Value

As for the mediating effect of perceived value on the relationship between social influence and usage intention, there has been little research with respect to this assumption. Let us elaborate by taking Facebook as an example. As previously noted, from the functional value viewpoint, Facebook provides a simple media interface design for users (Keenan & Shiri 2009). Facebook's social desktop environment includes a window interface to separate user information into categories, such as photos, videos, events, etc. Moreover, Facebook has also integrated an instant messenger chat client into its web design. To provide a rich social environment, Facebook allows users to share their computer-mediated social interactions with a variety of friends in a single web environment (Keenan & Shiri 2009). From the perspective of emotional value, Facebook enables users to share information, such as jokes and amusing photos, and subsequently generate playfulness from these interactions. When a joke or photo arouses feelings or emotional affect, emotional value is acquired and perceived (Gummerus & Pihlström 2011). From the social value perspective, Facebook is a people-focused social website that emphasizes social interaction through user-driven personal content (Keenan & Shiri 2009). Facebook encourages users to use their actual name, not an alias. Thus, it allows users to search the Facebook database to establish or extend relationships. Users are more likely to remain on Facebook primarily due to these social relationships (Keenan & Shiri 2009). Based on the aforementioned values regarding Facebook use, many people likely use Facebook as an online outlet to communicate with others. When an active user, such as a blogger or an opinion leader, opens an account with personal pages in Facebook, he/she may encourage his/her friends to join this group. It is possible that some may be influenced by a peer (i.e., social influence) and then assess the value of the service (i.e., perceived value) before joining Facebook. Thus, the social influence from an influential peer may have a greater impact on the perceived value of the service, including functional value, emotional

value, and social value, which in turn influences usage intention of Facebook. Accordingly, it is assumed that perceived value, including functional value, emotional value, and social value, mediates the relationship between social influence and usage intention in SNS, and thus the following hypotheses (H8 to H10) are proposed:

- H8. Functional value mediates the relationship between social influence and usage intention of SNS.
- H9. Emotional value mediates the relationship between social influence and usage intention of SNS.
- H10. Social value mediates the relationship between social influence and usage intention of SNS.

4. RESEARCH METHOD

4.1 Measuring Instruments

The design of the instruments was adopted from previous results in the literature with appropriate modifications for Facebook users, e.g., terminologies. The scale for social influence was revised from Zhou (2011) subjective norms scale, which includes two items, whereas the scale for functional value was revised from Kim et al.’s (2011) functional quality scale, which includes four items, and the scale for emotional value was revised from Kim et al.’s (2011) playfulness scale, which includes five items. Furthermore, the scale for social value was revised from To et al. (2007) and includes four items, and the scale for usage intention was revised from Yang and Lee (2010) and includes three items. All items were measured on a seven-point Likert-type scale, where possible answers ranged from strongly disagree (1) to strongly agree (7). The results of the adjusted instrument are presented in Table 1.

Table 1: The instrument of this study

Construct	Variables
Social influence	SI1. Most people that are important to me think that I should participate in Facebook.
	SI2. Most people that have influence on my behavior think that I should participate in Facebook.

Functional value	FV1. In Facebook, it has an acceptable standard of quality.
	FV2. In Facebook, it is reliable in the performance.
	FV3. In Facebook, it is good in terms of the overall excellence.
	FV4. In Facebook, it possesses a degree of the quality which is satisfactory.
Emotional value	EV1. In Facebook, it gives fun to me.
	EV2. In Facebook, it is interesting to me.
	EV3. In Facebook, it stimulates my curiosity.
	EV4. In Facebook, it arouses my imagination.
	EV5. In Facebook, it keeps me absorbed.
Social value	SV1. In Facebook, I can contact with friends.
	SV2. In Facebook, I can share experiences with others.
	SV3. In Facebook, I can develop friendships with other users.
	SV4. In Facebook, I can extend personal relationship.
Usage intention	UI1. I tend to use Facebook repeatedly in the future.
	UI2. I would recommend Facebook to my friends or others continually.
	UI3. I would more frequently use Facebook.

4.2 Subjects

Facebook was selected as the research target of SNS because it had a recorded 1.86 billion active users as of the end of 2016 (CNN 2017), a number that far exceeded other social websites. In Taiwan, the most popular social network was Facebook, with an 83 percent penetration rate (Statista 2017). It is evident that Facebook is a popular platform that allows users to access their friends and student groups in Taiwan (Roblyer et al. 2010).

Accordingly, a student sample was selected as the subjects for this study, and a quota sampling method was adopted whereby subjects were drawn from among the students of a renowned private university in Taichung. The sample size considered for the study required that each variable has at least ten respondents (Hatcher 1994). As there were 18 variables in the model of the study, the minimum acceptable number of respondents for the study was 180. Accordingly, this study invited 480 students who had experience with Facebook to fill out the questionnaire; specifically, 120 students were

invited from each grade level. The questionnaire was designed as a print copy, and the research assistants randomly searched for respondents on the school grounds, e.g., in classrooms and restaurants. To increase the sample return rate, respondents were offered gift (a ballpoint pen), and data were collected over a period of one month. A total of 480 subjects responded, of whom 35 were invalidated due to incomplete or missing data, which resulted in a sample of 445 surveys. The subjects' demography and usage behavior are presented in Table 2. While the percentage of respondents from each grade level is approximately equal, i.e., freshman, 25.2%; sophomore 25.4%; junior 24.7%; senior 24.7%, females (58.7%) outnumbered males (41.3%). The weekly hours of use, for the most part, exceeded 15 hours (54.6%), and most subjects had more than three years of experience on Facebook (48.3%).

Table 2: Subject's demography and usage behavior

Measure	Item	Frequency	Percent (%)
Grade level	Freshman	112	25.2
	Sophomore	113	25.4
	Junior	110	24.7
	Senior	110	24.7
Gender	Male	184	41.3
	Female	261	58.7
Weekly hours of use Facebook	Less than 1	27	6.1
	1 - 7	54	12.1
	8 - 15	121	27.2
	More than 15	243	54.6
Length of use Facebook (months)	Less than 12	37	8.3
	13 - 24	69	15.5
	25 - 36	124	27.9
	More than 36	215	48.3

Note: Valid N = 445

4.3 Reliability and Validity Test

This study employed Cronbach's alpha (α) for examining the internal consistency of the constructs. The α in Table 3 indicates the reliability of the measurement constructs: social influence is 0.82, functional value is 0.84, emotional value is 0.87, social value is 0.81, and usage intention is 0.82. These numbers satisfy the general

requirements in the field, suggesting a reliability coefficient above 0.7. Therefore, this study carried good reliability.

Confirmation factor analysis (CFA) was performed for scale validity assessment. Convergent validity was measured by average variance extracted (AVE) in each construct. The criterion of AVE should be greater than 0.5. As shown in Table 3, all constructs were satisfied. Thus, this study possessed adequate convergent validity.

Table 3: Model of research construct

Construct and observable item	Mean(SD)	SFL	CR	AVE	α
Social influence (SI)			0.89	0.81	0.82
SI1	4.73(1.36)	0.97			
SI2	4.38(1.01)	0.82			
Functional value (FV)			0.88	0.64	0.84
FV1	4.31(1.25)	0.81			
FV2	4.53(1.26)	0.71			
FV3	4.29(1.02)	0.86			
FV4	4.62(1.35)	0.82			
Emotional value (EV)			0.90	0.65	0.87
EV1	4.54(1.28)	0.76			
EV2	4.37(1.52)	0.85			
EV3	4.15(1.43)	0.82			
EV4	4.06(1.41)	0.76			
EV5	4.25(1.24)	0.84			
Social value (SV)			0.84	0.56	0.81
SV1	4.73(1.35)	0.87			
SV2	4.86(1.21)	0.65			
SV3	4.42(0.87)	0.74			
SV4	4.76(1.31)	0.72			
Usage intention (UI)			0.85	0.65	0.82
UI1	4.23(1.14)	0.76			
UI2	3.83(1.46)	0.80			
UI3	4.35(1.28)	0.85			

Discriminate validity was tested by the criterion in which the AVE square root of each research variable is larger than the related coefficients of the variables, as shown in Table 4. This is a clear case of positive proof, thereby this study had good discriminate validity.

Table 4: Correlation between constructs

	1	2	3	4	5
1. Social influence	0.90				
2. Functional value	0.45	0.80			
3. Emotional value	0.40	0.27	0.81		
4. Social value	0.31	0.31	0.45	0.75	
5. Usage intention	0.27	0.26	0.42	0.46	0.81

Note: Diagonal elements in boldface represent the square root of AVE.

5. RESULTS OF HYPOTHESES TESTING

5.1 Verification of the Hypotheses

Structural equation modeling using AMOS 20.0 was conducted to test the postulated hypotheses. Figure 2 presents the estimation results. The model fitness indexes, $\chi^2 = 263.71$, $df = 132$, $\chi^2/df = 1.99$, $GFI = 0.94$, $AGFI = 0.91$, $CFI = 0.97$, and $RMSEA = 0.04$, indicate that the collected data fit the postulated model. The estimated structural coefficients were used to test each hypothesis. The results presented in Table 5 reveal that social influence explains 51.3%, 53.7%, 47.2% of the variance in functional value, emotional value, and social value, respectively, and 52.4% of the variance in usage intention. All structural paths, excluding the path between social influence and usage intention, were found to be statistically significant. Although functional value, emotional value and social value are positively associated with usage intention (Estimate=0.568, SE=0.074, CR=7.517, $P < 0.001$; Estimate=0.517, SE=0.073, CR=7.845, $P < 0.001$; Estimate=0.574, SE=0.079, CR=7.726, $P < 0.001$), social influence is not directly associated with usage intention (Estimate=0.347, SE=0.342, CR=0.821, $P = 0.302$). Thus, H1, H2 and H3 are supported, but H4 is rejected. Moreover, social influence is positively associated with functional value, emotional value and social value (Estimate=0.578, SE=0.042, CR=12.680, $P < 0.001$; Estimate=0.501, SE=0.036, CR=12.279, $P < 0.001$; Estimate=0.392, SE=0.032, CR=10.673, $P < 0.001$). Therefore, H5, H6 and H7 are supported.

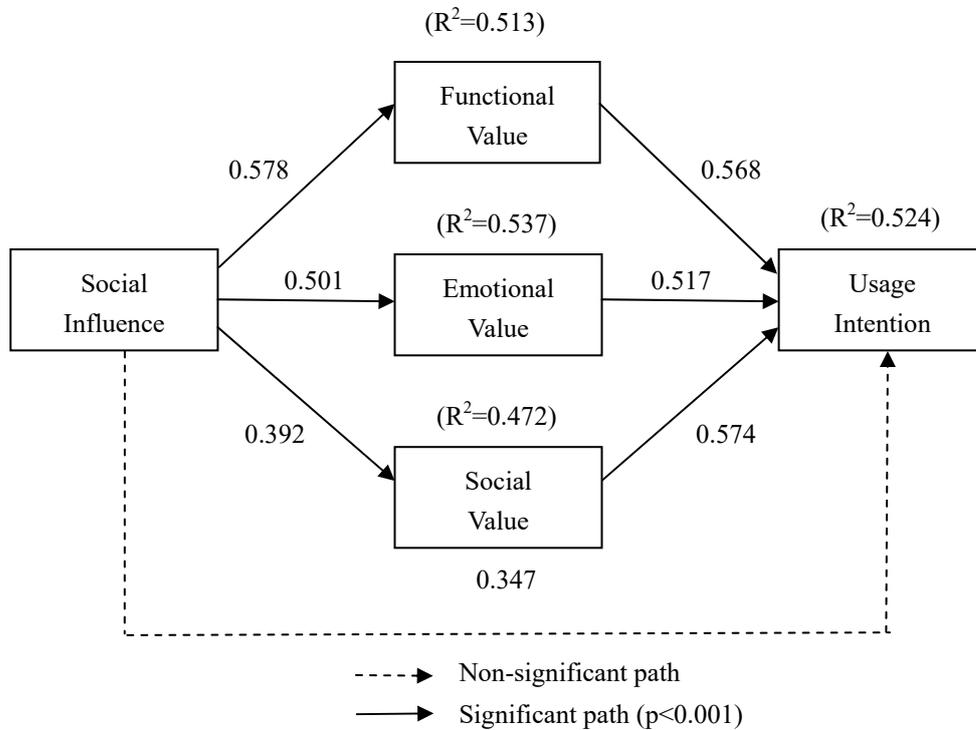


Figure 2: Results of structural modeling analysis

Table 5: Results of estimated structural coefficients in the model

Relationship	Estimate	SE	CR	P	Hypothesis result
1.Functional value → Usage intention	0.568	0.074	7.517	***	H1: Support
2.Emotional value → Usage intention	0.517	0.073	7.845	***	H2: Support
3.Social value → Usage intention	0.574	0.079	7.726	***	H3: Support
4.Social influence → Usage intention	0.347	0.342	0.821	0.302	H4: Reject
5.Social influence → Functional value	0.578	0.042	12.680	***	H5: Support
6.Social influence → Emotional value	0.501	0.036	12.279	***	H6: Support
7.Social influence → Social value	0.392	0.032	10.673	***	H7: Support

Note: Estimate is unstandardized; *** $p < 0.001$

The mediation effect of perceived value was tested by Baron and Kenny’s (1986) approach, which highlights the causal steps test of the intervening variable effect (MacKinnon et al. 2002). In this method, if the direct and the indirect effects are both

significant, partial mediation is sustained. However, if the indirect effect is significant, but the direct effect is not significant, perfect mediation holds. The results presented in Table 5 reveal that although influence indirectly affects usage intention through functional value, emotional value, and social value, it is not directly associated with usage intention (direct effect: Estimate=0.347, $p=0.302$; indirect effect: Estimate=0.578, $p<0.001$; Estimate=0.568, $p<0.001$ for functional value; Estimate=0.501, $p<0.001$; Estimate=0.517, $p<0.001$ for emotional value; Estimate=0.392, $p<0.001$; Estimate=0.574, $p<0.001$ for social value). Thus, according to Baron and Kenny’s (1986) approach, our evidence reveals that functional value, emotional value, and social value are all perfect mediators influencing the relationship between social influence and usage intention.

Moreover, testing multiple mediations in the model can be considerably more complex than testing one simple mediation. Assessing multiple mediations involves not only deciding whether an indirect effect exists but also determining how to separate the individual mediating effects often attributable to several potential mediators that may overlap in content (West & Aiken 1997). Thus, a specific indirect effect through a mediator in multiple mediation contexts is not the same as an indirect effect through the mediator alone. Following MacKinnon’s (2008) suggestions, this study further applied a MacKinnon PRODCLIN2 test to assess the multi-mediator model. This procedure computes asymmetric confidence limits, which are more exact than those based on normal distribution, according to the distribution of the product (MacKinnon et al. 2007). In Table 6, indicating that zero is not contained in the 95% confidence interval (CI), we show that functional value, emotional value and social value are significant mediators between social influence and usage intention. The specific indirect effects of functional value, emotional value and social value are 0.328, 0.259 and 0.225, respectively. Therefore, H8, H9 and H10 are supported.

Table 6: The test of multi mediators between social influence and usage intention

Mediators	Mackinnon PRODCLIN2 95% CI		Specific indirect effect	Hypothesis result
	Lower	Upper		
1. Functional value	0.146	0.354	0.328	H8: Support
2. Emotional value	0.170	0.362	0.259	H9: Support
3. Social value	0.147	0.317	0.225	H10: Support

Note: The specific indirect effect is defined as the product of the two unstandardized paths linking social influence and usage intention via that mediator.

5.2 Discussion

The results of the study provide both theoretical and practical benefits. First, theoretically, this study identified the relationship between social influence and usage intention in SNS. Whereas prior studies asserted that social influence is a significant predictor of people's usage intention regarding computer-mediated communication applications (Hsu & Lu 2004; Wang & Lin 2011), this study verified this assumption and suggested that the relationship between social influence and usage intention is not directly significant for users of SNS, a result consistent with the study by Zhou (2011). There are two possible reasons for this. First, as most SNS users voluntarily participate in online communities, they may feel that it is unnecessary to comply with peer pressure. Second, the subjects in this study are experienced Facebook users. As previously noted, experience may reduce the effect of subjective norms on participation intention (Zhou 2011). Thus, this finding can help service providers understand that the impact of social influence on usage intention has its limitations when the users have considerable experience with the service.

The evidence also revealed that perceived value, including functional value, emotional value and social value, is positively associated with usage intention. This result, which is consistent with the study by Sweeney and Soutar (2001), demonstrates that users are likely to join SNS, not only because of the functional quality of social services but also because of the playfulness derived from the affective interactions (i.e., emotional value) and social relationships (i.e., social value) with other users.

However, this does not mean that social influence regarding the use of SNS can be overlooked. Although social influence is not directly associated with usage intention, it indirectly affects the intention to use SNS through perceived value. Thus, perceived value acts as a significant mediator influencing the relationship between social influence and usage intention, a concept that previous studies have not addressed but one that is a novel finding of this study. This finding implies that users of SNS likely participate in online communities because social influence contributes to users' perceptions of the value of the service. For example, Facebook launched a mobile service, the Checkin service, which allows the friends of people using mobile phones' GPS to know exactly where they (the GPS users) are. This service then allows Facebook users to quickly post instant news and photos for their friends. This social influence may affect users' perceptions of various values, including the functional value (e.g., functional quality), the emotional value (e.g., playfulness), and the social value (e.g., social relationships).

In this sense, such force enhances intention. Therefore, this study confirmed the assumption that the mediating effect of perceived value influences the relationship between social influence and usage intention of SNS.

6. CONCLUSION

6.1 The Contribution of This Study

The primary contribution of this study begins with a conceptual formulation of how perceived value mediates the relationship between social influence and usage intention of SNS. On this basis, an empirical study of 445 Facebook users affirmed the relationships and clarified the ideas. The findings of this study could help service providers understand the mediating effect of perceived value on the relationship between social influence and usage intention of SNS.

In conclusion, the contribution of this study is two-fold. First, we found that the impact of social influence on usage intention is not significant for SNS users. As previously noted, because experience may reduce the effect of social influence on participation intention (Zhou 2011), we may infer that the effect of social influence on usage intention may possibly be significant for new customers. That is, if the quality of services or products cannot be consciously or rationally evaluated in advance, new customers may likely consider suggestions from other people as a proxy to deciding whether to use or buy (Wang & Lin 2011). For example, if a movie is a box office hit in the first week it is released, it will attract more people during the following weeks thanks to the comments from experienced customers (Anderson 2008). However, this situation will vary when the customers have experiences with other services, as the experienced customers will generate a new attitude toward the services that mitigates the impact of social influence on usage intention. Facebook is a good example of this scenario. As we know, Facebook is not a new service, and many have used it and are aware of its use. These factors will result in many experienced users bringing new attitudes to the service without being subject to peer pressure.

Second, to improve the intention to use SNS for experienced users, an understanding of the consumer's perceived value is more important for service providers. This study proposed a united framework that integrates social influence and perceived value in the model. The evidence shows that the causal relationship among social influences, perceived value, and usage intention is significant in SNS. Thus, from a theoretical perspective, we confirmed the assumption of the mediating effect of

perceived value on the relationship between social influence and usage intention in the context of SNS. From a practical perspective, however, this study suggested that service providers will exert sufficient social influence to acquire new users to participate in SNS and extend users' perceived value in the service, thereby increasing their usage intention. In particular, perceived value in SNS is mostly derived from member interaction. Thus, because of peer influences, social influences may likely produce more perceived value for SNS users, which, in turn, increases intentions to participate in SNS. In this regard, the relationship among social influence, perceived value, and usage intention cannot be ignored when engaging in SNS.

6.2 Limitations and Suggestions

This study has certain limitations. First, a sample bias may exist because of the quota sampling method used, a method with fewer restrictions than others. Using this method, the study specified the number of sampled units in each category, but no attention was paid to having a sample whose numbers matched the proportions in the population (Trochim 2006). Second, as this study only considered Facebook users as research subjects, its findings may be limited. For example, YouTube, a task-focused social website, emphasizes social interaction through site-specific content (Keenan & Shiri 2009). Thus, users are more curious and visit voluntarily because of specific themes. Specifically, most YouTube users may not be subject to peer pressure. Third, based on the nature of SNS and the related literature (e.g., Hsu et al. 2010; Kim et al. 2011), this study used functional value, emotional value, and social value as the elements of perceived value in SNS. The scales of the values were revised from prior studies. As previously discussed, the constructs of perceived value vary in the literature. Thus, this study focused on an investigation of usage intention in SNS (i.e., Facebook). The findings of this study may apply to research regarding the adoption of SNS, but this may not be generalized in other research contexts. Fourth, some scholars recognize that inter-correlations among the value categories could be possible. For example, Osgood, Suci and Tannenbaum (1964) argued that the hedonic and utilitarian components of attitude may be related, and Hsu et al. (2010) found that emotional value is positively associated with social and functional values in the public information service sector. Kim et al. (2011) demonstrated that functional quality value is positively associated with the value of social self-image expression in the purchase of digital items. However, this study mainly explores the mediating effect of perceived value on the social

influence and usage intention relationships. Thus, the value dimensions developed in the present study were assumed to be independent, as suggested by Sheth, Newman and Gross (1991a). Fifth, as previously noted, social influence theory posits that individual behavior is affected by three social processes: compliance, identification and internalization (Kelman 1974). However, as previously noted, this study only considered compliance as an element of social influence. In fact, users in the community are possibly more immersed in identification and internalization than in compliance. Accordingly, social influence with identification and internalization may impact usage intention differently. Subsequent studies should examine the proposed model of this study and incorporate the effects of these two forces, i.e., identification and internalization, on perceived value and the intention to use SNS. Sixth, because social influence theory also suggests that women tend to be more sensitive to others' opinions, social influence is more salient for women (Venkatesh & Davis 2000). Thus, women tend to maintain more extensive social networks in SNS (Wellman 1992). Subsequent research should explore whether the causal relationships of social influence, perceived value, and usage intention vary across gender.

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