Exploring Perceived Value in Social Networking Sites: The Mediation of Customer Satisfaction

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Abstract— **As users increasingly participate in the community, social networking sites (SNS) are gaining attention in academic research. This study aims to explore perceived value influencing usage intention in SNS, and examines the mediation of customer satisfaction between perceived value and usage intention. Mediated regression analysis was used and 205 savvy SNS users in Taiwan were investigated. The findings reveal that perceived value, including information value, sociable value, and hedonic value, has a positive impact on usage intention, but the mediation effect of customer satisfaction is only significant for social value and hedonic value, excluding information value. Thus, this study suggests that marketers need sincerely concern the importance of customer satisfaction when users perceive the values in SNS, especially for social value and hedonic value.**

Keywords- perceived value, customer satisfaction, usage intention, social networking sites.

I. INTRODUCTION

Perceived value is a primary customer motivation for buying or using a certain product or service, and gains considerable attention in the fields of marketing and psychology [16]. Scholars likely define perceived value as the benefit a customer derives from a seller's offering [35]. Thus, the understanding of perceived value is an important issue for service providers to manage customer relationship in the marketplace [22]. The literature regarding perceived value mostly focus on e-commerce [10], mobile services [31], and restaurants [15], etc. However, users in social networking sites (SNS) may have different perceptions of values. For example, users in SNS almost are voluntary to join the community, but customers for shopping may not. Moreover, the motivations of using SNS are varied [31]. SNS focuses on sociability (e.g., social interaction), but shopping emphasizes utilitarian (e.g., shopping). As thus, users in SNS interact with others for exchanging [25], socializing [30], and playing [36]. In other words, information value, social value, and hedonic value could be three main components of perceived value to influence users' usage intention in SNS.

In addition, customer satisfaction mediates the relationship between perceived value and purchase intention, as Chang et al. [10] have been examined before. They indicate that if both customer satisfaction and perceived value are high, customers will have high the loyalty towards the websites. However, may this result apply to the user behaviors in SNS? Therefore, we may ask "Does customer satisfaction play a mediator influencing the relationship of perceived value and usage intention in SNS?" That is, "If the users with high perceived value, but do not satisfy or dissatisfy the services, will they repatronize it?" The field has not yet provided direct investigation.

To help answer these questions, we investigate the behaviors of a selected group of SNS users in Taiwan to understand perceived value in SNS, and how does customer satisfaction mediate the relationship of perceived value and usage intention. It thereby contributes a few significant new results to the field: extending the previous understanding of how perceived value affects usage intention to the realm of SNS; and formulating the relationship among perceived value, customer satisfaction, and usage intention in SNS.

II. LITERATURE REVIEW AND HYPOTHESES

A. Perceived value in SNS

Perceived value theory has been widely used to explain individual's behavior of shopping [41] and technology acceptance [18]. Utilitarian value and hedonic value are two common dimensions for the measurement of perceived value from the literature review [4]. Utilitarian value is the perceived utility of a service or product based on the capacity for the utilitarian performance. The utilitarian dimension is related to efficient, task-specific, and economical aspects of products or services [15]. It may include economical value for the money and judgments of convenience and time savings for customers. According to the nature of SNS, there are two types of SNS: people focused and activity focused [20]. People focused social websites emphasize social interaction through user-driven personal content, whereas activity focused social websites emphasize social interaction through site-specific content. Thus, utilitarian value can be divided into information value and social value for the users in SNS. Information value refers to the service providing the convenience to exchange information with others and the useful contents of information exchange, which could be the utilitarian for the users. Social value refers to the service

offering interaction targets which contribute the utilitarian to the users. Thus, we assume that information value and social value are two antecedents of usage intention in SNS. On the other hand, hedonic value is the perceived utility of a service or product based on the capacity to arouse feelings or affective states. Overby and Lee [29] define hedonic value as an overall assessment of experiential benefits and sacrifices, such as entertainment and escapism. Thus, the users can enjoy the amusement experience when they interact with others in SNS. Hedonic value therefore is the third indicator of perceived value in SNS.

B. Information value to usage intention

In SNS, users can share the opinions, photos and videos with others by an intuitive, user-friendly upload interface, and also exchange personal information and get the feedback [19]. Thus, personal information obtained from SNS is more meaningful than the information derived from other sources (e.g., search engine) [34]. From the view of the information motivation of using SNS, if the information is useful and easy access to the users, they will likely use the service and spend time using the media [9]. Therefore, if the users perceived information value are high, they will have high usage intention for the services. Therefore, this study brings forth the following hypothesis (H1).

H1. Information value is positively associated with usage intention in SNS.

C. Social value to usage intention

The social perspective of perceived value denotes that people perceive the multitude of sociable roles when they use the services [7]. The behavior represents a social act where symbolic meanings, social codes, relationships, and the consumer's identity and self may be produced and reproduced [12]. Moreover, social cognitive theory provides a framework to explain the interactions between personal factors and the environment [5]. For example, users likely interact with those who have the same interest online [14]. Online experience becomes the subject of conversations to give a user pleasure [21]. Thus, the social motivation of using SNS can influence the user behavior to connect the friends in the line. Therefore, this study brings forth the second hypothesis (H2):

H2. Social value is positively associated with usage intention in SNS.

D. Hedonic value to usage intention

The hedonic perspective of perceived value refers to the service gives the customer fantasies, feelings and fun [17]. Therefore, hedonic value is characterized as self-cognitive [4]. Similar to social value, hedonic value also comes from interacting with other users, but they may be a psychological state of feelings or emotions [8]. Through communicating with others, users can enjoy the atmosphere and get the

amusement through the interaction [3, 18]. Therefore, we can assume that hedonic value is positively associated with usage intention for SNS users. The more the user perceives hedonic value in SNS, the more the usage intention. Therefore, this study brings forth the third hypothesis (H3):

H3. Hedonic value is positively associated with usage intention in SNS.

E. The mediation effect of customer satisfaction

As discussed previously, we recognize that perceived value, including information value, social value, and hedonic value, is highly related to usage intention in SNS. This recognition leads to the argument that customers may concern the perceived values from SNS to commit their loyalty. However, perceived value has a positive impact on customer satisfaction [31], and then customer satisfaction is positively associated with customer loyalty, such as repurchase and word-of-mouth intentions [43]. Thus, we can infer that if customers satisfy the services, the values of the services have been successfully delivered to customers [27]. Moreover, Sweeney & Soutar [37] argue that perceived value is different from customer satisfaction, but is related to it. Therefore, we may assume that perceived value may have direct or indirect impacts on usage intention in SNS. In other words, customer satisfaction is a mediator to interfere with the relationship of perceived value and usage intention in SNS. Therefore, this study brings forth the fourth hypothesis (H4) and three sub-hypotheses (H4a, H4b, H4c):

H4. Customer satisfaction mediates the perceived value and usage intention relationships in SNS.
H4a. Customer satisfaction mediates the information value and usage intention relationships in SNS.
H4b. Customer satisfaction mediates the social value and usage intention relationships in SNS.
H4c. Customer satisfaction mediates the hedonic value and usage intention relationships in SNS.

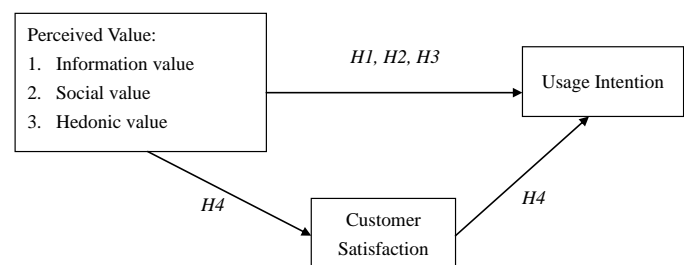Figure 1 depicts the conceptual model of this study, in terms of the literature has established before.

Figure 1: Conceptual model of this study

III. RESEARCH METHOD

A. Subjects

According to the report, Facebook has more than 500 million active users spent 41.1 million minutes on the site in August 2010 [11]. This number exceeds time spent on other social websites. Thus, Facebook is a robust and representative case of SNS for this study. In addition, Keng and Ting [21] report most blog readers in Taiwan are aged less than 29 years and the largest group is students, accounting for 32 to 46 percent of users. Therefore, the target subjects of this study mainly consisted of undergraduate students from a renowned private university. This study conducted a convenience sampling in which subjects were drawn from undergraduate students who major in Information Management, Cosmetic Science, Computer Engineering, and English Language and Literature, and those who attended a required course of computer. All respondents were voluntary to participate in this study. Data were collected on the class. A total of 212 subjects responded, of which 7 were deleted due to sub standard data. Hence, there were 205 valid subjects in total. The sample, as shown in Table 1, includes males (41.5%) and females (58.5%), with the majors in Information Management (26.3%), Cosmetic Science (25.9%), Computer Engineer (22.4%), English Language and Literature (25.4%) respectively. The weekly hours of use are mostly more than 15 (40%). Most subjects have the experience of Facebook less than one year (45.4%).

Table 1: Respondents' demography and usage behavior

Measure	Item	Frequency	Percent (%)
Gender	Male	85	41.5
	Female	120	58.5
Major	Information Management	54	26.3
	Cosmetic Science	53	25.9
	Computer Engineering	46	22.4
	English Language and Literature	52	25.4
weekly hours of use Facebook	Less than 1	34	16.6
	1 - 7	42	20.5
	8 - 15	47	22.9
	More than 15	82	40.0
Length of use Facebook (months)	Less than 12	93	45.4
	13 - 24	52	25.4
	25 - 36	28	13.6
	More than 36	32	15.6

Note: Valid N: 205

B. Measures

The design of the instruments is adopted from the previous results in the literature with appropriate modifications for Facebook (e.g., the terminologies). The scale of information value was revised from Korgaonkar and Wolin [24], which includes three items. The scale of sociable value was revised from Arnold and Reynold [2], which includes four items, and the scale of hedonic value was revised from Rintamäki, Kanto, Kuusela, and Spence [32], which includes three items. In addition, the scales of customer satisfaction and usage intention revised from Yang

and Lee [44], which includes four items and three items respectively. All of the items were measured on a seven-point Likert-type scale, where possible answers ranged from strongly disagree (1) to strongly agree (7).

To examine the preliminary instrument for face validity, this study will invite three e-marketing experts, including professors and practitioners to refine the survey. They found that the fourth item of customer satisfaction, "I really enjoyed myself at …..", is highly associated with hedonic value. As thus, we removed this item from the original instrument. Table 2 shows the adjusted instrument of the study.

Table 2: The instrument of this study

Construct	Variables	Sources
Information Value (IV)	IV1. I can get information easily on Facebook.	[24]
	IV2. Information obtained from Facebook is useful.	
	IV3. Facebook makes acquiring information easily.	
Social Value (SV)	SV1. I can contact with friends on Facebook.	[2]
	SV2. I can share experiences with others on Facebook.	
	SV3. I can develop friendships with other users on Facebook.	
	SV4. I can extend personal relationship on Facebook.	
Hedonic Value (HV)	HV1. I enjoy Facebook itself, not just because I am able to use the services.	[32]
	HV2. I have fun on Facebook.	
	HV3. In my opinion, surfing Facebook is a pleasant way to spend leisure time.	
Customer Satisfaction (CS)	CS1. I am satisfied with the services on Facebook.	[44]
	CS2. The overall feeling I used Facebook is satisfied.	
	CS3. The overall feeling I used Facebook puts me in a good mood.	
Usage Intention (UI)	UI1. I would like to continually use Facebook in the future.	[44]
	UI2. I would recommend Facebook to my friends or others.	
	UI3. I would more frequently use Facebook.	

C. Reliability and validity test

This study employs Cronbach's alpha (α) for examining the internal consistency of the constructs [28, 33]. The α in Table 3 indicates the reliability of the measurement constructs: information value is 0.85, social value is 0.86, hedonic value is 0.82, customer satisfaction is 0.93, and usage intention is 0.81. These numbers satisfy the general requirements in the field (e.g., [28]) suggest a reliability coefficient above 0.7, and Robert and Wortzel [33] want the number to be between 0.70 and 0.98. Therefore, we content that this study carried good reliability.

Confirmation factor analysis (CFA) is performed for scale validity assessment [1]. Convergent validity can be measured by composite reliability (CR), standardized factor loadings (SFL), and average variance extracted (AVE); which scholars accept the criteria should be greater than 0.8, 0.7, and 0.5, respectively [13]. As shown in Table 3, all indicators are satisfied. Thus, this study possessed adequate convergent validity. For testing discriminate validity, we find 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 [13], thereby this study had adequate discriminate validity.

Table 3: Model of research construct

Construct and observable variable	Mean (SD)	SFL	CR	AVE	α
IV			0.83	0.62	0.85
IV1	6.26 (0.95)	0.82			
IV2	5.04 (1.01)	0.79			
IV3	6.29 (0.76)	0.75			
SV			0.92	0.74	0.86
SV1	6.45 (0.69)	0.83			
SV2	6.41 (0.71)	0.84			
SV3	5.61 (0.99)	0.84			
SV4	5.38 (1.20)	0.83			
HV			0.83	0.63	0.82
HV1	5.54 (1.20)	0.85			
HV2	5.92 (1.01)	0.75			
HV3	5.59 (1.35)	0.77			
CS			0.87	0.69	0.93
CS1	5.53 (1.10)	0.74			
CS2	5.46 (1.01)	0.86			
CS3	5.45 (1.05)	0.88			
UI			0.85	0.65	0.81
UI1	6.14 (0.88)	0.75			
UI2	5.64 (1.12)	0.82			
UI3	5.16 (1.32)	0.84			

Table 4: Correlation between constructs

	IV	SV	HV	CS	UI
IV	**0.79**				
SV	0.47	**0.86**			
HV	0.43	0.43	**0.79**		
CS	0.38	0.50	0.62	**0.83**	
UI	0.52	0.43	0.61	0.64	**0.81**

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

IV. ANALYSIS OF EMPIRICAL RESULTS

A. *Verification of the hypotheses*

For testing the mediation effect of customer satisfaction, this study conducted mediated regression analysis with Baron and Kenny's [6] approach. According to Baron and Kenny's rule, three conditions shall be supported: "First, the independent variable must affect the mediator in the first equation; second, the independent variable must be shown to affect the dependent variable in the second equation; and third, the mediator must affect the dependent variable in the third equation. If these conditions all support in the predicted direction, then the effect of the independent variable on the dependent variable must be less in the third equation than in the second. Perfect mediation holds if the independent variable has no effect when the mediator is controlled." As thus, the empirical result is shown in Table 5. Firstly, variance inflation factor (VIF) scores were calculated to measure the extent to which collinearity inflates the variance of a slope estimate. Since the VIF scores of independent variables in three models satisfy the criteria (VIF < 10) [39], collinearity has little effect on the predictive relationships in the study. Secondly, the direct effect of perceived value, without satisfaction, is shown in Model 1. Information value (β= 0.17, p= 0.03), social value (β= 0.18, p= 0.03), and hedonic value (β= 0.62, p= 0.00) are positively associated with usage intention. The explanation of total variance is 59%. Hence, H1, H2 and H3 have been supported.

Thirdly, the effect of perceived value alone on satisfaction is shown in Model 2. Social value (β= 0.23, p= 0.00) and hedonic value (β= 0.67, p= 0.00) are positively associated with customer satisfaction, but the relationship of information value and customer satisfaction is not significant (β= 0.07, p= 0.21). The explanation of total variance is 62%.

Fourthly, the mediation role of customer satisfaction was analyzed in Model 3, which conducted the regression with perceived value and customer satisfaction on usage intention. Compared to Model 1, the incremental change in adjusted R-squared was significant. This implies that customer satisfaction had a strong direct effect on usage intention (β= 0.57, p= 0.00). In addition, Model 3 shows also that information value (β= 0.21, p= 0.00) and hedonic value (β= 0.23, p= 0.00) are positively associated with usage intention, but social value is not significant (β= 0.05, p= 0.28). Therefore, the effect of social value on usage intention in Model 3 is weaker than that in Model 1 due to the mediation effect of customer satisfaction. In other words, the association of social value with usage intention is fully mediated by customer satisfaction, because it's no longer significant when customer satisfaction is included in Model 3. The relationship of hedonic value and usage intention is partially mediated by customer satisfaction, because the strength of the relationship is reduced but remained statistically significant in Model 3. However, customer satisfaction does not mediate the relationship of information value and usage intention because the relationship of information value and customer satisfaction is not significant. Hence, H4b and H4c are supported, but H4a is rejected.

Table 5: Results of mediated regression analysis

| Dependent variables | Model 1 | | Model 2 | | Model 3 | |
| | Usage intention | | Satisfaction | | Usage intention | |
	β-value (p-value)	VIF	β-value (p-value)	VIF	β-value (p-value)	VIF
Control variables:						
Sex	0.07 (0.19)	1.32	0.18** (0.00)	1.36	-0.03 (0.47)	1.40
Major	0.04 (0.56)	1.77	-0.03 (0.58)	1.68	0.05 (0.30)	1.77
Weekly hours of use	0.07 (0.16)	1.21	0.14** (0.00)	1.24	0.07 (0.10)	1.26
Length of use	0.04 (0.49)	1.97	0.09 (0.13)	1.98	0.01 (0.87)	1.99
Perceived value:						
Information value	0.17** (0.03)	1.58	0.07 (0.21)	1.54	0.21** (0.00)	1.60
Social value	0.18** (0.03)	1.48	0.23** (0.00)	1.43	0.05 (0.28)	1.62
Hedonic value	0.62** (0.00)	1.80	0.67** (0.00)	1.86	0.23** (0.00)	2.04
Satisfaction					0.57** (0.00)	2.72
Adjusted R^2	0.59		0.62		0.71	
F	36.35 ***		41.34 ***		55.40 ***	

Note: Significant at ** p<0.01; *** p<0.001

V. CONCLUSION AND SUGGESTION

A. The implications for research and practice

The results of the study provide both theoretical and practical benefits. First, this study verifies three constructs, information value, social value, and hedonic value, into perceived value in SNS. Past studies often used two dimensions (utilitarian / hedonic value) to measure customer value [4], but this study consider information value, social value, and hedonic value into, which may be suitable for the measurement of perceived value in SNS. The reason is that users in SNS are more self-disclosure [23]. For example, Facebook attempts to create an experience to encourage users to upload personal media and share detailed contact information. It will also scour their email accounts to add current users and invite new users to Facebook with their permission. Practically speaking, the results can help marketers have a better understanding of customer perceived value involving social influence in SNS.

Secondly, the findings of this study indicate that while the hedonic aspect of customer value are important predictors of customer satisfaction, the social aspects of customer value have a perfect mediation of customer satisfaction, thereby play a greater role in the relationship of customer satisfaction and usage intention in SNS. In other words, the interaction with other users experience might be more aptly described as a strong social-oriented [7]. Therefore, marketing activities in SNS should focus on facilitating efficient social experiences, for example, Facebook currently provides an in-browser instant messenger client allowing users to chat instantly with any friends online.

Thirdly, customer satisfaction partially mediates the relationship of hedonic value and usage intention. This finding reveals that hedonic value not only directly affects usage intention, but also can indirectly influence on it via customer satisfaction. Hence, the practitioners thereby should focus on customer satisfaction produced from social value and hedonic value to the users. For example, if users have high hedonic value on Facebook, they will be more loyal. However, if they dissatisfy the service, we cannot guarantee the relationship between hedonic value and usage intention is still significant. As such, marketers need sincerely concern the importance of customer satisfaction when users perceive the values in SNS, especially for social value and hedonic value.

Fourthly, this study also found that although its impact is not significant on customer satisfaction, information value for Facebook users still significantly influences usage intention. This result implies that the information aspect of value should not be ignored. In other words, information is a significant predictor of customer value for users [40]. Therefore, practitioners should develop the strategies to proof the information more useful and easy access, such as using legal names, though Facebook users likely avoid using the legal name in the services [20].

B. Limitation and suggestion of the study

This study contains some limitations. First, a bias may exist because of the convenience sampling from the undergraduate students from one school in Taiwan [42]. Secondly, gender is an important moderator influencing customer behaviors in SNS [44]. Generally, men are described as independent and task-oriented, but women are described as interdependent and person-oriented in their behavior [26]. Thus, social-oriented services are expected to be more popular for women than men when women determine the services as tools for interacting with others. Subsequent research can compare the impact of perceived value on usage intention between men and women.

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