

## HOW QUALITY OF LIFE AFFECTS INTENTION TO USE SOCIAL NETWORKING SITES: MODERATING ROLE OF SELF-DISCLOSURE

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### ABSTRACT

This research investigates how loneliness and life dissatisfaction affect consumers' acceptance of social networking services and the moderating role of perceived self-disclosure to intervene so that users seek social support online. Drawing from theoretical foundations of quality of life theory, social exchange theory and the technology acceptance model (TAM), the research model utilizes the constructs of psychological well-being and social relationships to test their impact on users' intentions to use social networking sites. It explicitly incorporates the moderating role of perceived self-disclosure to determine social support seeking, which is set as a key mediator in the model. The results from survey data of 407 consumers show that loneliness and life dissatisfaction are positively related to social support seeking and the relationships are strengthened by perceived self-disclosure, which in turn affects the intention to continually use social networking services. The findings suggest that companies must provide services to increase users' well-being to influence customers' use intention toward social networking services. The study advances the technology acceptance literature, explaining users' new service adoption behavior by adding quality of life and social relationships that motivate people to pursue the social exchange.

**Keywords:** Social networking site; Quality of life; Self-disclosure; Social exchange theory; TAM.

### 1. Introduction

With consumers' increasing use, the Internet as a communication medium is growing rapidly, particularly in the booming development of applications for smart phones. People are becoming accustomed to sharing their daily life and experiences, talking about their interests and keeping in touch with family and friends online [Leung 2002; Morahan-Martin & Schumacher 2003]. Online social interaction has become the primary use for home computers in terms of time spent [Hamburger & Artzi 2003; Morahan-Martin & Schumacher 2003]. In the midst of all these social activities, people are managing relationships via the Internet with those they originally met in real life [Ledbetter et al. 2011; Park et al. 2009]. Marketers are eager to understand why consumers are keen to use the Internet as a prime venue for social interaction [Lai & To 2015].

Microblogging is a shortened form of blogging that provides users with a brief means of exchanging messages quickly with short sentences. The major difference between the microblog and the traditional blog is that the microblog's content is typically shorter in the length of posted contents [Kaplan & Haenlein 2011]. Microblogging is largely adopted in interpersonal communication, commerce and political campaigns [Tumasjan et al. 2011]; indeed, it has ushered in a new epoch of human communication and online social activities [Lin & Lu 2011; Ryan & Xenos 2011; Turri et al. 2013]. Among microblogging services, Facebook is the most popular one. In 2008, Facebook launched its service in Taiwan. By December 2009, just one year after it debuted, its number of users had surpassed all other competitors [insightxplorer.com 2009]. By the end of 2012, Facebook had 13 million registered Taiwan users with a market penetration of about 57%, a feat no other online company has ever accomplished [Internet World Stats 2012].

Developing trends in modern work life, family life and society mean that more and more people live a life of alienation if they cannot find a way to obtain social relationships [Perlman 2004]. Loneliness is a unique clinical problem in the modern world [Russell et al. 1980; McWhirter 1990]. In the past, numerous researchers have suggested that loneliness, depression and anxiety are related to mental health. Recently, loneliness has been studied in relation to Internet usage behavior. Morahan-Martin and Schumacher [2003] proposed that lonely people are more likely to use the Internet to modulate negative moods. Rovai and Wigthing's [2005] study showed that establishing a strong sense of community among online students has the benefit of overcoming students' feelings of alienation. Cacioppo et al. [2006] suggested that loneliness and depressive symptomatology can have a synergistic

effect to diminish well-being in middle-aged and older adults.

Despite agreement that social networking services (SNSs) provide a versatile platform where people can get together online to share information, discrepancies exist in judging the relationship between the SNS and people's well-being. Numerous studies have suggested that SNSs like Facebook may make people feel lonelier or users may receive undesirable responses from other people [Forest & Wood 2012; Ledbetter et al. 2011; Park et al. 2009]. Other studies support that SNSs can reduce people's loneliness and well-being [DeAndrea et al., 2012; McAndrew & Jeong 2012; Weidman et al. 2012]. More research is needed to resolve this discrepancy.

Hence, this research has two objectives. First, the proposed model extends existing models of TAM by incorporating concepts from quality of life theory, in which loneliness in real life and life dissatisfaction are presumed to be antecedents of users' intention to use an SNS. Second, self-disclosure and social support seeking are related to interpersonal relationship building, which is an important factor in social exchange theory [Greene et al. 2006; Mikulincer & Nachshon 1991]. The present research attempts to shed light on how self-disclosure may moderate individuals' motivation to seek social support.

## **2. Theoretical Background**

### **2.1 Literature Review**

#### **2.1.1 Social Exchange Theory and Self-Disclosure**

Social exchange theory assumes that people are goal-oriented and that their choice of social interaction is a subjective evaluation of best interaction mode with others to maximize their gains from the resources being exchanged in the social exchanging activities [Blau 1964]. Social capital is an intangible force that helps to bind society together by transforming self-seeking individuals into members of a community with shared interests, shared assumptions about social relations and a sense of the common good [Etzioni 2000]. Social capital has been applied at both the individual and collective levels [Lappe & DuBois 1997]. "Social relationship has also been used as an umbrella concept that covers both the process of social capital accumulation as well as its outcomes" [Adler & Kwon 2002; Nahapiet & Ghoshal 1998]. The extent to which individuals build their social network and social capital in a specific circumstance is a reflection of social exchange.

Self-disclosure is defined as the extent to which people are willing to share information with others regardless of their level of familiarity, including verbally or implicitly revealing thoughts, feelings and experiences to others, which is an important signal to start a social exchange [Dindia 2000]. Derlega and Grzelak [1979] acknowledged that the motivations for self-disclosure are to achieve expression, self-clarification, social validation, relationship development and social control. Self-disclosure is an important part of building up interpersonal relationships. When a relationship is expressed as a norm of reciprocity, then participants in the communication will be expected to provide more comprehensive responses to accumulate social capital [Berkowitz 1982; Wellman & Berkowitz 1988; Wasserman & Faust 1994].

#### **2.1.2 Quality of Life**

Quality of life (QOL) indicates personal satisfaction or dissatisfaction with the cultural or intellectual conditions under which people live [Flanagan 1982]. Revicki et al. [2000] defined QOL as a broad range of human experiences related to one's overall well-being. QOL evaluates a wide range of life contexts, including life environment, recreation, leisure time, social belonging and mental health. How an individual evaluates joy, sadness, anger and stress of general life can reflect that person's QOL [Kahneman et al. 1999; Wijkstra et al. 1994].

Life satisfaction is an indicator reflecting the degree of psychological well-being based on people's overall cognitive evaluation of their life experience [Felce & Perry 1995; Pavot et al. 1991; Pavot & Diener 1993]. Life satisfaction judgments are made on the basis of a person's comparisons between self-imposed criteria and their perceived life standing. Such appraisals are expected to influence the probability of subsequent emotional and coping responses and constitute a reliable way to demonstrate QOL [Diener 1994; Lazarus 1991]. Understanding people's life dissatisfaction has the advantage of predicting their coping response to unpleasant circumstances, for instance, engaging in risk-taking behavior or seeking help from friends to resolve life dissatisfaction [Diener et al. 1999].

### **2.2 Research Hypotheses**

#### **2.2.1 Loneliness and Life Dissatisfaction**

Loneliness refers to an unpleasant emotion that arises when an individual perceives a discrepancy between his/her desired and existing social relationships [Perlman 2004; Rook & Peplau 1982]. Loneliness is an enduring status of emotional distress present when a person senses being estranged from, misunderstood or rejected by others and/or lacks appropriate social partners for desired activities, particularly activities that provide a sense of social integration and opportunities for emotional intimacy [Do Roiste 1998].

When a lonely person suffers distress over an enduring lack of social relationships, this emotional distress

potentially decreases that person's QOL [Hawton et al. 2011]. Past research has found that negative emotions like loneliness can result in negative aspects of mental health, including life dissatisfaction [Godwin et al. 2001; Mellor et al. 2008]. The negative emotion gets even worse when the lonely individual has no desire to interact with social partners, particularly in activities that provide a sense of social integration and opportunities for emotional intimacy. Thus:

*H1: Users' loneliness positively affects their life dissatisfaction.*

### 2.2.2 Loneliness, Life Dissatisfaction and Social Support

Social support is defined as an exchange of resources between two individuals perceived by the provider or the recipient as intended to enhance the well-being of the recipient; both parties incur costs and receive benefits in these supportive exchanges [Shumaker & Brownell 1984]. Sharing of personal information is an essential cost in the formation of close relationships [Altman & Taylor 1973]. Conservation of resources (COR) theory has been applied to depict how people invest resources to keep or gain the desirable resources they need to achieve self-goals in the human community [Hobfoll 1989; Ito & Brotheridge 2003; Wright & Hobfoll 2004]. Loss of individual resources will have negative consequences such as life dissatisfaction. To obtain desired resources like social support, people may invest in communication signals to others by disclosing more about themselves.

Today, new computer-mediated communication tools via the Internet allow people to maintain the benefits of interpersonal social relationships without face-to-face interaction [Leung 2002]. SNSs enable people to reveal their thoughts. With this online social networking tool, people can more easily seek social support to reduce their feelings of loneliness [Ryan & Xenos 2011]. Many factors are involved in determining people's intention to seek social support [Cohen et al. 1986; Dunkel-Schetter et al. 1987; Kim et al. 2006]. Taylor et al. [2004] found that social support seeking varies by culture because cultural systems form an individual's attitude toward sharing personal matters. People in Western cultures are more willing to seek social support to cope with their stressful events than people in Eastern cultures.

Previous research has demonstrated that loneliness is associated with a low level of self-disclosure. More opportunities to talk about personal matters with others can decrease loneliness [Mellor et al. 2008; Sermat & Smyth 1973]. Russell et al. [1978] stated that lonely people usually have superficial relationships with friends so that no one understands them well. Though the Internet allows for more efficient communication, people with low self-disclosure intention may find less social support because they tend not to tell others much about their feelings and thoughts; thus, they are a less supportive resource for friends and inhibit the chance to start a social exchange. Therefore:

*H2 : Users' loneliness positively affects their online social support seeking and the relationship is stronger in high self-disclosure groups than in low self-disclosure groups.*

Life satisfaction judgments are made on the basis of people's comparisons between self-imposed criteria and their perceived life standing. Such appraisals are expected to influence the probability of subsequent emotional and coping responses and are reliable in demonstrating one's attitude toward QOL [Diener 1994; Lazarus 1991]. In other words, lonely people may not seek social support if they do not feel dissatisfaction with their life. Thus, understanding people's life dissatisfaction offers the advantage of predicting their coping strategies in response to unpleasant circumstances [Diener et al. 1999].

QOL theory relies on the hierarchical need satisfaction level of most members of a given society, derived from Maslow's development perspectives. The higher the need satisfaction of the majority in a given society, the greater is the QOL of that society [Flanagan 1982; Sirgy 1986]. The Internet has the advantage of making people's communication easier than ever. People who are dissatisfied with life are more likely to seek social support through communication channels like the Internet to involve more social activities [Morahan-Martin & Schumacher 2003]. Past studies have shown that if people are lonely and not satisfied with their current situation, they are more likely to seek physical and emotional comfort from friends, family, co-workers or others [Hamburger & Ben-Artzi 2003; Moody 2001; Morahan-Martin & Schumacher 2003]. Since the degree of self-disclosure is an antecedent of how much people intend to reveal their thoughts to friends, people dissatisfied with life might receive more support from the Internet community if they are willing to disclose their feelings and thought to friends via SNSs. Formally:

*H3: Users' life dissatisfaction positively affects their online social support seeking and the relationship is stronger in high self-disclosure groups than in low self-disclosure groups.*

### 2.2.3 Impact of Social Support on Perceived Usefulness

Perceived usefulness is the degree to which a person believes that using a particular service will enhance his/her job performance [Davis 1989]. Building or maintaining a social relationship is a characteristic of online SNSs that enables users to engage in social activity. The Internet has had a significant impact on people's communication process because it provides a virtual medium for interpersonal communication similar to what people experience in real life [Erich & Rhonda 2000]. The virtual mode of interpersonal communication can also

attract people who do not like to interact with others in person [Papacharissi & Rubin 2000]. Ma and Leung [2005] reported that the Internet is a sociable medium that involves people in many activities through which they disclose themselves (e.g., from ICQ, MSN and bulletin boards to blogs).

Because people are living in a world that is a combination of various communities, the relationship becomes a resource through which to interact with others and obtain social support. Individuals are more likely to experience stress when they perceive a resource loss as intimidating [Hobfoll 2001]. In the Web 2.0 era, people commonly use blogs or microblogs to describe their feelings or the facts of their daily life instead of face-to-face communication. Since SNSs can help people air their grievances and receive support from others, using SNSs may prove useful for lonely people who suffer dissatisfaction in their lives in reducing pressure and building up social relationships. Thus:

*H4: Social support seeking positively affects the perceived usefulness of SNSs.*

#### 2.2.4 Impact of Perceived Usefulness on Users' Attitude and Use Intention

TAM has become well-established as a robust, powerful and parsimonious model for predicting users' acceptance of new IT products/services. Across the many empirical tests based on TAM, perceived usefulness has consistently been a strong determinant of usage intention [e.g., Lin and Kuo 2013; Shen 2015]. Perceived usefulness refers to the prospective user's subjective likelihood that the new technology will increase his or her performance and thus result in a benefit [Davies 1989]. For example, Facebook has many beneficial features such as sharing a message, viewing a friend's information or playing a game. One can presume one benefit that users can gain from using an SNS is to reduce pressure from life dissatisfaction. If users perceive that using an SNS to build social relationships is beneficial to them, their attitude and intention to use the SNS should be positive. Thus:

*H5: Perceived usefulness positively affects attitude toward using a SNS.*

*H6: Perceived usefulness positively affects intention to use a SNS.*

#### 2.2.5 Attitude and Use Intention

Ceteris paribus, it is normally predicted that the relationship between attitude and intention will be positive. People are more likely to perform behavior over an object they have evaluated positively [Ajzen & Fishbein 1980; Davies 1989; Yang & Forney 2013]. Therefore, this suggests that a user's attitude toward using an SNS will positively influence his or her intention to stay with the SNS. Based on this discussion, it is hypothesized that:

*H 7: Users' attitudes toward using a SNS positively affects their intention to continue using the site.*

#### 2.3 Research Model

On the basis of the literature review and hypotheses development, the conceptual model depicting the research constructs and hypothesized relationship path is shown in Figure 1. The model integrates constructs from three foundations suggested in the literature. The first is a set of constructs regarding loneliness and life dissatisfaction from quality of life theory. The second is perceived usefulness, attitude and intention toward SNSs from TAM. The third is social support seeking and self-disclosure from social exchange theory.

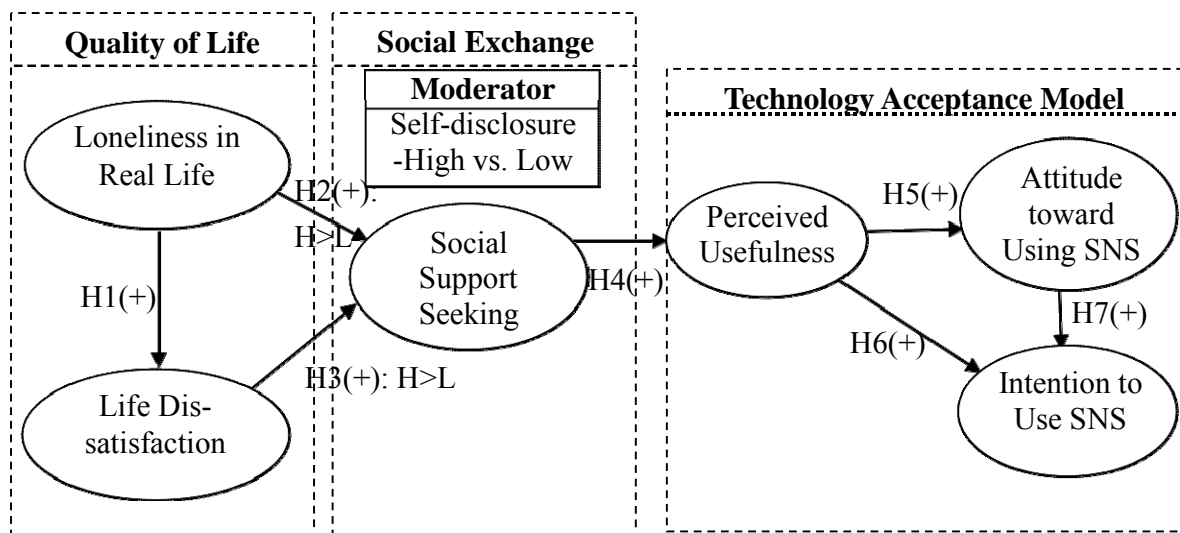


Figure 1 Conceptual Framework

### 3. Method

#### 3.1 Study objects and samples

Users who have frequent experience in interacting with other users through a microblog like Facebook, Twitter and Plunk are the subjects for this study. Two thousand request letters were emailed to targeted respondents. Users who had experience interacting with other users through online social networking sites within the previous six months qualified for the research and a reminder email was sent to respondents one week after the first email. Respondents connected to the survey website to answer an electronic questionnaire and their responses were automatically saved to the database when they completed the questionnaire. A gift drawing was offered to motivate respondents to participate in the research. Twenty gift vouchers for bookstores included five vouchers with NT\$1000 book value each; the rest had NT\$500 book value each. The drawing of winning respondents was held after survey completion when a list of respondents' mailing addresses had been created.

In total, 467 responses were received. Of those, 60 were identified as invalid and were excluded due to incomplete answers. Hence, the response rate was 20.35% and 407 valid samples were used for the empirical research. T-tests were performed to examine the effects of non-response for different batches of responses (Armstrong and Overton, 1997). Results of *p* values showed no significant difference between earlier and later responses in terms of self-disclosure, age or Internet experience.

To reduce the limitation resulting from the self-selection problem, the respondents were asked to provide brief personal profile information, which was used to confirm the demographics of the sample and the census data of Internet user populations. This procedure has been used in similar Web-based survey research and is confirmed as a well-founded way to ensure research validity [Bellman et al. 1999]. The profile of the respondents showed that they were diverse in age (less than 20 years of age, 32%; 21-30 years of age, 39%; 31-40 years of age, 23%; older than 41 years of age, 6%). There was also diversity in education (less than high school diploma, 14%; college, 60%; graduate school or above, 26%), and gender (49% male, 51% female). In addition, 89% of respondents reported Facebook as the SNS they most often use for social activity.

#### 3.2 Measurement

The self-administrated questionnaire comprising seven constructs for the survey is listed in Table 1. The scales were developed by following Churchill's [1979] recommendations. First, a preliminary questionnaire was developed from existing literature and then in-depth interviews were conducted with three professionals; there was also a pretest of 30 Facebook users to refine the questionnaire, measures and data collection methods. All measures were adapted from existing scales in the established research to account for the microblog being the context. The back translation method was applied throughout to ensure translation accuracy from the originals [Brislin 1986]. To analyze the pretest results, a series of exploratory factor analyses was used that eliminated items with factor loadings lower than .5 [Hair et al. 1998]. Five point scales, from "strongly disagree" to "strongly agree," were used throughout the questionnaire, except that life dissatisfaction was measured using scales from "terrible" to "delighted." To ensure the online community that respondents' thinking was appropriate for the study context while answering each group of items, we solicited respondents in the beginning of the questionnaire to recall the microblogging service they had used most for social activities in the past three months.

Self-disclosure is conceptualized as the degree to which a person is willing to disclose personal matters to others [Mazer et al. 2007; Wheelless & Grotz 1976]. Loneliness is defined as an enduring condition of emotional distress that arises when a person feels a lack of satisfying emotional or social relationships [Ditommasso et al. 2004; Vincenzi & Grabosky 1987]. Life dissatisfaction is defined as an individual's overall cognitive evaluation of his or her degree of well-being in life [Pavot et al. 1991; Pavot & Diener 1993]. Social support seeking is intended to measure the degree to which a person desires help and support from friends via the Internet [Collins & Feeney 2000; Cohen, Sherrod & Clark 1986; Kim et al. 2006], including affective support, confirmation and direct help. The scales of perceived usefulness were modified from Davis et al. [1989], Harris et al. [2009] and Seidman's [2013] study, which focused on measuring subjects' perception of the efficiency and benefit of interpersonal communication to relieve unpleasant states of mind and to fulfill needs for belonging by using an SNS. The measures of attitude toward using an SNS and intention to use an SNS were adapted from Davis et al. [1989], Shen and Chiou [2009], and Suh and Hans' [2003] study that measured the extent of users' overall thoughts and acceptance of SNSs.

Table 1 Measurement Items

Construct (abbreviation)	Cronbach's	Source
<b>Self-Disclosure</b>	0.87	Mazer et al. (2007); Wheless and Grotz (1976)
I often disclose personal things to friends without hesitation.		
I do not often tell friends about my personal matters (r).		
I like to tell people about my personal beliefs and opinions.		
<b>Loneliness in Real life (LRL)</b>	0.88	Ditommaso et al. (2004); Vincenzi and Grabosky (1987)
There are some good people around me who understand my thoughts and feelings in real life (r).		
There is no one I have felt close to for a long time in real life.		
I don't have one specific relationship in which I feel understood in real life.		
I don't get much satisfaction from the groups in which I participate in real life.		
<b>Life Dissatisfaction (LD)</b>	0.85	Pavot et al. (1991); Pavot and Diener (1993)
I am not satisfied with my life.		
I always feel a lot of sadness about life.		
Life is getting harder as I get older.		
<b>Social Support Seeking (SSS)</b>	0.90	Collins and Feeney (2000); Cohen et al. (1986); Kim et al. (2006)
I am inclined to use the Internet to find someone who can listen to me when I am disappointed.		
I tend to seek support from friends via the Internet when I meet trouble.		
I'd like to find support via the Internet when I am suffering from something.		
<b>Perceived Usefulness (PU)</b>	0.86	Davis et al. (1989); Harris et al. (2009); Seidman (2013)
Using the SNS enables me to acquire more friends' information.		
Using the SNS can eliminate people's anxiety and nerves from life.		
Using the SNS improves my efficiency in sharing information and connecting with others.		
The SNS is a useful tool for interpersonal communication.		
Sharing life experience on the SNS can reduce unhappiness in life.		
<b>Attitude toward Using Social Networking Site (ATT)</b>	0.91	Davis et al. (1989); Shen and Chiou (2009); Suh and Hans (2003)
Using XYZ social networking site is a smart idea.		
Using XYZ social networking site is a pleasant idea.		
Using XYZ social networking site is a good idea.		
<b>Intention to Use Social Networking Site (INT)</b>	0.89	Davis et al. (1989); Shen and Chiou (2009); Suh and Hans (2003)
I am willing to spend more time using XYZ social networking site's service.		
I will use XYZ social networking site's service often.		
I will recommend that other people use XYZ social networking site.		

### 3.3 Analysis Method

The model was tested using the two-step structural equation procedure [Anderson & Gerbing 1988]. First, confirmatory factor analysis (CFA) was employed to evaluate construct validity in the measurement model. After CFA indicated an appropriate model fit, meaning the model had good validity, a full structural equation model (SEM) was performed to test the hypothesized relationships. Respondents were divided into strong or weak groups by the scores of self-disclosure scales. A two-group structural analysis was performed to test equality of structural coefficients across the two groups. Chi-squared difference tests between constrained and baseline models were used. For all models, one measurement loading per construct was fixed for identification purposes and the covariance matrices were entered for better estimation [Byrne et al. 1989; Joreskog & Sorbom 1985].

## 4. Results

### 4.1 Equivalence of measurement models across groups

Since all of the measures were multi-items, CFA was employed to test the adequacy of the measurement model based on the criteria of overall fit, convergent validity, discriminant validity and reliability. The proposed measurement model was estimated using Lisrel 8.53. The results showed that  $\chi^2(348) = 456.60$ ; CFI = 0.96; NNFI = 0.97, exceeding the recommended .90 threshold level [Hoyle & Panter 1995; Hu & Bentler 1999]. The root mean square error of approximation (RMSEA) (0.03) was lower than .08, as recommended by Hair et al. [1998]. Thus, the

overall fit of the measurement model was within acceptable levels. Model 1 with no constraints provided a baseline chi-square (Table 3). The factor loadings were constrained equally and the non-significant difference in chi-square ( $\Delta\chi^2_{(21)} = 25.41$ , n.s. at  $p < 0.05$ ) indicated that the factor loadings were invariant. This test demonstrated that the same number of latent constructs is in each group, that the constructs are constituted of the same items, that there is no cross-loading modeled in either group and that the specific loadings of items on their constructs do not differ significantly across groups. Therefore, the analysis constrained (on unstandardized coefficients) the measurement models equally at the tested level of measurement equivalency and proceeded to compare the structural coefficients [Steenkamp & Baumgartner 1998].

Table 2 Test for the Equivalence of the Measurement Models Across Groups

Measurement Model	Goodness of Fit	Tests of Equivalence
Model 1: Baseline model (no constraints)	$\chi^2_{(348)} = 456.60$ , CFI = 0.96	
Model 2: Factor loadings specified invariant	$\chi^2_{(369)} = 482.01$ , CFI = 0.96	Model 2 – Model 1: $\Delta\chi^2_{(21)} = 25.41$ , not significant at $p < 0.05$

Table 3 Results of Confirmatory Factor Analysis

Construct (CR)	Mean	S.D.	Item loading	T-Value
<b>Loneliness in Real Life (.90)</b>				
LO1	3.59	1.06	0.82	11.21
LO2	3.23	0.98	0.85	12.43
LO3	3.27	0.90	0.87	10.89
LO4	3.03	0.83	0.81	13.25
<b>Life Dissatisfaction (.89)</b>				
LD1	3.02	0.87	0.86	11.39
LD2	2.95	0.90	0.89	13.35
LD3	3.20	1.03	0.82	9.95
<b>Social Support Seeking (.94)</b>				
SS1	3.07	1.07	0.94	18.52
SS2	3.08	1.12	0.89	14.35
SS3	3.02	1.09	0.93	18.84
<b>Perceived Usefulness (.94)</b>				
PU1	4.17	0.64	0.88	16.28
PU2	3.94	0.87	0.81	16.33
PU3	4.27	0.68	0.85	9.22
PU4	4.05	0.71	0.91	15.42
PU5	3.96	0.80	0.87	14.88
<b>Attitude Toward Using SNS (.93)</b>				
AT1	3.64	0.75	0.91	13.89
AT2	3.72	0.78	0.92	14.92
AT3	3.85	0.84	0.89	10.49
<b>Intention to Use SNS (.86)</b>				
IN1	3.24	0.98	0.82	11.96
IN2	3.18	0.95	0.87	17.43
IN3	3.14	1.07	0.78	9.15

Note: Factor loadings constrained equal across groups.

Fit indices of baseline structural model  $\chi^2_{(348)} = 456.60$ , NNFI = 0.97, CFI = 0.96, RMSEA = 0.03.

According to Anderson and Gerbing [1988], convergent validity can be assessed by determining whether each indicator's estimated pattern coefficient on its proposed underlying construct is significant (greater than twice its standard error). An examination of the indicator loadings showed that all loadings were significant for their latent construct. Therefore, the convergent validity of the measurement model was reasonably good. The study obtained the Mardia's coefficient of 1.18, which is lower than the recommended threshold value of 1.96, indicating that the data set adequately met the assumption of multivariate normality [Romeu & Ozturk 1993]. In addition, the Cronbach

reliabilities of all constructs were higher than 0.85, indicating acceptable reliability [Nunnally 1978]. These results showed that the constructs under analysis were distinct and obtained unidimensionality.

An examination of the final model indicated that substantial amounts of variance were captured by the latent constructs. Table 3 shows that all loadings were significant, demonstrating convergent validity. The composite reliabilities are all greater than 0.86; this demonstrated acceptable reliability. The most common test of discriminant validity is whether the confidence interval around the correlation between any two latent constructs does not include 1. Of the eight constructs tested for each of the objects, no confidence interval reached 1, a result indicating that discriminant validity for both models was achieved. A more conservative test of discriminant validity involves comparing the  $\chi^2$  values of models that constrain the phi value to be 1 and testing whether the constraint causes a significant decrease in fit. In all comparisons, the overall fit of the model changed significantly, which again demonstrated discriminant validity.

#### 4.2 Structural model and hypothesis testing

The results from the baseline two-group model with no structural path constraints were  $\chi^2_{(365)} = 603.17$ , NNFI = 0.95, CFI = 0.98, and RMSEA = 0.03. The study then tested the equality of structural coefficients by systematically constraining each coefficient to be equal across groups and comparing the constrained model with the baseline model (see Table 4). Each hypothesis tests equality across high versus low self-disclosure orientations.

Table 4: Tests for Equality of Paths Across High Versus Low Self-disclosure Groups

Path Constrained Equal Across High Versus Low Self-Disclosure Groups	$\chi^2$ Difference Tests: Baseline Versus Constrained Models	Expected Order Between High and Low Self-Disclosure Groups	Standardized Path Coefficients (t-value in parenthesis)	
			High Oriented	Low Oriented
H1: LIR→LD	$\Delta\chi^2_{(1)} = 0.47$ , n.s. at $p < 0.05$	H1: H = L	Paths not different: 0.43 (4.28)*	
			Conclusion: H1 supported	
H2: LIR→SSS	$\Delta\chi^2_{(1)} = 4.42$ , sig. at $p < 0.05$	H2: H > L	0.53 (3.57)*	0.04 (0.25)
			Conclusion: H2 supported	
H3: LD→SSS	$\Delta\chi^2_{(1)} = 3.82$ , sig. at $p < 0.05$	H3: H > L	0.71 (3.90)*	0.31 (1.87)*
			Conclusion: H3 supported	
H4: SSS→PU	$\Delta\chi^2_{(1)} = 0.26$ , n.s. at $p < 0.05$	H4: H = L	Paths not different: 0.43 (4.35)*	
			Conclusion: H4 supported	
H5: PU→ATT	$\Delta\chi^2_{(1)} = 0.63$ , n.s. at $p < 0.05$	H5: H = L	Paths not different: 0.36 (3.47)*	
			Conclusion: H5 supported	
H6: PU→INT	$\Delta\chi^2_{(1)} = 0.15$ , n.s. at $p < 0.05$	H6: H = L	Paths not different: 0.15 (1.17)	
			Conclusion: H6 not supported	
H7: ATT→INT	$\Delta\chi^2_{(1)} = 0.62$ , n.s. at $p < 0.05$	H7: H = L	Paths not different: 0.83 (6.01)*	
			Conclusion: H7 supported	

Note:  $\chi^2_{(365)} = 603.17$ ; CFI = 0.95; NNFI = 0.95; RMSEA = 0.05 at full sample model

\*: t value > 1.64,  $p < 0.05$



To begin, the study tested the invariance of the coefficients from loneliness to life dissatisfaction. When  $\gamma_{LIR \rightarrow LD}$  was constrained equally, the non-significant chi-squared difference ( $\Delta\chi^2_{(1)} = 0.47$ , n.s.) demonstrated coefficient equality. Thus, H1 was supported by the data ( $\gamma = .43$ ,  $p < .05$ ). Similar procedures were conducted to evaluate other relationships. The  $\Delta\chi^2$  test showed  $\gamma_{LIR \rightarrow SSS}$  to be different across two groups ( $\Delta\chi^2_{(1)} = 4.42$ , significant), supporting H2, which stated that this path would be greater for the group high in self-disclosure. This path was significantly positive for high self-disclosure group ( $\gamma = .53$ ,  $p < .05$ ). Thus, H2 was supported in both sign (+) and difference in magnitude. When constraining  $\beta_{LD \rightarrow SSS}$  equal, the significant  $\Delta\chi^2_{(1)} = 3.82$  ( $p < .05$ , significant) demonstrated that life dissatisfaction and social support seeking in the high self-disclosure group ( $\gamma = .71$ ,  $p < .05$ ) differed significantly from their low self-disclosure counterparts ( $\gamma = .31$ ,  $p < .05$ ). Therefore, H3 was supported by the data.

For H4,  $\gamma_{SSS \rightarrow PU}$  was significantly positive ( $\gamma_{SSS \rightarrow PU} = 0.43$ ,  $p < .05$ ), but not different across the two groups ( $\Delta\chi^2_{(1)} = 0.26$ ,  $p > .05$ ; n.s.). This supported H4 in presuming that social support seeking is positively related to perceived usefulness of SNSs. Finally, the coefficients from perceived usefulness to attitude toward using an SNS and intention to use an SNS and from attitude toward using an SNS to intention to use an SNS were equal across groups, judging by the non-significant  $\Delta\chi^2$ . Each of these  $\beta$ 's was positive and significant except H6 ( $\beta_{PU \rightarrow INT} = 0.15$ ,  $p > .05$ ), supporting H5 ( $\gamma_{PU \rightarrow ATT} = 0.36$ ,  $p < .05$ ) and H7 ( $\gamma_{ATT \rightarrow INT} = 0.83$ ,  $p < .05$ ).

## 5. Discussion

To the best of the author's knowledge, this study is the first to offer a structural model using variables from quality of life theory and social exchange theory to investigate consumers' motivation to use SNSs. The research findings provided meaningful implications for service providers who utilize SNSs to interact with consumers online. These research findings add to the knowledge of understanding how an SNS acts as a communication medium to support consumers' social needs and extends the theoretical grounds of TAM and quality of life to understanding users' adoption of SNS.

The results from the current study facilitate understanding of the relationships among loneliness, life satisfaction, social support seeking and users' behavior regarding SNSs. Specifically, the findings provide insights into the users' motivation and intention to continually use SNSs in three major ways. First, the findings show that two factors capturing status of the user's well-being are the initial factors to affect SNS adoption in the conceptual model. Loneliness in real life is positively associated with life dissatisfaction and both factors are confirmed as antecedents of social support seeking via SNS. The relationships are moderated by the individual's self-disclosure, indicating that the extent of social support that users tend to seek via the Internet is affected by the user's personal tendency to disclose personal matters. Extraverted individuals who tend to disclose their personal matters to family and friends are more likely to use an online medium to seek social support from others when they feel loneliness and life dissatisfaction. These findings support the emerging view that people's behaviors are largely motivated by need for better quality of life [Goodwin et al. 2001; Hamburger & Ben-Artzi 2003; Mellor et al 2008; Revicki et al. 2000].

Second, the results are also consistent with past research that social support seeking is crucial to lead people's perceptions of the value of pursuing social relationships [Frese 1999; Kim et al. 2006; Taylor et al. 2004]. The key factor to determine a user's adoption of SNS is social support seeking, which mediates the relationship between the user's well-being and perceived usefulness. In turn, the user's perceived usefulness of using the SNS affects the user's intention to continue using the SNS. Without a social support seeking tendency, users who have lower well-being may not use the SNS as a medium to reduce loneliness and life dissatisfaction. Finally, the study confirms the power of TAM, as well as extending TAM to explain users' attitudes and intentions toward using SNSs in the online social context by integrating social psychology and quality of life theory. The research finding was also consistent with previous work that a user's intention to accept new technology is affected by perceived usefulness and attitude [Davis 1989; Vijayasarathy 2004].

To secure consumers' stickiness intention to use an SNS, the SNS providers/companies using fan pages must understand why consumers are willing to join an online SNS to maximize personal benefit in social exchange activities. The research findings imply that resolving people's feelings of loneliness has become a benefit that users may gain through an online social exchange. Many emerging industries, from TV shopping and pet businesses to online SNSs and online gaming, can create value by reducing people's loneliness. An SNS becomes a major channel for interpersonal relationships and a place of fun and social support. For example, Facebook has created a successful communication model that facilitates people's communication with friends and effectively maintains the connection between nearby friends, as well as friends far away and long-lost friends. In addition to being a friends-based network, more and more companies are using a Facebook fan page as an integral part of their social media campaign. Thus, understanding consumers' motivations to participate in an SNS is crucial to successfully managing fan pages

to gain large and engaged followings.

## **6. Implications**

Offering services that can improve users' well-being in the online world such as social liking (e.g., helping users link to friends, establishing specific interest groups, providing birthday notifications) or entertaining materials (e.g., puzzles, games, funny or affective content) is beneficial to SNS administrators. By doing so, users are more likely to become involved in online activities because those who suffer loneliness and life dissatisfaction can gain useful social support and the benefit of enjoyable elements. Service providers can actively give the lower self-disclosure individuals who are in the state of life dissatisfaction a hand to win their hearts by helping them find social support.

On the practical side, there is no denying that service providers must emphasize understanding consumers' needs to offer services/products that bring value to consumers. Entertaining and interactive content executed through Web 2.0 can provide greater opportunities to attract users to join a company's social network by reducing users' loneliness or distress. Companies can develop their company or product-based online community by using social media to build consumers' social capital and engagement, which can lead to business success [Shen & Chiou 2009].

This study encourages social media providers to become involved with their users and to increase their switching cost regarding personal relationships by creating a virtual community built on users' social belonging [Hobfoll 2001; Rovai & Wigthing 2005]. Beyond the technical part of SNS, social media providers who wish to increase effectiveness of online marketing should focus more on value added by the usefulness and build virtual communities that might foster users' community involvement and bonding social capital in the online environment. The deeper the user's social belongings accumulation in the online community, the greater the likelihood of preserving consumers' long-term relationships with the online company.

## **7. Limitations and Future Research**

This research has several limitations that bear on the findings but present opportunities for further research. First, because the study used a cross-sectional method focused on individual behavior that may omit the effect of interaction between community members, further research can use an ethnographic approach to capture the evolution of the virtual community.

Second, although the conceptual model for the study provided several important antecedents and outcome variables depicting online users' behavior in using SNSs, other variables such as hedonic value, perceived enjoyment and involvement may have been excluded. For example, SNSs like Facebook have many enjoyable features such as chatting, playing a game or viewing a friend's information [Ernst et al. 2013]. However, the present research focused mainly on the value of social interaction in the SNSs, the possible impact of enjoyable elements on users' hedonic value was overlooked. It is needed to understand how hedonic value motivate users' intentions to use SNS. Future research can focus on these types of antecedents.

Third, the model was empirically tested with a Taiwanese sample. Different societies may have different self-disclosure tendencies and attitudes toward new technology. Taiwan is a collectivist and high-context society [Chiou 2000; Hofstede 1983]; thus, consumers in this society may disclose their thoughts less frequently than people in Western cultures [Taylor et al. 2004]. More empirical tests adopting the present research model in other societies are needed.

Finally, since development of community and interpersonal relationships is dynamic, and the research only asked the respondents to provide their opinions based on their experience within the previous six months, there is a need for in-depth investigation of how well-being and social relationships are developed over time. Research has shown that Facebook has lost nearly 9 million monthly visitors in the US and UK; the same switching behavior also exists in other countries [Garside 2013]. Future research using a longitudinal design or investigating why users employ cross SNSs (e.g., use Facebook, LinkedIn and YouTube) can address the time-dependent dynamics of these questions and provide stronger inferences about the directions of causality posited herein. By understanding the dynamics of community development, one could obtain a greater understanding of how consumers' relationships with a company or friends change, grow, and dissolve in the online environment over time.

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