TRANSITION FROM URGE TO EXCESSIVE USE OF SOCIAL NETWORKING SITES: THE MODERATING ROLE OF SELF-CONTROL AND ACCESSIBILITY

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Abstract

Social networking sites (SNSs) have evolved as the centre for daily social interactions. However, some users experience difficulties in managing their incessant urges to use the site, and result in spending excessive amount of time on the platform. While the research on the dark side of SNS use is gaining momentum, the theoretical understanding of this issue remains limited. In this study, we aim to advance the literature by investigating the development of excessive use of SNSs through the prism of urge. More specifically, we studied the anticipated emotions as the drivers of urge to use SNS. We also explored the impact of internal (i.e., self-control) and external (i.e., accessibility) factor on the urge to use and its transition to excessive use of SNSs. We will test the model with active SNS users using structural equation modelling. We believe that current work will enrich the existing literature on the dark side of SNS use, and raise the awareness in the community regarding this emerging phenomenon.

Keywords: Social Networking Sites, Anticipated Emotions, Urge to Use, Excessive Use, Self-control, Accessibility.

1   INTRODUCTION

Social networking sites (SNSs) offer a ubiquitous online social space where users can easily connect, communicate, and interact with others (Bolton et al. 2013). With the rapid growth trajectory of mobile devices and widespread deployment of data services in these years, social interactions on SNSs have become a mainstream. Recent statistics show that individuals have spent over half of their online time on social networking related activities (IDC 2013). Sixty-three percent of the mobile phone users check the news feeds on SNSs constantly throughout a day (IDC 2013). On average, there are 4.75 billion pieces of content being shared on Facebook every day (Libert & Tynski 2013). The generation of endless stream of comments, opinions, and personal stories on SNSs coupled with the increasing accessibility to this real-time information, induce irresistible urges upon SNS users and drive them to log onto SNSs repeatedly. Eventually, some users spend excessive amount of time on these social networking platforms, and experienced negative consequences.

The proliferation of SNSs has captured much attention in the IS academia. A remarkable number of studies have attempted to explore different SNS usage behaviours, such as posting (e.g., Miller et al. 2010), adoption (e.g., Cheung et al. 2011), and post-adoption intention (e.g., Lin & Lu 2011). In recent years, we witness an increasing number of studies concerning the negative consequences of the excessive use SNS use. For instance, Turel & Serenko (2012) explored the benefits and dangers of using SNSs, and suggested that enjoyment derived from using SNSs might lead to the development of addiction. Baek et al. (2013) also reported that relying on SNS for maintaining social relationships set the stage for the development of SNS addiction. Though the bulk of research on the role of urge regarding substance and behavioural addictions has been conducted extensively (Raylu & Oei 2004), the role of urge in determining excessive technology use is relatively under explored. Given the significant role of urge as highlighted in the news reports and addiction literature, an investigation from this perspective toward this emerging issue is timely and important.

In the light of this, we attempt to advance existing literature and examine the excessive use of SNSs through the prism of urge. Specifically, we build upon the cognitive model of addiction to explain the development of urge to excessive use. Further, we explore the moderating role of internal factor (i.e., self-control of SNS users) and external factor (i.e., accessibility to SNSs) upon the transition between urge and excessive use of SNSs. We endeavour to answer the following research questions:

1. *What are the drivers of the urge to use SNSs?*

2. *How do internal and external factors influence the relationship between urge and excessive use of SNSs?*

The paper is structured as follows. In the next section, we provide a synthesis of extent literature in constructing our theoretical model. Then, we present the theoretical research model and explain the relationships among focal constructs. Subsequently, we outline the research methodology for validating the research model and hypotheses. Finally, we conclude the paper with a discussion of the potential implications for research and practice.

2   LITERATURE REVIEW

2.1   Research on Social Networking Sites

Social networking sites refer to a web-based platform that allows users to build their own profiles in a bounded system and share connections with their friends (Boyd & Ellison 2007). SNSs integrate digital communication and publishing together, making the communication among members simple across time and space (Dwyer et al. 2008). A significant characteristic of SNSs is that it makes users visible in their online social networks, and thus facilitates them to build connections with their family, friends, and acquaintances. Online social networking has become part of our daily life. Every day, there are over 4.75 billion pieces of content being shared on Facebook (Libert & Tynski 2013).

The prevalence of social networking sites has received great attentions from the scientific community. Over the years, we have witnessed an exponential growth in number of scholarly papers examining SNSs. More than five thousand scholarly papers were published in a variety of outlets during year 2010 and 2014. Because the publication on SNSs is culturally diverse and that the scope is large and fragmented, we selected and discussed recent papers published in the mainstream IS journals to capture the latest trend of IS research on SNSs. Consistent with the tradition of IS adoption and use research, studies on SNSs concentrate on the positive and utilitarian values derived from using the platforms, such as content sharing (Shi et al. 2014), re-tweeting (Stieglitz & Linh 2013), and photo posting (Zeng & Wei 2013).

Table 1. Summary of literature on positive use of SNSs			
Study	Research focus	Research objective	Main finding
Goh et al. (2013)	User generated content (UGC) and market generated content (MGC)	To assess the impacts of UGC and MGC in a social media brand community on consumers' repeat purchase behaviours	The study reports that engagement in social media brand communities leads to a positive increase in purchase expenditures
Koch et al. (2012)	Emotional responses and organizational social networking site	To investigate the implementation of an internal SNS designed to help a large financial institution's IT new hire program	The result suggests that SNS blurs the boundary between work life and social life and that creates positive emotions for the employees who use the system
Shi et al. (2014)	Content sharing and social broadcasting	To examine the decision-making process of sharing at the individual level	The study finds that weak ties (in the form of unidirectional links) are more likely to engage in the social exchange process of content sharing
Stieglitz & Linh (2013)	Information diffusion	To investigate the association between the sentiment occurring in social media content with users' information sharing behavior	The study reports that emotionally charged Twitter messages tend to be re-tweeted more often and more quickly compared to neutral ones
Zeng & Wei (2013)	Social ties and user genreated content	To explore the relationship between social ties and the similarities between the types of content that people create online	The study reveals that members began to upload more similar photo around the time of the formation of social tie. After a social tie was formed, this similarity evolved in different ways in different subgroups of members

Despite the fact that social networking is prevalent worldwide, and that more users appear to experience some kinds of undesirable consequences or effects of using SNSs excessively, the research on the dark side of social networking site use remains scarce (Kuss & Griffiths 2011). Our review of prior literature showed that there are very few published papers examining the negative use of SNSs. As shown in Table 2, the scope of the published papers on the negative use of SNSs is mainly descriptive, where the majority of studies focuses on investigating how demographic variables and personality traits associate with the excessive SNS use (e.g., Andreassen et al. 2013; Balakrishnan & Shamim 2013). Not till recently, Turel & Serenko (2012), one of the pioneers of technology addiction in the IS discipline, have explained the development of SNS addiction through the prism of perceived enjoyment and habit. However, there is still a relative lack of theory-guided studies that provides a mechanism explaining the development of excessive use of SNSs in the existing IS literature.

Table 2. Summary of literature on negativeve use of SNSs			
Study	Research focus	Research objective	Main finding
Andreassen et al. (2013)	Five-factor model of personality	To investigate the interrelationships between Facebook addictions and the five-factor model of personality	The study shows that extroversion was positively associated with Facebook addiction, while openness to experience and conscientiousness was negatively associated with Facebook addiction
Balakrishnan & Shamim (2013)	Usage and motivations	To explore Facebook usage pattern, motivations and psychological/behavioural factors affecting the users	The study reports that Malaysian students use Facebook actively, similar to other studies done worldwide. Factor analyses yielded five motives to use Facebook: social networking, psychological benefits, entertainment, self-presentation and skill enhancement
Cheak et al. (2012)	Addiction among university students	To study the relationship between social phobia/anxiety and social networking motive with online social networking addiction	The study indicates found that social phobia/anxiety and social networking motives have a significant positive correlation with online social networking addiction
Turel & Serenko (2012)	Enjoyment and habit	To study the impact of enjoyment on the development of user engagement and social networking sites dependency	The study suggests that perceived enjoyment facilitates the development of a strong habit that can help forming a strong pathological and maladaptive psychological dependency on the use of SNSs

2.2 Urge and addictive behaviours

Urge, described as "a feeling of being impelled to do something", is an important and extensively researched concept in addiction literature (West & Hardy 2006). Prior research indicated that urge is a salient factor that predicts the development of addiction. In particular, it is suggested that realizing an urge could bring pleasant experience to an individual, yet, the failure in managing the incessant urges could potentially lead to the occurrence of a wide range of addictive behaviours (American Psychiatic Association 2000). These behaviours include cigarette craving (Billieux et al. 2007a), binge eating (Fischer et al. 2004), pathological gambling (Smith et al. 2007), and problematic mobile phone use (Billieux et al. 2007b).

Over the year, researchers have proposed different frameworks to describe the antecedents and development of urge to addictive behaviours. Two predominant theoretical frameworks have been extensively used: (1) the social learning model of addictive behaviours (Marlatt 1985), and (2) the cognitive model of urge (Tiffany & Drobes 1991). The centrality of the two models are convergent in proposing that the urge to perform addictive behaviours comes from two primary origins, including the anticipation of euphoria, and anticipation of relief from withdrawal symptom. In other words, these models commonly agreed that urge and addictive behaviours are highly associated with expectation on pleasure and/or removal of unpleasant feeling.

3 RESEARCH MODEL AND HYPOTHESES DEVELOPMENT

Building on the urge literature (West & Hardy 2006), we believe that users will experience positive emotions (e.g., pleasurable experience while reading the newsfeed) and/or suffer from negative emotions (e.g., feeling of withdrawal when the use of SNS is discontinued) with their use of SNSs. In other words, both positive and negative anticipated emotions are associating with the urge to use SNSs, which eventually set the stage for developing excessive use of SNSs. Going beyond this perspective, we expect that other internal and external factors also have a critical role to play in the transition. In the current study, we are interested in exploring the moderating role of self-control and accessibility on the relationship between urge and excessive use of SNSs. Based on self-regulation theories, the development of excessive use has long been regarded as a failure of self-control over urges (West & Hardy 2006). Self-control is thus an important internal factor that intervene the relationship between urge and excessive use of SNSs. In addition, the high accessibility to the SNSs enabled by the popularization of mobile devices and widespread deployment of data services may also be a strong environmental factor that strengthens the relationship between the urge to use and excessive use of SNSs, because users are having ample opportunities to use social networking services anytime and anywhere. Figure 1 depicts our proposed research model.
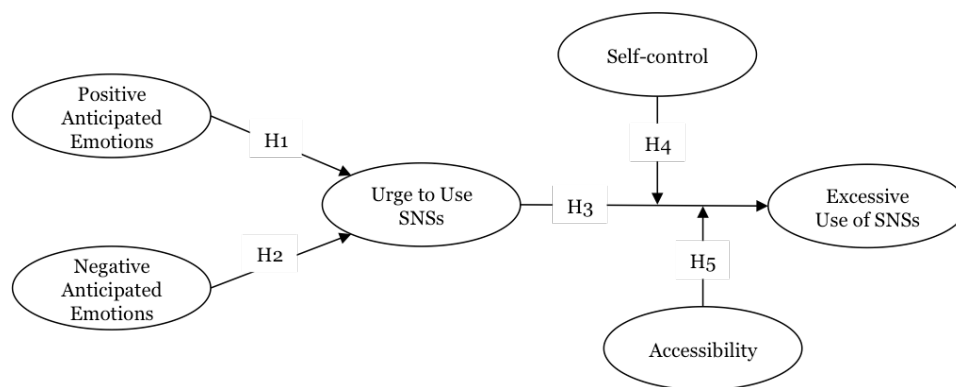

Figure 1.   Proposed Research Model

3.1   Anticipated Emotions and Urge to Use SNSs

Urge to use SNSs refers to the feeling of being impelled to use SNSs (West & Hardy 2006). As noted in the previous section, the urge to perform certain behaviour is associated with expectation of two affective emotions, namely the expectation of attaining positive emotions and the expectation of avoiding negative emotions (West & Hardy 2006). Anticipated positive emotions refer to the expected positive affective states resulted from performing a behaviour (e.g., using SNSs); whereas anticipated negative emotions refer to the expected negative affective states resulted from not able to perform that behaviour (e.g., not able to use SNSs) (Tsai & Bagozzi 2014).

In this technological era, we believe that stimulation of emotions from technology use often gives rise to urge (Greenfield 2010). Since online services and digital devices have become more consummate and sophisticated nowadays, it is easy for individuals to use technologies to fulfil their instrumental needs (e.g., informational seeking or arousal-seeking) or ritualistic needs (e.g., passing time or companionship). In the context of SNSs, uses can use the platform to seek for information, develop and maintain relationships, and have fun with the social games. As a consequence, they would expect a return of positive emotions if they are able to use SNSs, which in turn gives rise to a strong urge to use SNSs. The relationship between positive emotions and urge has been substantiated in prior literature (Liu et al. 2013). On the other hand, users would generally expect a return of negative emotions if they not able to use SNSs, which would still give rise to urge to use SNS as ways to avoid negative emotions. Recent study also showed that psychological distresses arise when users are forced to unplug from their SNSs (Salzburg Academy on Media & Global Mussenden 2011). Similarly, we expect that SNS users would feel ill if they are unable to use SNSs and become obsessive toward using SNSs (Denti et al. 2012; Young & de Abreu 2011). Taken together, we hypothesize that:

H1: Anticipated positive emotions are positively related to urge to use SNSs.

H2: Anticipated negative emotions are positively related to urge to use SNSs.

3.2 Urge to use SNSs and Excessive Use of SNSs

Excessive use of SNSs refers to the use of SNSs that involves spending considerable amounts of time, and during which users generally lose track and control of time (Caplan 2002; Griffiths 2012). Realizing an urge of certain behaviors reward user with pleasurable experience (West & Hardy 2006) which makes resisting incessant urges difficult and set the stage to excessive use. Empirical studies also recognized urge as an imitable component to the occurrence of a wide range of addictive behaviors (American Psychiatic Association 2000), including problematic mobile phone use (Billieux et al. 2007b), craving for cigarette (Billieux et al. 2007a), pathological gambling (Smith et al. 2007). In the same vein, we believe that users who experience strong urges to use SNSs are more prone to the development excessive use. Thus, we hypothesize:

H3: Urge to use SNSs is positively related with excessive use of SNSs.

3.3 The Moderating Role of Self-Control

Self-control refers to the ability to override or change one's inner responses, as well as to interrupt behavioral tendencies (e.g., urge) and refrain from acting on them (Tangney et al. 2004). Urge is a sudden and irresistible impulse to perform a behavior (West & Hardy 2006). Researchers have indicated that self-control plays an influential role in urge management (Baumeister et al. 1994) because one's capability to alter and override its internal affective state and responses is limited. Individuals who have higher self-control are less likely to be swayed by their urges; whereas individuals who have lower in self-control are more likely to be led by their urge. Particularly, addiction has been well-regarded as failure in self-control over urges (West & Hardy 2006). In a similar vein, we believe that users who have lower self-control are less capable in regulating or managing their urge to use SNSs, and hence hasten the transition from urge to excessive use of SNSs. Therefore, we hypothesize that:

H4: Self-control moderates the relationship between the urge to use SNSs and excessive use of SNSs. The higher the self-control, the weaker the relationship between urge to use SNSs and excessive use of SNSs will be.

3.4 The Moderating Role of Accessibility

Accessibility refers to the level of convenience of access to SNS services (Tojib et al. 2008). SNS users are constrained to different level of accessibility under a broad range circumstances. For example, SNS users who own a mobile phone and subscribe to data service have relatively high accessibility to SNSs. They can access to SNSs almost effortlessly anytime and anywhere. On the other hand, users who do not own a mobile phone or subscribe to data service should have relatively low accessibility to SNSs. They might have to rely on using non-mobile digital devices (e.g., desktop computer) and wired Internet services, making access to SNS services uneasy.

Recent statistics reveals that SNS users who own a mobile phone are devoting more time to the platform. On average, users access to SNSs 13.8 times a day using mobile phone. Eighty percent of respondents log onto SNSs within the first fifteen minutes after wake up and before doing anything else. Sixty-three percent of respondents even continuously access to SNS services throughout the day (IDC 2013). The high accessibility to SNSs is thus believed to cultivate a conducive environment for actualizing users' urge in logging onto SNSs. Consequently, urge is more likely to lead to excessive use of SNSs for users with relatively high accessibility. Thus, we hypothesize:

H5: Accessibility moderates the relationship between urge to use SNSs and excessive use of SNSs. The higher the accessibility, the stronger the relationship between urge to use SNSs and excessive use of SNSs will be.

4 RESEARCH METHODOLOGY

4.1 Research Context and Sample

We plan to gather data from a group of active Facebook users to validate the research model. Facebook (www.facebook.com) is now the most popular and leading social networking site worldwide, with approximately 1.23 billion monthly active users as of December 31, 2013 (PewInternet 2013). Characterized by the leading role of Facebook, we believe that Facebook user is an appropriate and representative sample to investigate excessive use of SNSs. In order to improve the response rate and sample quality, we will employ a market research form for data collection. The selection of active SNS users will be based on two criteria: (1) whether the respondent uses Facebook as the major social networking channel, and (2) whether the respondent use Facebook every day.

4.2 Measurement Items

We have derived the measures from prior literature with minor modifications to fit into the current research (i.e., Positive and Negative anticipated emotions (Bagozzi & Dholakia 2006); Self-control (Tangney et al. 2004); Accessibility (Tojib et al. 2008); Urge to use (Beatty & Ferrell 1998); Excessive use (Caplan 2002)). All the measures are well validated and established. We used multiple reflective items for each construct and measured in a seven-point Likert scale, with "1 = Strongly Disagree" to "7 = Strongly Agree". In the field study, respondents will be asked to indicate to which extent they agree with the statements. As measuring negative behaviors maybe be plagued by social desirability bias, where respondents tend to response in a way that is considered as socially favorable, we will include the measurement of social desirability bias (Reynolds 1982) in our data collection.

4.3 Pre-test

We have conducted a pre-test with 50 active SNS users to solicit feedback on the presentation format of the questionnaire in September 2014. Following Fowler (2009), we verified: (1) clarity of the instructions, (2) clarity of the wording, (3) relevance of the items, (4) absence of biased words and phrases, (5) use of standard English, and (6) questionnaire and scenario formats. Other than minor formatting error, no major problem was surfaced.

4.4 Data Collection

In the main field study, we will employ an online survey with a longitudinal design to collect the data to test our research model. Online survey is commonly used by researchers to collect data for exploring problematic use of information systems (Byun et al. 2009). The use of longitudinal design is proven to be vital in reducing common method bias (Podsakoff et al. 2003) and establishing causality while comparing with a cross sectional design. To capture a better snap of the SNS population, we will recruit respondents via a paid advertisement on Facebook. At time t=1, we will recruit 1000 active SNS users to complete an online questionnaire, collecting the assessment related to the anticipated positive and negative emotions. At time t=2, the same group of respondents will be invited to complete another online questionnaire concerning the excessive use of SNSs, self-control and accessibility. At time t=3, the same group of respondent will be invited to complete the last questionnaire regarding excessive use of SNSs. To encourage participation, remuneration (in the form of a shopping coupon in the amount of USD10) will be given to each participant.

4.5 Data Analysis

We will use structural equation modeling (SEM) techniques to test the research model. SEM offers a robust and flexible estimation of relationships among multiple items and criterion variables. It also estimates a model uncontaminated with measurement errors (Chin 1998).

5 CONCLUSION AND POTENTIAL IMPLICATIONS

Social networking sites have evolved as the center for daily social interaction and communication. While most of the users build intimate relationships with their friends through SNSs, some suffer from failures in regulating their urge and develop excessive use of SNSs. To explore this emerging yet under-researched phenomenon, we aims to develop and validate a theoretical model that explains the development of excessive use of SNSs. Specifically, we investigate excessive use of SNSs through the theoretical lens of urge, and examine the moderating role of internal factor (i.e., self-control of SNS users) and external factor (i.e., accessibility to SNSs) on relationship between urge and excessive use of SNSs. We will validate the research model using a longitudinal survey design and structural equation modeling approach.

We believe this study will yield remarkable theoretical and practical implications. On the theoretical side, this study will advance the IS literature by addressing an under-explored research area, the dark side of SNSs. Particularly, we explore the drivers of the urge to use SNSs, and the relationship between it and excessive use. We also identify the boundary conditions for the relationship between urge and excessive use. The validated research model is expected to provide solid foundation for future research works on problematic use of IS/IT to build upon. On the practical side, this study will inform the users and the general public about the threat of developing excessive use from daily SNS use. Particularly with the popularization of mobile devices and data services, users can easily actualize their urge to use SNS services. This study will provide users with insight into prevention and coping with excessive use of SNSs, such increasing self-control and restricting the accessibility to SNS services.

6 ACKNOWLEDGEMENT

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