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“FACEBOOK DISTRESS”: A MODEL TO INVESTIGATE DISCONTINUATION OF SOCIAL NETWORKING SITE USE

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Abstract

The study proposes a model to investigate discontinuation of social networking site use based on gratification and distress factors. The model of two contrasting beliefs is founded on Social Exchange Theory (Homans, 1958). The study reviews past research of user motivations to participate in social networking sites, and identifies gratification factors of using the sites, however, uses methods from thematic analysis (Aronson, 1994; Barun & Clarke, 2006) to identify the factors that cause use-based distress. Drawing on the recognition of these two contrasting beliefs and two forms of affective reactions, the article argues that users make cost-benefit assessments leading to post-adoption decisions on whether to continue or discontinue social networking site use. The article concludes with several theoretical and practical contributions.

Key words: Uses & Gratifications Theory, Social Exchange Theory, Distress, Social Networking Site, Discontinuation

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1 INTRODUCTION

Social Networking Sites (SNSs) are a highly popular medium for social interaction over the internet. The high user acceptance of SNS together with their potential business value has attracted both academic and professional interest in the reasons why SNS work, specifically how they sustain themselves. Several studies already identified key drivers of adoption of social networking sites (Cheung & Lee 2010; Hsu & Lu 2004; Joinson 2008; Lin & Lu 2011; Yang, et al. 2010). However, the success and sustainability of a site depends not only on people joining, but also on people staying and thus is heavily affected by users' post-adoption behavior. Therefore, users' continuous intention to use a site is another notable thrust of current research (Chen, et al. 2012; Huang & Lin 2011; Jin, et al. 2010; Shi, et al. 2010). Researchers identified a number of key factors at the individual level that explained users' pre-adoption and post-adoption motives to participate in social networking platform, including for instance cultural factors affecting users' motives in social networking (Chu & Choi 2010; Karl, et al. 2010; Kim, et al. 2011). Recent anecdotal evidence of negative consequences of SNS use including fatigue and distress (Debatin, et al. 2009; Griffiths 2012; Kuss & Griffiths 2011; Turel & Serenko 2012; Gartner 2011; Maier, et al. 2012) is suggesting a new influence, namely not a loss of interest, but growing dis-interest leading to discontinuation of SNS use. The significant decline of once popular social networking sites such as MySpace or Orkut raises the concern of social networking sites' success harboring the seeds of future failure.

This study was motivated by a 2012 poll conducted by the Associated Press-CNBC (Arbel 2012) which concluded that half of the US population considered Facebook to be a passing fad, with three out of five respondents also expressing little or no faith in Facebook's data protection practices. The result is consistent with a survey conducted in May-June, 2012 by Reuters/Ipsos (Rodriguez 2012), which reported more than one-third of the users spending less time on social networking than during the prior six months. These expressions of waning user interest and confidence (see also Socialbakers, July, 2012) may be indications that SNS interest, although certainly not dying, may be at a crossroads between satisfaction and disillusionment which must heighten our interest in the factors that lead to satisfaction or dissatisfaction in SNS use.

Thus, discovering users' decision factors after the adoption of social networking is an important research question, as well as a practical business concern, whereas past literature heavily explored users' motives and satisfaction, research must now look into factors that ensure sustainability and especially user retention. According to prospect theory, (Kahneman & Tversky 1979) losses weigh much more strongly than gains in people's utility assessments. Hence, investigating the factors that lead to feeling of loss is of paramount importance. Moreover, any SNS characteristics, which result in user distress, may significantly imbalance prior (positive) cost-benefit considerations and shift users' perceptions towards dissatisfaction and decrease use (Lowry, et al. 2011, p.167). Past studies that investigated users' post-adoption intention typically considered one side of human preference only, that is, satisfaction and implied that users' intention depends on their level of satisfaction. However, decrease of satisfaction cannot alone explain the level of dissatisfaction among users, and reasons for satisfaction and dissatisfaction may be different (Herzberg, et al. 1967). Oimei and Wells (2001) for instance show that satisfaction and dissatisfaction are not completely equal and opposite. Thus, exploring the different factors that lead to user satisfaction vs. dissatisfaction and their influence on the post-adoption decision to continue or discontinue using an SNS site is the focus of this research. With the help of Social Exchange Theory (Homans 1958; Emerson 1962), the research builds a comprehensive model of two contrasting preference processes and proposes to empirically test the model using Facebook as the setting.

This research-in-progress paper is organized as follows. In the next section, we investigate sources of user satisfaction (gratification factors) and dissatisfaction (distress factors) in a social networking site (here, Facebook). Then, we conceptualize our research model and propose hypotheses. In the final section, we discuss potential theoretical contributions and practical implications of the study.

2 GRATIFICATION AND DISTRESS IN SOCIAL NETWORKING

User intention to adopt a technology is influenced by the expectation of obtaining some positive benefits i.e. usefulness of employing a technology (Davis 1989). This, however, does not preclude a change in beliefs and attitudes towards the technology based on actual use (Bhattacharjee & Premkumar 2004), because of a waning of initial excitement concerning the technology, or because of changes in user conditions (eg. less time for SNS use) that lead to a re-assessment of the technology. Applying the logic of disconfirmation theory (Oliver 1997), one may state that a person will continue to use a technology if the expectations underlying the adoption decision is positively disconfirmed through use. Otherwise, the decision may be revised (Bhattacharjee 2001). This study argues that a user's post-adoption decision to continue is based on the disconfirmation of beliefs about the gratification attributes of SNS use, as well as the distressing attributes of SNS use.

2.1 Gratification through Social Networking Sites

Blumler and Katz (1974) formulated 'Uses and Gratifications Theory (U&G)' as an explanatory theory for media choice. The theory postulates that users make active, goal-oriented decisions on which media to use for communication. It has been widely applied in investigations of user motives to use almost all forms of media including the Internet (Stafford, et al. 2004; Roy 2009). This theory explains human psychological needs that drive them to use new media for gratification (Roy 2009). Hence, we consider U&G to understand user's need-based motives to use Facebook.

2.2 Fatigue and Distress from Social Networking Sites

Although social networking has become a global phenomenon of unforeseen dimension, recent accounts have drawn attention to its negative side effects, often described by the concept of psychological fatigue (Gartner 2011; Maier, et al. 2012). Psychological fatigue describes exhaustion that results from overstimulation, mental stress, and other factors. Most studies investigating negative consequences of social networking sites use are descriptive (Debatin, et al. 2009; Griffiths 2012; Brandtzaeg, et al. 2010) and only a few of them are empirical (Turel & Serenko 2012; Maier, et al. 2012). None of them appears to comprehensively capture the broadness of social networking fatigue. Brandtzaeg et al. (2010) and Debatin et al. (2009) showed how Facebook causes privacy threats, whereas Griffiths (2012) emphasized Facebook addiction. In addition, Turel and Serenko (2012) empirically tested how habit and perceived enjoyment of SNS result in technology-based addiction. Concerning user fatigue in Facebook, Maier, et al. (2012) have produced one of the most promising studies, empirically validating how an increase of the social network structure causes social overload that in turn creates psychological strain. However, Maier, et al. (2012) only considered social overload as the stressor. Anecdotal evidence seems to suggest that other factors can create stress in using SNS as well. This study seeks to create a comprehensive typology of distress factors that users experience in social networking environment.

2.3 Expectation Disconfirmation

Expectation Disconfirmation Theory (Oliver 1997; Bhattacharjee 2001) posits that users' post-adoption decision is influenced by their prior expectation and actual performance. In other words, user satisfaction level is affected by the discrepancy between gratification sought and gratification obtained. If user expectations are positively disconfirmed, satisfaction will rise. If it is negatively disconfirmed dissatisfaction should increase (Bhattacharjee 2001; Oliver 1997; Shi, et al. 2010; Liao, et al. 2011; Lankton & McKnight 2012).

3 TYPOLOGY OF GRATIFICATION AND FATIGUE FACTORS

Drawing on Uses and Gratifications Theory, as well as on research concerning psychological fatigue, we sought to identify a typology of factors resulting in gratification or fatigue, so as to formulate a comprehensive model of use continuation or discontinuation.

3.1 Identification of Gratification Factors (Web of Knowledge Search)

The literature has identified a range of factors that explain user gratification with media use. To create a typology of key factors, a search of relevant literature was carried out as follows. Since this study targets user gratification factors associated with Facebook, a keyword based search of the ‘Web of Knowledge’ database was carried out, with the two key words ‘Uses and Gratifications’ and ‘Facebook’. The search revealed seven highly relevant articles, with altogether twenty-three factors. The factors showed some overlap, such as, users’ intention to ‘maintain social connection’ and ‘relationship’; or ‘seeking of new friends’ and ‘extending network. The 23 factors were thus combined into 9 aggregate factors as shown in Table 1. The table also shows the frequency of an aggregate factor was reported, e.g., relationship being reported 11 times. The three most salient aggregate factors, namely relationship, information seeking and entertainment, were then selected for subsequent modeling.

Factors	Authors							Aggregate Factor
	Joinson 2008	Nyland ^a et al. 2007	Ellison et al. 2006	Shi et. al. 2000	Tosun 2012	Zhang et al. 2011	Kim et al. 2011	
Social connection	√							Relationship (11)
Maintain relationship		√			√			
Maintain offline contact			√	√				
Meet new people		√	√	√	√			
Network extension						√		
Seeking friends							√	
Information seeking			√	√			√	Information seeking (5)
Content gratification	√							
Media creation		√						
Photography	√				√			Photography (2)
Entertainment		√	√	√	√	√	√	Entertainment (6)
Shared identities	√							
Express true self					√			Self-expression (3)
Recognition						√		
Social investigation	√							Social surveillance (4)
Passive observation					√			
Social surveillance						√		
Seeking convenience							√	
Social network surfing	√							Social network surfing (1)
Status update	√							Status update (1)
Social events	√							Organizing social activities (3)
Organizing social activities					√			
Seeking social support							√	

Table 1. Summary of selected research on the motivation to use the Facebook social networking site

3.2 Identification of Distress Factors Using Thematic Analysis

Without a comprehensive literature base concerning distress factors, we sought an alternative approach to create a typology of use based distress in Facebook, applying Thematic Analysis (Aronson 1994; Barun & Clarke 2006). Thematic analysis is a qualitative research method that analyzes data by identifying patterns and organizing them into themes (Rizk, et al. 2009). It has been identified as a good investigation technique when little is known about an issue. Since the current investigation is not well documented in past literature, we adopt methods from Thematic Analysis to identify distress factors in SNS. The goal of thematic analysis is to find the ‘latent content’ (Bryman 2012) which refers to a thematic unit or single thought unit indicating the key message of the information.

Applying the mechanisms of thematic analysis, we used the Google search engine to elicit key themes. The key benefit of this approach is to allow the collection of real-time and unedited user comments and reactions from a diverse population (Arshad 2010). We chose six key concepts related to distress in Facebook use, namely ‘Facebook fatigue’, ‘Facebook dissatisfaction’, ‘Facebook deactivate’, ‘Facebook delete’, ‘Facebook fad’, and ‘Facebook quit’ to search for relevant themes. In an attempt to seek high relevancy results, it was decided ex ante to only consider first thirty responses for each search. Refinement of the results identified 31 websites and 143 data points that firmly reported negative feelings regarding Facebook use. Further elimination of irrelevant and incomplete items led to 111 data points considered for coding.

For the development of codes, we adopted an inductive approach in line with the exploratory nature of the study context. In an inductive approach, codes are considered as the key features of the data that is of analytic interest to the researcher and is a basic element of raw information (Arshad 2010, p. 56; Boyatzis 1998, p.30) i.e. the key message in the text (Coffey & Atkinson 1996, p.27). For an example, “instead of working on an essay, I would waste time browsing people’s walls” was coded by ‘productivity compromise’ (a code for ‘SNS-Work Conflict’). To separate code development and code use, the first six websites of the data set were used for developing the coding scheme¹. These codes were then applied to categorize the remaining data points. In the end, fifteen codes were identified. Thereafter all the codes were reviewed for similarity. Similar codes were grouped into themes. Thus, five themes emerged: privacy infringement, SNS-work conflict, information overload, difficulty of configurability, and infringement on real-world relationships.

4 RESEARCH MODEL AND HYPOTHESES DEVELOPMENT

The analysis in the previous section identified three most salient aggregate factors of user motives associated with gratification, namely relationships (social dimension), entertainment (hedonic dimension) and information seeking (cognitive dimension). These dimensions are consistent with previous studies on Uses and Gratifications in new media use (e.g., Katz et al. 1973; Ali-Hassan & Nevo 2009). While the social dimension describes the motivation to form new relationships and to strengthen existing bonds, the hedonic dimension covers the need for pleasure and relief of tension. The cognitive dimension refers to information seeking, knowledge acquiring and understanding.

Dimensions	Gratification factors	Distress factors
Social	Relationship	Infringement of privacy, infringement on real-world relationships (relationship dissonance)
Hedonic	Entertainment	SNS-work conflict
Cognitive	Information seeking	Information overload
Technological	Ease of use	Difficulty of configurability

Table 2. Classification of the gratification and distress factors

The same three dimensions observed for uses and gratifications can also be applied to distress factors as shown in Table 2. To exemplify, a user’s objective to gratify social needs, as for instance by maintaining relationships over the SNS, may cause social overload (Maier, et al. 2012). Social

¹ Details of the coding procedure, scheme and results are available upon request.

overload is regarded as a psychological stressor. Furthermore, through interaction over the SNS, users may develop a sense of reciprocity and obligation to share a high amount of personal information with online “friends” (Lowry, et al., 2011, p.170), thus risking an invasion of privacy (Debatin, et al. 2009; Brandtzaeg, et al. 2010). In addition, spending too much time and concentrating on interaction over the SNS users may find less time to interact and participate in real-world activities (Nyland^b, et al. 2007). Thus, users’ pursuit of relationships over SNS may invade and negatively affect their real-world relationships. For the social dimension, we can combine privacy infringement and real world relationship infringement into one (formative) construct, namely relationship dissonance.

Over-use of social networking for hedonic purposes may lead to addiction (Turel & Serenko 2012; Kuss & Griffiths 2011) or considerable habitual use. Evidence suggests that hedonic use of SNSs disrupts users’ work or study (Kirschner & Karpinski 2010; HeathCareAsia 2012). Hence we recognize SNS-work conflict as a distress factor in the hedonic dimension. In the cognitive dimension, social networking site uses may experience information overload (Brandtzaeg et al. 2010, p.1022) as a distress factor (Eppler & Mengis 2003, p.10; Yang et al. 2003; Bawden & Robinson 2009). As a result, users may have to spend additional time and effort to acquire the desired information.

Among distress factors, we previously also identified difficulty of configurability, capturing challenges, related to the interface and customizability of the site. The existence of this factor suggests the formulation of a technological dimension. Surprisingly, no technical gratification factor was identified in the gratification-based literature. Hence, we added ease of use as an additional gratification factor, noting that ease of use is one of the prominent issues related to user acceptance of an information system (Davis, 1989). Given the research setting (post-adoption use) some may argue ‘ease of use’ is a weak predictor of intention to continue, however, concerning the high uncertainty of social networking platform in the form of emerging and rapid change in interface and privacy setting, adding ‘ease of use’ as a technological gratification variable is reasonable and valid in explaining user’s future intention. Moreover, this study models ‘disconfirmation of ease of use’ refers to user’s evaluative belief on technological dimension in post-adoption stage.

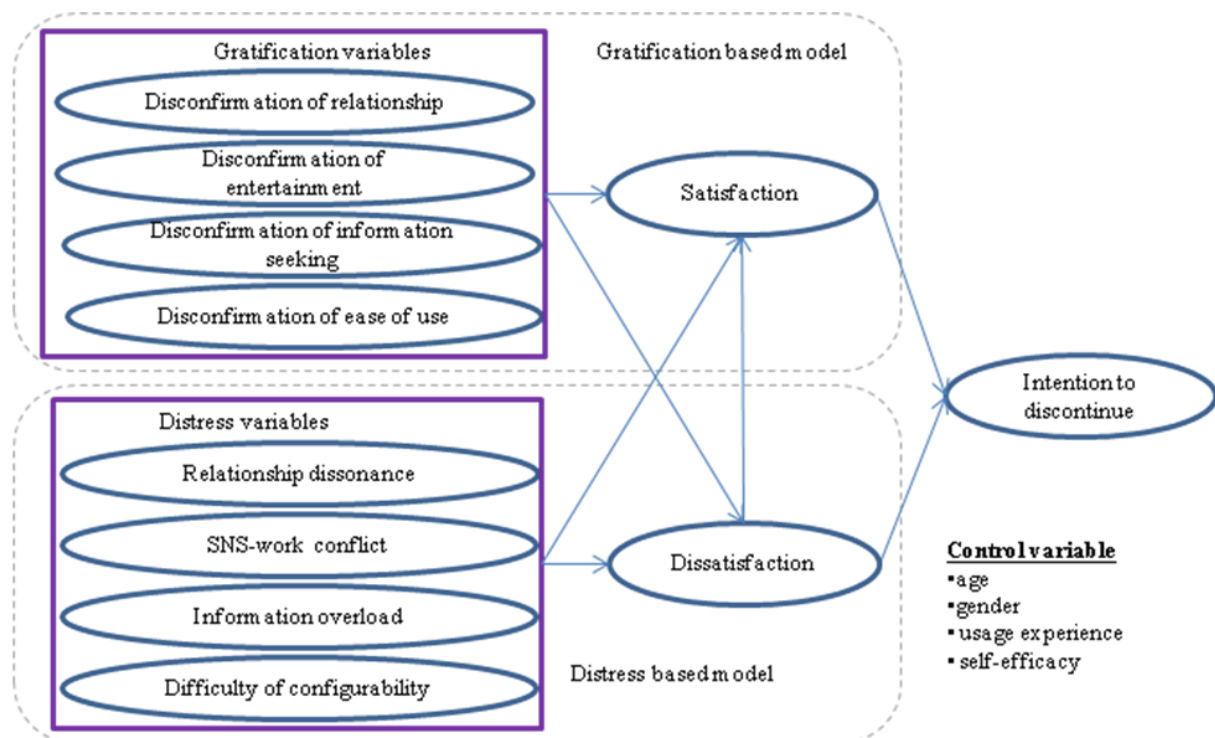


Figure 1. Proposed Research Model

To develop the research model for this study (Figure 1), we combine Uses and Gratifications Theory with Expectation Disconfirmation Theory (Rayburn & Palmgreen 1982; Shi et al. 2010). Our study uses two sets of contrasting beliefs and considers two contrasting affective reactions, namely satisfaction and dissatisfaction.

The prior literature on the continuation of technology use has been largely based on users' perceived usefulness and their affective response. It did not consider the rational value perspective (Kim, et al. 2011), that is, the users' assessment of obtaining net benefits from the tradeoff between benefits and costs. Benefits and costs can be financial or non-financial. Users who do not receive the benefit at the expected level, may form a negative attitude (Liao, et al. 2011) and increase dissatisfaction. Studies on employee turnover suggest that an individual's intention to continue or discontinue a job depends on his desire and scope (March & Simon 1958; Lee & Mitchell 1994, p.52). Here, user desire can be replaced by satisfaction with scope relating to possible alternatives (Jackofsky & Peters 1983). A satisfied user should be less attracted to alternatives (Kim, et al. 2011; Jones, et al. 2000) and refrain from actively searching for substitute sites (Mobley 1977). Past studies (Hulin, et al. 1985; March & Simon 1958) confirm this understanding that a decrease in satisfaction and attraction to alternatives are the two leading causes of (employee) turnover. Therefore, our study hypothesizes that satisfaction negatively and dissatisfaction positively influence user intention to discontinue SNS use, and that dissatisfaction and satisfaction affect each other negatively. The entire model is shown in Figure 1. Four control variables are expected to augment the analysis, namely: age, gender, usage experience and self-efficacy belief. All model constructs are described briefly in Table 3.

Construct	Definition	Source
Relationship	Individual's inclination to form and maintain long-term relationships with others through the social networking site (here Facebook).	Lampe et al. (2008) (adapted)
Entertainment	Extent to which the activity of using the social networking site is perceived to be enjoyable in its own right.	Davis et al., (1992) (adapted)
Information seeking	Need that drives individual to search, obtain information and to acquire new information through the social networking site.	Self-developed
Ease of use	Degree to which a person believes that using an information system, here the Facebook site, would be free of effort.	Davis (1989)
Relationship dissonance	Extent to which users perceive discomfort in interacting with others through social networking sites is due to the possible perceived threats of invading their personal lives.	Self-developed
Infringement of privacy	Degree to which users perceive a breach of their privacy by the use of the social networking site.	Ayyagari et al., (2011)
Infringement on real-world relationships	Degree to which users perceive that their real-world relationships have been compromised due to use of the social networking site.	Self-developed
SNS-work conflict	Extent to which users perceive that the use of the social networking site conflicts with their work. Here, "work" also includes work-like activities such as study, or other non-hedonic activities.	Turel et al., (2011) (adapted)
Information overload	Person's difficulty in understanding an issue and making decisions, caused by the presence of too much information.	Yang et al., (2003)
Difficulty of configurability	Extent to which users perceive difficulty to understand and configure different features of the social networking site.	Self-developed
Satisfaction	Feeling of pleasure that results from aggregating all the benefits that a person hopes to receive from interaction with the information systems.	Seddon and Kiew, (2007)
Dissatisfaction	Users' negative state of affective response resulting from disconfirmation of pre-expectations and cost of using a system.	Seddon and Kiew, (2007) (adapted)
Intention to Discontinue	Users' intention to decrease their social networking site use intensity or to deactivate their accounts.	Maier et al. (2012)
Self-efficacy	Individual's perception of his/her ability to use a social networking site to gratify his/her need.	Compeau and Higgins (1995) (adapted)

Table 3. Summary of research constructs

The model (Figure 1) is intended to be tested with a cross-sectional data set collected from Facebook users, and analyzed by PLS. Before proceed to final data collection, a pre-test will be performed; hence a questionnaire has already been developed.

5 THEORETICAL AND PRACTICAL CONTRIBUTION

This study is research in progress, and empirical results are yet missing. Nonetheless, several practical and theoretical implications are emerging already. The past literature on SNS only focused on one side of human psychology, i.e. user gratification and satisfaction. However, it appears that the analysis of user gratification cannot fully capture the nature of post-adoption behavior. Therefore, this work sets out to study gratification and distress and resulting satisfaction or dissatisfaction as opposing construct. The article identified distress factors and described how these factors should influence users' decision-making. The empirical analysis may lead to new insights with relevance for the future development of Facebook and other SNSs. Moreover, this study may contribute in theory at least in two ways. First, whereas past literature identified three dimensions of uses and gratifications, we have added a fourth, technological dimension. Second, past studies were reluctant to measure dissatisfaction directly and instead considered satisfaction and dissatisfaction as two extremes of one continuum. Therefore identifying separate distress factors in SNS is expected to better explain user attitudes and post-adoption behaviors, by providing a model that has stronger explanatory and predictive power.

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