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# Nonadopters of Online Social Network Services: Is It Easy to Have Fun Yet?

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Abstract:

Although online social network services (OSNS), e.g., Facebook, Twitter, MySpace, LinkedIn, are enjoying rampant popularity, a subsection of the population (i.e., nonadopters) continues to forgo using them. Our study is one of the first to focus exclusively on what might motivate nonadopters to accept a widely adopted IT. By considering nonadopters' inertia within the context of early stages of innovation diffusion and incorporating status quo bias theory into well-established technology acceptance model (TAM) relationships, this study uncovers the finding that people who report that they do not use OSNS would use them if they thought OSNS were easier and more enjoyable to use, and if they were persuaded by others to use them. Our findings suggest these nonadopters do not see the usefulness of OSNS, risks of sharing personal information publically, or the perceived amount of effort in using OSNS as factors that influence potential acceptance and use of the technology. This study contributes to research by offering an integrated theoretical framework that updates TAM with status quo bias theory to study nonadopters and offers IS practice guidelines for OSNS providers to attract nonadopters to accept and use the technology.

**Keywords:** nonadopters, online social network services; non-acceptance; inertia; hedonic; social media; future use

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## I. INTRODUCTION

Online social network services (OSNS) refers to an integrative collection of telecommunication and computer networking technologies that allow users to build online, social, hedonic-oriented experiences by maintaining network resources within communities of individuals and sharing connections and interests with others [Parameswaran and Whinston, 2007]. Examples of OSNS include Facebook, MySpace, Twitter, and LinkedIn. As a widely popularized technology, OSNS provide platforms upon which individuals can build and share ideas, thoughts, and experiences, while gaining online, social, hedonic-oriented benefits [Boyd and Ellison, 2007]. Information Systems (IS) researchers consider OSNS a social, hedonic-oriented, technology because OSNS in general involves personal use for the fulfillment of enjoyable experiences in maintaining social networks online typically outside the work environment [Thambusamy et al., 2010].

People are joining OSNS en masse. Facebook reports it has surpassed 500 million active users, and Twitter claims more than 145 million users [Singh, 2010]. Among the hoard of users, a survey of those aged sixteen to twenty-five finds 89 percent claim to use OSNS [Bearne, 2007]. Yet despite its widespread use, some have not adopted OSNS; we define these individuals as nonadopters. Studies in consumer purchasing have found nonadopters of a service or product can differ from mainstream adopters in certain identifiable ways; e.g., nonadopters often have lower incomes, tend to have more brand loyalty, have less formal education, have fewer neurotic tendencies, and are more likely to ask others for advice [Uhl et al., 1970]. Given that nonadopters have been shown to differ from adopters on certain attributes, it follows that they might have different opinions when it comes to what would motivate them to accept and use OSNS, which makes this topic important to study.

This article asks: What factors would motivate nonadopters to accept and use a dominant IT—in this case OSNS? As a popular theoretical underpinning of technology acceptance, the technology acceptance model (TAM) [Davis et al., 1989] has been helpful in a variety of IS studies in predicting and explaining technology adoption behaviors in many contexts. Of particular relevance to our study, TAM has been useful as a theoretical basis for distinguishing the differences in the motivational factors between potential adopters and current users of workplace technology [Karahanna et al., 1999], as well as for examining user resistance to corporate IS [Kim and Kankanhalli, 2009], and the inhibiting effects of the reluctance to discontinue incumbent system usage given ingrained habits and preference for inertia [Polites and Karahanna, 2011]. In this study, we first position the nonadopter within the appropriate early stages of the innovation diffusion framework and then combine the perspectives of status quo bias theory with concepts illustrated in TAM for the context of OSNS, to examine whether patterns known in the literature to exist for IS adopters are similar for nonadopters. We have chosen OSNS as the research context because of its rapid acceptance among the general population and its prevalence and wide usage, yet equally important, because a sufficient segment of nonadopters exists.

Our study contributes to the adoption literature by providing initial understanding of nonadoption in the face of a widely popular technology (OSNS), a phenomenon that deserves systematic investigation [Polites and Karahanna, 2011]. Our study has practical implications for OSNS providers as well. Recruiting new users and convincing nonadopters to accept and use the technology is an economic necessity for OSNS providers to survive and extend their market share [Kim and Son, 2009; Reichheld and Schefter, 2000]. Our study suggests a set of practical guidelines OSNS providers could use to attract new users to accept and use the technology.

The next section of this article provides the theoretical background. First, based on the framework of innovation diffusion theory, we outline how some people tend not to accept and use a dominant technology. Then, within this framework, we introduce status quo bias theory to understand why people may not progress through innovation diffusion stages. We then introduce TAM modified for the nonadoption context in OSNS which incorporates the underpinnings of status quo bias theory. Subsequently, we put forth a research model tailored to the focal technology under consideration examining the perceptions of nonadopters that may motivate them to accept and use OSNS. A set of hypotheses are developed to test the model. Next, we present the research methodology and results. The article concludes with a discussion of the findings and implications for IS theory and practice.

## II. THEORETICAL BACKGROUND

As discussed above, OSNS have been growing in popularity over the last few years, with OSNS becoming so prevalent that nonadopters may chose to ignore it but are nevertheless aware that OSNS exists as a dominant IT.

Nonadoption may be due to a number of possible reasons: nonadopters may not think OSNS are useful or enjoyable, they see risk in its use, or they are too busy to learn more about it.

According to innovation diffusion theory, a new technology usually provides value to a certain target population of users. At a given point in time, technology adoption decisions typically fall along a continuum with people clustering in certain categories: innovators, early adopters, early majority adopters, late majority adopters, and nonadopters or yet-to-adopters. In this categorization, innovators are the first to adopt and nonadopters are the last. Some nonadopters will never adopt; however, studies show many of them eventually will become adopters [Uhl et al., 1970]. In our study, as we attempt to determine the factors that might motivate nonadopters to accept and use new technology, we will focus on those users who have not yet adopted it, and we call them *nonadopters* to reflect their current usage status.

To better understand how nonadopters might decide to become (late) adopters, we employ the lens of innovation diffusion to describe the process by which technology is typically accepted. According to the perspectives of innovation diffusion [Rogers, 2003], this process consists of several decision stages. In the first stage, *awareness,* individuals become aware of the new technology. Exposure can be passive when the individual learns of the technology by happenstance or active when the individual seeks it out to satisfy a particular need [Rogers, 2003]. Next is the *knowledge* stage, in which people learn how the technology functions and how to use it properly. Then comes the *evaluation* stage, in which individuals form an opinion about the technology, based on their direct or indirect experience with the technology and consider how the technology may be useful to them if they adopt it. Evaluation is followed by *trial:* the individual tries out the technology, and if the experience is positive, the individual may adopt the technology or transition into the *repeated use* stage. It is in this stage that individuals determine their overall satisfaction with the technology. If satisfied, this stage will typically lead to the final stage of individuals *continuing* (rather than discontinuing) using the technology [Bhattacherjee, 2001; Massey et al., 2007; Stafford et al., 2004].

Nonadopters may begin this process, but stall during one of the first three stages [Uhl et al., 1970]. Nonadopters might become aware of the technology and may generally know how it functions because of the hype generated by its popularity. Some nonadopters may even evaluate the technology, but fail to continue to the next stage of completing their evaluation involving trying, repeatedly using, and continuing to use (i.e., adopting) the technology. Technology can become fully adopted only through an ongoing, thoughtful acceptance of how it works [Bhattacherjee, 2001], which can happen only when users are willing to explore its benefits while assuming certain adoption risks and have taken the time and effort to build the skills and knowledge needed to make full use of the technology [Abrahamson, 1991]. Thus, we need to understand what attributes of the technology and its supporting environment cause nonadopters to overcome their stalling during the initial stages of this process and motivate them to subsequently accept and use the technology. This article attempts to address these issues in the context of OSNS.

During the awareness and knowledge stages of technology acceptance, individuals evaluate the costs and benefits of adoption. Studies of technology resisters in the workplace have found user resistance is influenced by initial assessments of expected consequences of use [Beaudry and Pinsonneault, 2005]. According to emotion-focused coping theory, the goals of nonadopters may be to maintain control over their emotions and stress levels, to restore stability, and to avoid emotional distress by minimizing the consequences of threatening situations—such as adopting a new technology [Folkman, 1992; Folkman and Moskowitz, 2000; Lazarus and Folkman, 1984]. When potential adopters reach the evaluation stage of adopting a new technology, they may weigh losses more than gains [Kahneman and Tversky, 1979], and, consistent with emotion-focused coping theory, they may give extra weight to their emotional attachment to sunk costs, social norms, and control needs [Kim and Kankanhalli, 2009], causing them to stay with their current approach and not accept and use a new technology.

Status quo bias theory helps further explain why people may get stuck in one of the earlier innovation diffusion decision stages. Through the lens of status quo bias theory, nonadopters may be people who explicitly decline, postpone, or are indifferent about the use of a technology [Joseph, 2005] and desire to maintain the status quo of nonuse [Kim and Kankanhalli, 2009; Polites and Karahanna, 2011, Samuelson and Zeckhauser, 1988]. One reason for nonadoption is that a new technology can disrupt normal behavior patterns [Ram, 1987]. Nonadopters may want to stay with the status quo [Kim and Kankanhalli, 2009], remaining in the current decision stage, and prefer to keep their current inertia and continue to use an incumbent system [Polites and Karahanna, 2011].

More generally, two types of obstacles for adopting a new technology exist: functional barriers and psychological barriers [Ram and Sheth, 1989]. Functional barriers include usage barriers where the technology is not compatible with users' existing routines; value barriers where the cost of use exceeds the benefits; and risk barriers where users are daunted by the physical, economic, and performance uncertainties of using the new technology [Ram and

Sheth, 1989]. Psychological barriers include tradition incompatibility when the use of the technology is inconsistent with social or other institutionalized traditions and image problems when the technology's use is viewed negatively by users [Ram and Sheth, 1989]. Studies of usage inertia propose similar barriers for examining what inhibits IS usage behavioral intentions [Polites and Karahanna, 2011]. Relevant to our study, status quo bias theory suggests that for nonadopters to accept and use a new technology, motivating factors, i.e., social and hedonic-oriented benefits along with manageable effort, risk, and time in the case of OSNS, may facilitate changes in a nonadopter's perceptions of a new yet-to-be-tried technology and encourage changes in their adoption inertia.

In the study of the nonadoption phenomenon, OSNS provide an excellent research context because of the pervasiveness of OSNS adoption and the presence of some who have not adopted the technology [Lenhart and Madden, 2007; Li and Bernoff, 2008]. OSNS can be classified as a social hedonic-oriented type of OSNS, because it is based on personal use and helps users attain a sense of hedonic fulfillment in achieving personal needs of social networking in a nonwork environment [Hu and Kettinger, 2008]. This is in contrast to more utilitarian technologies, which offer instrumental, task-oriented utility for job performance in organizational settings [Sun and Zhang, 2006; Van der Heijden, 2004]. The present research examines the factors that nonadopters would typically consider important in acceptance of OSNS: perceived usefulness, perceived ease of use, behavioral intentions, and perceived enjoyment. These factors are consistent with TAM [Davis, 1989; Davis et al., 1989; Venkatesh and Bala, 2008], modified to take into account the context of adoption of pleasure-oriented hedonic technology [Van der Heijden, 2004]. See Figure 1, which comprises the basis of the research model used in this study.

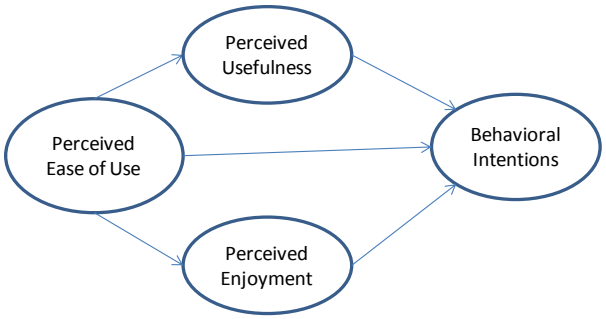


**Figure 1. Conceptual Model of Hedonic Systems Adoption [modified from Van der Heijden, 2004]**

## III. RESEARCH MODEL

The adoption of innovation is typically a "gradual, careful, and sustained process" [Abrahamson, 1991, p. 589] in which an individual acquires the knowledge and skills necessary to use the innovation and/or evaluate its acceptance. Because the ease with which a person is able to become skilled at using the technology may encourage the individual to try it out, this characteristic of the technology influences an individual's behavioral motivation for adopting it. Ideally, the individual would be a rational, independent decision maker when it comes to the adoption and continued usage of innovations [Simon, 1997]. This is not always the case in practice, however, as with the introduction of a new social hedonic-oriented technology such as OSNS. OSNS come with uncertainties in the usage environment, suggesting an individual with no usage experience who is evaluating whether to accept and use it may be motivated to adopt it not entirely based on the utilitarian payoffs but also on perceptions of the hedonic benefits in the fun and enjoyment the technology can fulfill [Van der Heijden, 2004]. Further, the individual may consult others regarding the adoption decision and may imitate them rather than rationally assessing the technology's utility. In some cases, an individual may approach an innovation simply because of the impact of social interactions and influences. Powerful social interactions or important others may exert considerable influence over whether an individual decides to adopt an innovation. By turning to his or her network of friends and acquaintances for advice on the new technology, the individual gains increased relational legitimacy, regardless of what the individual decides about adopting the innovation [Abrahamson, 1991; Rogers, 2003].

To address both the attributes of the technology and the attributes of the usage environment that may cause nonadopters to overcome the stalls in accepting and using new technology [Polites and Karahanna, 2011; Ram and Sheth, 1989], we propose a modified version of TAM. In IS research, there has been considerable empirical support for TAM [e.g., Agarwal and Karahanna, 2000; Karahanna et al., 2006; Venkatesh et al., 2003, 2007]. TAM is widely considered a "robust, powerful, and parsimonious model" for predicting and explaining user acceptance of an innovation [Venkatesh and Davis, 2000, p. 187]. In addition, "TAM consistently explains about 40% of the variance in individuals' intention to use an [information technology] and actual usage" [Venkatesh and Bala, 2008, p. 276]. TAM has been used to improve our understanding of the acceptance of social electronic technology and other new

technology, such as mobile chat services [Nysveen et al., 2005], cellular phones [Kwon and Chidambaram, 2000], and virtual communities [Lin, 2008]. Given TAM's strong ability to predict and explain acceptance decisions, it should also be able to help reveal what might motivate nonadopters to accept and use a new technology. Thus, we combine the perspectives of status quo bias theory with TAM to create a relatively complete picture of the process whereby nonadopters may come to accept and use OSNS.

Figure 2 depicts our research model. It includes the major factors involved in user technology acceptance, crafted to form a nomological network of causal relationships. Three of the factors included in Figure 2—perceived usefulness, perceived ease of use, and behavioral intentions—are drawn from early TAM studies [Davis, 1989; Davis et al., 1989]. The two TAM antecedent factors, the potential usefulness of the technology and ease of becoming skilled at using it, may provide the motivation for nonadopters' behavioral intentions of adoption or rejection. Five of the factors in Figure 2—perceived enjoyment, perceived social norm, perceived effort, perceived information risk, and work full time—are included based on status quo bias theory [Polites and Karahanna, 2011]. We specifically included perceived enjoyment with hedonic-oriented technology [e.g., Van der Heijden, 2004] and perceived social norm as adapted from the subjective norm concept [e.g., Gefen et al., 2003; Venkatesh et al., 2003] because they relate to the OSNS context. These constructs have also been shown to be significant antecedents of behavioral intentions in TAM-oriented studies, including when potential adoption scenarios are involved [Karahanna et al., 1999]. These prior studies and the fact that nonadopters may be motivated by the social and hedonic-oriented benefits of using OSNS in overcoming their current inertia toward its use, suggests including perceived enjoyment and social norms as direct motivators of intentions toward adoption in our research model, with perceived effort, information risk, and time included as control variables.

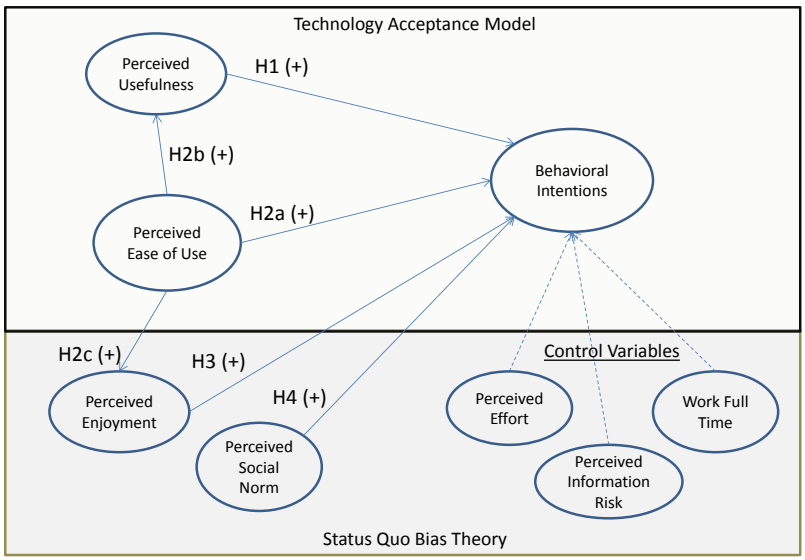


**Figure 2. Research Model of Potential Adoption of OSNS by Nonadopters**

To address the barriers that may keep nonadopters locked in status quo bias, the model includes the factors that are either functional or psychological barriers to adoption [Kim and Kankanhalli, 2009; Ram and Sheth, 1989; Rogers, 2003]. Functional barriers are perceived usefulness, perceived ease of use, perceived enjoyment, perceived effort, work full time, and perceived information risk, while psychological barriers include perceived social norms. According to the status quo bias theory, when nonadopters become aware of the effects of barriers to new technology, they may be willing to overcome the status quo bias and usage inertia to accept and use the new technology.

In the context of OSNS, the theoretical underpinnings and robust findings of the TAM literature predict that people will use OSNS if they judge them to be useful and easy to use. Because spending time on OSNS is a voluntary activity, people will choose to spend time on other forms of social activity if the OSNS are difficult to use or not useful at all. Further, OSNS is a sharing tool that appeals to users' social hedonic-oriented needs, meaning people will use OSNS if they find them fun and enjoyable and their friends are saying they should use them.

TAM suggests that people's intentions to use a new technology is influenced primarily by the new technology's perceived usefulness (defined as the extent to which people believe that using the new technology will enhance their performance) and perceived ease of use (defined as the degree to which people believe that using the new



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technology will be free of effort) [Davis, 1989]. According to status quo bias theory, individuals strive to keep their current way of doing things by viewing new alternatives negatively—forming cognitive misperceptions about the lack of benefits and the high costs of adoption [Samuelson and Zeckhauser, 1988]. Individuals in inertia may rely on past nonusage decisions to guide present evaluations of the innovation's usefulness or ease of use. These inertial situations can be overcome through changing nonadopters' perceptions through information interventions [Polites and Karahanna, 2011] during the awareness, knowledge, and evaluation stages of innovation diffusion. The information intervention should focus on alleviating nonadopters' concerns about the real or perceived benefits and costs of accepting the technology [Polites and Karahanna, 2011]. Thus, nonadopters' beliefs about the technology's benefits and costs (e.g., usefulness and ease of use) will influence whether they enter the adoption stage of innovation diffusion.

In the context of OSNS, nonadopters are currently in inertia and accepting the status quo by not moving toward technology acceptance. Within OSNS, usefulness is contextualized to mean the extent to which the focal technology is useful in enhancing individuals' social sharing needs. It should follow that, if nonadopters of OSNS perceive the technology would be useful and productive in establishing online social networks with people, enhancing their own effectiveness and improving their performance for social sharing, then they will overcome their status quo biases toward not adopting OSNS. It should also follow that if nonadopters of OSNS perceive the technology would be easy to use, easy to become skillful at, very clear and understandable, and easy to interact with, then they will overcome their status quo biases toward not adopting OSNS. In these cases, the nonadopters would be motivated to move to the next stage of innovation adoption and become late adopters, ultimately accepting and using the OSNS. Therefore, we hypothesize that:

*H1: Perceived usefulness will positively influence behavioral intentions to overcome current inertia to move toward technology acceptance.*

*H2a: Perceived ease of use will positively influence behavioral intentions to overcome current inertia to move toward technology acceptance.*

According to Davis et al. [1989], perceived ease of use influences perceived usefulness because increased ease of use leads to improved user performance. If an IS is easy to use, it is likely to save users' effort and help them achieve their goals more efficiently, and thus they perceive it as useful. Effort and time saved because a technology is easy to use may be redeployed to accomplish other tasks, even personal ones, enabling a person to accomplish more. When people can accomplish more with the technology due to its ease of use, they are likely to judge the technology even more useful. This is in accordance with the notion that both perceived ease of use and perceived usefulness are based on the nature of the IS with the ease of use to usefulness relationship empirically shown to hold across usage environments [Davis, 1989; Wu and Lederer, 2009]. Currently, nonadopters of OSNS are in inertia and accepting the status quo; however, if they believe that the OSNS technology is easy to use, this may improve their performance in building online social, hedonic-oriented experiences that help them maintain social resources and share common interests more efficiently. TAM predicts that potential adopters should be predisposed to think that a technology is more useful if it is easy to use because, as described above, an easy-to-use technology makes it possible for people to enhance their performance. Thus, as nonadopters consider the use of a new innovation such as OSNS, they should anticipate that if the OSNS is easy to use, easy to become skillful at, clear and understandable, and easy to interact with, then it should be more useful and productive in establishing online social networks, enhancing their own effectiveness and improving their social sharing. We hypothesize the following relationship:

*H2b: Perceived ease of use will positively influence perceived usefulness when overcoming current inertia to move toward technology acceptance.*

The consumer behavior literature distinguishes between utilitarian and hedonic goods [Hirschman and Holbrook 1982; Holbrook and Hirschman, 1982], which has led IS researchers to classify certain types of systems as hedonic [Chin et al., 2003; Van der Heijden, 2004]. The term *hedonic* indicates that pursuing pleasure or enjoyment is the purpose of the activity. Hedonic technology seeks to add usage value through providing pleasure or enjoyment, while utilitarian technology seeks to provide instrumental value through helping the user attain a goal, with one goal being increased task achievement. Hedonic technology's main purpose is not to support goal attainment, unless the goal is a hedonic outcome, but to provide a pleasurable environment where interacting with the technology is an end in itself. The objective of using hedonic technology is to have a fun enjoyable experience when using it.

Enjoyment of IS usage has been defined as "the extent to which the activity of using [an IS] is perceived to be enjoyable in its own right, apart from any performance consequences that may be anticipated" [Davis et al., 1992, p. 1113]. In the context of hedonic systems, the focus is on having an enjoyable user experience, implying that perceptions of the effort involved in using the technology is an important determinant of how users assess other

attributes of system usage, e.g., perceptions of achieving hedonic benefits, such as enjoyment. For adopters, empirical studies examining the hedonic nature of the Internet suggest that perceived ease of use influences overall usage perceptions [Atkinson and Kydd, 1997; Moon and Kim, 2001]. If nonadopters perceive a new hedonic technology, such as OSNS, will be easy to use, this may influence their perceptions of how enjoyable it would be to use it. Effort and time saved because a technology is easy to use may be used to pursue other enjoyable activities with an OSNS. When people are pleased with the technology because it is easy to use, they are likely to consider its use more enjoyable. For adopters, prior research has illustrated that with the use of hedonic technology, perceived enjoyment is influenced by perceived ease of use, because an easy-to-use technology makes it possible for people to extend their enjoyable experience with the technology [Van der Heijden, 2004]. Thus, it should also follow that if the nonadopters perceive the new technology, such as OSNS, would be easy to use, easy to become skillful at, clear and understandable, and easy to interact with, they may consider it to be more fun, interesting, exciting, and enjoyable to use. We hypothesize the following relationship:

*H2c: Perceived ease of use will positively influence perceived enjoyment when overcoming current inertia to move toward technology acceptance.*

As a social hedonic-oriented type of IS, OSNS is primarily used in a nonwork environment for personal needs where its major functions are to support, capture, and share individuals' experiences as users engage in pleasurable online social activities [Csikszentmihalyi, 1990; Thambusamy et al., 2010]. Adopters accept and use OSNS in order to experience the enjoyable, social, hedonic-oriented benefits provided by OSNS. Online interactions, as offered through OSNS, provide individuals fun activities that are often novel and exciting, which people find interesting and intriguing [Boyd and Ellison, 2007]. For adopters, prior research has found perceived enjoyment was a strong predictor of Internet usage [Moon and Kim, 2001; Van der Heijden, 2004]. In the case of nonadopters, these individuals may be aware of the hedonic-oriented enjoyable characteristics of OSNS usage as promoted by popular media coverage (e.g., the 2010 release of *The Social Network* movie by Columbia Pictures, etc.) and as talked about by their friends and colleagues given OSNS's wide-spread acceptance and use. It should follow that if nonadopters of OSNS perceive the technology would be thoroughly enjoyable to use, more fun, interesting, and exciting to use, then they would overcome their status quo biases and be motivated to become late adopters accepting and using the OSNS. Thus, we hypothesize the following relationship:

*H3: Perceived enjoyment will positively influence behavioral intentions to overcome current inertia to move toward technology acceptance.*

Psychological barriers of technology adoption involve the awareness of social norms promoting or inhibiting innovation acceptance and use. Researchers who have studied technology acceptance have included social norms as an important determinant of behavioral intention to accept a new technology [Davis et al., 1989; Taylor and Todd, 1995; Venkatesh and Davis, 2000]. If people who are important to a person think that the person should engage in a certain activity, then the person is much more likely to engage in it [Fishbein and Ajzen, 1975]. Under social norms, people may choose to imitate others and perform a behavior even if they do not have much chance to assess the outcome as long as people who are important to them think they should. That is, people are motivated to comply with the social norms of important others with respect to accepting and using a technology even with little evaluation of usage experience over the adoption decision. In the case of nonadopters of OSNS, it should follow that if the nonadopters perceive their friends who are important to them and whose opinions they value want them to accept and use the innovation, this may encourage them to overcome their status quo biases and be motivated to adopt the new technology. We hypothesize the following relationship:

*H4: Perceived social norms will positively influence behavioral intentions to overcome current inertia to move toward technology acceptance.*

## IV. RESEARCH METHODOLOGY AND RESULTS

This study examines what would motivate nonadopters to accept and use OSNS. We deemed a survey of nonadopters to be an effective method for capturing the proposed antecedents and causal paths of intentions to use a social hedonic-oriented technology. The sample, procedure, measures, and analysis are presented below.

### Sample and Procedure

An online survey was administered which consisted of questions capturing the eight constructs encompassed in the research model. The target population for this study is OSNS nonadopters with Internet access. We sampled from undergraduate and graduate students enrolled in three large universities in North America, as college students are considered a major OSNS user group [Lenhart and Madden, 2007; Li and Bernoff, 2008]. A total of 1365 students were asked to report whether they had adopted OSNS, with 1235 respondents stating they had adopted and used OSNS and 130 students stating they did not. With confidentiality ensured, all 1365 students received credit for responding to the screening request. Of the 130 surveys from nonadopters, 126 usable responses remained after

removing from the data set those who did not complete the survey in its entirety. Thus, of the entire 1365 students comprising the population sample, only 10.5 percent were OSNS nonadopters. This supports the notion that this technology is widely and pervasively adopted. We asked the nonadopters if they were aware of any OSNS, and 119 (92 percent) stated they knew of one or more from a list of fifteen different OSNS currently available on the Internet. This supports the notion that these nonadopters were at least somewhat aware of OSNS but chose not to adopt them at the time of this survey.

Given the survey was conducted at the individual level, additional data related to OSNS usage including work status, work experience, college major, and perceptions of information risks and usage effort was gathered. Table 1 provides the individual demographic profile of respondents who participated in this survey and reported they were not using OSNS. Beyond overall characteristics, Table 1 reveals that the nonadopters represent many demographic categories. Students completed the survey at their convenience after being provided an online address and receiving course credit for their voluntary participation.

**Table 1: Profile of Nonadopting Survey Participants**

| Demographic Variables | Category | Count (n = 126) |
|---|---|---|
| Gender | Male | 52 |
| | Female | 74 |
| Ethnicity | White | 61 |
| | African-American | 50 |
| | Hispanic | 1 |
| | Asian | 9 |
| | Other | 5 |
| Year in School | Freshman | 18 |
| | Sophomore | 29 |
| | Junior | 48 |
| | Senior | 25 |
| | Masters | 6 |
| Work Full Time | Work Full time | 55 |
| | Do Not Work Full time | 71 |
| Work Experience | < 1 year | 35 |
| | 1–3 years | 6 |
| | 3–5 years | 27 |
| | 5–7 years | 17 |
| | 7–10 years | 9 |
| | Over 10 years | 7 |
| | Not reported | 25 |
| Age | 18–21 | 48 |
| | 22–25 | 21 |
| | 26–29 | 17 |
| | 30–33 | 12 |
| | 34–37 | 8 |
| | 38–41 | 9 |
| | 42–52 | 11 |

## Measures

Measures were primarily adapted from previously validated scales, and multi-item scales were used to improve reliability and validity of measurement. The Appendix illustrates the measurement scales, definitions, and literature sources of each construct. The online survey was developed following standard instrument construction procedures [e.g., Boudreau et al., 2001; Churchill, 1979; Moore and Benbasat, 1991; Straub, 1989; Straub et al., 2004]. First, a series of semistructured interviews with OSNS nonadopters were conducted to assess the content validity of the survey items. The generated scales were refined to achieve acceptable inner-rater reliability through sharing with field experts, faculty members, and doctoral students; second, scales were refined through an item-sorting exercise to evaluate discriminant validity; and third, a pilot study was undertaken to test for psychometric properties of survey items via exploratory factor analysis and confirmatory factor analysis.

## Analysis

To establish the nomological validity of the research model, we chose partial least squares (PLS) [Chin, 1998; Chin et al., 2003]. The psychometric properties of the scales were assessed within the context of the structural model for

convergent and discriminant validity and reliability. In PLS, statistical significance was determined using two-tailed tests based on the bootstrap resampling method with 200 samples.

The psychometric properties of the measurement model were confirmed prior to examining the structural model parameters [Anderson and Gerbing, 1988; Chin, 1998; Chin et al., 2003]. To confirm the psychometric properties, the convergent and discriminant validity (via item loading), as well as the reliability and internal consistency (via Cronbach's alpha) of the measures must be established [Chin, 1998; Chin et al., 2003; Gefen and Straub, 2005]. The psychometric properties of the scales were assessed in terms of item loadings, internal consistency, and discriminant validity (Tables 2, 3, and 4). Item loadings and internal consistencies or reliabilities must be greater than .70 to be considered acceptable [Chin, 1998; Chin et al., 2003; Fornell and Larker, 1981; Nunally, 1979]. As can be observed from the factor loadings and cross-loadings in Table 4 and the reliability scores in Table 2, scales used in this study meet the criteria for acceptability. Also as shown in Table 4, no undesirable cross-loadings emerged. Thus, the scales exhibit good internal consistency and reliability.

Convergent validity was examined at the individual-item level, as discussed above, and at the construct level. Average variance extracted (AVE) was utilized to assess convergent validity at the construct level [Chin, 1998; Chin et al., 2003; Fornell and Larker, 1981]. As shown in Table 3, all AVEs surpassed the recommended .50 threshold [Nunally, 1979]. Each scale demonstrated convergent validity at the individual-item and construct levels.

**Table 2: Descriptive Statistics for Variables**

| Study Variables | Reliability[#] (Number of Items) | Mean[^] | Std. Dev. |
|---|---|---|---|
| Exogenous Constructs | | | |
| Perceived Usefulness (Useful) | .96 (4) | 4.84 | 1.53 |
| Perceived Enjoyment (Enjoy) | .98 (4) | 4.89 | 1.83 |
| Perceived Social Norm (Social) | .90 (3) | 3.79 | 1.66 |
| Perceived Ease of Use (Ease) | .97 (4) | 4.47 | 1.86 |
| Control | | | |
| Perceived Effort (Effort) | .92 (4) | 4.44 | 1.68 |
| Perceived Information Risk (Info Risk) | .95 (4) | 5.37 | 1.71 |
| Work Full Time (1 = Yes; 2 = No) | 1.00 (1) | 1.56 | .50 |
| Endogenous Construct | | | |
| Behavioral Intentions | .98 (3) | 4.11 | 1.93 |

*Notes:* [#] Cronbach's alpha is reported.
[^] All constructs are measured using a 7-point scale, except where noted. Mean and std. dev. are calculated based on average of items for each construct.

**Table 3: Intercorrelations Among Study Variables**

| | Behavioral Intention | Ease of Use | Effort | Infor-mation Risk | Social Norm | Use-fulness | Work Full Time |
|---|---|---|---|---|---|---|---|
| Behavioral Intention | **.96** | | | | | | |
| Ease of Use | 0.71 | **.93** | | | | | |
| Effort | 0.49 | 0.65 | **.80** | | | | |
| Information Risk | 0.17 | 0.19 | 0.12 | **.86** | | | |
| Social Norm | 0.55 | 0.51 | 0.25 | 0.12 | **.84** | | |
| Usefulness | 0.63 | 0.65 | 0.52 | 0.21 | 0.60 | **.89** | |
| Work Full Time | 0.22 | 0.16 | 0.00 | 0.17 | 0.30 | 0.19 | **1.00** |

*Note:* Pearson correlation coefficients are reported with coefficients > 0.200 significant at $p < 0.01$; > 0.150 significant at $p < 0.05$. Average variance extracted is in bold.

Discriminant validity was assessed by comparing the AVE associated with each construct to the correlations among constructs [Fornell and Larker, 1981]. In order to claim discriminant validity, the square root of the AVE associated with a particular construct must be greater than its correlations with other constructs [Fornell and Larker, 1981]. The estimates provided in Table 3 show that each construct is sufficiently different from the other constructs and, therefore, the measures demonstrate discriminant validity. Given the strong evidence for convergent and discriminant validity, the measurement model was deemed acceptable.

## Results

Figure 3 illustrates the results of the structural model analysis, showing path coefficients and explained variance. Prior to examining the hypothesized relationships, we examined the individual demographic variables by running regressions of the behavioral intentions construct on each variable separately. We found one significant variable,

**Table 4: Factor Loadings and Cross-Loadings**

| | Usefulness | Ease of Use | Enjoyment | Social Norms | Effort | Info Risk |
|---|---|---|---|---|---|---|
| Useful1 | **0.79** | 0.12 | 0.27 | 0.27 | 0.24 | 0.16 |
| Useful2 | **0.83** | 0.11 | 0.23 | 0.25 | 0.19 | 0.06 |
| Useful3 | **0.81** | 0.32 | 0.27 | 0.21 | 0.22 | 0.06 |
| Useful4 | **0.79** | 0.33 | 0.26 | 0.23 | 0.23 | 0.08 |
| Ease1 | 0.22 | **0.78** | 0.35 | 0.21 | 0.30 | 0.10 |
| Ease2 | 0.26 | **0.75** | 0.38 | 0.24 | 0.29 | 0.09 |
| Ease3 | 0.25 | **0.76** | 0.37 | 0.19 | 0.30 | 0.04 |
| Ease4 | 0.25 | **0.75** | 0.40 | 0.18 | 0.34 | 0.06 |
| Enjoy1 | 0.28 | 0.31 | **0.84** | 0.19 | 0.15 | 0.13 |
| Enjoy2 | 0.27 | 0.24 | **0.82** | 0.17 | 0.27 | 0.10 |
| Enjoy3 | 0.25 | 0.32 | **0.83** | 0.20 | 0.17 | 0.15 |
| Enjoy4 | 0.26 | 0.30 | **0.81** | 0.20 | 0.27 | 0.13 |
| Social1 | 0.10 | 0.19 | 0.14 | **0.87** | 0.12 | 0.01 |
| Social2 | 0.33 | 0.14 | 0.20 | **0.84** | 0.02 | 0.03 |
| Social3 | 0.36 | 0.17 | 0.20 | **0.80** | 0.00 | 0.08 |
| Effort1 | 0.23 | 0.27 | 0.18 | 0.06 | **0.81** | 0.07 |
| Effort2 | 0.15 | 0.45 | 0.04 | 0.16 | **0.77** | 0.06 |
| Effort3 | 0.18 | 0.12 | 0.25 | 0.00 | **0.86** | 0.01 |
| Effort4 | 0.14 | 0.13 | 0.18 | 0.00 | **0.86** | 0.01 |
| InfoRisk1 | 0.10 | 0.00 | 0.02 | 0.02 | 0.01 | **0.93** |
| InfoRisk2 | 0.06 | -0.02 | 0.10 | -0.01 | 0.09 | **0.92** |
| InfoRisk3 | 0.09 | 0.07 | 0.13 | 0.07 | 0.01 | **0.92** |
| InfoRisk4 | 0.01 | 0.14 | 0.08 | 0.03 | 0.01 | **0.91** |

*Note:* No items were removed.

work full time, which we included in subsequent analyses as a control variable. Working full time may be a time constraint that influences a nonadopter's intent to use OSNS, especially for students (e.g., being a student and work full time), and it may be some other attribute of working full time that is the "constraining" factor, e.g., getting ones needs for people interaction met at work, especially for nonstudents. We believed that potential users of OSNS may be influenced in their intentions to use these services by not only working full-time, but also the fear of exposing personal information publically, and the level of effort required to learn to use them [Lenhart and Madden, 2007; Li and Bernoff, 2008]. Thus, we believed these factors were important enough to control for and we included them in the remaining analyses.

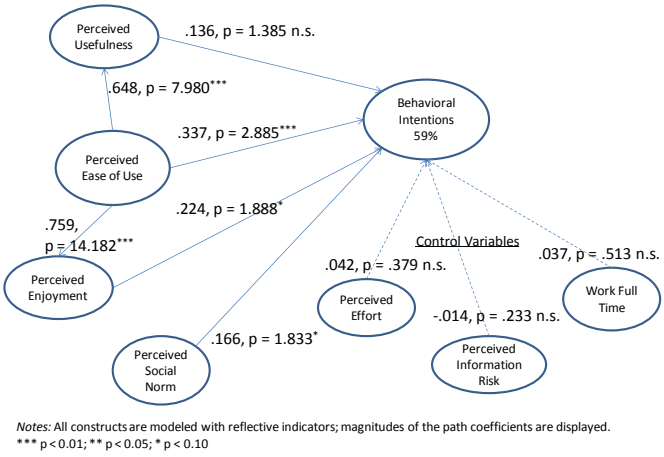


**Figure 3. PLS Results**

Contrary to predictions, perceived usefulness was not found to be a significant predictor of behavioral intentions (β = .136, p = n.s.), so H1 is not supported. Confirming expectations, perceived ease of use, perceived enjoyment, and perceived social norms were found to be significant predictors of behavioral intentions of nonadopters to use OSNS in the future (β = .337, p < .01; β = .224, p < .10; β = .166, p < .10, respectively), supporting H2a, H3, and H4. Also confirming expectations, perceived ease of use was found to influence perceived usefulness (β = .648, p < .01) and perceived enjoyment (β = .759, p < .01), supporting H2b and H2c. Furthermore, the relationships among perceived ease of use, perceived enjoyment, and perceived social norms explain 59 percent of the variance in the intentions of nonadopters to accept and use OSNS. None of the control variables were found to be significant predictors of behavioral intentions.

## V. DISCUSSIONS AND IMPLICATIONS

This study extends technology acceptance research to a context of nonadopters of OSNS by using an innovation diffusion framework and combining perspectives of status quo bias theory with well-established TAM relationships. Our research examined OSNS nonadopter decision making by applying a modified TAM in a specific context of OSNS, asking what would it take for nonadopters to consider accepting and using the widely-popular technology. We found that if the technology was easy to use, enjoyable, and championed by people whom nonadopters deemed important, they would consider accepting and using it. This suggests that in the case of OSNS, nonadopters want immediate gratification through easy-to-use and enjoyable activities and are influenced by their friends. Interestingly, OSNS nonadopters did not see usefulness of the technology in meeting personal needs for social networking as a motivator of its use. In addition, our control variables indicate that nonadopters did not perceive the risk of exposing personal information or the amount of effort to use it, or working full-time to be important in making decisions about whether to use OSNS.

Our study is one of the first to focus exclusively on what might motivate those lagging in adopting social hedonic-oriented technology (e.g., OSNS) to choose to accept and use it. The outcomes of this study are based on a survey of OSNS nonadopters who reported that although aware of the new technologies, they had not adopted them yet. We tested a research model based on TAM [Davis, 1989; Davis et al., 1989] incorporating prior findings on the use of hedonic technology [Van der Heijden, 2004], and the perspectives of status quo bias theory [Kim and Kankanhalli, 2009; Polites and Karahanna, 2011]. Our findings suggest that nonadopters may be willing to adopt OSNS if they thought the technology was easy, fun to use and if under social pressure to do so. Given the outcomes of this study for a social hedonic-oriented innovation, future studies should utilize similar conceptual approaches and further contextualize the research model to alternative settings to examine additional factors that might motivate nonadopters to become avid supporters of a widely-adopted technology innovation.

This study found that, contrary to predictions, perceived usefulness did not significantly predict the behavioral intentions of nonadopters when considering the acceptance and use of OSNS. We found that when it comes to adoption of an OSNS, it is more important that the technology is easy to use, enjoyable, and socially fashionable (influential people think one should use it) than that it is viewed as being useful. Thus, usefulness may not always be an important criterion for adopting a popular social media. Counter to our expectation, in the social relational context of OSNS, usefulness was not a significant criteria pushing the adoption of OSNS by prospective users, who were left unmotivated by the potential of the technology in establishing and maintaining online social networks. At least for initial adoption, ease and fun were more important than utilitarian social network management. This finding is consistent with prior studies of hedonic technology, which found perceived usefulness was less important than the other TAM variables in predicting behavioral intentions [Childers et al., 2001; Chin et al., 2003; Van Der Heijden, 2004]. This also suggests that measures of perceived usefulness in this context differ from those based on productivity-focused job performance in organizational settings. Although our usefulness items were tailored for the OSNS usage context, more research is needed to understand the facets of usefulness in social hedonic-oriented OSNS contexts.

An alternative explanation for the lack of significance of usefulness is that nonadopters of OSNS do not rate usefulness highly because they have not established usage experience with the technology, and thus do not have complete information on the usefulness of OSNS in assisting in the pursuit of social needs and tasks. While nonadopters have been aware of OSNS, and even have learned of its basic functions, they have not experienced dedicated hands-on interaction with the technology. Nonadopters do not have solid personal usage experience as the basis for a thorough evaluation of the usefulness of OSNS. Given the lack of a comprehensive evaluation of usefulness, nonadopters may continue to be indifferent about the use of a new technology [Joseph, 2005], desiring to maintain the status quo of nonuse and inertia [Kim and Kankanhalli, 2009; Polites and Karahanna, 2011, Samuelson and Zeckhauser, 1988]. Unless some other factor removes the obstacle of indifference toward the use of the technology, nonadopters will lack the motivation to adopt a new technology. Future studies should examine how nonadopters gather and assess preadoption information, especially as it relates to the usefulness of the technology, as they evaluate the factors that would motivate them to become technology adopters.

For IS theory, this study contributes to technology acceptance research in several ways. First, this study finds that innovation diffusion and status quo bias theory are helpful in predicting and explaining how nonadopters decide to accept and use social hedonic-oriented technology such as OSNS. Our study suggests that nonadopters have formed preadoption opinions that if a certain OSNS exhibited certain characteristics (e.g., it was easy to use, enjoyable to use, and important others suggested using it), then they would indeed be motivated to become adopters and move beyond their need to keep the status quo. Our study also shows there are OSNS characteristics that nonadopters do not consider important in motivating them to move to the next stage of innovation adoption and become late adopters (e.g., its usefulness, amount of effort to use it, relevant information disclosure risks, and if they are time constrained by working full time). It is worth noting that while not a major focus of this study, neither the amount of free time (whether the nonadopter worked full time), nor the amount of effort required in investing time to develop and engage with the OSNS content makes a difference to nonadopters in their motivations to accept and use OSNS. Also personal information disclosure risks do not appear to be an issue for adoption either, which is contrary to what the popular media might make the public believe [Bearne, 2007; Lenhart and Madden, 2007; Singh, 2010]. Second, TAM constructs along with perceived enjoyment explained 59 percent of the variance of nonadopters' behavioral intentions to accept and use OSNS. This study lends support to modifying TAM to include perceived enjoyment when the adoption of social hedonic-oriented technology that is pleasure-oriented is involved [Van der Heijden, 2004]. OSNS can be classified as pleasure-oriented because they are based on personal use and help users attain a sense of hedonic fulfillment in achieving personal needs [Hu and Kettinger, 2008].

This study offers a starting point for future research to build rich theoretically-derived models of the nonadoption of social hedonic-oriented IS. Past research suggests that some users naturally adopt control strategies and resist new technology [Kim and Kankanhalli, 2009; Polites and Kankanhalli, 2011] in order to maintain emotional stability, minimize the perceived threats of a new technology, and protect their personal effectiveness and efficiency [Beaudry and Pinsonneault, 2005; Lazarus and Folkman 1984]. We need to better understand these factors and what motivates people to leave behind incumbent technologies and inertial activities to adopt new technology solutions. Future studies can examine the underlying mechanisms fostering status quo bias and inertia and explore additional ways IS usage motivation of nonadopters can be explained and predicted. Also, while our study examined factors that were predicted to facilitate the removal of barriers toward adopting a new technology, future studies need to delineate additional barriers to technology acceptance and use. Psychological barriers of tradition incompatibility and image problems [Ram and Sheth, 1989] may exist with OSNS or other technology acceptance and usage scenarios. While our study encompassed several constructs conceptually associated with barrier factors, research is needed to understand the boundaries and contexts in which alternative usage barriers and the means to remove these barriers influence acceptance decisions of a new technology.

For IS practice, the findings of our study lay practical guidelines for OSNS providers to survive and extend their marketing base through attracting nonadopters to accept and use the technology. Our study suggests that, even as OSNS absorbs more of individuals' time and effort and exposes them to various information disclosure risks, nonadopters do not seem concerned much about these factors. Instead, they place greater expectations on OSNS to be easy and fun to use, and having important friends wanting them to use it. To attract nonadopters to overcome their inertia in nonadoption, OSNS providers may find it helpful to market how easy it is to learn to use the technology, how enjoyable it can be to use it, and how important people suggest using it. The results of our study suggest providers may need to consider publishing a "Facebook for Dummies"-type book which emphasizes that this technology is easy and enjoyable to use, and includes quotes from high-profile important people persuading and influencing nonadopters to accept and use the technology. OSNS providers could advertise the technology as widely-adopted, playing on social norms by using appropriate slogans, e.g., "Your best friends want you to join them online" or incentivize friends and family to recruit nonadopters to join. Furthermore, OSNS designers should emphasize the ease and fun characteristics of their sites by making hedonic content easy to find [Childers et al., 2001; Van der Heijden, 2004]. By knowing what would motivate nonadopters to accept and use OSNS, providers can target their advertising and enhance their site designs to extend their market base even further and maximize their revenue potential for long-term survival.

## Limitations

Although this study provides insight into the mechanisms that motivate nonadopters of OSNS to accept and use new technology, the study was limited in certain respects. While we believe our sample (college students) provided a solid foundation for testing the research model because of the prevalence of OSNS use in this population and their nonadoption status with the technology, it nevertheless does not represent the complete population of OSNS nonadopters. The sample did, however, enable a rigorous test of the underlying theory. Utilizing a relatively homogeneous group of individuals minimized the variation within the units of observation. As a result, we can attribute significant effects to the variables in the research model rather than to exogenous factors, increasing our confidence in the results. The next step will be to test the model with more heterogeneous groups of individual nonadopters of OSNS.

Another limitation of the study is that it asked participants about general OSNS usage rather than about particular types of OSNS. We chose to operationalize the variables at a more general level because our intention was to gain a broad picture of the OSNS nonadoption phenomenon. This choice, however, prevented us from determining how particular OSNS technologies and individual social styles influence adoption preferences. OSNS vary in their offerings, so particular sites could affect nonadopters' preferences in distinct ways. Future research should consider examining multiple online, social, hedonic-oriented technologies to compare and contrast the differences in motivational factors that would influence nonadopters to become adopters.

Finally, the use of cross-sectional self-reported data cannot provide conclusive evidence of temporal precedence. Moreover, common-response bias could have surfaced given the exclusive use of survey data. Although the measures exhibited convergent and discriminant validity, the relationships among variables could have been inflated. However, this does not seem a major concern in our study, as Harman's one-factor statistical test failed to indicate the presence of common-method variance [Podsakoff and Organ, 1986]. Future studies, however, are needed to validate these results using alternative research methods and across multiple time periods to capture a more complete understanding of this phenomenon.

## VI. CONCLUSION

OSNS is a widely popular and well-accepted social hedonic-oriented technology. In this study, we attempt to identify perceptual factors that may motivate OSNS nonadopters to accept and use the technology. Toward this goal, TAM is adapted and modified to include perceived enjoyment, which is derived from prior research of hedonic technology usage. We then use an innovation diffusion framework and combine perspectives of status quo bias theory with well-established TAM relationships to provide theoretical perspectives of how some people tend not to accept and use new technology. Data is presented from a survey of nonadopters and is used to test the proposed research model. The study empirically demonstrates that nonadopters evaluate potential usage outcomes of OSNS in terms of ease of use, enjoyment, and social influence. We find that nonadopters may overcome their reluctance to discontinue status quo bias given their ingrained habits and preference for inertia, in order to accept and use a new technology if properly motivated to do so. In accepting and using OSNS, nonadopters did not weigh the technology's usefulness, effort involved in use, time availability due to working full time, or the risks inherent in disclosing personal information as factors influencing future use. This study is one of the first to focus exclusively on what might motivate those lagging in adopting social hedonic-oriented technology to accept and use it. This study contributes to IS theory by illustrating a theoretically-derived research model that encourages additional studies on IS nonadoption and inertia. This study contributes to IS practice by offering practical guidelines for OSNS providers to attract nonadopters to accept and use the technology.

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*Editor's Note*: The following reference list contains hyperlinks to World Wide Web pages. Readers who have the ability to access the Web directly from their word processor or are reading the article on the Web, can gain direct access to these linked references. Readers are warned, however, that:

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## APPENDIX A: SURVEY ITEMS

*Notes:* Anchors for these scales are: 1 = Strongly Disagree; 2 = Disagree; 3 = Slightly Disagree; 4 = Neither Agree nor Disagree (Neutral); 5 = Slightly Agree; 6 = Agree; 7 = Strongly Agree.

**Table A-1: Survey Items**

| Construct/Definition | Item Wording | Literature Source |
|---|---|---|
| Status Quo Bias Theory | | |
| Perceived Enjoyment: Individuals' perception of pleasure and enjoyment when using OSNS | 1. I would use an OSNS if the service was very fun.<br>2. I would use an OSNS if the service was very interesting.<br>3. I would use an OSNS if the service was very exciting.<br>4. I would use an OSNS if the service was very enjoyable. | Agarwal and Karahanna, 2000<br>Csikszentmihalyi, 1990<br>Ghani and Deshpande, 1994 |
| Perceived Social Norms: The extent to which individuals believe that significant others think it important that they use OSNS | I would use an OSNS if ...<br>1. people who influence my behavior think I should.<br>2. people who are important to me think I should.<br>3. people whose opinions I value want me to do so. | Karahanna et al., 1999<br>Taylor and Todd, 1995<br>Venkatesh et al., 2003 |
| Perceived Effort: Individuals' perceptions of the extent to which they devote effort and time for the use OSNS | I would use an OSNS, if ...<br>1. there was not much work to do in keeping my profile up to date.<br>2. the effort that I must make to use was not very high.<br>3. it would not take me a lot of effort to maintain the information.<br>4. there was not much work to participate. | Kankanhalli, Yan, and Wei, 2005 |
| Perceived Informational Risk: Individuals' perceptions of informational risk when they use OSNS | If I were to use an OSNS, I would be concerned ...<br>1. that my personal information could be misused.<br>2. that my personal information could be made available to unknown parties.<br>3. about what others might do with my personal information.<br>4. that the personal information I post might be misused by others. | Dinev and Hart, 2006<br>Loch, Carr, and Warkentin, 1992<br>Pavlou, Liang, and Xue, 2007 |
| Technology Acceptance Model | | |
| Behavioral Intention: Individuals' intention to use OSNS in the future | 1. In the future, I am very likely to use OSNS.<br>2. I expect I will use OSNS in the future.<br>3. I intend to use OSNS in the future. | Davis, 1989<br>Gefen, Straub, and Boudreau, 2000<br>Venkatesh et al., 2003 |
| Perceived Usefulness: The extent to which individuals believe that using OSNS will enhance their performance in establishing online social sharing with people | 1. I would use an OSNS if it was useful in establishing online social networks with people.<br>2. I would use an OSNS if it was productive in establishing online social networks with people.<br>3. I would use an OSNS if it enhanced my effectiveness in establishing online social networks with people.<br>4. I would use an OSNS if it improved my performance in online establishing social networks with people. | Brenda and Nah, 2008<br>Brown and Duguid, 2001<br>Davis, 1989<br>Nahapiet and Ghoshal, 1998<br>Venkatesh et al., 2003 |
| Perceived Ease of Use: The degree to which individuals believe that using OSNS would be free of effort | 1. If it was very easy to use, I would use an OSNS.<br>2. If it was very easy for me to become skillful at it, I would use an OSNS.<br>3. If my interaction with it was very clear and understandable, I would use an OSNS.<br>4. If it was easy for me to interact with it, I would use an OSNS. | Davis, 1989<br>Gefen et al., 2000<br>Venkatesh et al., 2003 |

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