Toward an understanding of the behavioral intention to use a social networking site: An extension of task-technology fit to social-technology fit

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ARTICLE INFO	ABSTRACT
	Social networking sites (SNS) are one of the recent popular social media platforms. Successful SNS can attract millions of users in a few years, which has drawn much attention in the study of SNS. Understanding the relationships between a user's intention and the utilization of SNS is an essential step in engaging the SNS as a marketing or educational tool. However, current research models for technology acceptance can hardly explain the impact on the intention of using SNS from the perspective of technology fit due to the lack of social constructs. This study examines and compares the impact of task, social, and technology characteristics on users' intentions in using SNS by integrating the task-technology fit model and social capital theory. Data of 315 Facebook users were collected from the online questionnaire, and processed using the SmartPLS version 2.0 for path analysis and hypotheses tests. The results reveal that the social-technology fit has a dominant impact over the tasktechnology fit on users' intentions to employ SNS. For SNS research, it suggests a reconceptualization of the current task-technology fit model by adding social constructs if necessary.

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1. Introduction

Social networking sites (SNS) provide services for users to create their own profiles, share information, and interact with one another over the Internet. The rapid growth of SNS has significantly changed our daily lives and impacted our social interactions. Successful SNS such as Facebook, MySpace, LinkedIn, and Twitter could attract millions of users in a few years. This phenomenon has drawn much attention in the study of SNS for both industry and academia. SNS can be used for business and education settings. Organizations can use SNS as a tool for customer relationship management and as a channel for selling products and providing services. SNS can also be used for educational purposes. Educators can make good use of SNS to create learning environments to increase students' participation and to improve learning performance. Therefore, understanding the relationships between a user's intention and the utilization of SNS is an essential step in engaging the SNS as a marketing or educational tool.

The task-technology fit (TTF) model is a widely used theoretical model for evaluating how information technology leads to performance and usage impacts. For an information system to positively affect technology utilization, the technology must fit the task it

supports to have a performance impact, as depicted in Fig. 1 (Goodhue & Thompson, 1995). As shown in Fig. 1, we can observe that technology utilization is influenced by the fit between task characteristics and technology characteristics. Since its initial publication, the TTF model has been applied to various information systems (Dishaw & Strong, 1999; Kwai Fun IP & Wagner, 2008; Lin & Huang, 2008; Okoli & Oh, 2007; Zhou, Lu, & Wang, 2010; Zigurs & Buckland, 1998).

However, the information systems in previous studies all lacked social features. Therefore, little is known about using the TTF model to evaluate those information systems with social features, such as social networking sites. To date, the impact on the intention of using SNS from the perspective of technology fit is not completely clear.

When focusing on technology adoption, researchers tend to use the technology acceptance model (TAM) to examine how users come to accept and use a technology and what factors influence their decisions. Although the TAM has become a leading and highly cited model for over two decades, researchers share mixed opinions regarding its theoretical assumptions and practical effectiveness (Bagozzi, 2007; Nistor, 2013; Nistor, Schworm, & Werner, 2012; Pynoo et al., 2011). Bagozzi (2007) further indicated that the limitations of TAM, such as over-simplified constructs and two critical linkage gaps with the framework. In line with the thought of Bagozzi, it is unreasonable to expect that a simple model would explain behavior fully across a wide range of technologies and adoption situations. The application of the TTF model to

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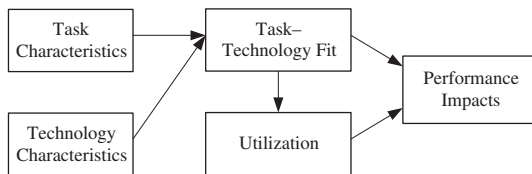
Fig. 1. The task-technology fit model.

complex contexts, such as social networking sites, can cause the same situation for its simple construct framework.

So far, there is insufficient research on the study of SNS acceptance based on the application of the TTF model. When the TTF model applies to SNS, the model may not be well suited as the TTF model itself does not address the social construct. To handle this, we extended the TTF model by combining it with a social construct adopted from social capital theory to conduct our study. In addition, the TTF model is focused on the impacts on task performance without addressing the factor of intention. To understand the impacts of technology fit on a user's intention, the intention construct was included in the proposed framework.

The rest of this paper is organized as follows: Section 2 gives a brief overview on the TTF model, the technology acceptance model, and social capital theory. Section 3 describes the research model and hypotheses of our study. Section 4 illustrates the methodology for research design and setting, measure instruments, data samples and analysis. Section 5 explains the experimental results. Section 6 discusses the relevant issues and reaches conclusions. Limitations and future research directions are finally given in Section 7.

2. Theoretical background

For studying technology acceptance and utilization, the technology acceptance model and the task-technology fit model are two of the most frequently employed models. The technology acceptance model (TAM) is widely used for explaining and predicting technology acceptance (Davis, 1989). Although it has become a highly cited model for the past two decades, some researchers regarded its theoretical accuracy of the TAM with skepticisms. Bagozzi (2007) presented an insightful paper for the analysis and critique of TAM and pointed out some limitations, such as its over-simplified constructs with two critical gaps in the framework. The intention-behavior linkage is uncritically assumed (Bagozzi, 2007). Hence, the ongoing studies on TAM tend to refine the framework by including other variables and modifying the relationships that it initially formulated as an extension to overcome its limitations. The unified theory of acceptance and use of technology (UTAUT) is one of the important extensions of TAM.

The UTAUT aims to explain user adoption and usage of an information technology by four factors: performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh, Morris, Davis, & Davis, 2003). The UTAUT was developed based on eight dominant theories and models: theory of reasoned action, technology acceptance model, motivational model, theory of planned behavior, an integrated model of planned behavior and technology acceptance, personal computer utilization model, innovation diffusion theory, and social cognitive theory. Although the UTAUT provides a thoughtful model, it comes with 41 independent variables for predicting intentions and at least 8 independent variables for predicting behavior, which reveals its weakness in including many splinters of knowledge to explain decision making (Bagozzi, 2007). In addition, the UTAUT was also criticized because it is less parsimonious than TAM (Van Raaij & Schepers, 2008).

The TTF model is widely used for explaining and predicting how the fit between task requirements and technology functions positively affects task performance and technology utilization. Both task characteristics and technology characteristics can affect the task-technology fit, which in turn determines users' performance and utilization. The fit of the technology to tasks is the degree to which the technology features match the task requirements. The TAM addresses the beliefs and attitude about technology, while the TTF model focuses on the fit between task characteristics and technology characteristics. The TAM replaces many of TRA's attitude measures with perceived usefulness (PU) and perceived ease of use (EOU). Past research has confirmed that the perceived EOU is also a function of task-technology fit (Mathieson & Keil, 1998). Combined models of technology acceptance and the task-technology fit have been developed (Chang, 2008; Dishaw & Strong, 1999; Yen, Wu, Cheng, & Huang, 2010; Zhou et al., 2010).

The TTF model still needs further studies to obtain more insights into its validation across different contexts. So far, it is still unclear if a good task-technology fit will impact a user's adoption of SNS and how well it will influence a user's adoption. It is unreasonable to expect a simple model which can adapt to the constantly changing information technology environments without modifications. Can we expect the TTF model to work for information technology with social functions? To answer this question, this study attempts to explore how the task-technology fit influence SNS adoption by including the social construct to the TTF model to analyze and compare the impacts of SNS adoption.

As the TTF model does not address social factors, this may limit its predictive ability for social networking technology. The limitation can be overcome by extending it with social capital theory. The concept of social capital draws insights from sociology and economics. There has been increasing interest in the study of social capital in the past decade, evidenced by its application to various areas (Colemen, 1988; Ellison, Steinfeld, & Lampe, 2007; Lin & Lu, 2011; Okoli & Oh, 2007; Wasko & Faraj, 2005).

When social capital comes to the study of SNS, attention was put on how SNS could be employed to build and maintain it (Pfeil, Arjan, & Zaphiris, 2009). Okoli and Oh (2007) investigated the impact of social capital in users' social networks on their recognition based performance. Wang and Chiang (2009) examined the continuance intention of websites by adopting the perspective of social interactions in online auctions. Their findings indicated interaction within a social context can influence both social capital and continuance intention to use. The relationship between the use of SNS and an individual's social capital has been identified in previous research (Ellison et al., 2007). Positive relationships between intensive use of Facebook and students' life satisfaction, social trust, civic engagement, and political participation were revealed (Valenzuela, Park, & Kee, 2009).

Social capital contains various entities by its function, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors (Colemen, 1988). It is multi-dimensional, and it includes various aspects of social context (Tsai & Ghoshal, 1998). Nahapiet and Ghoshal (1998) described different aspects of social contexts with three distinct dimensions: the structural dimension, the relational dimension, and the cognitive dimension. Although social capital can be considered in terms of the three dimensions, many of their features are highly interrelated.

The structural dimension concerns the properties of the social system and of the network of relations as a whole. It refers to the overall pattern of connections between actors, who you reach and how you reach them. Relational dimension focuses on the particular relations people have, such as respect and friendship, that influence their behavior. It refers to those assets created through relationships. Cognitive dimension refers to those resources providing shared representations, interpretations, and systems of meaning among parties. It represents an important set of assets