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The perspective of a revised TRAM on social capital building: The case of Facebook usage

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ABSTRACT

The author explored the factors that affect user's acceptance of Facebook by analyzing data provided in a survey of Facebook users (n = 346) using hypotheses based on the Technology Readiness and Acceptance Model (TRAM). In addition, he investigated the role of a revised TRAM on social capital building.

Results showed statistically significant support for the hypothesized model, indicating that positive and negative technology readiness (PTR and NTR) play an important role in the formation of *perceived ease of use* (PEOU), *perceived usefulness* (PU), and *perceived playfulness* (PP) as well as in generating the *intention to continue using* (ICU) Facebook and social capital building. However, NTR did not significantly affect PP.

The study also showed that ICU Facebook was mediated by users' PEOU, PU, and PP, and that social capital building was mediated by ICU Facebook. Theoretical and practical implications and limitations are discussed.

1. Introduction

Social networking, which uses a range of social media through *social networking sites* (SNSs), has few constraints on its growth. The most popular SNS in the USA, Facebook, has attracted more than 900 million users. Its rapid growth has drawn increasing attention to its potential in marketing-oriented industries.

The Technology Readiness and Acceptance Model (TRAM) [11] has been used to explain how consumer readiness to use a new technology influences beliefs about it [4,8,16]. Although SNS have existed for only a few years, their popularity and potential require an effort to identify and measure correlations and relationships among the factors posited by several theoretical models intended to help explain them. Research focusing on the social and psychological impact of social media [13,15] has yet to explain the relationship between technology acceptance on the part of SNS users and the building of social capital. This study was therefore designed to analyze, empirically, the relation between behavioral intentions and the intended outcomes of SNS usage. In particular, using a revised TRAM, the study explored factors affecting the acceptance of SNSs when applying the revised model to social capital building.

2. Literature review

2.1. The social networking sites environment

New developments in the IT industry have allowed online networking services based on user-generated content to evolve into SNSs such as MySpace, YouTube, Twitter, and Facebook. SNSs serve as platforms on which people can share ideas, experiences, and opinions.

SNSs are Internet-based *social interfaces*, which facilitate dissemination of information through familiarity. The social media ecosystem includes blogs, social networking services, message boards, Podcasts, Wikis, etc.; they supplement traditional media by providing communication with transparency. SNSs now provide easy social relations through microblogging media, outlets for opinions, and reflections on personal experiences.

2.2. Social capital theory and social networking sites

Social capital consists of resources that are accessed through social interactions; the emphasis on social relations distinguishes social from economic and human capital. They are generated and distributed in social networks, focusing on the role of social capital as an influence on both the development of human capital and the economic performance of firms, geographic regions, and nations. Social organizations, such as networks, norms, and trust, facilitate coordination and cooperation for mutual benefit, and social capital

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involves a mutual sense of reciprocity, participation, and trust that enables groups of people to live and work together successfully. Concepts such as trust and reciprocity play important roles as psychological resources that help us understand how the effects of social capital generate an individual's social capital. For example, reciprocity involves emotional support and a feeling of sharing and belonging.

Beaudoin and Thorson [1] studied the relationship between the use of mass media, social capital, and social participation, finding that social capital was closely related to social participation as a pro-social behavior. Many studies have focused on two crucial facets of social capital: how individuals perceive others in society and how they are reciprocally connected. A recent study, investigating the role of Facebook in building and maintaining social capital, found that it appeared to play an important role in this process among students [3]. Also, individuals seek to maintain and increase their social networks by using SNSs.

It therefore seemed reasonable to consider elements of social capital when investigating the relationship between the use of SNSs and social capital building; i.e., are SNSs involved in building social capital as a result of social trust, reciprocity, or social participation?

2.3. The revised TRAM

Much prior research used TRAM, focusing on analyzing relationships between personality traits and technology acceptance and how consumer readiness to use a new technology influenced user beliefs about it. The objective of IT systems is to help users understand and use them. SNS users' motivation to use is a desire to communicate with others, share information and content about their lives, and build relationships with others. My study explored the value of the TRAM model by focusing on IT-based functionality (e.g., new methods and content, etc.), provided by an SNS. TRAM's measurement tools were modified to fit the functionality provided by SNSs, and user *perception of usefulness*, *ease of use*, and *playfulness* served as mediated variables my study. Finally, a focus on social capital building as the intended outcome of SNS usage was followed by a focus on the intention to *continue using the system*.

Perhaps applying the model to the SNS environment had limited utility. Measuring users' desire for social connections by the user's intention to continue using (ICU) may be limited. However, the study provided new results by analyzing the relationship between behavioral intentions and its sub-factors (trust, reciprocity, and participation) associated with social capital building as intended outcomes of SNS usage.

It was important to account for how positive (PTR) and negative technology readiness (NTR) affected perceptions of usefulness, ease of use, and playfulness and enhanced users' ability to influence the process in desirable directions by revising the TRAM to reflect the new conditions of the SNS environment.

The Technology Readiness Index (TRI) measures an individual's readiness to use new technology based on four personality traits: optimism, innovativeness, discomfort, and insecurity; it applies to technology in general. Scores for these four traits differ among individuals, indicating different feelings about various technologies. Of the four, optimism and innovativeness are positive drivers of TR (*positive technology readiness* or PTR), while discomfort and insecurity are negative (resulting in NTR). Optimism indicates a belief that technology offers increased control, flexibility, learning, and efficiency. Innovativeness indicates a tendency to be a technology pioneer and thought leader. Discomfort indicates a perceived lack of control over technology (a being overwhelmed by it). Insecurity indicates distrust of technology and skepticism about its ability to work properly.

TRAM was the result of combining TAM with TRI [10]; it had been noticed that the personality traits of TRI were closely related to cognitive dimensions, such as PEOU and PU. While explaining the process of IT acceptance, the model suggests that user intention regarding acceptance is determined by PEOU, PU, and PP. The system ETAM (*extended* TAM) has been suggested as a supplemental model but some have considered it too simple because it overemphasizes user decisions [2,7].

3. Conceptual model and hypothesis

3.1. The TRI and components of the TAM

Many studies have concentrated on IT-related devices or tools in exploring individual behavior; e.g. [12]. The TRI construct can be viewed as measuring an overall state of mind resulting from a gestalt of mental enablers and inhibitors that determine a person's predisposition to use new technologies. But the original TRAM did not provide an adequate basis for studying the relationship between SNS users' technology acceptance and the building of social capital. Therefore, I revised the TRAM to reflect the new conditions of the SNS environment.

Studies using the original TRAM examined the relationship between the components of the TRI and PEOU and PU. Optimism, and innovativeness, as positive drivers of TR, were seen to be closely related to the PEOU and PU of a technology. Discomfort and insecurity as positive drivers of TR are negatively related to the PEOU and PU of a technology. Moreover, some research has found that optimism, innovativeness, discomfort, and insecurity play an important role in IT usage, and also that TR is a powerful factor with respect to satisfaction and behavioral intentions [9].

Many studies have explored PP as a cognitive factor [5]; it measures the pleasure and satisfaction derived from performing a behavior. It is reasonable to suppose that Facebook users participate in networking activity because the process yields fun, playfulness, and enjoyment. Perceived enjoyment has been shown to have a significant effect on Internet usage. Thus PP was added to the TRAM in my study.

Therefore, the components of TR and PP should have significant effects on consumer adoption and use of SNSs. According to general studies of positive (PTR) and negative technology readiness (NTR), other significant factors include PEOU, PU, and behavioral intention to use as indicators of acceptance. I assumed that the components of interactivity should also be added; therefore these were components of the revised TRAM that were the theoretical basis of my study. This resulted in the following hypotheses.

H1. Positive technology readiness (PTR) significantly influences Facebook users' perceived ease of use (PEOU) [H1-1], Facebook users' perceived usefulness (PU) [H1-2], and Facebook users' perceived playfulness (PP) [H1-3].

H2. Negative technology readiness (NTR) is negatively associated with Facebook users' perceived ease of use (PEOU) [H2-1], Facebook users' perceived usefulness (PU) [H2-2], and Facebook users' perceived playfulness (PP) [H2-3].

3.2. The TAM and the behavioral intention to use SNSs

Intention to continue using (ICU) a technology does not fully explain its use if external variables affect PEOU, PU, and even PP. Therefore, I hypothesized that PEOU affects PU, PP and behavioral intention to use at the same time.

H3. Facebook users' perceived ease of use (PEOU) has a significantly positive effect on perceived usefulness (PU).