

# Modeling Citizenship Behavior in Online Communities

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## Abstract

Drawing on social cognitive theory (SCT), this study postulates personal and environmental factors as key drivers of online community citizenship behavior (OCCB). OCCB is inherently moral in which the individual chooses to perform a behavior that is beneficial to others. Empirical testing of this model, by investigating undergraduate students' participation in interactive online games, confirms the applicability of SCT in online communities. This study contributes to the online community literature by extending IT self-efficacy and outcome expectations to the previously unexplored area of OCCB, by validating idiosyncratic drivers of OCCB and by performing an operationalization of normative and informational influence. The test results of this study indicate that IT self-efficacy only affects OCCB indirectly through the mediation of outcome expectations, while normative influence affects OCCB directly.

## INTRODUCTION

Online communities' sustainability counts heavily on the continuous participation of their members (Wasko and Faraj, 2000). Such participation is reflected in large by the community citizenship behavior of the members. Though citizenship behavior research has been historically conducted within the offline context of personal, face-to-face relationships or networks in organizations or institutions, there is increasing evidence that people use information technology (IT) (e.g., Internet) to demonstrate online citizenship behavior, which is comparable to that of face-to-face settings in a real world. For example, Internet-based IT such as Usenet news, discussion boards, online games, and listservs is used popularly to help build,

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foster, and maintain online communities (also called “virtual communities”), suggesting the importance of online community citizenship behaviors (OCCB).

OCCB refers to the development and propagation of online community norms, as well as the encouragement of socially proper conduct (e.g., Ahuja and Galvin, 2003; Bergquist and Ljungberg, 2001; Leimeister et al., 2005; Preece, 2004; Wasko and Faraj, 2005). OCCB is inherently moral in which the individual chooses to perform a behavior that is beneficial to others (Deckop, Cirka and Andersson, 2003; Peloza and Hassay, 2006). Given that citizenship behavior is beyond the specified role requirements that eventually benefit an online community (Posdakoff and Mackenzie, 1994), the emphasis on OCCB promotes the effective ethical functioning of the community. Nevertheless, given that citizenship challenges the basis and functioning of the basic institutions, state, and civil society (Grit, 2004; Bendek, 2002), OCCB has become an important moral tenet found in some codes of ethical principles in a virtual world (e.g., Deckop et al., 2003).

Whereas IT (e.g., Internet or mobile phones) is widely acknowledged as a social medium that connects people and builds relationships in online communities, little is known about why people perform positive OCCB. Contemporary models of IT usage, such as the technology acceptance model (TAM) (Davis, Bagozzi and Warshaw, 1989), the motivational model (MM) (Davis, Bagozzi and Warshaw, 1992), and the unified theory of acceptance and use of technology (UTAUT) (Venkatesh, Morris, Davis and Davis, 2003), have examined the role of IT for deriving utilitarian and/or hedonic outcomes, but they remain silent on its potential role for deriving OCCB. This study attempts to fill this gap in the literature by theoretically postulating a model of OCCB and then empirically testing this model via a survey of interactive online games in Taiwan. Interactive online games were chosen for this study, because this hedonic technology is a dominant means of establishing online communities among the younger population (Baron, 2005).

### **SOCIAL COGNITIVE THEORY AND RESEARCH MODEL**

To build a model of OCCB, this study draws from key postulates and findings in social cognitive theory (SCT) (Bandura, 2001). SCT has proven helpful for understanding individuals’ behavior in the IT context (Compeau, Higgins and Huff, 1999), and given its focus on social and cognitive processes that govern human behavior, it may be useful for understanding OCCB in the context of online communities. However, to the best of our knowledge, this theory has not previously been used to study OCCB performed in online communities based on, for example, Usenet news, instant messaging, online bulletin boards, or interactive online games.

SCT gives prominence to the concept of *self-efficacy*, defined as one’s belief in

an ability to perform a specific behavior. Theoretical support from self-efficacy also comes from the theory of planned behavior (TPB), which views self-efficacy as one dimension of the perceived behavioral control construct (Ajzen, 2002). In the IT context, *IT self-efficacy* can be defined as users' beliefs in their personal ability to use a given IT (Compeau et al., 1999). The notion of IT self-efficacy suggests that people's expectations of the positive outcomes of IT usage may not necessarily motivate their citizenship behavior, unless they believe in their ability to use the target IT properly.

IT self-efficacy plays a critical role in shaping individual users' behavior in an online community and is based on an individual's self-reflective capabilities and, stronger beliefs in one's ability to use a specific IT that may thus lead to greater levels of OCCB (e.g., Bandura, 1986). The positive relationship between users' IT self-efficacy and their subsequent IT usage behavior was empirically validated by many studies such as Taylor and Todd (1995), Hill, Smith and Mann (1987), and Compeau et al. (1999), and is likely to hold in the instance of OCCB as well. Thus, the first hypothesis is derived as below.

*H1: IT self-efficacy is positively related to OCCB.*

SCT postulates that individual behavior is the joint result of one's self-efficacy and his or her expectations of the outcomes (i.e., benefits). *Outcome expectations* can be defined herein as judgments of or beliefs about the likely consequences of enacting specific behaviors in online communities (e.g., Bandura, 1986). These beliefs are important, because online individuals generally do not perform specific citizenship behavior unless a positive outcome is expected from the community activities (e.g., Bandura, 2001).

Bandura (1986, 2001) proposed that behavior is best determined by not only self-efficacy, but also outcome expectations. This is particularly relevant when individuals' confidence does not guarantee good outcomes. Many studies regarding ethics or citizenship behavior have overlooked the outcome expectations while examining self-efficacy (e.g., Kuo and Hsu, 2001; Snipes, LaTour and Bliss, 1999). Therefore, the value of including outcome expectations measures in OCCB practices requires further testing. Collectively, the understanding of community members' behavior may be effectively enhanced by our assessing the joint contribution of IT self-efficacy and outcome expectations in online community contexts. Consequently, the hypothesis is proposed as follows.

*H2: Outcome expectations are positively related to OCCB.*

It has been postulated in SCT that self-efficacy influences one's perceptions of outcome expectations, because as Bandura (1978) states, "the outcomes one expects derive largely from judgments as to how well one can execute the requisite behavior"

(p.241). IT self-efficacy is expected to influence OCCB not only in a direct manner, but also indirectly, mediated by outcome expectations. Hence, the third hypothesis is developed in the following.

*H3: IT self-efficacy is positively related to outcome expectations.*

In addition to the above associations between personal factors (containing IT self-efficacy and outcome expectations) and OCCB, SCT also postulates the impact of environment on individuals' behavior, such as social influence. Social influence has been presented with two different types: normative and informational. Whereas normative influence refers to the pressure to comply with the anticipations of salient others (Rice and Aydin, 1991), informational influence is caused by the acceptance of information from others as evidence about reality (Kaplan and Miller, 1987).

Though some research seems to favor an informational mechanism in accounting for behavioral shifts, it may be too hasty in dismissing accounts based on normative influence (Kaplan and Miller, 1987). In fact, normative influence arises from the desire to conform to the anticipations of others, and its demonstration in simple situations (i.e., those involving minimal information) has a long history (Kaplan and Miller, 1987). Although different labels for the construct of normative influence have been used, such as social norms by Thompson, Higgins, & Howell (1991), subjective norm by Ajzen (1991), image by Moore & Benbasat (1991), and social factors by Thompson, Higgins, & Howell (1994), they have acknowledged their similarities to normative influence (e.g., Venkatesh, Morris, Davis, & Davis, 2003). This is understandable, because each of these constructs includes the explicit or implicit notion that individuals' behavior in an online community is influenced by the way in which they believe it important that others will view them as a result of revealing their citizenship behavior. Consequently, the hypothesis is derived as follows.

*H4: Normative influence is positively related to OCCB.*

Even though researchers have extensively examined social influence (e.g., Lucas and Spitzer, 1999; Venkatesh and Davis, 2000; Venkatesh and Morris, 2000; Lewis et al., 2003), most of them have focused on the normative dimension of social influence (e.g., subjective norms) and found the direct effect of normative influence on individuals' behavioral intention (e.g., Venkatesh et al., 2003). This study hypothesizes that informational influence is also positively related to OCCB, in addition to normative influence. Given that interaction in an online community often has the effect of inducing shifts in both individual opinions and community decisions, the shifts can be attributed to the sharing of relevant arguments and factual information about the judged issue (Kaplan and Miller, 1987), indicating the importance of informational influence on individuals' behavior.

Informational influence reflects an individuals' cognitive effect of information

conveyed through their social networking (Rice and Aydin, 1991). Previous research by Kaplan and Miller (1987) has suggested that informational influence may cause more frequent and stronger shifts in individuals' behavior than normative influence, suggesting that informational influence is positively related to OCCB. In other words, informational influence on individuals' cognitions and subsequent behavior in an online community stems from others' interpretation of the participative event and statements that reflect their assessments of the target community (Fulk, 1993). Hence, the fifth hypothesis is derived as below.

*H5: Informational influence is positively related to OCCB.*

## **METHOD**

### *Subjects and procedures*

The research hypotheses described above were empirically tested using a longitudinal usage survey of interactive online games among undergraduate student subjects in Taiwan. Subjects were drawn from the population from a large private technology university in Taiwan. A random set of classes from the management college at the university were selected for data collection purposes, with the requirement that participating subjects must have had direct experience with playing at least one kind of interactive online game. Two questionnaires were distributed to the same subjects for data collection. The first questionnaire was distributed at time  $T_1$ , and the second questionnaire was distributed at time  $T_2$  one month later. In other words, data were collected at two points in time, separated one month apart. The first and the second questionnaires were both matched by a unique identifying code. Of the 700 questionnaires distributed to the subjects each time, 303 matched questionnaires were collected across both time periods for an effective response rate of 43.29%.

### *Construct operationalization*

Four of our five constructs of interest - IT self-efficacy, outcome expectations, normative influence, and informational influence - were measured at time  $T_1$ , and the remaining one construct, OCCB, was measured at time  $T_2$  one month later. Wherever possible, constructs' measures were derived from prior research, after adjusting the wording for interactive online games. All items were measured using five-point Likert scales anchored between "strongly disagree" and "strongly agree."

IT self-efficacy is measured with four items modified from Compeau and Higgins (1995a). Similar items related to IT self-efficacy have been widely applied in previous research examining an individual's judgment on his or her ability to use a technology to accomplish a particular job or task (Compeau and Higgins, 1995b; Compeau et al., 1999; Eastin and LaRose, 2005). Outcome expectations with four items are modified from Compeau, Higgine and Huff (1999). Normative influence and informational influence, measured respectively with four items for each construct,

are modified from Clark and Goldsmith (2006). Finally, given that citizenship behavior is likely achieved via its critical components - such as identification, altruism, conscientiousness, and interpersonal harmony proposed by the previous research of Farh, Earley and Lin (1997) - OCCB is thus measured with eight items modified from the components. Note that the component of protecting resources in the research of Farh, Earley and Lin (1997) does not fit the context of interactive online games, and so it is excluded from our measurement.

### **DATA ANALYSIS AND TEST RESULTS**

The survey data were analyzed using a two-step structural equation modeling (SEM) approach. The empirical test results in CFA met all criteria required to assure convergent validity, discriminant validity and reliability. Gender, experience, and daily usage are used as control variables. The test results show that H2, H3, H4 are supported with statistical significance, while H1 and H5 are not supported due to their insignificance.

### **DISCUSSION**

This study provides an illustrative example of how SCT can be applied to studying OCCB. Most prior IT models that were based on SCT only focus on IT usage behavior as the dependent variable of interest (e.g., Davis et al., 1989), without examining the potential role of SCT on OCCB. Accordingly, while most instances of previous IT studies typically examined were productivity tools (e.g., Venkatesh et al., 2003) where individual impact may include consequences such as productivity gains or working performance, this study presents that personal and environmental factors can be used in non-productivity tools to achieve other goals such as deriving online users' OCCB. In this sense, this study helps expand the boundaries of extant SCT research by considering atypical impacts of an environmental factor (i.e., normative influence) and by incorporating theories and constructs from citizenship behavior within IT ethics research. Furthermore, the results provide some preliminary evidence of IT-mediated OCCB, a nascent yet emerging area that bears tremendous potential for future research.

This study finds that OCCB is influenced by IT self-efficacy indirectly through the mediation of outcome expectations, suggesting that IT developers and online community marketers should not only design marketing strategies to promote their online communities, but also provide users in need with educational programs that help improve their IT self-efficacy. In other words, OCCB can be an online code of conduct in general when IT self-efficacy is boosted via outcome expectations.

Of the four predictors of OCCB, outcome expectations and normative influence seem to be the primary impact driving OCCB due to their significant influence. This phenomenon suggests that, if IT developers or online community marketers are faced

with resource constraints and have to prioritize their limited IT implementation resources, then online activities (e.g., online introduction, contests, word-of-mouth, etc.) geared at increasing users' outcome expectations and normative influence should come before other marketing programs (e.g., commercials and advertisings) targeting at user informational influence.

IT developers and online community marketers should take proactive steps to enlarge users' influence on others online by stressing their preference and favor towards their community. Additionally, IT developers and online community marketers can reward users for bringing their friends and family into an amateur community, or by inviting work colleagues into a professional community.

This study demonstrates that SCT is applicable to understanding OCCB, just as it demonstrates an understanding of IT usage behavior in general. Given that SCT has received lesser interest among citizenship behavior research compared to more popular theories such as TPB, this study provides an additional validation of this theory as a parsimonious yet powerful model of OCCB and suggests that it can be generalized across different types of IT community members such as those who use instant messaging.

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