

The Effects of Perceived Organizational Support and Organizational Citizenship Behaviors on Continuance Intention of Enterprise Resource Planning

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ABSTRACT

Although perceived organizational support (POS) and organizational citizenship behaviors (OCBs) have long received research attention, little is known of the effects of POS and OCBs in the IS usage context, specifically in the context of enterprise resource planning (ERP) continuance. In this study, the authors integrate three research streams, including POS, OCBs, and ERP continuance intention into one model in order to investigate whether POS and OCBs: altruism, conscientiousness, courtesy, civic virtue, and sportsmanship affect ERP users' continuance intention. Grounded on social exchange theory (SET), this study examined the influence of POS on OCBs, satisfaction, and continuance. In addition, the authors also assessed the mediating effects of OCBs between POS and continuance. A survey utilizing a questionnaire was used to collect data and a total of 250 usable responses were analyzed by using partial least squares (PLS). The authors found that POS indirectly influence continuance intention through satisfaction and OCBs. Conscientiousness, civic virtue, and sportsmanship mediated the relationship between POS and continuance intention, but altruism and courtesy do not. Also, a number of implications for both researchers and managers are proposed.

Keywords: *Continuance Intention, Enterprise Resource Planning (ERP), Organizational Citizenship Behaviors (OCBs), Perceived Organizational Support (POS), Satisfaction, Usage*

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INTRODUCTION

Use of information system (IS) systems has become pervasive in organizations, as it enables them to manage their business operations, increase productivity and service quality, enhance their competitive advantage and decrease costs (Lu et al., 2011; Soltani et al., 2013). Enterprise Resource Planning (ERP) systems are defined as powerful IT systems that provide information integration processes across functional areas within an organization (Davenport, 1998; Mouakket, 2010). Quite a few organizations across various industries around the world use ERP systems to improve both business efficacy and operational efficiency (Chou & Chang, 2008; Pham & Teich, 2011). ERP improves business efficacy by providing best practices that can be integrated into the business processes (Chou & Chen, 2009), while enhancing operational efficiency by integrating business processes and providing access to integrated data across the entire organization (Chou & Chang, 2008; Ifinedo, 2011). Many organizations have identified ERPs as strategic resource for survival and enhancing competitive advantage (Yen & Sheu, 2004; Yoon, 2009). This identification has consequently led ERP systems to become the typical IS in most organizations (Yoon, 2009).

However, the expected benefits of ERP cannot be garnered if it is not used continuously (Venkatesh et al., 2008). Continued use of ERPs is of vital importance to ERP adopting organizations because the benefits and impact of IT (e.g., ERP systems) are contingent upon the extent to which users use these (Saleem et al., 2011) and Long term viability of an ERP system and its eventual success depend on its continued use (Liang et al., 2007; Venkatesh et al., 2008). Chou and Chen (2009) stated that ERP users' intention to continue ERP usage play a crucial role in a company's effectiveness and the reaction of ERP users are dissimilar from other types of IT users due to ERP's complexity. Moreover, users' decisions on whether they continue using ERP are not always mandatory (Chou & Chen, 2009). Thus, the identification of the factors that enhance users' willingness to

continue use of an ERP is a worthwhile endeavor. Since ERP refers to important investment in IT, our aim is to broaden our knowledge of ERP continuance intention through the lens of POS and OCBs theory.

This study considered Organizational Citizenship Behaviors (OCBs) as the factors deserving more attention in this area of research. OCBs are discretionary and extra-role behaviors of employees, which go above and beyond their formal role descriptions (Organ, 1988). OCBs have been an important subject in organizational research due to their association to both individual and organizational level effectiveness (Harrison et al., 2006; Podsakoff & MacKenzie, 1997; Podsakoff et al., 2000; Podsakoff et al., 2009). Therefore, understanding the antecedents and outcomes of citizenship behaviors can help promote individual and organizational functioning in ERP adopting organizations.

A growing body of study is analyzing the impact of OCBs on employees' retention (e.g., intention to leave, intention to search for a new job, actual turn over). Evidence (Harrison et al., 2006; Lam et al., 2009; MacKenzie et al., 1998; Paille, 2013; Paille & Grima, 2011) shows that OCBs significantly influence employee retention. Moreover, Yoon (2009) showed that OCBs enhance IT innovation intention (e.g., use of IT to achieve business innovation) of ERP users either directly or indirectly. Therefore, it can be deduced that OCBs can promote use of ERP to achieve business innovation. Thus, it is reasonable to assume that OCBs can contribute to ERP users' retention (continuance intention) and ignoring performance of OCBs from ERP users can have disastrous consequences for their retention. Surprisingly, notwithstanding the fact that ERP success is a consequence of OCB performance from its users (Yoon, 2009), there is a void in our knowledge about the roles of these behaviors in ERP continuance usage. Moreover, what is still remained unexplored in OCBs literature is about probable consequences of OCBs (Yoon & Suh, 2003). Particularly, no consideration has been devoted to exploring the effects of these behaviors in ERP usage

context. Hence, this study endeavors to fill this gap by taking a step forward in exploring the consequence of OCBs (i.e., continuance intention) and its precursor (perceived organizational support).

If OCBs are indeed important factors with regard to ERP continuance, then the antecedents of OCBs needed to be examined as well. Much research attention has been paid to identify potential antecedents of OCBs which include personality traits, perceptions of fairness, employee attitudes, leader behavior, task characteristics (Podsakoff et al., 2009), and perceived organizational support (POS) (Shore & Wayne, 1993; Wayne et al., 1997) in which POS is a more important antecedent variable (Chiang & Hsieh, 2012; Eisenberger et al., 1990). POS is the degree to which employees believe that their organization values their contributions and cares about their well-being (Eisenberger et al., 1986). POS has been shown to engender positive employee attitude and citizenship behaviors (Chiang & Hsieh, 2012; Eisenberger et al., 2001; Riggle et al., 2009). POS creates a sense of obligation to the organization (Eisenberger et al., 1986). It seems then reasonable to suggest that when ERP users feel their contribution is valued and they are supported by their organization, they tend to have a sense of obligation to the organization. With the sense of obligation, they are more likely to exhibit OCBs and to form behavioral intention of ERP continuance. In addition, prior research (Cho et al., 2011; Mitchell et al., 2012; Soltani et al., 2013) introduced POS into IT usage context and showed POS positively affects users' cognitive, attitudinal, and behavioral reaction to new IT. However, relatively little is known about the role of POS in ERP continuance context. Since behavioral reactions of ERP users are different from other IT users, research is needed to delineate relationships between ERP users' POS, and their affective reactions to new ERP and behavioral intentions of ERP continuance. Such delineation is important because it enriches our knowledge regarding psychological mechanism of users that may

lead to their retention. Since ERP usage is not always mandatory (Chou & Chen, 2009), there should be an increase in attention paid to each user and their psychological mechanisms.

To the best of our knowledge, no empirical study has verified the relationships among POS, OCBs, satisfaction, and ERP continuance intention. Consequently, this research proposes an integration of multiple theories of POS, OCBs, continuance into one research model which is expected to shed light on ERP users' continuance intention and their predictors. In sum, this research aims to (1) examine the influence of ERP users' POS on their satisfaction and ERP continuance intention; (2) examine the influence of ERP users' POS on OCBs; (3) examine the influence of ERP users' OCBs on ERP continuance intention; (4) examine OCBs as possible mediators between POS and ERP continuance intention.

THEORETICAL BACKGROUND AND RESEARCH MODEL

ERP Continuance Intention

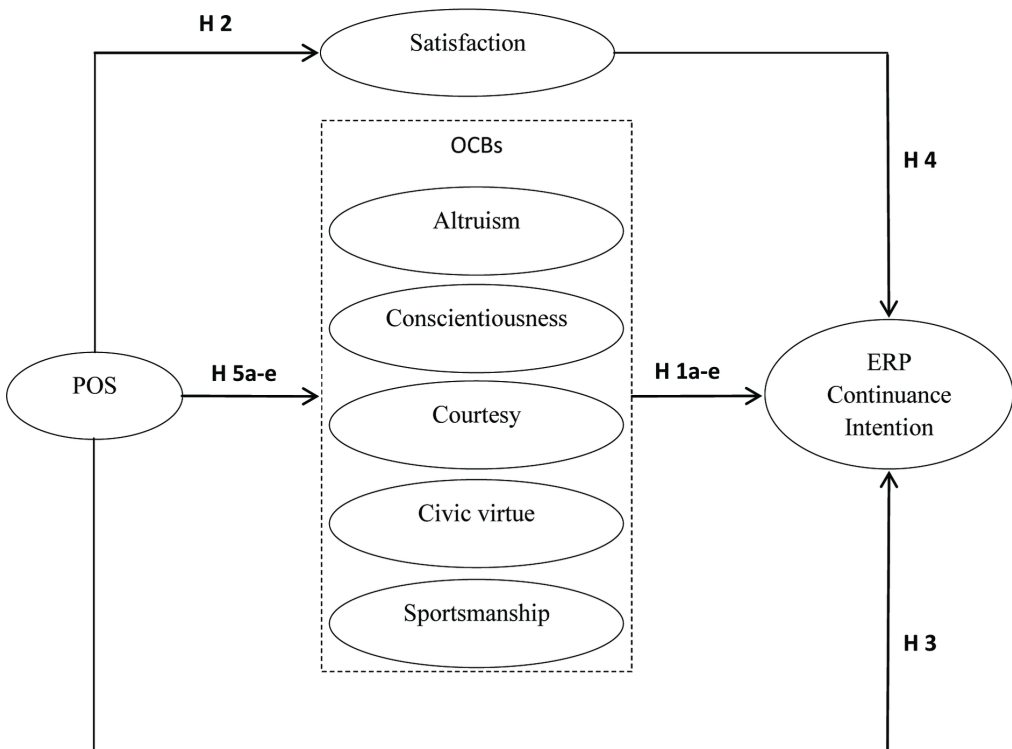
Information System (IS) continuance describes behavioral patterns reflecting continued use of an IS. Continuance refers to a form of post adoption (post- acceptance) behavior which follows initial acceptance (e.g., continuance, reutilization, etc.) (Limayem et al., 2007). The most dominant model to explore an IS continuance phenomenon is the post- acceptance model of IS continuance proposed by Bhattacharjee (2001). He developed IS continuance model based on the expectation confirmation theory (ECT)- a theory which is widely used in the consumer behavior literature to study consumer satisfaction and post-purchase behavior- to explain user post-adoption of ISs. Based on ECT, IS users' continuance decisions are similar to consumer's repurchase decisions because both decisions follow an initial adoption phase, are influenced by the initial use, and can potentially lead to an ex post reversal of the initial decision (Bhattacharjee, 2001).

Bhattacharjee's (2001) IS continuance model employs confirmation, usefulness, and satisfaction as the main antecedents of IS continuance intention in which satisfaction is the stronger antecedent. In the marketing literature, satisfaction is considered a key to building and holding a loyal base of long-term consumers (Elkhani et al., 2014; Limayem et al., 2007). Similarly, IS researchers (Bhattacharjee, 2001; Limayem et al., 2007) argue that satisfaction with an IS tended to reinforce a user's intention to IS continuance behavior. A similar argument can also be made in ERP continuance context where satisfaction with an ERP system tends to reinforce a user's intention to continue ERP usage (Chou & Chen, 2009). Bhattacharjee's model also relates satisfaction and perceived usefulness to the extent to which the user's expectations about the IS are confirmed. Expectations provide the baseline level against which confirmation is assessed by users to determine

their evaluative response or satisfaction (Bhattacharjee, 2001).

Bhattacharjee's model is well accepted and validated in IT (IS) literature and there is a considerable agreement among researchers (e.g., Chou & Chen, 2009; Limayem et al., 2007; Yu-Ching Lin & Ong, 2010) that it is a parsimonious and comprehensive model to explore the phenomenon of IS continuance. Accordingly, we have selected Bhattacharjee's model as our point of departure to conceptualize ERP continuance. Several studies (e.g., CYu-Ching Lin & Ong, 2010; Wang, 2010) have used this model with some combinations with other theories (e.g., personality) to explain and predict IS continuance. The current study also uses this model, but with combinations of the OCBs theory and the construct of POS that have not yet been studied to explain ERP continuance. The research model that reflects current thinking is demonstrated in Figure 1.

Figure 1. Research model



As shown in Figure 1, we adopt two constructs of Bhattacharjee's model, namely: satisfaction and IS continuance intention and use them in ERP domain. In this study, we define satisfaction and ERP continuance intention as users' overall affective evaluation of their prior ERP usage, and users' behavioral intention to continue using ERP, respectively. Similar to other studies (Chou & Chen, 2009; Limayem et al., 2007), we then employ satisfaction in conjunction with continuance intention, implying that ERP users would intend to continue using ERP if they are satisfied with their prior usage.

Furthermore, building upon work (e.g., Paille, 2013; Paille & Grima, 2011) that supports OCBs as a mean of significantly influencing employees' retention, OCBs theory proposed by Organ (1988) consisted of the five dimensions: altruism, conscientiousness, courtesy, civic virtue, and sportsmanship are introduced to ERP continuance intention. We argue that a user with stronger OCB is more willing to continue use of an ERP. Further, the construct of POS is integrated to the research model by using social exchange theory (SET). POS focuses on the exchange relationship between an employee and an organization (Wayne et al., 1997). Hence, we serve POS as an operation for the social exchange perspective leading to employees' positive outcomes (satisfaction and behavioral intention of ERP continuance). Since existing literature argues POS leads to produce positive working behaviors, and behavioral and attitudinal reaction to new IT (Chiang & Hsieh, 2012; Cho et al., 2011; Mitchell et al., 2012; Soltani et al., 2013), we posit that a user who perceives a high degree of organizational support is more willing to exhibit OCBs and continue ERP usage.

Summarizing, the research model (Figure 1) proposes that ERP users' POS positively influences their OCBs, satisfaction, and ERP continuance intention. Also, satisfaction positively influences continuance intention. Further, OCBs consisted of altruism, conscientiousness, courtesy, civic virtue, and sportsmanship influence ERP users' continuance intention positively. The next sections provide details on

the constructs in the model and the proposed relationships among them.

Organizational Citizenship Behaviors (OCBs) and ERP Continuance Intention

There are two types of behaviors in organizations, namely: in role behavior based on formal role descriptions and extra-role behavior beyond formal role descriptions (Katz & Kahn, 1978). These behaviors are necessary to achieve effective organizational operation (Chiang & Hsieh, 2012). Extra-role behavior arises from feelings of "citizenship" with respect to the company (Burns & Collins, 1995). The most recognizable term to describe extra role behavior is organizational citizenship behavior (OCB) (Yoon, 2009). OCB is defined as an individual behavior of a discretionary nature that is not directly recognized by the formal reward system, and totally this behavior contributes to the effective functioning of an organization (Organ, 1988). OCB is also defined as performance that supports the social and psychological environment in which task performance takes place (Organ, 1997).

The most widely accepted model of OCBs in current literature is the five-factor OCB model developed by Organ (1988). Organ (1988) classified OCBs into the five dimensions, namely: altruism, conscientiousness, courtesy, civic virtue, and sportsmanship. Altruism refers to helping behaviors that employees provide each other. Conscientiousness includes complying with organizational rules, and going beyond minimum requirements through hard work (Yoon, 2009). Courtesy contains of behavior such as "helping someone prevent a problem from occurring, or taking steps in advance to mitigate the problem" (Organ, 1988). Civic virtue refers to responsibly participating in the life of a firm. Sportsmanship involves obeying organizational regulations, tolerating the inevitable inconveniences and impositions of work without complaining (Organ, 1988). This conceptualization of OCBs has been widely accepted and is adopted by this study.

According to OCBs literature, OCBs are negatively related to withdrawal intentions such as turn over intention, actual turnover (Paré et al., 2000; Podsakoff et al., 2009), and voluntary turnover (Lee et al., 2004). Hence, literature leads us to claim that OCBs can have negative relationships with withdrawal behaviors. These behaviors refer to behaviors that can be predicted by withdrawal intentions (Fang & Chiu, 2010). ERP withdrawal reflects discontinuous usage. This research emphasizes the behavior which is opposite to withdrawal intention, namely ERP continuance intention, and its relationship with OCBs. To the best of our knowledge, to date no research has been done to explore the role played by OCBs in affecting ERP continuance intention.

A significant amount of research in diverse fields has provided empirical evidence that OCBs have significant effects on employee retention (e.g., Paille, 2013; Paille & Grima, 2011; Lam et al., 2009). In IT domain, Fang and Chiu (2010) examined the effects of virtual community members' OCBs (altruism and conscientiousness) on knowledge-sharing continuance intention and explored that knowledge-sharing continuance intention is a consequence of exhibiting OCBs. Moreover, Yoon (2009) examined the relationships between OCBs and several indicators of ERP system success (information quality, work efficiency, and intention of IT innovation). He found that OCBs positively influence intention of IT innovation of ERP users either directly or indirectly (via affecting information quality and work efficiency). Therefore, it is reasonable to assume that ERP continuance intention is a possible consequence of ERP users' OCBs. In this study, we expect that OCBs consisted of the five dimensions of altruism, conscientiousness, courtesy, civic virtue, and sportsmanship positively influence ERP continuance intention. In what follows we discuss the relationship between ERP continuance intention and each of the five OCBs.

Altruism, the first dimension of OCBs, refers to helping behaviors which involve all voluntary forms of assistance that employees

provide each other to facilitate the accomplishment of tasks and solve work related problems (e.g., instructing a new hire how to use equipment) (Podsakoff et al., 2000). Altruism helps to build supportive, satisfactory, and trustful working relationships which give an employee confidence to explore new technologies (Krogh, 1998; Yan & Yan, 2013). Podsakoff and Mackenzie (1997) noted that helping behaviors have a positive impact on productivity by helping co-workers "learn the ropes" to become more productive employees faster. Hence, helping behaviors toward colleagues may promote their productivity in terms of ERP continuous usage through teaching ERP system operations, helping to spread best practices in ERP usage, and helping to solve or prevent the occurrence of an ERP system related problems. Moreover, we expect that users who exhibit altruistic behaviors are more likely to continue use of an ERP. Such expectation is based on the idea that doing good leads to feeling good (Glomb et al., 2011). Glomb et al. (2011) verified that individuals have more positive mood reactions after engaging in altruistic behavior because helping others provide gratification. Further, Venkatesh and Speier (1999) confirmed that a positive mood forms a greater intrinsic motivation to use a new computer technology as well as greater intention to use a technology. Therefore, it is expected that altruistic behaviors enhance continuance intention. Thus, we hypothesize:

H1a: ERP users' altruism positively influences ERP continuance intention.

Conscientiousness, the second dimension of OCBs, refers to discretionary behaviors by an employee that go beyond the minimum role requirements of the organization in the areas of obeying rules and regulations, working hard, and so forth (Farh et al., 1997). Conscientious behavior in our study refers to adhering to company rules and regulations. Since conscientious users are rule followers and ERP continuous usage for accomplishing daily task can be man-

datory, which could be assumed as a rule, they are more likely to follow directions and form continuance intention. Thus, we hypothesize:

H1b: ERP users' conscientiousness positively influences their ERP continuance intention.

Courtesy, the third dimension of OCBs is regarded as helping behaviors (Podsakoff et al., 2000; Podsakoff & MacKenzie, 1997), which includes behaviors such as helping someone prevent problems from occurring (Organ, 1988; Podsakoff et al., 2000). Preventing problems from occurring in using ERP system may encourage a user to continue to use an ERP. Glomb et al. (2011) showed that courtesy behavior promotes a positive mood, which has been shown to form greater intrinsic motivation to use a new computer technology as well as greater intention to use a technology (Venkatesh & Speier, 1999). Therefore, we expect that courtesy behaviors increase users' intentions to continue ERP usage. Thus, we hypothesize:

H1c: ERP users' courtesy positively influences ERP continuance intention.

Civic virtue, the fourth dimension of OCBs, is a behavior that indicates that the employee responsibly participates in and is concerned about the life of the organization (e.g., keeping up with changes in the organization) (Podsakoff & MacKenzie, 1994). Being concerned about the future of the organization may encourage users to continue use of ERP for its long term success and survival. Evidence for such assumption is provided by prior studies (Yan & Yan, 2013; Yoon, 2009) that showed civic virtue has a positive effect on innovation performance (e.g., exploring new technology) and improves IT innovation intention of employees. Moreover, Yan and Yan (2013) stated that civic virtue represents commitment to the organization as a whole, which can influence users' behavioral intention of ERP continuance. Therefore, we expect that civic virtue behaviors, which in

our study refer to keeping up with changes or following organization business strategies, promote behavioral intention of ERP continuance for achieving business innovation. Thus, we hypothesize:

H1d: ERP users' civic virtue positively influences their ERP continuance intention.

Sportsmanship, the fifth dimension of OCBs, is "a willingness to tolerate the inevitable inconveniences and impositions of work without complaining" (Organ, 1988). We define that good sport users are individuals who keep trivial complaints about ERP usage to themselves, do not complain about ERP system related works, and do not complain about unfair business processes. Yan and Yan (2013) stated that sportsmanship employees are people who keep a positive attitude even when things do not go their way. Accordingly, we argue sportsmanship users may maintain positive attitude toward the ERP system even when it looks complex or its business processes seems unfair. Further, attitude has been validated as key factor in IT use (Davis et al., 1989). Hartwick and Barki (1994) also gave empirical evidence that users who have positive attitude toward a system, will develop a positive attitude concerning their use of the system. This then lead them to form behavioral intention to use the system, and ultimately continue use of a system. Therefore, it is reasonable to expect that sportsmanship users are more likely to form positive attitude, making them more willing to continue use of the ERP system. Moreover, Podsakoff and MacKenzie (1997) argue that by demonstrating willingness to take on new responsibilities or learn new skills sportsmanship employees enhance the organization's ability to adapt to changes in its environment. Hence, sportsmanship behaviors such as being willing to accept newly implemented ERP system can lead to ERP usage behavior and promote continuous intention to use an ERP system that would, in turn, contribute to an ERP system being successfully

adapted into the organization. Therefore, we expect that ERP users who exhibit sportsmanship behaviors are more likely to form a high level of continuance intention.

Thus, we hypothesize:

H1e: ERP users' sportsmanship positively influences their ERP continuance intentions.

Perceived Organizational Support (POS) and ERP Continuance Intention

Perceived organizational support (POS) refers to employees' beliefs concerning the extent to which the organization values their contribution and cares about their well-being (Eisenberger et al., 1986). A variety of factors can influence POS such as organizational rewards in the form of money, praise, promotions, given such rewards by the organization to employees is a way of communicating to employees that they are valued (Mitchell et al., 2012). Drawing from perceived organizational support literature, it has been shown that POS is positively related with employees' outcomes, including: positive mood, organizational commitment, job satisfaction, job involvement, and organizational citizenship behaviors (Cheng, 2011; Chiang & Hsieh, 2012; Rhoades & Eisenberger, 2002; Riggle et al., 2009; Shore & Wayne, 1993). POS is also positively related to employees' felt obligation to care about the organization's welfare and to help to fulfill organizational goals (Eisenberger et al., 2001).

Mitchell et al. (2012) noted that POS increases satisfaction of psychological needs which was shown to predict e-learning continuous intention (Roca & Gagné, 2008). Furthermore, POS is related with (1) decreased withdrawal intentions or behaviors (e.g., turnover intentions or turnover) (Cheng 2011; Rhoades & Eisenberger 2002), (2) the motivation to use a new IT, and to behavioral and attitudinal reactions to new IT (Mitchell et al., 2012). Thus, literature leads us to expect that a potential link may exist between POS and

behavioral intention of ERP continuance. To our knowledge, POS has never been linked to ERP continuance intention. Understanding POS- ERP continuance intention relationship enriches our knowledge regarding psychological mechanisms of users leading to their ERP continuance intention. To gain such knowledge would be valuable for management attempting to increase users' behavioral intention of ERP continuance. So, it is worthwhile to investigate whether POS, which is important in explaining employees' attitude and behaviors, influences behavioral reactions to new ERP and to explore its relationship with ERP continuance intention.

Social exchange theory (SET) provides theoretical support for the relationship between POS and ERP continuance intention. SET suggests that individuals feel obligated to reciprocate when they benefit from the actions of the organization (Cropanzano & Mitchell, 2005). With regard to SET, we theorize that those ERP users who perceive a high degree of POS may develop increased higher ERP satisfaction as well as behavioral intention of ERP continuance because they feel indebted to their organization which values their contribution. Hence, ERP satisfaction and ERP continuance intention may be two forms of reciprocations that users provide to return their organization's attention. Since ERP users feel that their organization supports them, this perception increases both their ERP satisfaction and ERP continuance intentions. In addition, user satisfaction is a significant predictor of ERP system use (Mouakket & Nour, 2011) and empirical studies (Bhattacharjee, 2001; Chou & Chen, 2009; Wang, 2010; Yu-Ching Lin & Ong, 2010) have provided evidence that if users are satisfied with their prior IS usage, they are more willing to form continuance intention. In this study, we also argue that satisfied ERP users are more willing to form continuance intention.

In this paper, we take POS as an important factor with regard to ERP satisfaction and behavioral intention of ERP continuance, and thus, we hypothesize:

- H2:** ERP users' POS positively influences their ERP satisfaction;
- H3:** ERP users' POS positively influences their ERP continuance intention;
- H4:** ERP users' satisfaction positively influences their ERP continuance intention.

Perceived Organizational Support (POS), Organizational Citizenship Behaviors (OCBs), and ERP Continuance Intention

POS's behavioral outcomes include increases in in-role and extra-role performance and decreases in stress and withdrawal behaviors (Cheng, 2011; Eisenberger et al., 2001). Research (Chiang & Hsieh, 2012; Moorman et al., 1998; Podsakoff et al., 2000) noted that employees' organizational support stimulates OCB. Further, studies (Chen, 2008; Shore & Wayne, 1993) revealed that POS predicts employees' OCBs and higher degrees of employees' POS produce positive OCBs. Current literature (Chiang & Hsieh, 2012; Eisenberger et al., 1990; Piercy et al., 2006; Shore & Wayne, 1993; Wayne et al., 1997) also denotes that an employee's perception of being valued and cared about the organization (POS) is significantly related to OCBs. While extensive evidence in the literature across disciplines emphasizes that employees' POS have positive effects on their OCBs, it is not justified whether POS influences citizenship behaviors of IT (IS) users. To date, no research has been done to examine the POS-OCBs relationship in the context of IT (IS). Hence, this study aims to clarify the effect of users' POS on their OCBs.

Because both POS and OCBs have roots in social exchange (Fang & Chiu, 2010; Organ, 1988; Wayne et al., 2002), the rationale that POS is related to OCBs is grounded in social exchange theory. Accordingly, we theorize that ERP users feel obligated to provide increased OCBs as reciprocation when they are supported by their organization (Chiang & Hsieh, 2012; Piercy et al., 2006; Moorman et al., 1998). The earlier OCBs related hypotheses (H1a, H1b, H1c, H1d, and H1e) suggested that OCBs will

enhance behavioral intention of ERP continuance. Hence, we contend that those ERP users who perceive a high degree of POS may exhibit increased OCBs including helping behaviors, conscientious behaviors, courtesy behaviors, civic virtue behaviors, and sportsmanship behaviors as reciprocation to their organization, thereby promoting their ERP continuance intention. Thus, to confirm the relationship between POS and OCBs within our context we hypothesize:

- H5:** ERP users' POS positively influences OCBs, including: a) altruism, b) conscientious, c) courtesy, d) civic virtue, e) sportsmanship.

RESEARCH METHODOLOGY

Sampling and Data Collection

We surveyed users in Iranian organizations that had implemented ERP systems. To collect data from these organizations: first, we selected the organizations from the lists provided by ERP vendors; second, we visited the organizations and asked executives managers to participate in this study; third, we sent questionnaires to executives of each organization who agreed with our proposal to distribute questionnaires among the end-users.

A total of 800 questionnaires were distributed, and 267 responses were obtained, for a response rate of 33.4%. After discarding 17 returned responses which had either too many missing value items or were only partially completed, 250 usable and complete responses (31.3%) from 2 industries were used for the data analysis. Tables 1 and 2 present the industrial type and demographic information of the respondents, respectively. As shown in Table 2, the respondents consisted of executive (0.8%), senior managers (3.6%), managers (12.4%), and staff (83.2%); 64.4% of them are males and 35.6% are females. The majority of them were aged between 31 and 50 years.

Table 1. Profile of companies and respondents

Industrial Type	Frequency	Percentage
Automotive	116	46.4
Steel	134	53.6
Total	250	100

Measurement

This research studied the relationships among users' POS, OCBs, satisfaction, and ERP continuance intention. As shown in Figure 1, users' POS is independent variable; ERP continuance intention is dependent variable; satisfaction and OCBs are the mediator variables. In order to measure the constructs of the research model, the questionnaires used for data collection involved five sections: POS, OCBs, satisfaction, ERP continuance intention, and basic respondent demographic data. We developed the measurement items in each section of the questionnaire by adopting the measures that had been used by relevant prior research and had been validated. The 3 measurement items in the POS section were adopted from Cho et al. (2011). 5 and 4

items were used to represent satisfaction and ERP continuance intention, respectively; these were obtained from Chou and Chen (2009). For OCBs section, 16 measurement items relevant to this study were taken from Yoon (2009). All the items employed a seven-point Likert scale ranging from one "strongly disagree" to seven "strongly agree". Survey items are shown in Table 6 in the Appendix.

Data Analysis

The partial least squares (SmartPLS 2.0) technique, which is a structural equation modeling technique, was applied to data processing. The PLS is widely used for empirically-base studies due to its appropriateness for small sample sizes, and modeling and validating predictive

Table 2. Demographic information of the respondents

Measure	Items	Frequency	Percentage
Gender	Male	161	64.4
	Female	89	35.6
Age	21-30	49	19.6
	31-40	112	44.8
	41-50	73	29.2
	Above 50	16	6.4
Position	Executive	2	0.8
	Senior manager	9	3.6
	Manager	31	12.4
	Staff	208	83.2
Education	Diploma	64	25.6
	Undergraduate	137	54.8
	Postgraduate	49	19.6

models (Chin, 1998). Importantly, PLS supports the assessment of both a measurement model and a structural model.

Data analysis proceeded in a two-step approach recommended by Anderson and Gerbing (1988): (1) an analysis of the measurement model was conducted which aims to evaluate reliability and validity of the measures and (2) testing of structural relationships among latent variables followed.

Measurement Model

To validate the measurement model, PLS tests reliability, convergent validity, and discriminant validity of the scales. Reliability was evaluated using the two item reliability indicators, namely cronbach alpha and composite reliability values.

These indicators are similar and can be interpreted in the same way (Barclay et al., 1995). As shown in Table 3, The cronbach alpha and composite reliability values ranged from 0.841/0.904 to 0.946/0.959, respectively; they are all above the accepted threshold 0.70 recommended by Nunnally (1978). The results therefore exhibit adequate reliability level of all the constructs.

Convergent validity can be verified when average variance extracted (AVE) of each construct exceed the threshold value of 0.5 suggested by Fornell and Larcker (1981). In addition, Discriminant validity can be assured by using two criteria: (1) measurement items should load more than 0.6 on their respective construct (Hair et al., 1998) and (2) the square

Table 3. Item loading, Cronbach alpha, composite reliability, and descriptive statistics

Constructs	Items	Loading	Cronbach Alpha	Composite Reliability	Mean	STDEV
Perceived organizational support	POS1	0.895	0.922	0.951	4.419	1.687
	POS2	0.950				
	POS3	0.945				
Altruism	ATZ1	0.983	0.934	0.952	3.856	1.468
	ATZ2	0.903				
	ATZ3	0.888				
	ATZ4	0.877				
Conscientiousness	CST1	0.943	0.908	0.942	4.032	1.382
	CST2	0.896				
	CST3	0.919				
Courtesy	CTS1	0.908	0.894	0.934	4.252	1.564
	CTS2	0.930				
	CTS3	0.887				
Civic virtue	CVT1	0.898	0.875	0.922	4.105	1.231
	CVT2	0.909				
	CVT3	0.876				
Sportsmanship	SPM1	0.875	0.849	0.908	4.092	1.230
	SPM2	0.915				
	SPM3	0.837				
Satisfaction	SAT1	0.913	0.946	0.959	4.123	1.294
	SAT2	0.871				
	SAT3	0.899				
	SAT4	0.923				
	SAT5	0.920				
ERP continuance intention	ECI1	0.885	0.841	0.904	4.000	1.299
	ECI2	0.834				
	ECI3	0.894				

root of AVE for each construct should be greater than its correlations with other constructs (Fornell & Larcker, 1981; Gefen & Straub, 2005). In this study, AVE ranged from 0.76 to 0.87 (See Table 4), indicating the model reveals satisfactory convergent validity. As shown in table 3, factor loadings for all items, which ranged from 0.834 to 0.920, surpass the recommended level of 0.60 (Hair et al., 1998). Table 4 also presents the square roots of AVEs on the diagonal and inter-construct correlations. It shows that the diagonal values exceed the correlations between constructs in all cases. Hence both conditions for discriminant validity were met; this indicates that the measurement model has adequate discriminant validity.

Structural Model

After the outline of an adequate measurement model, the structural model was tested with PLS. With regard to the assessment of the structural model, information about the R-square scores (R^2) for each dependent construct (which shows the percentage of a construct's variance) and the path coefficients (β) (the coefficients of the relationships between variables) are provided. We performed the hypotheses testing by following Chin's (1998) recommendation. As suggested, bootstrapping (with 500 subsamples) was applied to estimate path significance using t-tests values. Figure 2 illustrates the results of the structural model testing.

The majority of the hypothesized relationships were supported by the data (i.e. 10 out of 13 hypotheses were confirmed). H2 ($\beta= 0.59$; $p< 0.001$) and H4 ($\beta= 0.32$; $p< 0.001$) were supported as expected, as hypothesized POS (H2) positively influenced satisfaction, which in turn affected continuance intention (H4). However, the results did not support H3, as POS is not directly related to ERP continuance intention ($\beta=0.08$). The results also reveal that POS significantly and positively influenced OCBs, including: altruism ($\beta=0.39$; $p< 0.001$), conscientiousness ($\beta=0.55$; $p< 0.001$), courtesy ($\beta= 0.43$; $p< 0.001$), civic virtue ($\beta= 0.53$; $p< 0.001$), and sportsmanship ($\beta=0.54$; $p< 0.001$); thus, ERP users' POS positively influenced OCBs. Hence, the hypotheses of H5a, H5b, H5c, H5d, H5e were confirmed.

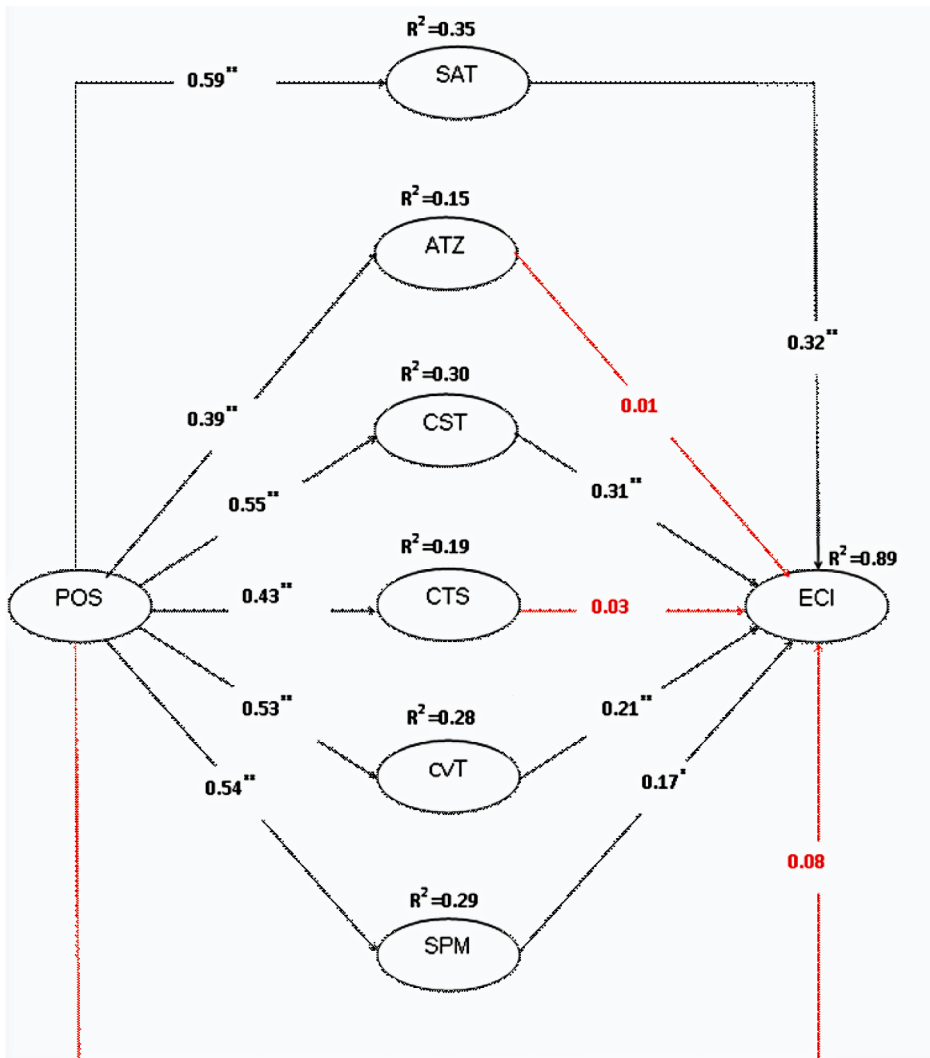
Concerning the constructs of OCBs, the hypotheses of H1b ($\beta=0.31$; $p< 0.001$), H1d ($\beta= 0.21$; $p< 0.001$), H1e ($\beta= 0.17$; $p< 0.05$) are statistically significant. Thus, conscientiousness, civic virtue, and sportsmanship significantly and positively influenced ERP continuance intention. Both H1a ($\beta= 0.01$) and H1c ($\beta= 0.03$) were found to be insignificantly related to continuance intention. Hence both H1a and H1c were not confirmed. In addition, all the study's variables explain substantial proportions of the variance in the model's dependent variable: ERP continuance intention ($R^2= 0.89$). Table 5 shows the summary of the hypotheses testing.

Table 4. Inter-construct correlations, including AVE, and the square root of AVE

Dimension	AVE	1	2	3	4	5	6	7	8
POS	0.87	0.93							
ATZ	0.83	0.39	0.91						
CST	0.85	0.55	0.11	0.92					
CTS	0.83	0.43	0.19	0.44	0.91				
CVT	0.80	0.53	0.09	0.65	0.39	0.89			
SPM	0.77	0.54	0.10	0.68	0.42	0.64	0.88		
SAT	0.82	0.59	0.20	0.73	0.51	0.63	0.67	0.91	
ECI	0.76	0.66	0.18	0.85	0.52	0.77	0.78	0.85	0.87

Note: Diagonal elements are the square root of AVEs and off-diagonal elements are correlations among constructs.

Figure 2. PLS analysis of research model



Note: ** $p < 0.001$; * $p < 0.05$.

Analysis of Mediating Effects

The proposed model in this study hypothesized that the OCB's constructs would mediate the relationship between POS and ERP continuance intention. Here, we further examine whether OCBs are mediating variables by following the testing approach of Baron and Kenny (1986). First, we tested a simple model with a direct path between POS and ERP continuance intention

(without any mediating variables) in SmartPLS. The path coefficient between POS and ERP continuance intention was significant ($\beta = 0.66$; $p < 0.001$). Second, the mediating variables of OCBs were introduced to the simple model. It was shown that conscientiousness ($\beta = 0.31$; $p < 0.001$), civic virtue ($\beta = 0.21$; $p < 0.001$), and sportsmanship ($\beta = 0.17$; $p < 0.05$) significantly influenced ERP continuance intention. Moreover, the path coefficient between POS and ERP

Table 5. Summary of hypotheses testing

Hypothesis	Path Coefficient	t-Value	Result
ATZ→ ECI (H1a)	0.01	0.300	Not supported
CST→ ECI (H1b)	0.31**	5.392	Supported
CTS→ ECI (H1c)	0.03	0.565	Not supported
CVT→ ECI (H1d)	0.21**	4.671	Supported
SPM→ ECI (H1e)	0.17*	3.032	Supported
POS→ SAT (H2)	0.59**	6.925	Supported
POS→ ECI (H3)	0.08	1.524	Not supported
SAT→ ECI (H4)	0.32**	5.820	Supported
POS→ ATZ (H5a)	0.39**	4.252	Supported
POS→ CST (H5b)	0.55**	5.172	Supported
POS→ CTS (H5c)	0.43**	5.005	Supported
POS→ CVT (H5d)	0.53**	6.200	Supported
POS→ SPM (H5e)	0.54**	5.999	Supported

Note: * Significant at $p < 0.05$; ** Significant at $p < 0.001$

continuance intention became insignificant ($\beta = 0.08$). Furthermore, the variance explained in the ERP continuance intention was much higher ($R^2 = 0.89$) compared to the simple model ($R^2 = 0.43$). These findings clearly suggest that OCBs (conscientiousness, civic virtue, and sportsmanship) are indeed full mediation variables between POS and ERP continuance intention.

DISCUSSION AND CONCLUSION

Even though research on OCBs has increased dramatically in diverse disciplines during the past decade, little is known about the probable consequences of OCBs (Yoon & Suh, 2003). Particularly, to date much still remains unexplored about the effects of OCBs and their potential antecedent, namely POS in the ERP usage context. Hence, the current research addressed this research gap and began to explore the effects of POS and OCBs on ERP continuance intention. To achieve the aims of this study, the research model using POS as independent variables, ERP continuance intention as depen-

dent variable to verify satisfaction and OCBs as mediator variables was established and empirically tested. To the best of our knowledge, this is one of earliest studies in the IS usage literature that theoretically articulates or empirically tests the relationships among POS, OCBs, satisfaction, and ERP continuance intention. Empirical analysis led to several findings as follows.

First, the OCBs behaviors of conscientious, civic virtue, and sportsmanship have significant and positive impact on ERP users' continuance intention. The results indicate that those users showing conscientious, civic virtue or sportsmanship behaviors are more willing to continue ERP usage. This finding demonstrates that ERP continuance intention is a consequence of exhibiting conscientious, civic virtue, and sportsmanship behaviors. Thus, we can note the fact that such behaviors are important predictors of ERP continuance intention.

Second, results show that both altruistic and courtesy behaviors have insignificant effect on continuance intention. A plausible explanation for these results is that each user has his or her own role and responsibility in the use of ERP,

so ERP systems are performed according to roles and responsibilities. For that reason, any helping behaviors toward co-workers who have trouble using ERP may not contribute to promoting their ERP continuance intention or usage.

Third, ERP users' POS positively influences their ERP satisfaction, which in turn enhances their continuance intention. These results extend ECT by representing that in addition to perceived usefulness and satisfaction, POS is a significant, but indirect predictor of continuance intention. This finding indicates that POS represents a psychological mechanism through which ERP continuance can be promoted indirectly (via satisfaction with ERP use). These results also support ECT's contention that satisfaction with IS use is the strongest predictor of users' continuance intention ($\beta = 0.32$), followed by POS. Moreover, ERP satisfaction may have additional salient predictors because 35% of the satisfaction variance is explained by POS.

Fourth, the results presents that POS positively influences OCBs. When the organization values and cares about users, users feel support from the organization and their attitudes may become more positive toward the organization, creating a sense of obligation to reciprocate organizational support in terms of citizenship behaviors. Our finding is consistent with prior studies (Chiang & Hsieh, 2012; Moorman et al., 1998; Settoon et al., 1996) that with higher degree of POS, employees would exhibit increased OCBs.

Fifth, the study confirmed the relationship of POS on OCBs, while also examining the correlation between OCBs and ERP continuance intention. The study confirms that users' conscientious, civic virtue and sportsmanship correlate positively to continuance intention. So, it may be true to state that as users go above and beyond their job descriptions, they are more willing and ready to contribute to ERP success by continuing usage of an ERP. These citizenship behaviors also have full mediation effect on the relationship between POS and ERP continuance intention. Hence, users' POS indirectly advances continuous intention through conscientious, civic virtue and sportsmanship

behaviors such that when users feel support from their organization, they exhibit increased OCBs which incline them to form behavioral intention of ERP usage. Thus, it is deduced that increasing users' OCBs (conscientious, civic virtue and sportsmanship) leads to promote their ERP continuance intention by offering more attention and care about them, or in the other words, users with more OCBs are more willing to continue ERP usage; however, users' motivation from OCB depends on the degree of their POS.

Aggregated, drawing from the results, we verify POS, OCBs, satisfaction, ERP continuance intention as the research framework. We contribute to IS (IT) usage literature by exhibiting a theoretical model to explain the effect of POS and OCBs on continuance intention, using satisfaction as emergent construct driving continuance intention. More specifically, we make three contributions to the field. First, we applied OCBs theory to the IS (IT) usage context and shed light on its effect on behavioral intention of IS (IT) continuance. Second, using SET, we showed that POS is directly related to affective reactions and indirectly related to behavioral intention of IS continuance. Third, it was shown how different types of OCBs play mediating roles between POS and behavioral intention of IS continuance. We hope that the proposed model will offer empirical evidence as well as a theoretical picture of the predictors of ERP users' continuance intentions for both academics and practitioners and provide a comprehensive understanding of relationships among POS, OCBs and IS usage behavior.

Theoretical Implications

There are two theoretical implications of our study. First, our study integrated two important frameworks, namely OCBs and IS continuance intention of two research streams_ organizational behavior and IS usage. Prior research (e.g., Yoon, 2009) examined the impact of OCBs on ERP success; however no consideration was dedicated to understanding the role of OCBs in the ERP usage context. Therefore,

our combination of two frameworks showed that OCBs played an important role in ERP usage context and provided support for the theory that OCBs are significant predictors of ERP continuance intention.

Second, this study employed SET perspectives to investigate the relationship between users' POS and their OCBs/ satisfaction/ ERP continuance intention. Our study demonstrated that POS, as an operation for the social exchange perspective, is an important way for users who are supported by their firm to promote their ERP continuance intention indirectly (via satisfaction and OCBs), which ultimately increases the likelihood of ERP continuance usage. By concentrating on users' affective and behavioral reactions to their perceived organizational support, we recognized the underlying individual mechanisms of the relationship between POS and ERP continuance intention. To gain knowledge of individual mechanisms in certain relationships is critical because it helps to explain ERP continuance phenomena.

Managerial Implications

Based on the findings, two practical implications can be drawn. POS is found to have a positive influence on both satisfaction and OCBs, and satisfaction itself is an important determinant of ERP continuance intention and OCBs (conscientious, civic virtue and sportsmanship behaviors) are important predictors of ERP continuance intention. Therefore, the first obvious implication of the current research is that management should be aware of the importance of users' POS for enhancing their behavioral intention of ERP continuance, and also focus on how to improve users' POS. We note that management should act in ways that produce a high degree of POS in their employees in order to spur them to form higher satisfaction and exhibit OCBs as reciprocity, which in turn enhances their behavioral intention of ERP continuance. For example, organizational management can take further actions such as proactively attaching

importance or good benefits to employee contributions, providing good working conditions for employees, and establishing a harmonious relationship with them in order to make employees feel cared for.

Second, given the significant relationship between satisfaction/ OCBs and continuance intention, managers should be aware that dissatisfaction of IS usage and lack of exhibition of citizenship behaviors may result in discontinuous usage. Therefore, managers should identify sources of dissatisfaction, and intervene before dissatisfaction leads to IT discontinuance. Moreover, if warning signs appear in the form of low levels of OCBs, managers should take corrective action, including day-to-day treatment of employees, creating fair reward systems, and developing a culture of OCB among employees in order to retain employees.

LIMITATIONS AND FUTURE RESEARCH

Although this research has uncovered several interesting findings, our study has some limitations. First, in this study, we focused on the influence of POS, OCBs, and satisfaction on ERP continuance intention. This is not to suggest that POS, OCBs, satisfaction would be the only influence on continuance intention, as the research model does not include all possible factors that could affect it. Thus, further research could be done to extend our proposed model by integrating additional suitable factors (e.g., justice, trust, perceived system usefulness) into the model. Second, the findings, which were drawn from an Iranian sample, may be susceptible to the effect of culture difference; since organizational employees from other cultures may reflect different psychological mechanisms, the results are not necessarily generalizable to other nations and other cultures. Thus, future research can analyze the framework of our research and examine it at different kinds of industries in other countries, and then

analyze cultural differences to attain thorough comparisons. Third, although we were cautious to avoid selection bias in the data collection, it is still possible that response biases may occur (e.g., social desirability and leniency effects).

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APPENDIX

Table 6. Survey results

<p>Perceived Organizational Support (POS) POS1: The organization takes pride in my accomplishments POS2: The organization cares about my well-being POS3: The organization values my contributions to its well-being</p>
<p>Organizational Citizenship Behaviours (OCBs)</p> <p><i>Altruism (ATZ)</i> ATZ1: I support employees who are unfamiliar with an ERP system ATZ2: I give my time to help employees with ERP system related problems ATZ3: I take time out of my day to help train new employees ATZ4: I perform ERP system-related work of absent employees if I can</p> <p><i>Conscientiousness (CST)</i> CST1: I obey company rules, regulations and procedures in using an ERP system CST2: I carry out ERP system-related work in a timely manner CST3: I complete ERP system-related work even though after business hours</p> <p><i>Courtesy (CTS)</i> CTS1: I am cautious to avoid problems with co-workers in using an ERP system CTS2: I do not abuse rights of others in using an ERP system CTS3: I do not interfere with co-workers with regard to using an ERP system</p> <p><i>Civic Virtue (CVT)</i> CVT1: I am willing to follow organizational change CVT2: I keep up with the policy and business strategy of the organization CVT3: I positively participate in efforts for process improvement</p> <p><i>Sportsmanship (SPM)</i> SPM1: I keep trivial complaints about using an ERP system to myself SPM2: I do not complain about my ERP system-related work even if the work seems excessive SPM3: I do not complain about business processes that seem unfair to me</p>
<p>Satisfaction (SAT) SAT1: Using the ERP systems makes me feel very satisfied SAT2: Using the ERP systems makes me feel very pleased SAT3: Using the ERP systems makes me feel very contented SAT4: Using the ERP systems makes me feel very delighted SAT5: Using the ERP systems makes me feel very powerful</p>
<p>ERP Continuance Intention (ECI) ECI1: I plan to continue using ERP to contribute to my work ECI2: My intentions are to continue using ERP rather than use alternative means (other information systems) ECI3: I plan to adjust my work processes to better fit the best practices of ERP</p>