THE IMPACT OF RELATIONSHIPS AND CONFUCIAN ETHICS ON CHINESE EMPLOYEES’ WHISTLE-BLOWING WILLINGNESS IN SOFTWARE PROJECTS¹

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Abstract

One of the reasons why software projects suffer from high failure rate is that employees working on the project are often reluctant to blow the whistle informing the upper-level management about the failing status of the project. In this study, we examine the impacts of organizational commitment, interpersonal closeness, and Confucian ethics on the employees’ whistle-blowing intentions in the Eastern culture context. Based on data collected from 144 Chinese MBA students, we found that the relationship with the organization and that with the wrongdoer both significantly affect the employees’ willingness to blow the whistle. With respect to the influence of Confucian ethics, we found that the employee’s ethical disposition on loyalty between sovereign and subject positively affects the whistle-blowing willingness, and the employee’s ethical disposition on trust between friends positively moderates the relationship between closeness with the wrongdoer and the whistle-blowing willingness.

Keywords: Whistle-blowing, IT project management, organizational commitment, interpersonal closeness, Confucian ethics

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1 INTRODUCTION

Software projects tend to suffer from high failure rate. KPMG 2005 global surveys showed that 49% of participants have experienced at least one IT project failure in the previous year (Zarrella, Tims, Carr, & Palk, 2005). The reasons of high failure rates are multifaceted, including poor risk management, little involvement of the customers, poor understanding of the requirements, etc. Regardless of the reasons, if employees working on the project can inform the upper-level managers about the failing status of the project promptly, the upper-level managers will have opportunities to terminate or reschedule the project and control financial losses. Unfortunately, many employees tend to resist or are hesitant to blow the whistle. Even information systems auditors have a tendency not to reveal bad news about the project to internal and external related parties (Keil & Robey, 2001).

Unaware of the true status of the projects, the upper management misses the time window to adjust the projects and control the magnitude of the financial loss. For example, Oz (1994) described the failure of a large-scale information system development project, CONFIRM, in 1980s. The project had to be abandoned after a 3-year delay, and by then the losses had been accumulated to 1.25 billion dollars. After the failure of the project, the information services chief expressed, “….Some people who have been part of CONFIRM management did not disclose the true status of the project in a timely manner. This has created more difficult problems – of both business ethics and finance – than would have existed if those people had come forward with accurate information…..” (Oz 1994, p 25). Therefore, it is imperative to understand why the employees resist blowing the whistle in the context of software projects.

Prior researchers have conducted both theoretical and empirical research to investigate the factors affecting the employees’ willingness to blow the whistle in the context of software projects. With a few exceptions (Keil, Im, & Mähring, 2007; Tan, Smith, Keil, & Montealegre, 2003), these studies were conducted in the context of Western cultures. In this study, we want to investigate the whistle-blowing issue in the Eastern culture for the following two reasons. First, high failure rate of IT projects is a global problem (Zarrella, et al., 2005), and thus it is necessary to understand the related phenomenon, resistance to report the failing status of the projects, not only in the Western culture, but also in the Eastern culture. Second, under the current trend of globalization and IT outsourcing, software project teams are often composed of employees from diverse backgrounds that include the employees from the Eastern culture, and thus it is critical for software project managers to understand how the related factors of Eastern culture affect the employees’ whistle-blow willingness.

One of the key characteristics in the Eastern culture is its strong emphasis on relationships, or Guan Xi. Therefore, we focus on studying two types of relationships, commitment to the organization, and closeness to the wrongdoer. In addition, we investigate the role of the Confucian ethics - ethic values internalized by people in many East Asian countries - in the context of whistle-blowing in China.

In summary, our research questions are as follows. In the context of software projects, 1) how do the relationships with the organization and that with the wrongdoer affect the employees’ whistle-blowing willingness? 2) how do employees’ beliefs on Confucian ethics affect
their whistle-blowning willingness? We expect to make twofold contributions to the literature on the whistle-blowning issues in software projects. First, this study is the first to empirically explore the impacts of two relationship constructs - organization commitment and closeness with the wrongdoer - on whistle-blowing willingness in the context of the software projects. Second, our study is set in the Eastern culture context whereby whistle-blowning issues in software projects have not been extensively explored. Overall, our study contributes to the research on general whistle-blowning issues in organizations and research on Confucian ethics in business.

2 LITERATURE REVIEW AND RESEARCH MODEL

2.1 Research on the Factors Affecting Whistle-blowing in Software Projects

Based on the previous research on general whistle-blowing issues in organizations by Dozier and Miceli (1985), Smith and Keil (2003) proposed a comprehensive theoretical model explaining factors contributing to employees’ reluctance to report bad news in software projects to the concerned parties. They argued that when the employees make decisions whether to report bad news in the project, they will go through a series of assessments. Based on the actual project situations, the employees will first assess whether the status ought to be reported, then evaluate their personal responsibility to report, and finally compare reporting alternatives (Smith & Keil, 2003).

Some researchers have conducted empirical research investigating the whistle-blowing problems and most of these studies have used the experimental approach. It was found that the contributing factors include project situational factors, individual factors, and organizational factors (Keil, Smith, Pawlowski, & Jin, 2004; Keil, Tiwana, Sainsbury, & Sneha, 2010; C. Park, Im, & Keil, 2008; C. Park & Keil, 2009; C. Park, Keil, & Kim, 2009; Snow, Keil, & Wallace, 2007).

Beside the above factors, culture-related factors also play a role in the whistle-blowing decision for software projects. However, the number of studies from a culture perspective is limited. Keil et al. (2007) explored how the different culturally constituted views of face-saving between Americans and Koreans affect their whistle-blow intentions under situations with or without a blame-shifting opportunity. Tan, Smith, Keil (2003) studied the moderator role of national culture (individualistic in United States versus collectivistic in Singapore) on the effects of two factors impacting the employees’ predisposition to report bad news, and the two factors are organizational climate (encouraging or discouraging bad news reporting) and information asymmetry (whether bad news can be hidden over time). Both of these two studies found that when faced with the same situations, employees rooted in different culture backgrounds vary on their levels of willingness to report bad news in software projects.

2.2 Organizational Commitment

Organizational commitment reflects employees’ willingness to continue working for the organization that they are affiliated with. A commonly accepted conceptualization of
organizational commitment is the three-component model. First, the affective component of organizational commitment refers to the degree that the employees emotionally attach to, identify with, and involve in the organization. Second, the continuance component refers to the employees’ willingness to continue working in the organization due to the costs associated with leaving the organization. Third, the normative component refers to the employees’ feelings of being obligated to remain with the organization (Meyer & Allen, 1991).

Affective component and normative component of organization commitment are found to have favourable correlations with the organizational citizenship behaviour (OCB) (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). OCB is defined as “individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that collectively promotes the effective functioning of the organization” (Organ, 1988, p 4). The behaviour of reporting software projects bad news to the higher level management falls under the category of OCB. First, such reporting is usually not the employees’ formal job responsibility and is not explicitly rewarded. Second, informing the upper level management about the failing status of the projects can increase the chance to redirect or de-escalate the IT projects, reducing the magnitude of the organization’s financial losses. Positive relationship with the organization has been found to promote whistle-blowing behaviours (Oh & Teo, 2010). Therefore, we argue that in the context of software projects, employees with a higher level of organizational commitment will be more willing to blow the whistle.

H1: The level of employees’ organizational commitment will positively affect their willingness to report bad news in software projects.

2.3 Interpersonal Closeness with the Wrongdoer

Employees form relationships with their co-workers through interpersonal interactions in the work settings. Chinese culture is characterized by collectivism (Hofstede, 2003), and thus Chinese employees particularly value good interpersonal relationships. We hypothesize that for Chinese employees, reporting the wrongdoing of a close friend is more difficult than reporting that of a stranger. This is because the whistle-blowing behaviours can be seen as violation of the reciprocal principle in friendship and even as a form of betrayal. Therefore, the closer the relationship with the wrongdoer, the less likely the employee is to whistle-blow. Interestingly, this seemingly intuitive relationship has been empirically shown to be invalid. For example, meta-analysis shows that closeness with the wrongdoer is positively associated with whistle-blowing (Mesmer-Magnus & Viswsvaran, 2005). However, Miceli and Near (1992) argue that since these studies adopted survey as the research method, and thus causal relationships cannot be established. It is likely that the closer the person to the wrongdoer, the more likely she can be aware of the wrongdoing (Miceli & Near, 1992). It is the awareness rather than the closeness that leads to more whistle-blows. In our study, we will empirically validate the relationship between interpersonal closeness and willingness to whistle-blow using an experimental design, which will rule out any potential confounding factors that can influence the causal relationship between these two constructs.

H2: The level of employees’ closeness with the wrongdoer will negatively affect their willingness to report bad news in software projects.
2.4 Confucian Ethical Beliefs

The roots of Confucianism can be traced back to ancient China about 2000 years ago. It is a philosophical and moral thinking adopted and propagated by Chinese emperors for many generations and have significant impacts on ancient Chinese political and education systems. The Confucian moral thinking has become the socio-cultural infrastructure that provides guidance on individual behaviours in Far East Asian countries that includes South Korea, Japan, China, and Singapore (Ma & Smith, 1992; Park, Rehg, & Lee, 2005). It is argued that Confucian ethics is of great relevance and value to understand contemporary business ethics especially among people in the Far East Asian countries (Chan, 2008).

Among other moral guidelines, Confucianism suggests moral obligation or ethics called Wu Lun, which stated the behavior standards when dealing with five basic human relationships: affection between father and son (CEFS), loyalty between sovereign and subject (CESS), the distinction between the roles of husband and wife (CEHW), courtesy of the young for the old (CEOY), and trust between friends (CETF) (Park et al., 2005). Park et al. (2005) studied all five principles among 343 public employees in Korea and found that CEFS has a negative effect on internal and external whistle-blowing intentions, while the CEHW has a positive effect on those intentions.

In our study, we focus on two of the five principles, CESS and CETF. We argue that these two ethical principals are particularly important in today’s business world. CESS and CETF deal with relationships with people outside of family, while the remaining three principles, CEFS, CEHW, and CEOY are concerned with relationships with the immediate family members. Therefore, when individuals carry out activities in the business contexts, they are more likely to apply CESS and CETF to guide their behaviours. CESS can be reinterpreted as loyalty to an organization (Park, et al., 2005). In Confucian ethics, true loyalty means that the subject should think and act toward the sovereign’s interests. Therefore, we argue that if an employee has a strong belief on CESS, she would be more likely to report the failing status of the project to the organization leaders.

**H3: Employees’ beliefs on the Confucian ethical principle on loyalty between sovereign and subject will positively affect their willingness to report bad news in software projects.**

CESS is the ethical principle applied to the relationship between friends. It means that a person should not neglect trust between friends, always make the best efforts to keep one’s word, to help a friend in need, to be honest with her friend, and not to forget old friends (Park, et al., 2005). We argue that if an employee has a strong belief on CETF, she would use this guideline to direct her decision whether to report a co-worker’s wrongdoing to the upper management. She would have strong resistance to report a close friend’s wrongdoing to the upper management because such behaviours are likely to be seen as violating the trust between friends. That is to say, if an employee has a strong belief in CETF, this will positively moderate the relationship between her closeness with the wrongdoer and her willingness to whistle-blow.

**H4: Employees’ beliefs on the Confucian ethical principle on trust between friends will positively moderate the relationship between employees’ closeness with the wrongdoer and their willingness to report bad news in software projects.**
The research model is summarized in figure 1.

![Figure 1: Research Model](image)

3 RESEARCH METHODS

3.1 Instrument and Measures

In order to test the proposed research model, we conducted a 2 x 2 factorial experiment. The instrument includes a short scenario about a failing software project, which was adapted from Smith, Keil, & Depledge (2001). Organizational commitment was manipulated at two levels, high or low, and the closeness with the wrongdoer was manipulated as either having a close relationship or have a distant relationship with the wrongdoer.

We asked the participants to first read the scenario. After reading the scenario, the participants were required to answer a questionnaire indicating their willingness to report the bad news in the software projects, and their levels of beliefs on the two Confucian ethical principles. All questions were anchored on 7-point Likert scales. The willingness to report measures were based on measures in Park, et al. (2009), and the measures on Confucian ethics were adapted from measures in Park, et al. (2005). The measures are listed in Appendix A. In addition, the study participants answered questions related to the basic information in the scenario, and these questions were used as manipulation checks, ensuring that the participants have fully understood the scenario. The study participants were asked to provide their demographic information at last. The final instrument and the questions were all in Chinese, which is the study participants’ native language.

3.2 Sample

We first conducted a pilot test on 45 students in the Master program in Accountancy. After the pilot test, we revised and refined the scenario descriptions and the questionnaire. In the full scale data collection, we invited MBA students in a large university in China to
participate in the experiment. The instruments were distributed randomly to the students. Among 171 students who returned the questionnaires, 144 were complete and passed the manipulations checks.

While the use of student subjects could limit the external validity of the study results, it is a common practice to use students as subjects in experiments studying human decision-makings. Prior literature has provided support for using student subjects as surrogates for managers (DeSanctis, 1989; Remus, 1986), especially when the decision tasks do not require the subjects to have highly specialized domain knowledge. In our study, all the student subjects have at least two years of full-time work experiences, and they have finished a required class on Information Systems Management that have covered both the technical and the managerial issues in the software projects. We believe that the subjects were able to fully appreciate the experiment context and provide valid responses.

3.3 Analysis and Results

Table 1 shows the correlations at the item level. Factor analysis was first conducted to examine the construct validity. Except one item on CESS (CESS2), all items loadings showed the expected patterns. Table 2 shows the factor analysis results. Cronbach alphas for three constructs were calculated and reported in Table 2. CESS2 was dropped.

In order to test the hypotheses, we conducted a three-step hierarchical multiple regression. Willingness to report is the dependent variable. In the first step, three control variables, age, gender, and years of experience, were entered; in the second step, organizational commitment, closeness with the wrongdoer, and the two beliefs on Confucian ethics were entered. In the third step, the interaction term was entered. The interaction term was created by multiplying the closeness with the wrongdoer by CETF. To minimize the multi-collinearity problem, the variables were standardised before doing the multiplication.

Table 3 shows the descriptive statistics between groups. The regression analysis results are shown in Table 4. The final model adjusted R square is 20.5%. Organizational commitment significantly positively affects the individuals’ willingness to report bad news (WTR) (Beta = 0.471, t = 2.023, p < 0.05), supporting H1. The negative effect of the closeness with the wrongdoer on the willingness to report is significant (Beta = -0.861, t = -3.730, p < 0.001), supporting H2. The belief on Confucian ethical principle on loyalty on sovereign positively affects WTR (Beta =0.245, t=2.138, p <0.05), supporting H3. The interaction effect of CETF is significant (Beta = 0.271, t = 2.782, p <0.05), supporting H4.
Table 1: Item-level Correlation Matrix

<table>
<thead>
<tr>
<th>Items</th>
<th>Component 1 (Willingness to Report)</th>
<th>Component 2 (Confucian Ethics on loyalty on sovereign)</th>
<th>Component 3 (Confucian Ethics on Trust between friends)</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>wtr1</td>
<td>.837</td>
<td>.232</td>
<td>.117</td>
<td>.74</td>
</tr>
<tr>
<td>wtr2</td>
<td>.894</td>
<td>.054</td>
<td>.018</td>
<td></td>
</tr>
<tr>
<td>wtr3</td>
<td>-.865</td>
<td>.015</td>
<td>-.061</td>
<td></td>
</tr>
<tr>
<td>cetf1</td>
<td>.046</td>
<td>.126</td>
<td>.843</td>
<td>.82</td>
</tr>
<tr>
<td>cetf2</td>
<td>.045</td>
<td>.129</td>
<td>.869</td>
<td></td>
</tr>
<tr>
<td>cetf3</td>
<td>.001</td>
<td>.088</td>
<td>.803</td>
<td></td>
</tr>
<tr>
<td>cess1</td>
<td>.112</td>
<td>.725</td>
<td>.257</td>
<td>.68</td>
</tr>
<tr>
<td>cess3</td>
<td>.147</td>
<td>.756</td>
<td>.087</td>
<td></td>
</tr>
<tr>
<td>cess4</td>
<td>-.029</td>
<td>.764</td>
<td>.086</td>
<td></td>
</tr>
<tr>
<td>cess2</td>
<td>.265</td>
<td>.299</td>
<td>.483</td>
<td></td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization.

Table 2: Factor Loadings and Reliability of Constructs

<table>
<thead>
<tr>
<th>Strong Organizational Commitment</th>
<th>Distant relationship with the wrong doer</th>
<th>Close relationship with the wrongdoer</th>
</tr>
</thead>
<tbody>
<tr>
<td>N =39</td>
<td>Mean=4.92</td>
<td>N=35</td>
</tr>
<tr>
<td>S.D.=1.11</td>
<td></td>
<td>Mean= 4.16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S.D.=1.42</td>
</tr>
</tbody>
</table>
Table 3: Mean and Standard Deviations in Groups

<table>
<thead>
<tr>
<th></th>
<th>N=37</th>
<th></th>
<th>N=33</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>Weak Organizational</td>
<td>4.66</td>
<td>1.31</td>
<td>3.53</td>
<td>1.75</td>
</tr>
</tbody>
</table>

**Table 4: Regression Analysis Results**

<table>
<thead>
<tr>
<th></th>
<th>Step 1: Control Variables</th>
<th>Step 2: Direct Effects</th>
<th>Step 3: Interaction Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta</td>
<td>T stat</td>
<td>Beta</td>
<td>T stat</td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.820***</td>
<td>2.241*</td>
<td>2.183*</td>
</tr>
<tr>
<td>Age</td>
<td>0.387*</td>
<td>0.354*</td>
<td>0.406*</td>
</tr>
<tr>
<td>Gender</td>
<td>0.02</td>
<td>-0.029</td>
<td>-0.083</td>
</tr>
<tr>
<td>Year of Experience</td>
<td>-0.113**</td>
<td>-0.113**</td>
<td>-0.122**</td>
</tr>
<tr>
<td>Organizational</td>
<td></td>
<td>0.471*</td>
<td>0.484*</td>
</tr>
<tr>
<td>Commitment</td>
<td></td>
<td>2.023</td>
<td>2.116</td>
</tr>
<tr>
<td>Closeness with the</td>
<td></td>
<td>-0.861***</td>
<td>-0.856***</td>
</tr>
<tr>
<td>wrongdoer</td>
<td></td>
<td>-3.730</td>
<td>-3.771</td>
</tr>
<tr>
<td>Confucian ethic on</td>
<td></td>
<td>0.245*</td>
<td>0.245*</td>
</tr>
<tr>
<td>loyalty to sovereign</td>
<td></td>
<td>2.138</td>
<td>2.177</td>
</tr>
<tr>
<td>(CESS)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confucian ethic on</td>
<td></td>
<td>0.117</td>
<td>0.118</td>
</tr>
<tr>
<td>trust between friends</td>
<td></td>
<td>0.993</td>
<td>1.021</td>
</tr>
<tr>
<td>(CETF)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closeness with the</td>
<td></td>
<td>0.271*</td>
<td>2.782</td>
</tr>
<tr>
<td>wrongdoer * CETF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R Square Adjusted</td>
<td>0.034</td>
<td>0.178</td>
<td>0.205</td>
</tr>
</tbody>
</table>

* p < 0.05; ** p < 0.01; *** p < 0.001

**DISCUSSION**

We conducted an experimental study to investigate the impact of organizational commitment, closeness with the wrongdoer, and the beliefs on Confucian ethics on the Chinese employees’ willingness to report bad news in the software projects. Our findings show that an employee is more willing to report bad news when she has a strong organizational commitment and strong beliefs on the Confucian ethical principle on loyalty between sovereign and subject, and an employee is more resistant to report bad news when she has close relationship with the wrongdoer. In addition, the resistance to report a close friend’s wrongdoing is strengthened with strong belief on Confucian ethical principle on trust between friends.

This research has implications on both research and practice. For research, the bulk of the existing research on whistle-blowing issues in software projects has been conducted within the Western culture context. Our research makes a new contribution to this research stream by
studying a different sample, employees in China. Our study results demonstrate that the relationship-related constructs, such as relationship with the organization and that with the wrongdoer, play important roles in the employees’ whistle-blowing willingness in Eastern culture. Moreover, we made the first attempt to investigate the impact of Confucian ethics on whistle-blowing in the context of the software projects, and the results show that Confucian ethics indeed serve as moral guidelines when the employees make whistle-blowing decisions. Managerially, our study results will be of value to the software managers who manage team members from Eastern culture background. In order to encourage employees to inform the upper-level management about the true status of the projects, the managers should strive to strengthen employees’ organizational commitment and facilitate the employee’s internalization on Confucian ethics on loyalty between sovereign and subject. The managers should be extra cautious and carefully monitor the status of a project especially in the situation that the project members maintain very close personal relationships, which can potentially hinder them from revealing the negative information about a project.

This research is not without limitations. First, the study participants are MBA students rather than software developers who have real-life experiences with software projects. We acknowledge that the participants’ lack of actual experiences with software projects could potentially affect the external validity of the study findings. Second, the organizational commitment levels are only manipulated at two extreme levels, it is likely that the relationship between organizational commitment and whistle-blowing willingness is more complex than the linear relationship and thus the commitment levels should be manipulated at three or more levels. For future research, some of the experiments on whistle-blowing in the software projects should be replicated with study participants with Eastern culture background so that the cultural influence on whistle-blowing can be identified. Furthermore, Confucian moral principles other than the two investigated in our study should be explored to understand their impacts on the employees’ whistle-blowing willingness.

References


**APPENDIX A: MEASURES**

**Willingness to report**

WTR1: Indicate your willingness to immediately report the bad news to your boss (such as Steve).

WTR2: At this time, how likely are you to go directly to your boss (such as Steve) to report the bad news concerning the project’s status?

WTR3: Please indicate how likely it is that you would avoid telling your boss (such as Steve) the bad news.

**Confucian ethic on loyalty to sovereign (CESS)**

CESS1: Loyalty to one’s organization is very important.

CESS2: I intend to devote my utmost efforts for the development and progress of my organization.

CESS3: The reputation of one’s organization should be upheld no matter what.

CESS4: Loyalty to the one’s boss is a fundamental duty.

**Confucian ethic on trust between friends (CETF)**

CETF1: Friends must keep their words to each other.

CETF2: I should uphold my goodwill before my friends.

CETF3: The honesty between friends should never be neglected.