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Exploring IS Project Outsourcing Success: A Psychological Contract Breach Perspective

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Abstract

Purpose — This study takes the perspective of the psychological contract breach (PCB) to explore the factors affecting IS outsourcing success. Little research has been done to understand how PCB influences IS outsourcing success. This study bridges the knowledge gap by investigating how reneging, incongruence, and vigilance determine PCB and further influence IS outsourcing success.

Design/methodology/approach — A questionnaire-based study is conducted to test the proposed model. The participants are IS department employees and managers who have participated in one or more IS outsourcing projects.

Finding — The PCB has significant influence on the success of IS project outsourcing. Feelings of violation are found to be a consequence of client perceived PCB. These feelings further hinder outsourcing success.

Research limitations/implications — Although much literature has been written about how to enhance outsourcing success or how to prevent failure through many different methods, we argue that IS outsourcing outcome depends on the client's cognitive

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and emotional responses within the client-vendor outsourcing relationship. This study considers only the client's point of view.

Practical implications – Outsourcing vendors should ensure that their promises and obligations are fulfilled and avoid behaviors that could lead to a perceived PCB during outsourcing projects. If a PCB happens, managers should know how to relieve the client's feelings of violation.

Originality/value – This study sheds light on the underlying sources of client perceived PCB and confirms that psychological contract theory applies to not only organization-employee relationships but also to client-vendor relationships in an IS outsourcing context.

Keywords: Psychological contract, psychological contract breach, IS outsourcing success, outsourcing relationship

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以心理契約違反觀點探討資訊系統專案委外成功

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摘要

過去雖然有許多文獻，探討影響資訊系統委外成功的因素，但鮮少探討客戶與廠商間的關係以及客戶認知與情感的影響。委外的成果無法完全以書面契約來規範，還須透過非書面的心理契約來補足。因此本研究以心理契約理論為基礎，探討心理契約中的承諾失約或不一致，如何影響客戶產生委外廠商違反彼此心理契約的認知，進而導致對於委外廠商的違背負面情緒，造成客戶認為資訊系統委外的失敗。本研究以問卷調查法研究，收集 133 份有效樣本，測量對象為在資訊部門中有過資訊委外經驗的員工。研究發現，心理契約違反對資訊系統委外成功有顯著影響。證實心理契約理論不僅適用於組織與僱員的關係，也可解釋資訊系統外包環境中客戶與廠商的關係。

關鍵詞：心理契約、心理契約違反、資訊系統委外成功、委外關係

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1. INTRODUCTION

Outsourcing has become a popular means by which to develop and implement information systems (ISs). However, not all companies will find IS outsourcing to be a good fit. Despite the widespread popularity of IS outsourcing over the past decades, the low success rate of this strategy remains an issue (Pannirselvam & Madupalli 2011; Gschwendtner et al. 2017). When a client outsources an IS project to a vendor an inter-firm outsourcing relationship is created. Previous studies on the management of IS outsourcing relationships have focused on strategic partnerships or have defined the interactions between the parties in the context of the legal contract (Saunders et al. 1997; Willcocks & Kern 1998). Actually, in addition to a *legal* contractual relationship, there is a *psychological* contract between the client and vendor. Distinct from a legal contract, a psychological contract is not an agreement with specific terms or a legal object, but a compound of reciprocal obligations into which individuals enter voluntarily. Even when a legal contract exists, written obligations can never be complete and must be supplemented by unwritten obligations. The psychological contract, therefore, encompasses the parties' perceptions and beliefs of both explicit written terms found in the legal contract and implicit unwritten terms. Ultimately, the parties' psychological contract drive their behavior (Koh et al. 2004). This concept of a psychological contract originated in organizational behavior research as a way to explain employees' behaviors and attitudes. Employees perceive a psychological contract breach (PCB) when the organization does not fulfill its psychological contract with them. Robinson and Morrison (2000) proposed a notable model of PCB and argued that three antecedents drive individuals' perceptions of such a breach: renegeing, incongruence and vigilance. The psychological contract is a kind of reciprocal relationship or "social exchange" which affects one's emotions, cognition and behavior during interpersonal interactions.

In the context of IS outsourcing, the client-vendor relationship can be considered a kind of social exchange or reciprocal relationship. Koh et al. (2004) highlighted the importance of understanding IS outsourcing success from the perspective of psychological contract. First, it focuses on the mutuality of the parties involved in the contractual relationship rather than one-sided obligations. Second, it draws attentions to psychological obligations as distinct from legal obligations. Individuals develop psychological contracts that ultimately drive their behavior regardless of whether a legal contract exists. Finally, it switches from the interorganizational level of analysis to individual level of analysis. Interorganizational relationships emerge and evolve as the

consequence of individual activities. Koh et al. (2004) identified critical customer-supplier obligations in an IS outsourcing relationship and demonstrated the positive impact of fulfilling these obligations on outsourcing success. Their study highlights the importance of psychological contract in IS outsourcing relationship and confirms the suitability of applying psychological contract theory to inter-firm relationships, however, they did not examine the relationships between reneging, incongruence, vigilance, perceived contract breach, feeling of violation, and outsourcing success. Our study bridges the knowledge gap in order to understand systematically how reneging, incongruence, and vigilance determine PCB and further influence IS outsourcing success.

We adopt a framework structured around the PCB and posit that the client's emotional reaction is likely to determine the level of success of the IS outsourcing project if the psychological contract within the client-vendor relationship is unmet or disappointing. Our study takes the perspective of the psychological contract to better understand the factors that affect clients' evaluations of outsourcing success. We develop a theoretical model and conduct a survey to investigate how reneging, incongruence and vigilance impact clients' perceptions of a PCB during IS outsourcing, and how PCB influences feelings of violation and, ultimately, outsourcing success.

2. LITERATURE REVIEW

2.1 Psychological Contract and Psychological Contract Breach

Psychological contract theory was proposed in the 1990s in the psychology literature and in the fields of organizational behavior and management. Organizational science research has defined the psychological contract as a set of beliefs about the reciprocal obligations between an employee and his or her organization (Rousseau 1989; Morrison & Robinson 1997). This contract has been described as the part of the relationship between the employee and organization in which each has a psychological understanding of the other's expectations. Those expectations affect the parties' behavior and their relationship (Lucero & Allen 1994; Robinson & Morrison 1995). The psychological contract has also been described as constituting employees' mental beliefs and expectations regarding their mutual obligations in the employee-organization exchange relationship. In contrast to precise formal contracts which require an organization to achieve its goals (Robinson et al. 1994), the psychological contract does not specify terms or legal objects. Employees voluntarily accept reciprocal obligations which cannot actually be enforced. In addition to employee-organization relationships, psychological

contract has been applied to other relationship dyads such as teacher and student, tenant and landlord, service provider and customer, salesperson and customer, supplier and buyer, and inter-firm relationships (Conway & Briner 2009). Koh et al. (2004) has confirmed that psychological contract theory is suitable to explain inter-firm relationships because interorganizational relationships emerge and evolve as the consequence of individual activities. Psychological contract theory provides a lens through which interorganizational relationships can be analyzed at an individual level. Organizations cannot perceive, though their individual managers can themselves personally perceive a psychological contract (Rousseau 1989). Employees somehow aggregate psychological contract messages communicated from principals, agents, and practices that variously represent the organization and arrive at a view of the organization as if it is a coherent single entity through a process of anthropomorphizing the organization (Conway & Briner 2009).

The term *psychological contract breach* (PCB) has been defined as an individual's perception of the extent to which top managers have failed to fulfill one or more obligations (Robinson & Morrison 1995; Conway & Briner 2002). In organizational behavior research, the concept of a PCB has been discussed in terms of the relationship between the employees and the organization (Robinson & Morrison 1995; Morrison & Robinson 1997; Robinson & Morrison 2000). A PCB is an individual experience in which one is personally conscious of the failure of others to fulfill their obligations. Regardless of whether or not the psychological contract is *actually* breached, any *perceived* breach in the psychological contract has a negative effect on behavior. Fulfilling the psychological contract does not necessarily lead to high performance, but a perceived breach of the psychological contract does lead to dissatisfaction and negative emotions. The perceived PCB has been proven to correlate with the work-related attitudes of employees (Restubog et al. 2012). Prior studies have applied psychological contract theory or the concept of the PCB to explore the relationship between buyers and sellers and customer satisfaction toward services in the fields of e-commerce (Pavlou & Gefe 2005; Chang & Zhang 2019), user resistance in the implementation of information systems (Klaus & Blanton 2010; Lin et al. 2018), and knowledge hiding within organizations (Pan et al. 2018). Koh et al. (2004) identified critical customer-supplier obligations in an IS outsourcing relationship and confirmed that the customer's perception of outsourcing success is positively associated with the extent to which supplier obligations have been fulfilled. Our study advances this research path by developing a comprehensive model to explain the antecedents of PCB and the impact of PCB on this

feeling of violation and the success of the outsourcing project.

Our study develop a conceptual model based on Robinson and Morrison's (2000) PCB model that has been cited by most PCB studies. Three factors are proposed as leading to an employee's perception of a PCB: *reneging*, *incongruence* and *vigilance* (Robinson & Morrison 2000). These factors give the employee the sense that the contract has been violated. *Reneging* refers to situations in which the employee considers the employer as unable or unwilling to fulfill the psychological contract. (Morrison & Robinson 1997; Robinson & Morrison 2000). In such cases, agents of the organization recognize that an obligation exists but they knowingly fail to follow through on that obligation. *Incongruence* occurs when an employee's perceptions of a given promise differ from those held by the organizational agent or agents responsible for fulfilling that promise (Morrison & Robinson 1997). *Vigilance* refers to the extent to which the employee monitors how well the organization fulfills the terms of his or her psychological contract (Morrison & Robinson 1997). Vigilance is an energy-consuming activity which requires constant scanning of an ever-changing environment so that the employee can monitor the organization's—or its agent's—ability and willingness to fulfill its obligations (Kiesler & Sproull 1982; Rousseau & McLean Parks 1993). An employee's perception of a PCB results in the feelings of contract violation. Robinson and Morrison (2000) also identified the dimensions of the three factors. Reneging is composed of organizational performance and employee performance. Incongruence is composed of formal socialization, implicitness of promises, and pre-hire interaction. Vigilance is composed of organizational change, perceived breach history, and employment alternatives. Our study adapts these dimensions to the context of IS project outsourcing and considers the obligations identified by Koh et al. (2004).

2.2 IS Outsourcing Success

IS outsourcing is defined as the process of turning over part or all of an organization's IS functions to an external service provider in order for the organization to attain economic, technological and strategic advantages (Loh & Venkatraman 1992). Previous studies have provided various definitions of IS outsourcing success. Outsourcing success brings benefits to the company, which can be classified into different dimensions: functional, strategic, technological and economic (Lee & Kim 2005; Chang & Gurbaxani, 2012; Schwarz 2014). Two perspectives have been used to define outsourcing success: the *business* perspective, which focuses on the technological,

strategic and economic benefits; and the *user* perspective, which focuses on the quality of the offered services (Pannirselvam & Madupalli 2011; Gonzalez et al. 2015).

Könning et al. (2019) reviewed recent studies on IS/IT outsourcing and identified the main outsourcing motivations, including cost reduction, access to expertise, quality improvement, and focus on core capabilities. The variables that can predict outsourcing outcomes can be classified into sixteen categories, containing transaction attributes, relational governance, client firm characteristics, sourcing motivation, service sourcing decisions, provider firm capabilities, client firm capabilities, contractual governance, country characteristics, relationship characteristics, provider firm characteristics, service sourcing outcomes, environment, decision characteristics, mimetic influences, and employee level. They found additional empirical support for the effect of relationship characteristics (especially communication, knowledge sharing, and trust) on outsourcing success. However, little research has been done to understand how the client's cognitive and emotional responses within the client-vendor outsourcing relationship affect IS outsourcing outcomes.

The outsourcing process involves a combination of social and organizational interactions. Social exchange theory is one of the influential frameworks used to understand human and organizational behavior. A social exchange has been defined as cooperation between two or more individuals or groups for their mutual benefit (Cropanzano & Mitchell 2005). Social exchange relationships depend on the norm of reciprocity: the expectation that distinct groups will respond in kind to one another so that when one does another a favor, some future return is likely (Wayne et al. 1997). Previous research has also identified the connection between social exchange relationships and work-related outcomes (Masterson et al. 2000).

Based on the psychological contract, social exchange relationships within business and organizational activities lead to the expectation that benefits will result from past actions or anticipated contributions (Robinson et al. 1994). In the context of IS outsourcing, clients and vendors can be considered as two distinct "working groups." Therefore, as with any contractual relationship, clients and vendors have mental beliefs and expectations regarding how the norm of reciprocity applies to their mutual obligations. When a vendor cannot fulfill a contractual obligation to the client, trust is likely to suffer, leading to a bad relationship between the two parties. The client is also likely to be dissatisfied with this relationship. Previous research has noted that customers and suppliers have the expectation of mutual obligation, and that both parties perceive the outsourcing as successful when the customer and supplier have both fulfilled their

obligations (Koh et al. 2004). Lioliou et al. (2014) argued that using formal and relational governance in a complementary way (enabling or compensating) breeds better outsourcing outcomes than using them as substitutes (dampening or replacing). They suggested that relational governance, and the psychological contract in particular, can facilitate the effectiveness of formal governance. Kim et al. (2013) found that the client's PCB by the vendor has a more impact on the outsourcing outcome than does the vendor's PCB by the client. Jeong et al. (2018) reviewed extent studies on psychological contract within IS/IT outsourcing and reported that psychological contract is still an underexplored concept within IS/IT outsourcing. They argued that there has yet been any study that investigates the connection between the psychological contract and relational quality within the setting of IS/IT outsourcing in detail to date. Therefore, further investigation into how the psychological contract influences the relational quality levels between individuals engaged in IS/IT outsourcing is important. The present study investigates how the client's perception of psychological contract breach generates feelings of violation that harm the client-vendor relationship and negatively affect IS outsourcing success.

3. RESEARCH MODEL AND HYPOTHESIS DEVELOPMENT

This study developed a research model based on the literature review and the theories noted above (Figure 1). Our hypotheses regarding outsourcing success were developed in accordance with the PCB framework (Robinson & Morrison 2000). We explore three antecedents of the client perceived breach: renegeing, incongruence and vigilance. The research model shows how the factors of the three antecedents affect the client's perception of a psychological contract breach during the IS outsourcing period. Once the vender fails to meet the contract, the client will perceive a breach, and that perception will cause a feeling of violation that will negatively affect IS outsourcing success.

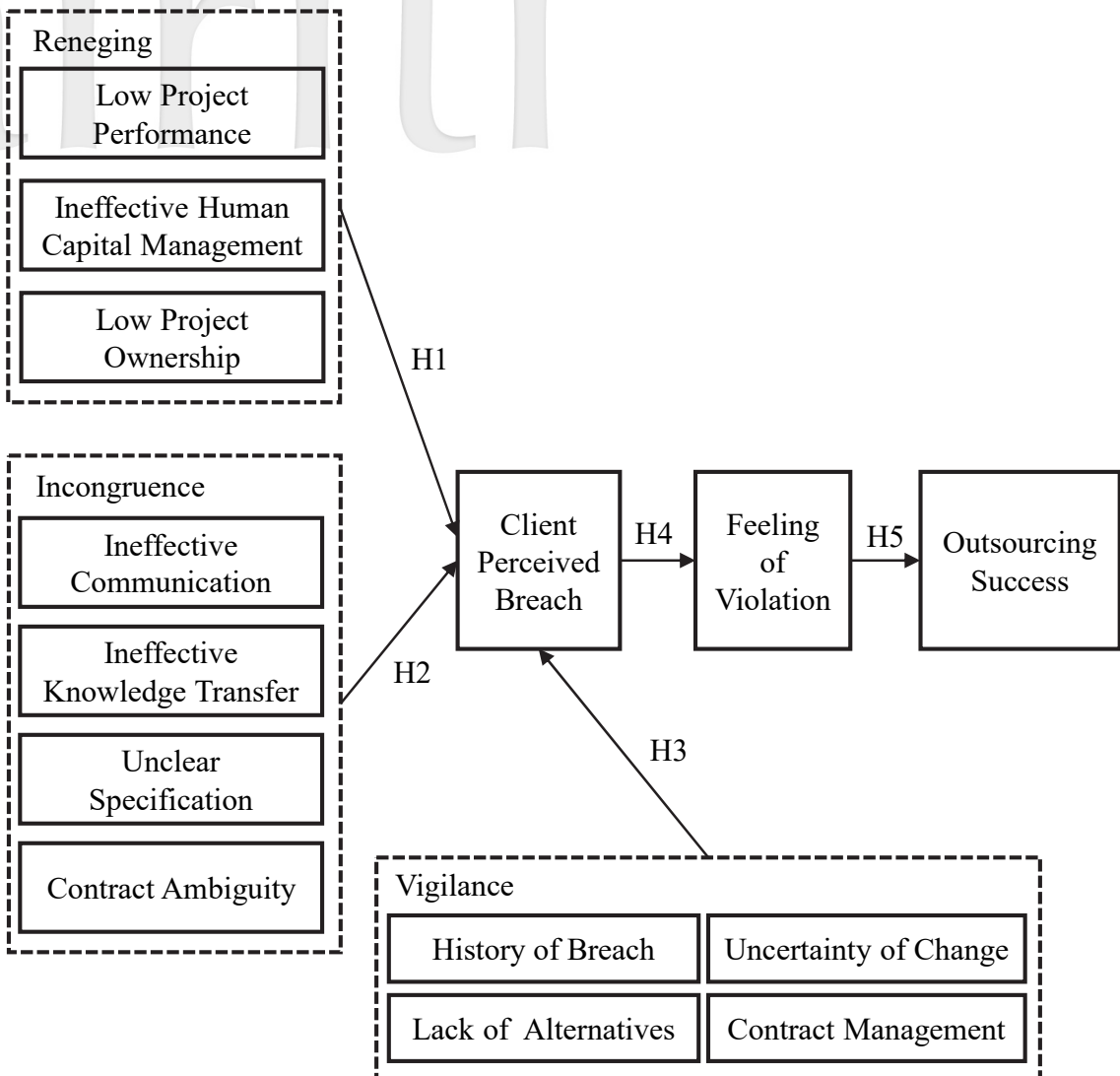


Figure 1: Research model

3.1 Reneging

In the field of organizational behavior and management, reneging refers to the condition where “agents of the organization recognize that an obligation exists but they knowingly fail to follow through on that obligation because of opportunism or mere incompetence” (Morrison & Robinson 1997; Robinson & Morrison 2000). In our study, the concept of reneging refers to the client’s perception that the outsourcing vendor is either unable or unwilling to fulfill its obligations. As identified in this study, reneging is comprised of low project performance, low project ownership, and ineffective human

capital management.

3.1.1 Low Project Performance

PCB theory states that renegeing occurs when an employee believes that the organization is unable to fulfill a promise or obligation (Morrison & Robinson 1997; Robinson & Morrison 2000). Thus, we include low project performance as one of the sub-constructs of renegeing. Prior study has found that greater capabilities of IS provider decrease user-perceived PCB because capable IS providers are better able to fulfill their obligations (Lin et al. 2018). In the context of IS outsourcing, if the vendor cannot perform a project well, the client discovers that the capabilities of the vendor are poor and will be likely to break its promises or fail to fulfill its obligations under the client-vendor psychological contract. The client is therefore more likely to perceive a contract breach.

3.1.2 Ineffective Human Capital Management

Human capital is a valuable organizational resource that improves the firm's efficiency and effectiveness, increasing its competitive advantage and core competence (Lepak & Snell 1999, 2002). Previous research on the psychological contract has indicated that human capital management is one of the obligations of the IS outsourcing vendor (Koh et al. 2004). To achieve IS outsourcing success, vendors must manage their human capital by assigning sufficient employees with the required skills to work on the project and to minimize turnover. We define ineffective human capital management as the vendor's unwillingness to assign competent employees to complete the project, or the vendor's inability to manage its employees in order to complete the project. The obligations of effective human capital management highlight the reciprocity of the exchange between the client and the vendor. The symmetrical obligations suggest that there must be adequate and high-quality staff available from both sides to ensure the outsourced operations can function well. If the client finds that the vendor is unwilling or unable to manage human capital, the client will perceive a contract breach because the vendor fails to fulfill the obligations.

3.1.3 Low Project Ownership

The outsourcing literature has noted that the participation or involvement of the client leads to outsourcing success (Lee & Kim 1999; Gonzalez et al. 2005, 2010). When clients question the value of cooperation and clearly express their unwillingness to participate in the project, their attitudes lead to a negative project result (Tait & Vessey 1988; Lin & Shao 2000). In this study, project ownership refers to the extent to which the client commits to and provides support for the IS outsourcing project (Koh et al. 2004).

When project ownership is high, the client responds quickly to vendor requests for information and goes beyond the call of duty to fulfill urgent requests (Koh et al. 2004). We consider project ownership to be a form of client participation that requires the client's mental, physical and emotional input (Rodie & Kleine 2000). Client participation can lead to better communication of the client's needs, improving the vendor's ability to satisfy user requirements and fulfill its obligations (Wixom & Watson 2001). When client participation in the project is less than expected, the incidence of renegeing will be greater and a PCB is more likely to occur.

In this study, renegeing is a formative second order construct composed of low project performance, ineffective human capital management, and low project ownership. When the client discovers that the vendor cannot perform as promised or manage human capital effectively, or the client cannot commit to and provide support for the IS outsourcing project, this increases the client's perception of a PCB. Thus, we hypothesize as follows.

H1. Renegeing increases the client's perception of a PCB.

3.2 Incongruence

In this study, incongruence refers to how the client's beliefs about a given obligation or set of obligations differ from those held by the outsourcing vendor (Robinson & Morrison 2000). For example, inconsistent expectations regarding what defines project completion may cause the outsourcing vendor to consider the project complete while the clients consider it unfinished, leading to the client's perception of a psychological contract breach. In this study, incongruence is composed of ineffective communication, ineffective knowledge transfer, unclear specifications, and contract ambiguity.

3.2.1 *Ineffective Communication*

The literature has identified communication as one of the critical factors for success, and has noted that poor communication quality creates a barrier between the client and vendor, prohibiting the development of a successful system (Ko et al. 2005). Most research has indicated that communication is a key factor impacting the success or failure of a project (Nakatsu & Iacovou 2009; Lacity et al. 2010). Following the definition proposed by Chiu et al. (2006), our study defines communication as the extent to which the vendor and the client have a shared language for understanding their mutual obligations in an IS outsourcing project. Good communication facilitates honest exchanges between the vendor and the client. Clients are more likely to form a set of

beliefs and assumptions that are similar to those held by their vendors. As a result, such clients will be less likely to subsequently perceive that their psychological contract has been breached.

3.2.2 *Ineffective Knowledge Transfer*

Prior studies have indicated that effective knowledge transfer is positively associated with a better IS outsourcing outcome (Oshri et al. 2008; Lacity et al. 2010; Koriat & Gelbard 2014). Examples of effective knowledge transfer include the sharing of industry best practices, the transfer of product or service expertise, and the delivery of complete and comprehensive documentation to facilitate the use of the product (Koh et al. 2004). In this IS outsourcing context, knowledge transfer refers to the extent to which clients are educated in terms of the necessary skills, knowledge and expertise associated with using the outsourced system or service. The client's ideas regarding industry best practices may differ from those of the vendor, and the client may be unclear about how to use the system or service. Effective knowledge transfer can enhance knowledge integration between clients and vendors and enable the effective sharing of schemata. Incongruence is less likely to occur when knowledge can be effectively transferred, and, hence, the project is less likely to suffer from PCB.

3.2.3 *Unclear Specifications*

In this study, unclear specifications refers to the extent to which vendors cannot explicitly and comprehensively understand and articulate the requirements for the services covered in the outsourcing project (Koh et al. 2004). Clear specifications are considered an important part of the reciprocal exchange between clients and vendors in an IS outsourcing relationship. For example, the client is obliged to accurately convey the project requirements, and the vendor is obliged to convey clear system specifications, all of which relate to the terms of the exchange (Kern & Willcocks 2000). During an IS outsourcing project, obscure specifications will make it difficult for the vendor to determine the project scope and understand the client's system requirements. Thus, we consider unclear specifications a sub-construct of incongruence in an IS outsourcing context. Perceived contract breach via incongruence is more likely when the specification is unclear because it causes the vendor to misunderstand the client's requirements.

3.2.4 *Contract Ambiguity*

In an IS outsourcing context, contract explicitness refers to the extent to which outsourcing contracts are composed of elaborate clauses (Gainey & Klaas 2003; Barthélemy & Quélin 2006). The literature has proposed that detailed contracts are more

effective in IT outsourcing deals, allowing for preciseness, completeness, flexibility, balance, and other necessary controls to guide outsourcing behaviors (Gainey & Klaas 2003; Kim et al. 2013). Based on the literature, increased contract explicitness helps to mitigate the risk that the vendor will engage in opportunistic behaviors in response to unforeseen events or changes in the environment (Barthélemy & Quélin 2006). Therefore, we posit that increased ambiguity in the contract leads to increased incongruity regarding the obligations implied by the project contract terms. Ambiguous contracts are particularly vulnerable to misinterpretation because the vague or inexplicit clauses allow the client and vendor to make assumptions that differ significantly, and, hence, the project is more likely to suffer from PCBs.

In our IS outsourcing project context, we consider incongruence to be a second order formative construct composed of ineffective communication, ineffective knowledge transfer, unclear specifications, and contract ambiguity. Client perceived PCB is likely to occur when the communication and knowledge transfer between the vendor and the client are ineffective, or when the specifications in the contract are not clear. Thus, we hypothesize as follows.

H2. Incongruence increases the client's perception of a PCB.

3.3 Vigilance

Vigilance is driven by the desire to obtain information about how well one's psychological contract is being maintained (Morrison & Robinson 1997; Robinson & Morrison 2000). Our study defines client vigilance as the client's monitoring of the vendor to ensure the fulfillment of the psychological contract. As defined in this study, vigilance is comprised of history of breach, contract management, uncertainty regarding change, and lack of alternatives.

3.3.1 *History of Breach*

History of breach refers to the client's past experiences of PCB with the outsourcing vendor (Robinson & Morrison 2000). Previous studies have determined that past experience is an important factor affecting transactional relationships and employees' trust and confidence in their employer (Grover et al. 1994; Robinson & Rousseau 1994; Robinson 1996; Pennington et al. 2003). According to the psychological literature, trust is built on the basis of previous experience and the interactions between individuals from different groups within an organization in the cognitive process of social categorization

(Kramer 1999). In our context, trust is the client company's confidence in the reliability and integrity of the outsourcing vendor. The lower a client's trust, the more likely the client will be to expect that promises will be broken. The lower the client's trust, the more likely the client vigilantly monitors how well the vendor is fulfilling its promised obligations, and, hence, more likely to perceive contract breach.

3.3.2 *Uncertainty of Change*

The literature has indicated that when a project or service is outsourced, changes may occur in the client's current status, such as changes in job content, loss of power, and reduced benefits (Jiang et al. 2000). In the context of a psychological contract, such changes are likely to lead to increased client sensitivity and vigilance, causing the client to monitor the environment in order to detect any PCB. In this study, uncertainty of change refers to the extent to which the uncertainty inherent in a given outsourcing project impacts the client's current status (Xia & Lee 2005). It tends to cause clients to be more vigilant so that they can detect and respond to any PCB.

3.3.3 *Lack of Alternatives*

Lack of alternatives refers to limitations in the options available for the client to continue to work without the intended system being developed in the outsourcing project (Robinson & Morrison 2000). Research on organizational behavior has noted that the threat of a perceived PCB decreases when employees have more employment alternatives, i.e., more opportunities to select other positions without changing companies or careers (Robinson & Morrison 2000; Deery et al. 2006). Thus, the degree to which they perceive the threat of a PCB is negatively related to the number of available choices. In our context, clients who expect to have no other systems or methods for completing their work are more vigilant in monitoring the vendor and care more about the fulfillment of the psychological contract.

3.3.4 *Contract Management*

Contract management refers to the extent to which there are relevant rules by which to measure project performance in order to supervise the execution of the contract as well as manage and change the contract (Shi et al. 2005). Contract management involves more action in the post-contract stage to ensure IS outsourcing vendor accountability, and applies to the execution of existing and future IS outsourcing contracts. Therefore, clients with high levels of contract management are more vigilant in monitoring the vendor so that they can detect and respond to any PCB.

Vigilance is considered to be a formative second order construct composed of the

following sub-constructs: history of breach, uncertainty of change, lack of alternatives, and contract management. A client who is highly vigilant may be more likely to perceive that the vendor has breached the psychological contract. Thus, we hypothesize as follows.

H3. Vigilance increases the client's perception of a PCB.

3.4 Feelings of Violation, and IS Outsourcing Success

Organizational behavior researchers have defined feelings of violation as a sense of betrayal which invokes deeper negative emotions such as anger and frustration (Rousseau 1989; Robinson & Morrison 2000). Thus, feelings of violation are a strong emotional reaction to a breach in the psychological contract (Robinson & Morrison 2000). Non-rational emotions also affect one's feelings, sense of satisfaction, and other affective responses (de Guinea & Markus 2009). Clients who perceive that their psychological contract will be breached and that the outsourcing vendors cannot fulfill their promises might feel disappointment, dissatisfaction, anger and a sense of betrayal. This accumulation of negative emotions converts to feelings of violation. Thus, we hypothesize as follows.

H4. The perception of a PCB increases the client's feelings of violation.

The literature has indicated that the contract and the set of mutual obligations between clients and vendors in an IS outsourcing context are similar to those between employees and organizations, based on the perceived promise of a reciprocal exchange (Ho et al. 2003). A PCB or violation negatively influences work-related outcomes (Turnley & Feldman 2000). Violations have been found to be negatively related to trust, organizational commitment and organizational citizenship behaviors, and positively related to cynicism and withdrawal behaviors (Pate et al. 2000; Zhao et al. 2007; Chiang et al. 2012). In this study, outsourcing success refers to the extent to which clients are satisfied with the reliability, responsiveness and quality of the product or services delivered (Gainey & Klaas 2003). Thus, we posit that clients' feelings of violation are negatively related to IS outsourcing success.

H5. Feelings of violation negatively affect IS outsourcing success.

4. RESEARCH METHODOLOGY

4.1 Measures

We conducted a questionnaire survey to test our research hypotheses. The survey instruments were adapted from previous literature to fit the research context. All items were measured using a seven-point Likert scale in which participants chose one of seven levels of agreement ranging from 1 (strongly disagree) to 7 (strongly agree). The operational definitions of the constructs and the sources of the measurement items are described in Table 1.

Table 1: Operational definitions of constructs

Construct	Operational Definition	No. of Items	Reference
Ineffective Human Capital Management (HC)	The extent to which the outsourcing vendor does not have the ability and/or willingness to assign highly-qualified staff to work on the project, and to minimize staff turnover during the project.	3	Koh et al. (2004)
Low Project Ownership (PO)	The extent to which the client does not provide support and commitment to the IS outsourcing project.	3	Koh et al. (2004)
Low Project Performance (PP)	The extent to which the outsourcing vendor does not have the ability to achieve the project goal within budget and deliver on schedule.	3	Gopal & Gosain (2010); Jun et al. (2011)
Unclear Specifications (SP)	The extent to which the vendor does not understand and articulate—explicitly and comprehensively—the requirements for the services covered in the outsourcing project.	3	Koh et al. (2004)
Ineffective Knowledge Transfer (KT)	The extent to which the vendor does not educate clients in terms of the necessary skills, knowledge and expertise associated with using the outsourced system or service in the outsourcing project.	4	Koh et al. (2004)

Ineffective Communication (CO)	The extent to which the vendor and client do not have a shared language for understanding their mutual obligations in the outsourcing project.	3	Chiu et al. (2006)
Contract Ambiguity (CA)	The extent to which the outsourcing contract is composed of ambiguous clauses.	5	Gainey & Klaas (2003); Barthélemy & Quélin (2006)
Uncertainty of Change (CH)	The extent to which the uncertainty inherent in the outsourcing project may impact the client's current status.	3	Xia & Lee (2005)
History of Breach (HB)	The client's past experiences of PCB with other outsourcing vendors.	3	Robinson & Morrison (2000)
Lack of Alternatives (AL)	The level of limitation of the client's options to work without the system or service supplied by the outsourcing project.	3	Robinson & Morrison (2000)
Contract Management (CM)	The extent to which there are relevant rules by which to measure project performance in order to supervise the execution of the contract as well as manage and change the contract.	3	Shi et al. (2005)
Client Perceived Breach (CPB)	The client's perception of the extent to which the outsourcing vendor has failed to fulfill one or more obligations under the client-vendor psychological contract.	3	Robinson & Morrison (2000); Conway & Briner (2002)
Feelings of Violation (FV)	The client's experience of the feelings of betrayal and deeper psychological distress.	4	Robinson & Morrison (2000)
Outsourcing Success (OS)	The extent to which the client is satisfied with the reliability, responsiveness and quality of the services.	6	Gainey & Klaas (2003)

4.2 Sampling and Data Collection

We first conducted a pilot test and collected 33 valid responses. We modified the

questionnaire based on the feedback and adopted the revised version as our finalized questionnaire. Next, we distributed the questionnaire to MIS graduates and students enrolled in a master-level MIS program in the university via e-mail and paper-based surveys. The participants must be IS department employees and managers who have participated in one or more IS outsourcing projects. The outsourcing project in which the participant recently participated was the one referred to in the question items in the questionnaire. Totally, 164 responses were collected. After eliminating responses with missing values, 133 valid responses were retained for hypothesis testing. The demographic information is shown in Table 2.

Table 2: Sample demographics.

Measurement	Category	Frequency	%
Gender	Male	97	72.9
	Female	36	27.1
Age	21-30	48	36.1
	31-40	65	48.9
	41-50	16	12.0
	51-60	4	3.0
IS Department Position	Engineer	33	24.8
	System Analyst	14	10.5
	Program Manager	20	15.0
	Section Manager	7	5.3
	Programmer	52	39.1
	Other	7	5.3
Organization Size (number of employees)	<30	10	7.5
	30-50	13	9.8
	51-100	34	25.6
	101-500	25	18.8
	501-1,000	18	13.5
	1,001-3,000	13	9.8
	>3,000	20	15.0

Industry Type	Information Technology	63	47.4
	Finance	6	4.5
	Manufacturing	21	15.8
	Service	10	7.5
	Medical	7	5.3
	Government	15	11.3
	School	3	2.3
	Other	8	6.0

5. DATA ANALYSIS

5.1 Common Method Variance and Non-Response Bias

We used the marker variable technique to test the common method variance (CMV) problem using SmartPLS. As our marker variable, we used social desirability (Crowne & Marlowe 1960), which is unrelated to the main research model. The marker variable was created as an exogenous variable predicting each endogenous construct in the model. Finally, we compared the marker variable model with the baseline model and found that the significant paths in the baseline model remain significant in the marker variable model. Thus, CMV is not a concern in this study (Rönkkö & Ylitalo 2011).

In order to ensure no differences between respondents and non-respondents, we compared the demographic data from the first quartile and the last quartile of respondents, using a chi-square test to examine the sample. The result shows no difference between the first quartile and the last quartile in gender ($p = 0.398$), age ($p = 0.542$), IS department position ($p = 0.32$), organization size ($p = 0.323$), and industry type ($p = 0.613$), at a significance level of 0.05. Thus, non-response bias is not a problem in this study.

5.2 Measurement Model

Table 3 shows that all composite reliability and Cronbach's alpha values of the constructs are greater than 0.7. Thus, the reliability of this study is confirmed. Convergent validity can be examined via average variance extracted (AVE), factor loading, and item-total correlation (ITC). The AVE of each construct should be greater than 0.5, factor loading should be greater than 0.7, and ITC should be greater than 0.3. Table 3 shows that the convergent validity of this study is confirmed. To ensure discriminant validity, as shown in Table 4, the square root of AVE for each construct is greater than that construct's correlation with any other construct. Thus, the discriminant validity of the research model

is supported (Fornell & Larcker 1981).

Table 3: Factor analysis

Construct	Item	Loading	ITC
Ineffective Human Capital Management (HC) CR=0.9163, Alpha=0.8625, AVE=0.7852	In this outsourcing project development process, the outsourcing vendor...		
	1 Assigned adequate staff to be dedicated to the project.*	0.906	0.775
	2 Kept staff turnover low during the project.*	0.915	0.779
	3 Replaced any departing staff with someone who was either equivalent or more qualified.*	0.836	0.665
Low Project Ownership (PO) CR=0.9128, Alpha=0.8575, AVE=0.7775	In this outsourcing project development process,		
	1 We responded promptly whenever the outsourcing vendor needed information.*	0.898	0.727
	2 We provided fast turnaround to outsourcing vendor requests.*	0.914	0.787
	3 We responded beyond the call of duty to urgent requests.*	0.832	0.682
Low Project Performance (PP) CR=0.8955, Alpha=0.8253, AVE=0.7408	1 The outsourcing project objectives were realized.*	0.867	0.686
	2 The outsourcing project was delivered within the budget (cost) .*	0.851	0.680
	3 The outsourcing project was delivered on schedule.*	0.864	0.673
Unclear Specifications (SP) CR=0.9678, Alpha=0.9501, AVE=0.9094	In this outsourcing project development process, the outsourcing vendor...		
	1 Understood our product or system requirements clearly.*	0.947	0.881
	2 Clearly defined the required deliverables.*	0.963	0.917
	3 Clearly defined the product or service specifications.*	0.951	0.889
Ineffective Knowledge Transfer (KT)	In this outsourcing project development process, the outsourcing vendor...		
	1 Transferred knowledge to our staff.*	0.925	0.858

CR=0.9449, Alpha=0.9213, AVE=0.8115	2	Shared industry best practices with us.*	0.919	0.843
	3	Transferred know-how regarding the product or service to us.*	0.941	0.887
	4	Delivered complete and comprehensive documentation.*	0.813	0.688
Ineffective Communication (CO) CR=0.9581, Alpha=0.9343, AVE=0.8884	In this outsourcing project development process,			
	1	The outsourcing vendor and my team used an understandable communication pattern for discussion.*	0.941	0.857
	2	The outsourcing vendor and my team used understandable narrative forms for communication.*	0.966	0.913
	3	The outsourcing vendor and my team used common terms or jargon during interactions.*	0.914	0.823
Contract Ambiguity (CA) CR=0.9176, Alpha=0.8868, AVE=0.6912	The outsourcing contract...			
	1	Was specific and detailed (including a clear outline of the responsibilities of each party, performance measurements and pricing clauses).*	0.860	0.764
	2	Was complete (including all necessary terms and agreements, e.g., end of contract clauses).*	0.895	0.824
	3	Was flexible in case of change.*	0.744	0.627
	4	Had incentive clauses for penalties and bonuses.*	0.873	0.780
	5	Had control clauses (e.g., regular reports, meetings).*	0.774	0.628
Uncertainty of Change (CH) CR=0.9515, Alpha=0.9236, AVE=0.8673	In this outsourcing project development process,			
	1	The environment was fraught with uncertainty.	0.916	0.824
	2	Many departments were involved, posing a high level of complexity.	0.929	0.843
	3	Human capital, budget and related resources were unstable.	0.948	0.867

History of Breach (HB) CR=0.9518, Alpha=0.9233, AVE=0.8683	1	My outsourcing vendor failed to fulfill promises it made on the record.	0.952	0.886
	2	My outsourcing vendor broke its promises on more than one occasion.	0.959	0.904
	3	My outsourcing vendor hasn't always kept its promises in the past.	0.883	0.741
Lack of Alternatives (AL) CR=0.9543, Alpha=0.928, AVE=0.8744	1	We couldn't complete our work without this outsourcing project.	0.895	0.792
	2	We had no alternative but to work with this outsourcing project.	0.962	0.900
	3	We could only work with this outsourcing project.	0.947	0.866
Contract Management (CM) CR=0.9525, Alpha=0.9252, AVE=0.87	In our outsourcing contractual relationship,			
	1	There were measures to protect the execution of the existing contract.	0.926	0.849
	2	There were measures to supervise the execution of the existing contract.	0.965	0.912
Client Perceived Breach (CPB) CR=0.9783, Alpha=0.9667, AVE=0.9376	1	We think the outsourcing vendor has NOT done an excellent job of meeting its promises so far.	0.961	0.915
	2	We think the outsourcing vendor has NOT come through in fulfilling the promises it made.	0.982	0.958
	3	We think the outsourcing vendor has broken many of its promises on this IS project.	0.962	0.912
Feeling of Violation (FV) CR=0.9586, Alpha=0.9425, AVE=0.8528	1	We felt a great deal of anger toward the outsourcing vendor.	0.942	0.894
	2	We felt extremely disappointed by how we were treated by the outsourcing vendor.	0.934	0.874
	3	We felt betrayed by the outsourcing vendor.	0.911	0.850
	4	We felt that the outsourcing vendor had violated the promises between us.	0.907	0.830
Outsourcing Success (OS)	1	We thought outcome consistently met expectations.	0.825	0.759

CR=0.9636, Alpha=0.9544, AVE=0.8155	2	We thought we were pleasant to work with.	0.902	0.851
	3	We thought the outsourcing vendor provided quality service in a timely manner.	0.925	0.889
	4	We thought the outsourcing vendor made a genuine effort to meet our needs.	0.910	0.866
	5	We thought the outsourcing vendor provided a high level of satisfaction.	0.933	0.904
	6	We thought the outsourcing vendor was dependable.	0.919	0.883

* A reverse coded item

Table 4: Descriptive analysis and correlation matrix

	Mean	SD	AL	CA	CH	CM	CO	CPB	FV	HB	HC	KT	OS	PO	PP	SP
AL	3.83	1.41	0.94													
CA	3.18	1.14	-0.01	0.83												
CH	4.31	1.28	0.23	0.07	0.93											
CM	3.06	1.32	-0.07	0.60	0.02	0.93										
CO	3.06	1.16	0.04	0.62	0.26	0.40	0.94									
CPB	3.23	1.39	0.15	0.58	0.28	0.40	0.63	0.97								
FV	3.12	1.36	0.13	0.59	0.19	0.45	0.56	0.74	0.92							
HB	3.29	1.33	0.26	0.46	0.28	0.27	0.49	0.67	0.63	0.93						
HC	3.51	1.30	-0.11	0.56	0.10	0.53	0.45	0.53	0.44	0.25	0.89					
KT	3.21	1.24	-0.05	0.49	-0.03	0.45	0.41	0.46	0.34	0.24	0.69	0.90				
OS	4.84	1.41	0.07	-0.60	-0.12	-0.48	-0.62	-0.54	-0.61	-0.43	-0.62	-0.49	0.90			
PO	2.89	0.98	-0.03	0.42	0.04	0.20	0.58	0.44	0.36	0.28	0.37	0.29	-0.36	0.88		
PP	3.05	1.13	-0.09	0.49	0.16	0.33	0.51	0.48	0.48	0.21	0.47	0.36	-0.42	0.43	0.86	
SP	2.97	1.21	0.04	0.59	0.25	0.41	0.63	0.58	0.58	0.40	0.60	0.47	-0.59	0.49	0.60	0.95

5.3 Hypothesis Testing: Structural Model

In this study we used SmartPLS software to test the structural model and calculate the path coefficients of all hypotheses. The path coefficients and R^2 values are shown in Figure 2. Reneging ($\beta = 0.268, p < 0.01$), incongruence ($\beta = 0.243, p < 0.05$), and vigilance ($\beta = 0.438, p < 0.001$) are positively associated with clients' perceptions of PCB.

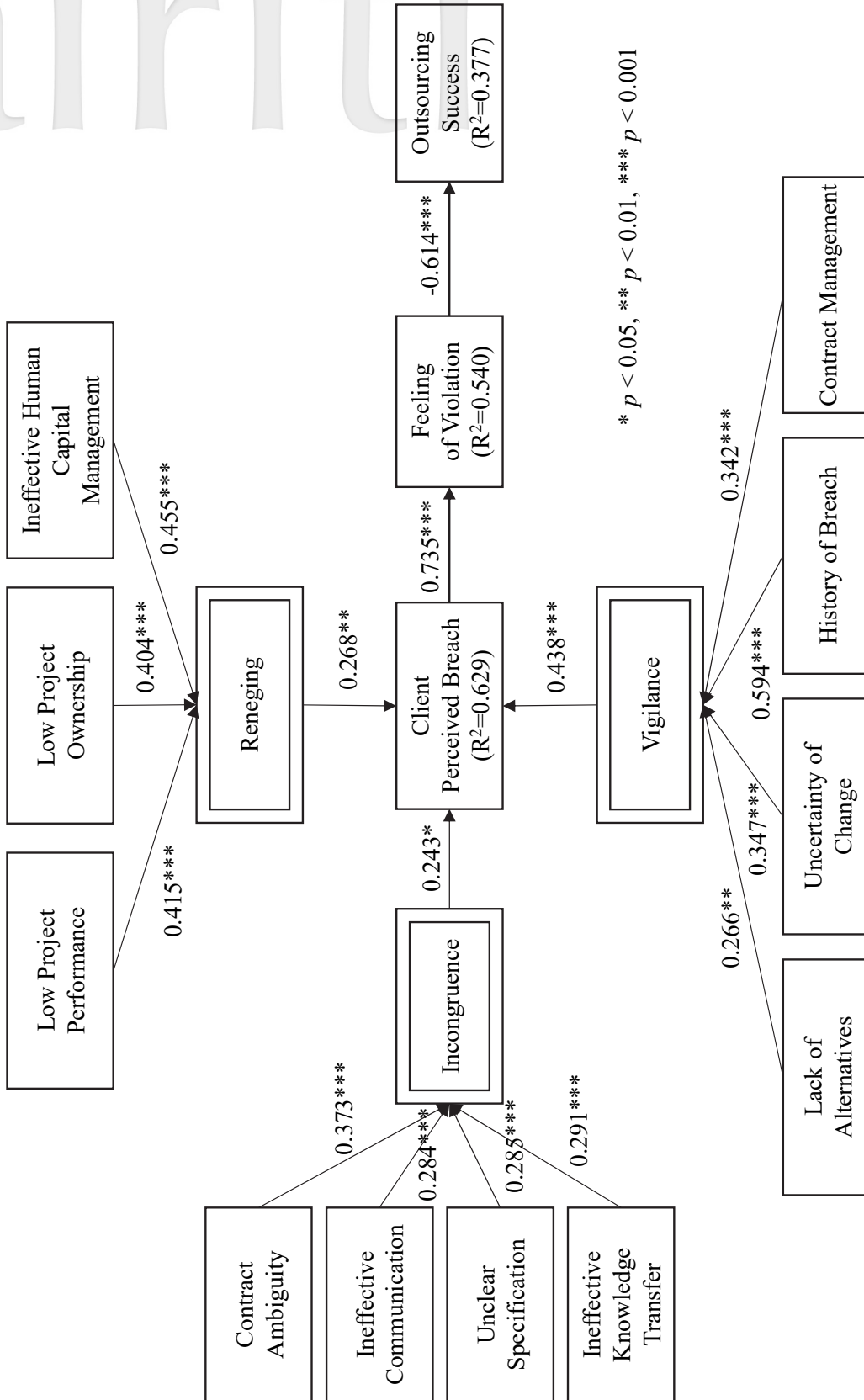


Figure 2: Structural model and path coefficients

Client perceived breach has a significant positive relationship with the feeling of violation ($\beta = 0.735, p < 0.001$). Feeling of violation has a significant negative relationship with IS outsourcing success ($\beta = -0.614, p < 0.001$). Thus, all hypotheses are supported. Standardized root mean square residual (SRMR) was used as a fit measure in this study since we used PLS-SEM. The SRMR value is 0.044 (less than 0.08), which means that our model has a good fit.

6. DISCUSSION AND IMPLICATIONS

6.1 Discussion

This study extends our understanding of IS outsourcing success from the perspective of PCB. The findings show that client perceived PCB does have a significant impact on outsourcing success. Feelings of violation were found to be a consequence of client perceived PCB. These feelings further hinder outsourcing success. This study reinforces the findings of Cassar and Briner (2011) and Restubog et al. (2012), who examined the mediating effect of violation on the association between PCBs and deviant behaviors in the workplace. One theoretical basis for explaining positive associations between PCBs and employee deviance is the negative norm of reciprocity (Chiu & Peng 2008). Reciprocity can be conceptualized as a process of carrying out the psychological contract between the client and the vendor. The vendor's act of breaking a promise, i.e., PCBs, limits the possibility that the client's desired outcomes will become realities. As a consequence, the PCBs elicit the client's negative emotional reactions to the vendor. To restore equity and to reduce this dissonance in the relationship, the client is likely to display deviant behaviors.

Our study has identified renegeing, incongruence and vigilance as factors that contribute to the PCB. In the context of IS outsourcing, vigilance is determined by lack of alternatives, uncertainty of change, history of breach, and contract management. Clients become highly vigilant when they have few options to work without the system, perceive high uncertainty inherent in the project, have had PCB experiences in the past, and have relevant rules to measure project performance. A client who is highly vigilant is more likely to perceive that the vendor has breached the psychological contract.

Incongruence comprises contract ambiguity, ineffective communication, unclear specifications, and ineffective knowledge transfer. Unclear specifications and ambiguous contracts are particularly vulnerable to misinterpretation and hence perceived PCBs via incongruence are more likely to occur. Individuals engage in a construal process to

interpret ambiguous stimuli; this process may cause two parties to perceive the same stimulus very differently (Robinson & Morrison 2000). Moreover, communication in an understandable way and knowledge transfer associated with using the outsourced system are important to reduce incongruence. Such communication and knowledge transfer in the context of an IS implementation or outsourcing process should promote a shared understanding of contextual knowledge and thus reduce the possibility of a PCB via incongruence (Lin et al. 2018).

The low project performance, low project ownership, and ineffective human capital management contribute to renegeing. Many studies have found that the capability of the IS provider is a critical factor contributing to the IS success (Goh et al. 2013; Gu & Jung 2013; Lin et al. 2018). If the projects cannot be realized, delivered within budget or on schedule the client discovers that the vendor is unable to achieve the project goals and hence perceives a PCB. In addition, if the client does not provide support and commitment to the IS outsourcing project the vendor may view renegeing as justified and be unwilling to fulfill their promised obligations. If the vendor does not assign qualified staff to work and keep staff turnover low during the project the client will perceive a PCB.

Our research findings extend previous research on PCB (Robinson & Morrison 2000; Lin et al. 2018) by showing that, in addition to employee-organization relationships, PCB can explain client-vendor relationships and predict IS outsourcing success. The renegeing, incongruence, and vigilance were conceptualized as second-order formative, first-order reflective multidimensional constructs. Figure 2 depicts the relationships between the first- and second-order constructs. The path coefficients from the dimensions to the aggregate second-order construct are weights that indicate each dimension's relative importance. The results show that history of breach is the major cause of vigilance. Contract ambiguity is the major dimension of incongruence. Ineffective human capital management is the major dimension of renegeing.

6.2 Academic Implications

Prior studies have found that IS outsourcing success can be determined by relationship quality (e.g., communication, knowledge sharing and trust), employee capability (e.g., skill development and employee participation), top management's role, and the degree of outsourcing (Pannirselvam & Madupalli 2011; Gonzalez et al. 2015; Könning et al. 2019). We found that the IS outsourcing outcome depends on the client's cognitive and emotional responses within the client-vendor outsourcing relationship.

Although much literature has been written about how to enhance outsourcing success or how to prevent failure through many different methods, we explored the relationships between renegeing, incongruence, vigilance, PCB and feelings of violation in order to predict the outsourcing outcome via the PCB framework.

Koh et al. (2004) identified critical customer-supplier obligations in an IS outsourcing relationship and demonstrated the positive impact of fulfilling these obligations on outsourcing success. Their study highlights the importance of psychological contract in IS outsourcing relationship, however, they did not examine how renegeing, incongruence, and vigilance influence perceived contract breach, feeling of violation, and outsourcing success. Our study bridges the knowledge gap. The results clearly verify that the PCB determines a client's feelings of violation as well as the success of the outsourcing project.

We developed the research model based on the model proposed by Robinson and Morrison (2000). Their model explains how renegeing, incongruence, and vigilance contribute to an employee's perception that the organization has breached his or her psychological contract, and how the perception of contract breach leads to an emotional reaction of anger and betrayal, i.e., feelings of violation. We adapted their model to the context of IS outsourcing by considering the relationship between violation and IS outsourcing success and identifying the subconstructs that form renegeing, incongruence, and vigilance in the client-vendor outsourcing relationship. Renegeing is composed of low project performance, ineffective human capital management, and low project ownership. Incongruence is composed of ineffective communication, ineffective knowledge transfer, unclear specifications, and contract ambiguity. Vigilance is composed of history of breach, uncertainty of change, lack of alternatives, and contract management. Thus, we confirmed that psychological contract theory applies to not only organization-employee relationships but also to client-vendor relationships in an IS outsourcing context. The client perceived PCB harms relationship quality between the client and the vendor, which negatively affect IS outsourcing success. The connection between the psychological contract and relational quality within the setting of IS outsourcing has been confirmed in this study. This study also sheds light on the underlying sources of client perceived PCB. The research results allow us to better understand when and why PCB and violation are most likely to be experienced during IS outsourcing.

6.3 Practical Implications

Organizations use both formal and informal controls to mitigate the risk of IS outsourcing (Huber et al. 2013-14). A legal contract is the means of formal control defines expected outcomes and behaviors for the client and vendor, and thus is an effective safeguard against opportunistic behaviors. However, written obligations can never be complete and must be supplemented by unwritten promises even when a legal contract exists. Relational governance is particularly suitable to cope with unforeseen events as it allows flexible reactions to issues not covered by the contract (Koh et al. 2004; Huber et al. 2013-14). Prior studies have shown that client-vendor relationship quality determines IS outsourcing success (Pannirselvam & Madupalli 2011; Gonzalez et al. 2015). Our study has confirmed that the client's perception of psychological contract breach generates feelings of violation that harm the client-vendor relationship and negatively affect IS outsourcing success. Outsourcing vendors should ensure that their promises and obligations are fulfilled and avoid behaviors that could lead to a perceived PCB during outsourcing projects.

Vendors can identify ways to minimize the occurrence of client perceived PCB and its destructive consequences. They should assign adequate staff, keep staff turnover low, replace any departing staff with someone who is either equivalent or more qualified, realize project objectives, deliver project within budget and on schedule, understand system requirements, define required deliverables and specifications clearly, transfer knowledge, best practices and documentation to the client, reduce project complexity and ensure project related resources are stable. They should also be particularly careful about managing the perceptions held by clients who have either previously experienced breaches of the psychological contract, expect to have no other information systems for completing their work, or have rules to measure project performance. Such clients may be especially likely to perceive a breach of their current psychological contract. Clients should respond promptly whenever the outsourcing vendor need information, and provide fast turnaround to outsourcing vendor requests. The vendor and client should use an understandable communication pattern, understandable narrative forms and common terms for communication. The outsourcing contract should be specific, detailed, and complete.

If a PCB happens, managers should know how to relieve the client's feelings of violation. Prior studies have found that employees engage in a cognitive sense-making process through which they attempt to attach meaning to the event following the

perception of a contract breach. This interpretation process is comprised of two important components: causal attributions and perceived fairness (Robinson & Morrison 2000; Lin et al. 2018). Causal attribution refers to the client's blaming of the vendor for unfulfilled promises. When faced with unfavorable or unexpected outcomes, people tend to search for explanations that allow them to assign responsibility. Perceived fairness refers to the client's assessment of the evenhandedness of the interactional and procedural treatment the client has received from the vendor during the IS project. It implies the extent to which the vendor values or respects the client-vendor psychological contract. If the client perceives that the breach of contract was a purposeful act or the outcomes from the project to be inequitable or unfair, feelings of violation will be intensified. In order to reduce the feelings of violation the vendor should manage client attributions for a perceived contract breach by offering honest and adequate explanations, and ensure that users feel that they have been treated with fairness and respect.

6.4 Research Limitations

This study has some limitations. First, most of the 133 respondents to our questionnaire were general employees. Thus, the results of this study might express mainly general employees' opinions regarding PCB, the emotions caused by such a breach, and the subsequent influence on IS outsourcing success. In most companies, managers and top-level executives are more likely to make decisions regarding IS project outsourcing. Their mindset may differ from that of general employees. Thus, future research should validate the results of this study using a sample of managers and top-level executives, since responses from those in higher positions might produce different results. Second, this study considered only the client's point of view. Further investigation should be made into the factors that influence vendors' perceptions of outsourcing success. Despite its limitations, this study contributes significantly to the research on the breaching of psychological contracts by showing that PCB applies in an IS outsourcing project context.

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