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The Effects of Capabilities and Governance on Information Technology and Business Process Outsourcing Performance: Client and Provider Perspectives

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ABSTRACT

Research on information technology outsourcing (ITO) and business process outsourcing (BPO) has consistently found that client firm capabilities, provider firm capabilities, and governance mechanisms (contractual and relational) are key determinants of outsourcing performance. These key determinants work together to affect outsourcing performance, however, the information systems (IS) literature has investigated them in a separate manner. This study contributes to the body of IS knowledge by examining capabilities and governance mechanisms influence on outsourcing performance independently and jointly.

Based on resource-based theory, transaction cost economics, and relational exchange theories, we develop a research model to examine the independent and joint effects of one client's capabilities (i.e., client's provider management capability), three provider's capabilities (i.e., human resources management, risk management, and innovativeness), and two governance mechanisms (contractual and relational governance) on two indicators of outsourcing performance (i.e., provider's service quality, and client's economic benefits). Survey data gathered from 306 practitioners in 21 client firms and 20 provider firms is used to test the research model.

Our results indicate that service quality and client's economic benefits have different sets of determinants. Service quality is determined by three provider's capabilities and relational governance. Client's economic benefits are determined by contractual and relational governance, client's provider management capability, and provider's service quality. Our findings also provides evidence that service quality fully mediates the relationships among three provider's capabilities and outsourcing performance. Further, our analyses suggest that there are negative interaction effects between capabilities and governance mechanisms on outsourcing performance. More specifically, in the presence of strong governance mechanisms, the positive effects of client's and provider's capabilities on outsourcing performance are reduced. Last, we also reveal that clients and providers differ in how they view the independent and joint effects of capabilities and governance mechanisms on outsourcing performance. This study provides some important

implications for researchers and practitioners pertaining to effective governance of outsourcing arrangements and offers directions for future research.

Keywords: Outsourcing, Capabilities, Governance Mechanisms, Performance, Client Perspective, and Provider Perspective

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INTRODUCTION

1.1 Background

After the 'Kodak effect' in 1989 (Applegate and Montealegre 1991), the trend toward outsourcing of information technology and business processes has continued growing internationally for more than 20 years (Lacity et al. 2011a). The worldwide information technology outsourcing (ITO) market was predicted to grow by 5.5% in 2014 (Gartner 2014), and the global business process outsourcing (BPO) market was estimated a compound annual growth rate of 5.6% from 2012 through 2017 and a growth of 6.2% in 2014 (Gartner 2013). As the ITO and BPO markets have matured, outsourcing performance success rates have improved over time (Lacity et al. 2010; 2011a). In addition, recent studies are finding that some providers are delivering innovations that dramatically improve the client firm's service performance (Lacity and Willcocks 2013; Oshri et al. 2012). Despite the growth and growing maturity of the ITO and BPO market, good outsourcing performance is not guaranteed. Both clients and providers need to have good capabilities and sound governance, or poor performance may occur. Consider, for example, one industry survey conducted by *InformationWeek* finds that only 50% of software development outsourcing projects are successful (Gefen et al. 2008). Similarly, a survey conducted by *Bain Consulting* regarding BPO claims that nearly 50% of the large US client firms say that their offshoring projects fall short of expectations (Mani et al. 2012). Some client firms reverse sourcing decisions by bringing the IT functions or business processes back in-house. For example, in 2012, General Motor (GM) moved 90 percent of its outsourced IT functions that had been managed by Hewlett-Packard (HP) back in-house (Savitz 2012). Therefore, academics and practitioners remain interested in the management practices that are necessary for a successful outsourcing arrangement (e.g., Cao et al. 2014; Goo et al. 2009; Sia et al. 2008; Willcocks et al. 2013).

1.2. Problem Statement

The existing literature has identified a set of determinants that are positively associated with outsourcing performance (e.g., Lacity et al. 2009; Lacity et al. 2010; Lacity et al. 2011a, b), including client firm capabilities, provider firm capabilities, contractual governance, relational governance, and transaction attributes. However, the empirical results of their impacts on ITO and BPO performance are mixed (Lacity et al. 2010; Lacity et al. 2011a). In addition, IS researchers frequently ignore the interaction effects (Karimi-Alaghehband et al. 2011; Lacity et al. 2011b), especially the interactions between firm capabilities and governance mechanisms. According to Resources-based View, firm's capabilities are resources of sustainable competitive advantage (Barney 1991; 2001). When applying in outsourcing circumstance, client and provider capabilities are strategic resources of a sustainable outsourcing relationship and of a successful arrangement.

Also, contractual governance and relational governance have been underlined as critical skills to manage inter-organizational relationships (Goo et al. 2009; Poppo and Zenger 2002). Contractual governance refers to governance of an outsourcing arrangement using a formal written contract which specifies obligations or promises to perform particular actions to achieve expected objectives in the future (Macneil 1978; Poppo and Zenger 2002). Relational governance refers to governance of an outsourcing arrangement through social processes that promote trust, information exchange, knowledge sharing, and harmonious conflict resolution (e.g., Goo et al. 2009; Poppo and Zenger 2002). The extant literature has illustrated that contractual governance and relational governance are critical to outsourcing performance (e.g., Lacity et al. 2010; Lacity et al. 2011a). Since both capabilities and governance mechanisms are important for outsourcing performance, it is essential to understand how to effectively manage specific capabilities with governance mechanisms in order to produce better service quality and generate greater client's economic benefits.

However, while past research has elaborated on the impacts of client and provider capabilities and governance mechanisms, they have been examined in a separate manner (Bardhan et al. 2007; Borman 2006; Goo et al. 2007; Levina and Ross 2003; Rao et al. 2006; Rottman and Lacity 2004; Sen and Shiel 2006). The understanding of how capabilities interact with governance mechanisms in specific contexts to affect critical outcomes is very limited (e.g., Parmigiani and Mitchell 2010). Moreover, most of the published studies on the ongoing client-provider relationships adopt a client perspective (e.g., Feeny and Willcocks 1998; Kishore et al. 2003; Lin et al. 2007), de-emphasizing providers. Studies incorporating both client and provider perspectives are comparatively rare (e.g., Sabherwal 1999; Levina and Ross 2003; Koh et al. 2004), given the fact that an outsourcing relationship involves actions from both sides.

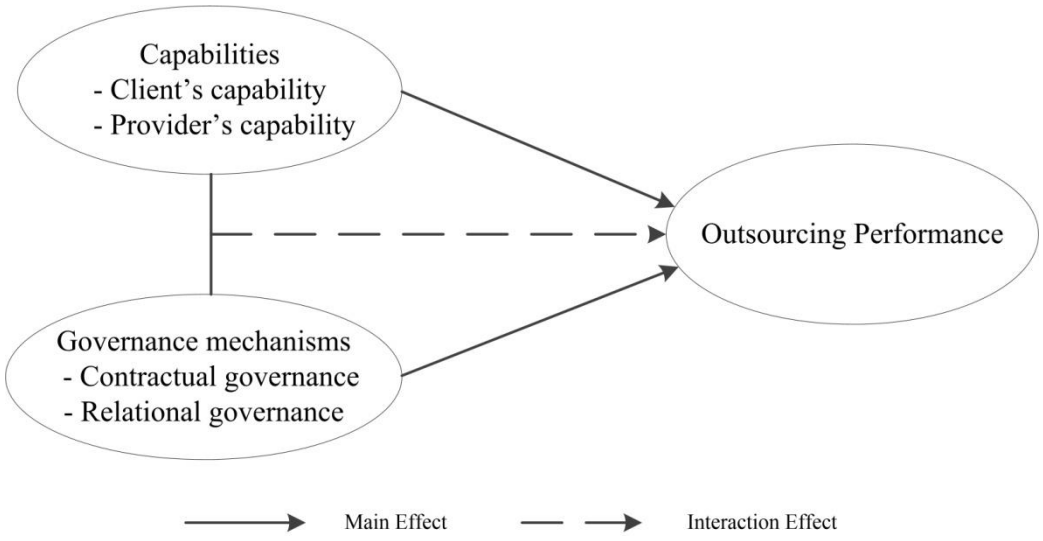


Figure 1: Simplified Research Model

1.3 Purpose of the Study

As depicted in the simplified research model in Figure 1, the purpose of this study is to advance our understanding of the relationships among client's provider management capability, provider capabilities, contractual governance, relational governance, and outsourcing performance by addressing the following three research questions:

1. *What are the main effects of client and provider capabilities as well as governance mechanisms on outsourcing performance?*
2. *As far as affecting outsourcing performance, are there any interaction effects between capabilities and governance mechanisms?*
3. *Are the above relationships contingent on the stakeholder perspective -- client or provider?*

Addressing the above research questions requires access to paired responses from senior level informants. We are fortunate to have access to a data set collected by the International Association of Outsourcing Practitioners (IAOP) and a consulting company Global Sourcing Optimization Services (GSOS) between 2009 and 2012. The IAOP and GSOS developed a commercial software named Value Health Check Survey (VHCS) for outsourcing clients and providers to self-evaluate the health of their ongoing outsourcing relationships. One benefit of using this dataset is that the IAOP and GSOS obtained responses from senior level informants about the determinants and performance of a particular outsourcing relationship from both client and provider informants. All informants were highly motivated to answer the questions because the client and/or provider requested that the Value Health Check Survey be administered. In addition, each construct is measured with multiple items and informants could support each survey item with free-form comments, providing evidence for good reliability and validity of data. In total, we have 306 informants, with 174 from client informants and 132 from provider informants on their ITO and BPO relationships. Fortuitously, the survey has items that measure our target constructs (client and provider capabilities, contractual and relational governance, and outsourcing performance). The drawback of using this survey data is that we are limited to analyzing the items in the survey. The survey allows us to examine the main and interaction effects of one client capability (the ability of clients to manage providers), three provider capabilities (human resources management, risk management, and innovativeness), contractual governance, and relational governance on two indicators of outsourcing performance, namely service quality and economic benefits realization.

This study examines these questions in outsourcing arrangements after clients have already selected providers and arrangements are already underway. In particular, this study investigates: (1) the main effects of the most important client's capability - capability to manage providers, and three provider's capabilities -- human resources management, risk management, and innovativeness, on the outsourcing performance – provider's service quality and client's economic benefits; (2) the main effects of contractual governance and relational governance; (3) the interaction effects between capabilities and governance mechanisms; and (4) whether the above relationships are viewed differently by clients and providers.

1.4 Relevance of the Research

This study contributes to information systems (IS) literature in the following four aspects. First, this study expands understanding of client capabilities, provider capabilities, and governance mechanisms in ITO and BPO (Lacity et al. 2010; Lacity et al. 2011a). Lacity et al. (2010) and Lacity et al. (2011a) conduct literature reviews in ITO and BPO respectively. They find that even though prior literature has examined a variety of client capabilities and provider capabilities, only few of them have been repeatedly tested in the empirical studies. Second, this study develops a comprehensive research model to investigate four key determinants of outsourcing performance. Very limited work has examined them together. This study aims to provide a holistic understanding of outsourcing performance. Will the effects of capabilities change when taking governance mechanisms into consideration and vice versa? Third, this study explores the interactions between capabilities and governance mechanisms, which only received little recognition in the extant literature (e.g., Parmigiani and Mitchell 2010). Fourth, this study fills the gap of lacking of comparative studies in IS literature (Dibbern et al. 2004). This study examines the research model from both client and provider perspectives.

The rest of paper is organized as follows. In the next section, we review related research in ITO and BPO on client capabilities, provider capabilities, governance mechanisms, and

outsourcing performance. We then present the research model and hypotheses. Next, we discuss the research design. Then we present the data analysis results of measurement model and structural model. Subsequently, we discuss contributions of this study. The paper concludes with the limitations of this study and some directions for future research.

Chapter Two

LITERATURE REVIEW

We first review major studies in ITO and BPO focusing on the determinants of outsourcing performance. Among this set of studies, five categories of factors have emerged as the common factors affecting outsourcing performance, including ***client firm capabilities, provider firm capabilities, relational governance, contractual governance, and country characteristics*** (Lacity et al. 2010; Lacity et al. 2011a). In this study, we investigate outsourcing arrangements at the level of the individual's assessment of the outsourcing relationship. Since the country characteristics such as cultural distance look more at the country level, we don't include it as an independent variable in this study.

2.1 Theoretical Foundation

Three theoretical perspectives based on resource-based theory, transaction cost economics, and relational exchange theories provide insights to understand the determinants of outsourcing performance. These three theories are discussed briefly in the following paragraphs.

2.1.1 Resource-based Theory

Resource-based View posits that resources and capabilities are essential sources of sustainable competitive advantage for firms (Barney 1991; Barney et al. 2011; Dyer and Singh 1998; Grant 1991, 1996; Penrose 1959). Barney et al. (2011) define resources and capabilities as "bundles of tangible and intangible assets, including a firm's management skills, its organizational processes and routines, and the information and knowledge it controls that can be used by firms to help choose and implement strategies" (Barney et al. 2011, p.1300). Twenty more years after the article of Barney (1991), RBV has become mature and evolved as a theory rather than just a view. It has evolved to one of the most prominent and established theories to describe, explain, and predict

organizational relationships (Barney et al. 2011). However, it has often been criticized on two basic points: (1) its inward view, and (2) its assumption of firm as an independent entity (Barney et al. 2011; Wang and Ahmed 2007). Because Resource-based Theory (RBT) has the limitation to understand the competitive advantage generated by the inter-firm relationships (Hunt and Davis 2012; Lavie 2006; Wang and Ahmed 2007), scholars in operation management and strategic management have argued that there is a necessity to extend the resource-based view by incorporating both internal and external resources to explain and understand the strategic behavior and performance of inter-connected firms (Arya and Lin 2007; Dyer and Singh 1998; Lavie 2006; Squire and Cousins 2006). For example, Dyer and Singh (1998) argue that complementary capabilities from inter-connected firms are sources of inter-organizational competitive advantage. A dyad outsourcing arrangement comprises a series of interrelated activities between a client firm and a provider firm (Grover et al. 1996; Mani et al. 2010). Therefore, scholars in outsourcing research have applied an extended view of RBT - Capability-based view, to describe and explain outsourcing relationship (e.g., Feeny and Willcocks 1998; Koh et al. 2004; Lacity et al. 2010; Ranganathan and Balaji 2007). Capability-based View emphasizes the important role of client capabilities and provider capabilities in achieving outsourcing success.

Moreover, in recent years, scholars in strategic management have argued that RBT should be linked with other theoretical perspectives to understand and explain inter-firm arrangement's performance (e.g., Makadok 2011). Makadok (2011) examines influential factors of firm profit. He argues that firm's internal resources and capabilities are not the only causal mechanisms of firm profit and other external sources should also be considered such as commitment timing and information asymmetry. Further, except examining main effects of the influential factors, interaction effects of them should also be explored. Therefore, in this study, we interlink client and provider capabilities with governance mechanisms to examine their main effects and explore their interaction effects on outsourcing performance.

2.1.2 Transaction Cost Economics

Transaction Cost Economics (TCE) is one of the most prominent theories utilized to explain the choice of governance mode for transaction-based exchanges (Williamson 1975; 1981). According to TCE, when firms engage in outsourcing arrangements, as a consequence of exchange hazards such as uncertainty and measurement difficulty, they protect their investments from the other party's opportunistic behaviors by defining all the possible contingencies in contracts (Kim 2008). Transaction costs vary with the type of contract adapted (Poppo and Zenger 2002). The more complex and larger a contract is, the greater is the specification of contract terms, including obligations, communication mechanisms, rewards and penalties, and conflict resolution mechanisms (Goo et al. 2009; Poppo and Zenger 2002). However, the cost of creating a complex contract is high. Firms accept such a high cost only when the impacts of breaching a contract is substantial (Poppo and Zenger 2002). Therefore, contractual governance has been identified as one of the major determinants of outsourcing performance (Lacity et al. 2010; Lacity et al. 2011a, b). Clients and providers in an outsourcing arrangement have to design their contract precisely and completely in order to achieve optimal outsourcing performance.

2.1.3 Relational Exchange Theories

In spite of the importance and value of a formal contract, many scholars have observed that a formal contract alone is insufficient to manage an outsourcing arrangement. First, it is impossible for firms to identify all the possible contingencies at one time because of bounded rationality of human beings (Simon 1991). Second, the technologies as well as business and organizational environment of outsourcing arrangements are dynamic and changing (Goo et al. 2009; Kern and Willcocks 2000; Koh et al. 2004; Levina and Su 2008; Poppo and Zenger 2002; Rai et al. 2012). Therefore, outsourcing arrangements are complex and involve a variety of uncertainties.

Outsourcing arrangements are inter-organizational exchanges embedded in social relationships (Poppo and Zenger 2002). According to relational exchange theory (Macneil 1978; 1980) and social exchange theory (Blau 1964; Emerson 1972; Homans 1974), inter-organizational exchanges generally include some relational elements. Relational exchange theory posits that

contracting is never completely written (Macneil 1980) and relational exchange can improve the performance of inter-organizational exchange. Social exchange theory (Blau 1964) argues that exchange relationships are dynamic. They evolve as the participating actors mutually and sequentially demonstrate their trustworthiness and carry out activities toward one another. Therefore, given the dynamic nature of inter-organizational exchange, relational governance which promotes mutual trust and effective communication is critical to outsourcing performance. Many prior studies have demonstrated that relational governance improves the outsourcing performance (e.g., Poppo and Zenger 2002; Sabherwal 1999). For example, Poppo and Zenger (2002) find that relational governance which matches transaction attributes is significantly and positively associated with better outsourcing performance. Sabherwal (1999) discusses the role of trust in outsourcing projects and finds that trust along with appropriate controls can generate good quality and timely progress.

2.2 Client's Capability to Manage Providers

A capability is defined as "a distinctive set of human-based skills, orientations, attitudes, motivations, and behaviors that, when applied, can transform resources into specific activities" (Willcocks et al. 2007, p.129). In an outsourcing arrangement, a client firm cannot simply hand over responsibilities to a provider. Rather, a client firm needs to retain necessary capabilities or even develop a new set of capabilities when outsourcing (Lacity et al. 2010; Lacity et al. 2011a, b; Willcocks et al. 2007). Prior studies have identified a range of client capabilities that influence outsourcing performance (Feeny and Willcocks 1998; Koh et al. 2004; Lacity et al. 2010; Lacity et al. 2011a; Willcocks et al. 2007). For example, Feeny and Willcocks (1998) identify nine core capabilities from client's perspective that clients should have to manage ITO, including capabilities of business systems thinking, relationship management, architecture planning, leadership, informed buying, making technology work, contract facilitation, provider management, and contract monitoring. Koh et al. (2004) examine desired client capabilities from provider's perspective. They

find that providers expect clients to have capabilities of specifying requirements clearly, paying fees promptly, monitoring project closely, sharing knowledge effectively, managing project with ownership, and staffing project delicately.

Among these identified client's capabilities, client's provider management capability has been deemed as the most important factor that influences ITO and BPO performance (Lacity et al. 2010, Lacity et al. 2011a). Client's provider management capability is defined as a client firm's ability to manage outsourcing relationships with providers effectively. This is a high-level construct, including components of a client's ability to manage outsourcing relationship with experienced people, effective processes, tools, and technologies (Lacity et. al 2011a; Howells et al., 2008; Ranganathan and Balaji 2007; Willcocks et al. 2007). Table 1 summarizes previous studies that empirically investigate the relationship between client's provider management capability and outsourcing performance.

As shown in Table 1, eleven studies in ITO and five studies in BPO have empirically tested the impact of client's provider management capability on a variety of outsourcing outcomes such as satisfaction (e.g., Sanders et al. 2007), cost savings realization (e.g., Cross 1995; Willcocks et al. 2007), service quality (e.g., Lewin and Peeters 2006; Tayntor 1997), and business value realization (e.g., Atesci et al. 2010; Kim and Chung 2003). All the 16 studies indicate that client's provider management capability has a significant and positive impact on the outsourcing performance.

However, there are two limitations in the prior literature. The first is that researchers mainly focused on the client's perspective, with 12 out of 15 papers investigating the impact of client's provider management capability from client's perspective. Only one study has looked at the provider side (Atesci et al. 2010). Atesci et al. (2010) conduct a case study with one of the India's largest outsourcing providers, Satyam Computer Services, and draw attention to a fact that outsourcing arrangements can pose risks for client organizations. Therefore, clients can't just sit back and enjoy the ride. Rather, they have to exercise some controls over their outsourcing

arrangements such as managing risks and contingencies associated with outsourcing arrangements in order to secure expected outcomes.

Another limitation is that prior literature has mainly adopted qualitative research approaches such as case study or interviews (e.g., Michell and Fitzgerald 1997; Sanders et al. 2007; Willcocks et al. 2007). For example, Willcocks e al. (2007) present three case studies: Commonwealth Bank Australia, DuPont, and State super Financial Services, to demonstrate how clients can evolve their core IS capabilities to exploit IT and improve firm performance. Very limited work in the prior literature has developed survey instruments to measure client's provider management capability (e.g., Kim and Chung 2003). Kim and Chung (2003) use four items to measure client's monitoring of the provider. They find that monitoring of the provider is positively associated with economic and non-economic benefits.

Overall, client's provider management capability has been found to positively influence outsourcing performance in the prior literature. However, there is a need to conduct more quantitative studies and more research from the provider side.

Table 1: Impacts of Client's Provider Management Capability on Outsourcing Performance in Prior Literature							
#	**Author and Year**	**Measurement of Outsourcing Performance**	**Effect**	**View**	**Sourcing Type**	**Research Method**	**Theoretical Foundation**
1	Cross (1995)	(1) Cost reduction, (2) improved service, (3) access to new ideas and advanced technologies	+	Client	ITO	Case Study	Agency theory
2	Tayntor (1997)	(1) Cost efficiency, (2) meeting SLA	+	Client	ITO	Case Study	Not Specified
3	Michell and Fitzgerald (1997)	Generic perception of outsourcing success	+	Client	ITO	Interviews, Survey	Agency theory
4	Currie (1998)	Risk Mitigation	+	Client	ITO	Case Study	Agency theory
5	Feeny and Willcocks (1998)	Generic perception of outsourcing success	+	Client	ITO	Case Study	Resource-based View
6	Quinn (1999)	(1) flexibility, (2) innovation, (3) shareholder value	+	Client	ITO	Case Study	Resource-based View
7	Al-Qirim (2003)	Generic perception of outsourcing success	+	Client	ITO	Interviews, Survey	Not Specified
8	Kim and Chung (2003)	(1) satisfaction, (2) perceived strategic, economic, and technological benefits	+	Client	ITO	Survey	Relational exchange theory
9	Ranganathan and Balaji (2007)	(1) cost savings realized, (2) benefits realized, (3) satisfaction, and (4) project performance	+	Client	ITO	Case Study	Capabilities thinking approach
10	Willcocks et al. (2007)	(1) cost savings realized, (2) business performance improvement	+	Client	ITO	Case Study	Resource-based View
11	Iacovou and Nakatsu (2008)	Generic perception of outsourcing success	+	Client	ITO	Delphi-Survey	Agency theory
12	Willcocks et al. (2004)	Effective knowledge sharing	+	Both	BPO	Case Study	Not Specified
13	Lewin and Peeters (2006)	(1) Cost savings, (2) meeting SLA	+	Client	BPO	Survey	Not Specified
14	Sanders et al. (2007)	Satisfaction	+	Client	BPO	Interviews	Resource-based View
15	Saxena and Bharadwaj (2009)	(1) Client's perspective: cost efficiency, new business competencies, and opportunity for business transformation; and (2) provider's perspective: business growth, longer customer retention, and new value adding services	+	Both	BPO	Case Study	Agency Theory, TCE, RBV, Relationship Theories
16	Atesci et al. (2010)	Operational, financial, and strategic benefits	+	Provider	BPO	Case Study	Not Specified

The symbol "+" indicates that client's provider management capability is positively associated with outsourcing outcomes.

2.3 Provider's Capabilities

Clients seek for better services with advanced skills, expertise, and capabilities in outsourcing (e.g., Lacity et al. 2010; Lacity et al. 2011a, b; Fersht et al. 2011). Therefore, outsourcing performance highly depends on provider's capabilities. A wide range of provider capabilities have been examined in the literature (Feeny et al. 2005; Koh et al. 2004; Lacity et al. 2010; Lacity et al. 2011a; Rajeev and Vani 2009; Taylor 2006). For example, Feeny et al. (2005) identify 12 core provider capabilities that significantly impact outsourcing performance from client's perspective, including domain understanding of client's business, business management capability, behavior management capability, sourcing capability, technology exploitation capability, process re-engineering capability, customer development capability, planning and contracting capability, organization design capability, governance capability, program management capability, and leadership. Likewise, investigating from client's side, Koh et al. (2004) identify six provider's capabilities that are critical to ITO performance, including capabilities of effective human resources management, effective knowledge sharing and transfer, effective inter-firm team management, clear authority structures defining, accurate project scoping, and taking charge. From provider's perspective, Rajeev and Vani (2009) find that three provider's capabilities are important to BPO performance, including client management capability, human resource management capability, and IS technical and methodological capability; and Taylor (2006) determines three provider's capabilities affecting IT outsourcing satisfaction, which are effective project staffing, managing client expectations, and risk management capability.

Even though the prior literature has identified a set of provider capabilities significantly influencing outsourcing performance, only a small number of them have been replicated enough (Lacity et al. 2010; Lacity et al. 2011a). Lacity et al. (2010) review literature in ITO and reveal that only three provider capabilities have been investigated more than five times in ITO studies, which are provider's human resource management capability, provider's technical and methodological

capability, and domain understanding. Similarly, Lacity et al. (2011a) conduct an intensive literature review of BPO studies and find that only one provider capability, i.e., provider's human resource management capability, has been examined more than 5 times in BPO studies.

This study investigates two provider's capabilities that have been continually emphasized in the literature: *human resources management capability* (e.g., Beulen and Ribbers 2003; Lacity et al. 2004) and *risk management capability* (e.g., Taylor 2006, 2007), as well as one provider's capability that has recently emerged in outsourcing studies: *innovativeness* (e.g., Lacity and Willcocks 2013; Willcocks et al. 2013).

2.3.1 Provider's Human Resources Management Capability

Provider's human resources management capability is defined as a provider's ability to identify, recruit, train, deploy, and retain effective human capital in order to achieve expected outsourcing outcomes (Lacity et al. 2010; Lacity et al. 2011a). Table 2 summarizes previous studies that focus on the impact of provider's human resources management capability on outsourcing performance.

As shown in Table 2, the majority of empirical studies find a positive relationship between provider's human resource management capability and outsourcing performance such as improving satisfaction, reducing costs, improving service quality, and increasing industry growth (e.g., Koh et al. 2004; Lacity et al. 2004; Levina and Ross 2003; Kuruvilla and Ranganathan 2010). Among these studies, Levina and Ross (2003) conduct a case study with paired client and provider firm in ITO and find that provider's staffing decisions such as hiring, training, assignment rules, promotion rules, employee satisfaction and turnover, significantly affect client's satisfaction; Lacity et al. (2004) conduct a case study of back-office transformation with senior managers from Lloyds (client) and Xchanging (provider) and find that provider's capability to retrain, empower, and motivate transferred employees can result in better outsourcing performance such as more cost savings, better service quality, and more shared revenue. Only one study (i.e., Gopal et al. 2003) finds no relationship between provider's human resource management capability and outsourcing

performance. Gopal et al. (2003) study the determinants of contract choice (time-and-material contract versus fixed-price contract) in offshore software development projects. Based on the data of 93 offshore projects from a leading Indian software provider, they provide evidence that provider's human resources capability has impact on client's contract choice, but not on provider's profitability.

Table 2: Impacts of Provider's Human Resources Management Capability on Outsourcing Performance in Prior Literature

#	Author and Year	Measurement of Outsourcing Performance	Effect	View	Type	Research Method	Theoretical Foundation
1	Beulen and Ribbers (2003)	Business improvement	+	Both	ITO	Case Study	Hofstede's culture framework
2	Levina and Ross (2003)	Satisfaction	+	Both	ITO	Case Study	Complementarity in organizational design
3	Gopal et al. (2003)	Provider's profitability	0	Provider	ITO	Survey	TCE, Incomplete Contract Theory, Power Theory
4	Koh et al. (2004)	(1) satisfaction, and (2) intention to continue the outsourcing relationship	+	Both	ITO	Survey, Interview	Physiological Contract Theory
5	Rao et al. (2006)	(1) cost savings realized, and (2) service quality	+	Client	ITO	Interviews	Not specified
6	Taylor (2006)	Satisfaction	+	Provider	ITO	Interviews	Not specified
7	Oshri et al. (2007)	Service quality	+	Provider	ITO	Case Study	Knowledge-based view
8	Remus and Wiener (2009)	Generic perception of outsourcing success	+	Both	ITO	Case Study	Not specified
9	Lacity et al. (2004)	(1) cost reduction, (2) better service quality, (3) shared revenue	+	Client	BPO	Case Study	TCE, RBV
10	Lahiri and Kedia (2009)	(1) Organizational business performance, and (2) relationship quality	+	Provider	BPO	Survey	Resource-based View; social exchange theory
11	Rajeev and Vani (2009)	Organizational business performance	+	Provider	BPO	Field Survey	TCE
12	Kuruvilla and Ranganathan (2010)	Industry growth	+	Provider	BPO	Case Study	Not specified

The symbol "+" indicates that provider's human resources management capability is positively associated with outsourcing outcomes.

Although these studies have greatly enhanced our understanding of provider's human resources management capability, there are some limitations. One limitation is that most studies employed qualitative approaches, only a small number of papers have investigated it quantitatively (e.g., Koh et al. 2004). For example, Koh et al. (2004) apply the concept of psychological contract to study ITO success from both client's and provider's perspectives. They assess the impacts of six provider's capabilities through a field study of 370 managers. Their results indicate that provider's human resources management such as assigning experienced employees to work on the project and minimizing employee turnover during the project is positively associated with perceived ITO success. Another limitation is that only a limited number of studies have looked at the role of provider's human resource management capability in BPO (e.g., Kuruvilla and Ranganathan 2010; Lahiri and Kedia 2009), in particular in the main IS journals.

2.3.2 Provider's Risk Management Capability

In this study, we define provider's risk management capability as a provider's ability to identify, rate, rank, and mitigate potential outsourcing risks for the purpose to minimize the chance of their negative impacts (Lacity et al. 2011a). Examples of provider's risk management capability include protecting client's intellectual property and having contingency plans in place. Outsourcing arrangements involve a variety of risks (Iacovou and Nakatsu 2008; Kern et al. 2002), such as unrealistic client expectations, lack of outsourcing experience from client side, lack of cooperation, poor control, data and system insecurity, and legal/political uncertainties. Prior literature has frequently stressed the importance of client's risk management in outsourcing (Adeleye et al. 2004; Kern et al. 2002; Lin et al. 2007; Rottman and Lacity 2004; Smith and McKeen 2004). Although provider's risk management has been demonstrated as an influential factor to ITO (Taylor 2006; Taylor 2007) and BPO performance (Lacity et al. 2011a; Narayanan et al. 2011), research on it has been limited and mainly qualitative, as shown in Table 3.

Table 3: Impacts of Provider's Risk Management Capability on Outsourcing Performance in Prior Literature							
#	**Author and Year**	**Measurement of Outsourcing Performance**	**Effect**	**Perspective**	**Sourcing Type**	**Research Method**	**Theoretical Foundation**
1	Taylor (2006)	Satisfaction	+	Provider	ITO	Interviews	Agency theory
2	Taylor (2007)	(1) project level performance; (2) satisfactory process, and (3) business growth opportunity	+	Provider	ITO	Interviews	Agency theory
3	Sen and Shiel (2006)	Relationship quality	+	Both	BPO	Case Studies	Not Specified
4	Narayanan et al. (2011)	(1) profit level, (2) market share, and (3) cost reduction	0	Provider	BPO	Survey	Information processing theory

The symbol "+" indicates that provider's risk management capability is positively associated with outsourcing outcomes.

Among the limited work on provider's risk management capability, Taylor (2007) interviews 22 experienced project managers from provider firms and finds that provider's risk management capability in ITO is positively associated with outsourcing success in terms of better project performance, satisfactory process, and more business growth opportunity. Similarly, Sen and Shiel (2006) conduct five case studies in India and Ireland about knowledge processes outsourcing from client's and provider's perspectives. They posit that even though knowledge processes outsourcing is more profitable to providers, it is fraught with new risks. Therefore, providers need to have strong risk management capability in place. Further, Narayanan et al. (2011) use survey data gathered from 205 Indian BPO providers to analyze the impact of provider's risk management capability on BPO performance. They find that it has positive impact on the outsourcing performance, but not significantly. Thus, prior literature has revealed mixed results on the link between provider risk management capability and outsourcing performance. One purpose of this study is to provide further understanding of this relationship.

2.3.3 Provider's Innovativeness

Although provider's innovativeness has been repetitively examined in operation management (Azadegan et al. 2008; Baptista 1996; Choi and Krause 2006; Merrifield 1989;

Wallenburg 2009), it just received recognition from outsourcing researchers in recent years (e.g., Lacity and Willcocks 2013; Willcocks et al. 2013). Innovations can take the form of new products, new or improved processes, new markets, and new tools/technologies, any of which may affect the performance of outsourcing (Lacity and Willcocks 2013). Providers do not need incentives from clients to create innovations for the purpose of improving their profits. Yet they do need motivations to deliver innovations that improve client firm's performance (Lacity and Willcocks 2013). Providers may be incentivized by using mechanisms such as revenue sharing at the project level, innovation days, and mandatory productivity targets (Lacity and Willcocks 2013; Lacity and Willcocks 2014). However, innovation may not happen unless clients and providers have a more comprehensive process for combining acculturation across different organizations, idea generation, and funding support. Therefore, to achieve innovations in outsourcing, providers not only need to have incentives but also proper governance mechanisms in place. In this study, we refer to the capability of the provider to create innovations which may deliver continuous improvements to client firm's performance as provider innovativeness (Azadegan et al. 2008; Lacity and Willcocks 2013). As an emerging term in outsourcing, provider's innovativeness has not received adequate attention, as shown in Table 4.

Table 4: Impacts of Provider's Innovativeness on Outsourcing Performance in Prior Literature

#	Author and Year	Measurement of Outsourcing Performance	Effect	Perspective	Sourcing Type	Research Method	Theoretical Foundation
1	Lacity and Willcocks (2013)	Innovations	+	Both	BPO	Survey and interviews	Partnership View
2	Willcocks et al. (2013)	(1) cost savings, (2) service improvement, (3) new capabilities	+	Both	ITO	Case study	Partnership View

The symbol "+" indicates that provider's risk management capability is positively associated with outsourcing outcomes.

Among the two empirical studies, Lacity and Willcocks (2013) survey 202 outsourcing professionals and conduct 38 in-depth interviews with executives at client and provider firms to study BPO relationships. They reveal that clients who achieve outsourcing success concentrate less

on operational efficiency (e.g., cost savings or access skills) and more on achieving innovations. In high performing BPO, providers carry out a series of innovation projects to continuously improve client's operating efficiency and strategic performance, as well as ensure business-process effectiveness. Willcocks et al. (2013) study a 10-year enterprise partnership and find that provider's innovativeness such as sharing revenues with client can help provider expand its market services and increase its revenue growth. As evidenced in Table 4, although provider's innovativeness is crucial to outsourcing performance, it has not received adequate attention in IS, neither have survey instruments been developed to measure it.

2.4 Contractual Governance

In accordance with the logic of transaction cost economics (TCE) (Williamson 1975; 1981), in response to exchange hazards (e.g., asset specificity, measurement difficulty, uncertainties, bounded rationality), firms either implement complex contracts or opt for vertically integration when the cost of crafting detailed contracts is high (Goo et al. 2009; Poppo and Zenger 2002). Therefore, in an outsourcing arrangement, one task of client is to craft governance arrangements, which match exchange conditions and ensure the achievement of the desired goals (Poppo and Zenger 2002). One of the commonly used governance mechanisms is a formal contract. A formal contract represents obligations or promises to carry out specific actions in outsourcing arrangements (Macneil 1978; Poppo and Zenger 2002). It can act as safeguard to minimize transaction costs and help firms form initial institutional trust (Goo et al. 2009; McKnight et al. 1998; Zucker 1986). Reviewing the extant literature, a plethora of studies, as summarized in Table 5, have empirically examined the impact of contractual governance factors on outsourcing performance (Choudhury and Sabherwal 2003; Gopal et al. 2003; Lacity et al. 1995; McFarlan and Nolan 1995; Sanders et al. 1997; Rottman and Lacity 2004; Rai et al. 2012; Kim et al. 2013).

Table 5: Impacts of Contractual Governance Factors on Outsourcing Performance in Prior Literature							
#	**Author and Year**	**Contract Governance**	**Outsourcing Outcomes**	**Sourcing Type**	**Method**	**View**	**Sample**
1	Lacity and Hirschheim (1993)	Customized Contract (+)	Satisfaction	ITO	Case Studies	Client	14 Fortune 500 companies
2	Richmond and Seidmann (1993)	Contract Structure (M)	Business Value Realization	ITO	Case Studies	Both	1 client firm and 1 provider firm
3	Lacity et al. (1995)	Contract Duration (-) Partnership-base Contract (+)	Cost Savings Realized; Meeting Expectations	ITO	Case Studies	Client	40 companies
4	McFarlan and Nolan (1995)	Partnership-base Contract (+)	Cost Savings Realized	ITO	Case Study	both	1 client firm and 1 provider firm
5	Pinnington and Woolcock (1995)	Contract Detail (+)	Cost Savings Realized	ITO	Interviews	Client	12 top 150 UK firms
6	Michell and Fitzgerald (1997)	Contract Detail (+)	Meeting Service Level	ITO	Interviews, Survey, Case Studies	Both	Interviews with 16 providers; survey with 150 senior managers; Case studies with 25 clients
7	Sanders et al. (1997)	Contract Detail (+)	Economic, technical, strategic benefits; overall satisfaction	ITO	Case Studies	Client	34 managers
8	Currie (1998)	Contract Duration (-)	Risk Reduction	ITO	Case Studies	Client	2 client firms
9	Lacity and Willcocks (1998)	Contract Duration (-) Contract Recency (+) Detailed Fee-for-service contracts (+)	Cost Savings Realized	ITO	Case Studies	Client	61 outsourcing decisions made in 40 US and UK firms
10	Domberger et al. (2000)	Contract Size (+)	Service Quality	ITO	Survey	Client	48 contracts
11	Baldwin et al. (2001)	Contract Duration (-) Contract Flexibility (+)	Satisfaction	ITO	Case study	Client	1 UK bank
12	Barthelemy (2001)	Contract Detail (+)	Cost Savings Realized	ITO	Survey and Interviews	Client	50 ITO Companies
13	Beaumont and Costa (2002)	Contract Detail (+)	Generic Outsourcing Success- Not Specified	ITO	Survey, interviews	Client	277 informants for survey and 6 interviews with mangers

Table 5: Impacts of Contractual Governance Factors on Outsourcing Performance in Prior Literature							
#	**Author and Year**	**Contract Governance**	**Outsourcing Outcomes**	**Sourcing Type**	**Method**	**View**	**Sample**
14	Gopal et al. (2002)	Contract Type (M)	Project rework	ITO	Survey	Provider	34 application software projects
15	Kern and Willcocks (2002)	Contract Detail (+) Control Mechanisms (+)	Relationship Quality	ITO	Case Studies	Both	12 firms
16	Kern et al. (2002)	Contract Flexibility (+)	Generic Outsourcing Success- Not Specified	ITO	Case Study	Client	1 firm
17	Poppo and Zenger (2002)	Customized Contract (+)	Satisfaction	ITO	Survey	Client	285 IS executives
18	Choudhury and Sabherwal (2003)	Control Mechanisms (M)	Generic Outsourcing Success- Not Specified	ITO	Case Studies	Client	5 firms
19	Gainey and Klass (2003)	Contract Detail (+)	Client Satisfaction	BPO	Survey	Client	157 HR directors
20	Gopal et al. (2003)	Contract Size (+)	Provider Profitability	ITO	Survey	Provider	93 offshore projects
22	Susarla et al. (2003)	Contract Detail (0)	Satisfaction	ITO	Survey	Client	256 client firms
23	Khan and Fitzgerald (2004)	Contract Detail (+)	Generic Outsourcing Success- Not Specified	ITO	Case Studies	Client	4 firms
24	Koh et al. (2004)	Contract Duration (0) Contract Size (0)	Satisfaction	ITO	Interview, Survey	Both	Interviews with 9 client project managers and 6 provider project managers; survey with 375 managers
25	Lee et al. (2004)	Contract Duration (+)	Cost efficiency; strategic competence; technology catalysis	ITO	Survey	Client	311 CIOs
26	Rottman and Lacity (2004)	fixed-fee contract (+) Contract size (+)	Risk Reduction Cost Savings Realized	ITO	Case Study	Client	1 firm
27	Smith and McKeen (2004)	Contract Detail (+) Contract Duration(-1)	Generic Outsourcing Success- Not Specified	ITO	Focus Group	Client	1 firm
28	Willcocks et al. (2004)	Contract Detail (-) Contract Duration (-)	Business Process Improvement	ITO and BPO	Case Study	Client	1 firm

Table 5: Impacts of Contractual Governance Factors on Outsourcing Performance in Prior Literature							
#	**Author and Year**	**Contract Governance**	**Outsourcing Outcomes**	**Sourcing Type**	**Method**	**View**	**Sample**
29	Oh et al. (2006)	Contract Size (-)	Cumulative Abnormal Return	ITO	Event Study	Client	192 outsourcing announcements
30	Ross et al. (2006)	Contract Type (M)	Meeting Expectations	ITO	Case Studies	Both	2 client firms and 3 provider firms
31	Lin et al. (2007)	Contract Detail (+)	Business Value Realization	ITO	Survey, Case Studies	Client	69 CIOs
32	Niranjan et al. (2007)	Contract Detail (+)	Generic Outsourcing Success-Not Specified	BPO	Case Studies	Provider	4 providers
33	Alami et al. (2008)	Contract Detail (-)	Relationship Quality	ITO	Multiple Case Studies	Provider	6 provider firms
34	Kim (2008)	Contract Detail (+)	Cost Reduction	BPO	Case Study	Client	1 client firm
35	Rottman and Lacity (2008)	Contract Size (+) Contract Duration (+) Contract Recency (+)	Meeting Cost, quality, and productivity objectives	ITO	Interviews	Client	21 IT projects in a client firm
36	Sia et al. (2008)	Contract Type (0) Contract Duration (0) Contract Flexibility (+) Contract Size (+)	Satisfaction; Perceived benefits achieved	BPO	Survey	Client	171 outsourcing projects
37	Wüllenweber et al. (2008)	Contract Completeness (+)	BPO Success	BPO	Survey	Client	335 BPO ventures in 215 German banks
38	Bharadwaj and Saxena (2009)	Contract Detail (+)	Client Management Capability	BPO	Survey	Provider	52 respondents
39	Handley and Benton (2009)	Contract Detail (+)	Meeting Expectations	BPO	Survey	Client	198 procurement and sourcing professionals
40	McIvor et al. (2009)	Contract Detail (+) Contract Flexibility (+)	Process Performance Improvement	BPO	Case Study	Client	1 firm
41	Tate and Ellram (2009)	Contract Detail (+) Stakeholder Buy-in (+)	Efficiency; customer satisfaction; process improvements	BPO	Case Studies	Client	6 firms
42	Balaji and Brown (2010)	Contractual Governance (+) Contract Flexibility (+)	Execution-level Effectiveness Economic Benefits	ITO	Survey	Client	141 IS managers
43	Luo et al. (2010)	Contract Detail (+)	Process Integration	BPO	Case Studies	Provider	2 firms

Table 5: Impacts of Contractual Governance Factors on Outsourcing Performance in Prior Literature							
#	**Author and Year**	**Contract Governance**	**Outsourcing Outcomes**	**Sourcing Type**	**Method**	**View**	**Sample**
44	Fitoussi and Gurbaxani (2012)	Contract Design (M)	Cost Reduction; Service Quality	ITO	Survey	Client	42 IS Executives
45	Gopal and Koka (2012)	Contract Type (M)	Profit; Service Quality	ITO	Survey	Provider	105 contracts in a provider firm
46	Mani et al. (2012)	Contract Completeness (0)	Satisfaction	BPO	Survey	Client	134 firms
47	Qi and Chau (2012)	Contract complexity (+) Contract management (+)	Economic, technological, and strategic benefits	ITO	Case Studies	Client	2 client firms
48	Rai et al. (2012)	Contractual Governance (+)	Satisfaction	BPO	Survey	Client	335 BPO ventures
49	Kim et al. (2013)	Contract Specification (+)	Cost Efficiency; Performance Improvement; Satisfaction	ITO	Survey	Client	143 Client Companies
50	Langer et al. (2013)	Activity control (+)	Client Satisfaction	ITO	Survey	Both	390 strategic outsourcing contracts
		Capability Control (M) Formal Contract (-)	Profitability				

*In this column, a sign of "+" indicates a significant and positive relationship between the contractual governance and outsourcing outcome(s); a sign of "-" indicates a negative relationship; a sign of "0" indicates no impact; and a sign of "M" indicates that contractual governance matters but may have positive/negative/no impact depending on some other factors.

As shown in Table 5, the majority of the literature on contractual governance focuses on the following contractual factors: level of contract details (e.g., Kim et al. 2013; McIvor et al. 2009), contract type (e.g., Gopal et al. 2002; Rottman and Lacity 2004), contract duration (e.g., Koh et al. 2004; Lacity and Willcocks 1998), contract size (e.g., Oh et al. 2006; Gopal et al. 2003), and contract flexibility (e.g., Baldwin et al. 2001; McIvor et al. 2009).

Contract detail refers to the extent of comprehensive clauses in an outsourcing contract that define service scope, service prices, service levels, measurements of outcomes, and rewards and penalties (e.g., Kim et al. 2013; Lacity et al. 2010; Lacity and Willcocks 1998; Poppo and Zenger 2002). In general, both ITO and BPO studies have shown that the level of contract details is positively associated with outsourcing performance such as satisfaction (e.g., Sanders et al. 1997; Tate and Ellram 2009), cost savings realized (e.g., Lacity and Willcocks 1998), and business value realization (e.g., Lin et al. 2007). However, some scholars also find that contract details may have

negative impact on outsourcing performance (e.g., Alami et al. 2008; Willcocks et al. 2004). For example, Alami et al. (2008) find that detailed contract clauses such as harsh penalties may create an unhealthy atmosphere in the relationship, which in turn hurts the relationship quality. Willcocks et al. (2004) investigate knowledge assimilation, creation, and application in five types of outsourcing arrangements and contend that complete and detailed contract may limit knowledge creation and use.

Contract type is defined as "a term denoting different forms of contracts used in outsourcing" (Lacity et al. 2010, p.423). Examples of contract type include "customized, fixed priced, time and materials, fee for service, and partnership-based contracts" (Lacity et al. 2010, p.423). In ITO, Lacity and Willcocks (1998) find that detailed fee-for-service contracts realize more cost savings than standard contracts, loose contracts, and mixed contracts. Gopal et al. (2002) compare the offshore software development project rework in two types of contracts: fixed-price and time & material. They reveal that fixed-price contracts result in less rework compared to time & material contracts, because providers have less flexibility with fixed-price contracts and must bear the full burden of any extra costs. Rottman and Lacity (2004) explore the relationship between contract type and risk mitigation and find that fixed-fee contracts can reduce the level of outsourcing risks for clients. Surprisingly, in BPO, prior studies have not found significant impacts of contract type on outsourcing outcomes such as satisfaction and perceived benefits achieved (e.g., Sia et al. 2008; Li et al. 2010).

Contract duration is also called length of a contract, usually measured by the difference between the effective starting date and the expiry date (e.g., Koh et al. 2004; Lacity and Willcocks 1998; Lacity et al. 2011a). Prior literature has shown that, in general, short-term contracts, which are usually three to five years contracts, are more successful in terms of achieving expected cost savings (e.g., Lacity and Willcocks 1998), focusing on core competence (e.g., Kim et al. 2013), improving client satisfaction (e.g., Baldwin et al. 2001; Koh et al. 2004); and mitigating risks (e.g.,

Currie 1998). However, when the goals of outsourcing arrangements are technology catalysis or innovation, long-term contracts, longer than 5 years, are expected (Lee et al. 2004).

Contract size is the total dollar amount of an outsourcing contract (e.g., Oh et al. 2006; Koh et al. 2004; Lacity et al. 2010). Contract size represents a proxy of the scope, scale and complexity of an outsourcing arrangement (Domberger et al. 2000). The empirical studies have mostly shown that *larger* contracts are more successful in terms of higher provider profitability (Gopal et al. 2003), delivering better service quality (Domberger et al. 2000), increasing client satisfaction (Sia et al. 2008), and meeting cost, quality, and productivity objectives (Rottman and Lacity 2008). For instance, Gopal et al. (2003) investigate how contract choice affects provider firm's profits. Their results suggest that provider firms realize more profits with larger contracts. The existing literature also examines how investors respond to different size of outsourcing contracts (e.g., Oh et al. 2006) and find that investors prefer *smaller* outsourcing contracts rather than the larger ones in that the larger outsourcing contracts are usually more complex and involve higher level of uncertainties and risks.

Contract flexibility refers to "the degree to which a contract specifies contingencies and enables parties to change contractual terms" (Lacity et al. 2010, p.423). A contract with high flexibility allows the parties to alter contract terms, to renegotiate contract terms, and to terminate the contract early. Contract flexibility has been found to positively affect outsourcing performance (e.g., Balaji and Brown 2010; Kern et al. 2002; Baldwin et al. 2001; McIvor et al. 2009; Sia et al. 2008). For example, in ITO, Baldwin et al. (2001) conduct a case study with a bank. Their results suggest that contract flexibility increases the level of client satisfaction. Similarly, McIvor et al. (2009) assess the applicability of a number of performance management techniques in BPO. Their findings highlight the importance of context flexibility in improving business process performance.

Among the work on contractual governance factors, only a handful of studies have examined the role of appropriate contract specification or contract design (e.g., Fitoussi and Gurbaxani 2012; Kim et al. 2013). Fitoussi and Gurbaxani (2012) apply multitask agency theory

to study the relationship between incentive strength and contractual objectives. Based on a data set of 55 ITO contracts, they find that a contract using strong direct incentives for a specified measurable objective is less likely to include hard-to-measure objectives; in addition, when the number of performance metrics increases, the degree of client's satisfaction decreases. Therefore, managerial attention should be paid to the specification of appropriate contract, such as including measurable performance metrics and considering the total number of objectives included in a contract. When client firms have directly measurable goals (e.g., cost reduction) and those are less measurable (e.g., service quality), managers must consider the underlying trade-offs. Therefore, in this study, we focus on this understudied contractual governance factor: contract specification, particularly financial contract terms specification, to empirically test how it affects outsourcing performance and interact with relational governance.

2.5 Relational Governance

Relational governance refers to governance an outsourcing arrangement through social processes that advance norm of trust, reciprocity, flexibility, mutual understanding and so on (Goo et al. 2009; Poppo and Zenger 2002). A rich body of empirical studies, as summarized in Table 6, have investigated the impacts of relational governance factors on outsourcing performance (e.g., Kern and Willcocks 2002; Kim and Chung 2003; Klepper 1995; Lacity et al. 2004; Rottman and Lacity 2008; Sabherwal 1999; Rai et al. 2012). In general, relational governance has shown to improve outsourcing performance.

Table 6: Impacts of Relational Governance Factors on Outsourcing Performance in Prior Literature

#	Author and Year	Relational Factors*	Outsourcing outcomes	Type	Method	View	Sample
1	Klepper (1995)	Communication (+) Fair Bargaining (+) Justice (+) Norms (+)	Relationship quality	ITO	Case Studies	Client	2 Case studies of IS partnership
2	Grover et al. (1996)	Partnership (0)	strategic, economic, and technological benefits	ITO	Survey	Client	188 client firms

Table 6: Impacts of Relational Governance Factors on Outsourcing Performance in Prior Literature							
#	**Author and Year**	**Relational Factors***	**Outsourcing outcomes**	**Type**	**Method**	**View**	**Sample**
3	Lee and Kim (1999)	Benefits and risk sharing (+) Commitment (+) Conflict (0) Mutual understanding (+) Trust (+)	(1) business perspective: business benefits realization; (2) customer satisfaction	ITO	Survey; interview	Client	74 outsourcing relationships
4	Sabherwal (1999)	Trust (+)	Service quality, timely progress	ITO	Case Studies	Client	18 outsourcing Projects
5	Baldwin et al. (2001)	Communication (+)	Satisfaction	ITO	Case Study	Client	1 major UK bank
6	Lee (2001)	Partnership (+)	Business value realization	ITO	Survey	Client	195 firms
7	Gopal et al. (2002)	Frequency of Project Status Meetings (-) Number of Liaisons (-)	Project rework	ITO	Survey	Provider	34 Application Software projects
8	Kern and Blois (2002)	Lack of norms (+)	Failed outsourcing consortium	ITO	Case Study	Both	1 client firm and its providers
9	Kern and Willcocks (2002)	Commitment (+) Flexibility (M) Mutual understanding (+) Social tie (M) Trust (+)	Relationship quality	ITO	Case studies	Client	12 firms
10	Poppo and Zenger (2002)	Relational governance (Composite)	Satisfaction	ITO	Survey	Client	285 IS Executives
11	Gainey and Klaas (2003)	Trust (+)	Client satisfaction	BPO	Survey	Client	157 HR directors
12	Kim and Chung (2003)	Flexibility (+) Partnership (+) Role Integrity (-) Monitoring of the vendor (0)	Satisfaction	ITO	Survey	Client	355 respondents
		Flexibility (+) Monitoring of the vendor (+) Partnership (0) Role Integrity (0)	Non-economic benefits				
		Flexibility (0) Partnership (0) Role Integrity (0) Monitoring of the vendor (+)	Economic Benefits				

Table 6: Impacts of Relational Governance Factors on Outsourcing Performance in Prior Literature							
#	**Author and Year**	**Relational Factors***	**Outsourcing outcomes**	**Type**	**Method**	**View**	**Sample**
13	Kaiser and Hawk (2004)	Client-Supplier Interface Design (M) Mutual Understanding (+) Trust (M)	Satisfaction	ITO	Case Study	Client	1 client firm and 1 provider firm
14	Lacity et al. (2004)	Client-Supplier Interface Design (M) Partnership View (+)	cost reduction; service quality; shared revenue	BPO	Case Study	Both	1 client firm and 1 provider firm
15	Lander et al. (2004)	Trust (+)	Generic Outsourcing Success- Not Specified	ITO	Cast Study	Client	1 international manufacturing company
16	Lee and Kim (2005)	Benefits and risk sharing (+) Commitment (+) Trust (+) Shared knowledge (+) Mutual dependency (0) Joint venture (+)	Business satisfaction and user satisfaction	ITO	Survey	Client	225 client firms
17	Borman (2006)	Communication (+)	Generic outsourcing success- not specified	BPO	Case Study	Both	3 client firms and 3 provider firms
18	Rottman and Lacity (2006)	Client-supplier interface design (M) knowledge sharing (+) Frequency of project status meetings (+) Number of liaisons (+)	Cost reduction; service quality; value-added transformation	ITO	interview	Both	159 participants from 40 companies
19	Sen and Shiel (2006)	Communication (+) Mutual understanding (+) Partnership view (+) Process integration (+)	Relationship quality	BPO	Case Studies	Provider	5 Provider Firms
		knowledge sharing (+) Client-supplier interface design (+)	Generic outsourcing success- not specified				
20	Oshri et al. (2007)	Client-supplier interface design (M) Knowledge sharing (+)	Generic outsourcing success- not specified	ITO	Case Study	Provider	1 provider firm
21	Raman et al. (2007)	Social norms (M)	Supplier employee turnover	BPO	Case Study	Provider	18 interviews

Table 6: Impacts of Relational Governance Factors on Outsourcing Performance in Prior Literature							
#	**Author and Year**	**Relational Factors***	**Outsourcing outcomes**	**Type**	**Method**	**View**	**Sample**
22	Alami et al. (2008)	IT-enabled communication (M) Mutual understanding (+) Trust (+)	Relationship quality	ITO	Case Studies	Provider	6 provider firms
23	Dibbern et al. (2008)	Cultural distance (+) Geographic distance (+)	Client extra costs	ITO	Case Studies	Client	6 Outsourcing Projects
24	Han et al. (2008)	Commitment (+) Trust (+)	Strategic, economic, and technological benefits	ITO	Survey	Client	267 Outsourcing Projects
25	Leonardi and Bailey (2008)	Client-supplier interface design (+)	Perceived effectiveness of offshoring arrangements	ITO	Case Study	Client	1 manufacturing firm
26	Levina and Su (2008)	Commitment (+)	Generic Outsourcing Success- Not Specified	BPO	Case Study	Client	1 financial services firm
27	Rottman and Lacity (2008)	number of liaisons (+)	Meeting Cost, quality, and productivity objectives	ITO	Interviews	Client	21 ITO Projects
28	Winkler et al. (2008)	Conflict (-) Cooperation (+) Trust (+)	Cost Reduction; Resource Quality; Increased Flexibility; Service Quality	ITO	Case Studies	Client	5 Client Firms
29	Wüllenweber et al. (2008)	Conflict resolution (+)	BPO Success is a formative construct using indicators of cost reduction, cost transparency, quality improvement, access to expertise, and focus on core competencies.	BPO	Survey	Client	335 BPO projects in 215 German banks
30	Li et al. (2010)	Social control (+)	Outsourcing Performance	BPO	Survey	N/A	380 domestic and 200 international relationships
31	Balaji and Brown (2010)	Trust (+)	Execution-level Effectiveness Business Benefits	ITO	Survey	Client	141 IS Managers

Table 6: Impacts of Relational Governance Factors on Outsourcing Performance in Prior Literature							
#	**Author and Year**	**Relational Factors***	**Outsourcing outcomes**	**Type**	**Method**	**View**	**Sample**
			Functional Benefits				
32	Gopal and Koka (2012)	Relational flexibility (+)	Profit	ITO	Survey	Provider	105 contracts in a provider firm
			Service quality				
33	Mani et al. (2012)	Coordination (0)	Fixed price Satisfaction	BPO	Survey	Client	134 firms
34	Qi and Chau (2012)	Trust (+) Knowledge sharing (+) Communication (+) Commitment (+)	Economic, technological, and strategic benefits	ITO	Case Studies	Client	2 client firms
35	Rai et al. (2012)	Relational governance (+)	Satisfaction	BPO	Survey	Client	335 BPO ventures
36	Handley and Benton (2013)	Relationship-specific investments (0) Cooperative Relationship (0)	Control Cost	ITO/ BPO	Survey	Both	102 Outsourcing Relationships
		Relationship-specific investments (0) Cooperative Relationship (+)	Coordination Cost				
37	Kim et al. (2013)	Relationship Strength (+)	Cost Efficiency; Performance Improvement; Satisfaction	ITO	Survey	Client	143 Client Companies

*In this column, a sign of "+" indicates a significant and positive relationship between the relational governance factor and outsourcing outcome(s); a sign of "-" indicates a negative relationship; a sign of "0" indicates no impact; and a sign of "M" indicates that relational governance matters but may have positive/negative/no impact depending on some other factors.

Previous studies have mainly focused on the following relational governance factors: trust (e.g., Kern and Willcocks 2002; Sabherwal 1999; Winkler et al. 2008; Qi and Chau 2012), client-provider interface design (e.g., Lacity et al. 2004; Rottman and Lacity 2006), partnership view (e.g., Lee 2001; Sen and Shiel 2006) , commitment (e.g., Han et al. 2008; Lee and Kim 1999), communication (e.g., Baldwin et al. 2001; Borman 2006), and knowledge sharing (e.g., Oshri et al. 2007; Rottman and Lacity 2006; Sen and Shiel 2006).

Trust is the most important factor of relational governance. Although trust has been studied using various alternative theoretical lens, it is generally believed that it consists of a party's willingness to make itself vulnerable to the other party (e.g., Dibbern et al. 2008; Lacity et al. 2010;

Sabherwal 1999). The extant empirical studies have found that trust is positively associated with outsourcing performance such as economic, technological, and strategic benefits (Qi and Chau 2012), client satisfaction (Gainey and Klaas 2003), execution-level effectiveness (Balaji and Brown 2010), and good quality and timely progress (Sabherwal 1999). For example, Gainey and Klaas (2003) find that socially-oriented trust, which evolves over time, increases the level of client satisfaction. Qi and Chau (2012) integrate theories from economics, marketing, strategic management, and information systems fields to investigate the effects of contractual and relational governance on ITO performance. Their results indicate that trust is positively associated with economic, technological, and strategic benefits.

Client and provider interface design refers to the structure that defines "where, when, and how client and supplier employees can work, interact, and communicate effectively" (Lacity et al. 2010, p. 423). A variety of client-provider interface design have been described in previous studies (e.g., Kaiser and Hawk 2004; Lacity et al. 2004; Leonardi and Bailey 2008; Oshri et al. 2007; Rottman and Lacity 2006; Sen and Shiel 2006). For example, in ITO, Rottman and Lacity (2006) reveal that clients need to keep more provider employees onshore at the initial stage of outsourcing project because of cultural, time zone, methodological, and language differences. In addition, onshore presence of provider staff can facilitate the knowledge sharing and transfer between client and provider employees. In BPO, Lacity et al. (2004) argue that providers should seek for client's participation through jointly managed committees and boards, which may improve outsourcing performance in terms of lower costs, better service, and shared revenues.

Partnership view is defined as a client firm's consideration of providers as "trusted partners rather than opportunistic vendors" (Lacity et al. 2010, p.42). A successful partnership requires involved parties to be familiar with each other's business visions, tasks, critical issues, as well as organizational culture (Kaiser and Hawk 2004). In particular, when clients and providers are in different countries, there are more barriers in developing a successful partnership because of differences in time zones, language, and cultures (Kaiser and Hawk 2004). The empirical studies

in partnership view have produced mixed results (e.g., Grover et al. 1996; Kim and Chung 2003; Lacity et al. 2004; Lee 2001; Sen and Shiel 2006). Grover et al. (1996) find that partnership view does not significantly impact the attainment of strategic, economic, and technological benefits in ITO, whereas Sen and Shiel (2006) conduct case studies with 5 provider firms and claim that partnership view can foster a better outsourcing relationship in BPO.

Commitment is defined as the degree to which clients and providers pledge to sustain a relationship (e.g., Lee and Kim 1999; Lacity et al. 2010). In outsourcing research, both contractual commitment and relationship commitment have been discussed (e.g., Lee and Kim 1999; Lee and Kim 2005). Contractual commitment for clients implies trying to pay the service fee and offering the support as contractually agreed (Kern and Willcocks 2002). Conversely for providers, contractual commitment means achieving contractually stipulated goals (Kern and Willcocks 2002). Relationship commitment encourages clients and providers to make specific investment in a relationship, to resist attractive short-term substitutes, and to view potentially high-risk activities as being acceptable due to the belief that the other party will not carry out opportunistic actions (Lee and Kim 2005). Previous studies have consistently found that commitment is positively associated with outsourcing performance (Han et al. 2008; Kern and Willcocks 2002; Lee and Kim 1999; Lee and Kim 2005; Levina and Su 2008; Qi and Chau 2012). Levina and Su (2008) observe that in multi-sourcing strategy, commitment from clients can enable continuous innovation in the provider side. Lee and Kim (2005) find that commitment can improve both user satisfaction and business satisfaction.

Communication is more than day-to-day information exchange between client and provider (Klepper 1995). It refers to "the degree to which parties are willing to openly discuss their expectations, directions for the future, their capabilities, and/or their strengths and weaknesses" (Lacity et al. 2010, p.423). Prior literature has consistently found that communication has positive impact on outsourcing performance (e.g., Baldwin et al. 2001; Borman 2006; Qi and Chau 2012; Sen and Shiel 2006). Borman (2006) contends that, from both client and provider perspectives,

open communication leads to better BPO performance. Qi and Chan (2012) argue that communication is one of the major components of ITO relationship and claim that good communication can help achieve better economic, technological, and strategic benefits.

Knowledge sharing in outsourcing arrangements has been underscored by many scholars in the extant literature (e.g., Oshri et al. 2007, Qi and Chau 2012; Rottman and Lacity 2006; Sen and Shiel 2006). Knowledge sharing refers to the extent to which clients and providers are willing to share and/or transfer knowledge (Lacity et al. 2011a). Effective knowledge sharing has been found to secure service quality, reduce development costs (Rottman and Lacity 2006), improve relationship quality (Sen and Shiel), and gain more strategic, economic and technological benefits (Qi and Chau 2012).

Among this stream of empirical studies, only a small number of papers have examined the impact of *conflict resolution* on outsourcing performance (e.g., Wüllenweber et al. 2008). Conflict is embedded in outsourcing arrangements due to partner opportunism, conflicting goals, technology complexity, and cultural differences (Doz 1996, Goo et al. 2009). Given the fact that conflict is inevitable in outsourcing arrangements, conflict resolution is important in that its impact on the outsourcing relationship can be either productive or destructive (Deutsch 1973). Conflict resolution, which is defined as the extent to which partners achieve mutual satisfaction and reach agreements and consensus (Goo et al. 2009; Robey et al. 1989), is believed to positively affect outsourcing performance (Wüllenweber et al. 2008). Therefore, there is a growing need to understand the role of conflict resolution in outsourcing arrangements. In this study, we treat relational governance as a composite construct to understand its impact on outsourcing performance.

2.6 Outsourcing Performance

According to multitask agency theory (Holmstrom and Milgrom 1991), clients generally have more than one objective in outsourcing arrangements. For example, clients may want to simultaneously reduce costs and improve service quality through an outsourcing arrangement

(Fitoussi and Gurbaxani 2012). Prior literature has studied a plethora of ITO and BPO outcomes (Lacity et al. 2010; Lacity et al. 2011a), including economic benefits (e.g., Fisher et al. 2008), service quality (e.g., Winkler et al. 2008), satisfaction (e.g., Lee and Kim 2005), provider's profitability (e.g., Gopal et al. 2003), strategic benefits (e.g., Lee 2001), technology benefits (e.g., Grover et al. 1996), provider's business growth (e.g., Bharadwaj and Saxena 2009), and innovation effects (e.g., Fifarek et al. 2008). In general, academic researchers have considered ITO and BPO performance at four levels: firm level, IS department/business function level, relationship level, and project level (Lacity et al. 2010). In this study, we are interested in two outsourcing performance metrics at the relationship level: service quality (provider's performance) and economic benefits (client's firm benefits). These are two of the most frequently employed outsourcing performance metrics.

2.6.1 Service Quality

Service quality is an important indicator of information systems success (e.g., Grover et al. 1996; Jiang et al. 2000; Pitt et al. 1995). In general, service quality is conceptualized along five dimensions: reliability, responsiveness, assurance, tangibility, and empathy (e.g., Parasuraman et al. 1985; 1988; Su and Levina 2011). More specifically, reliability refers to the degree to which promised services are delivered reliably and accurately; responsiveness refers to the degree to which prompt services are delivered; assurance refers to the extent to which provider employees has knowledge and capabilities to build trust and confidence; tangibles refer to the appearance of related physical facilities and equipment and the availability of provider employees; and empathy refers to the degree to which individualized attention is provided to the clients (e.g., Parasuraman et al. 1988; Su and Levina 2011).

In outsourcing research, service quality is generally measured as perceived satisfactory service delivered by a provider (e.g., Lacity et al. 2010; Lacity et al. 2011a; Lee and Kim 1999; Lewin and Peeters 2006; Park and Kim 2005). Prior literature has examined whether outsourcing can gain better service quality (e.g., Cross 1995; Park and Kim 2005), whether larger contract size

is associated with higher level of service quality (e.g., Domberger et al. 2000), and whether relationship quality can affect the service quality delivered by providers (e.g., Chakrabarty et al. 2008; Deng et al. 2013). However, very little attention has been paid to the impacts of client capabilities and provider capabilities, as well as governance mechanisms, on the service quality in ITO and BPO literatures.

2.6.2 Economic Benefits

Outsourcing performance can be assessed by the achievement of business benefits (Grover et al. 1996; Kern and Willcocks 2000, Lacity et al. 2010; Lacity et al. 2011a; Ranganathan and Balaji 2007). Three categories of business benefits have been examined in IS literature, including economic benefits, strategic benefits, and technological benefits (e.g., Grover et al. 1996). Specifically, economic benefits refer to "improving the business' financial position" (Lacity and Willcocks 2001, p.315); strategic benefits refers to a firm's efforts to "focus on its core business, outsource routine IT activities so that it can focus on strategic uses of IT, and enhance IT competence and expertise through contractual arrangements with an outsourcer" (Grover et al. 1996, p.93); and technological benefits refer to "strengthening resources and flexibility in technology service to underpin business' strategic direction" (Lacity and Willcocks 2001, p.317).

Clients may expect to realize different categories of business values depending on their outsourcing strategies (Lee et al. 2004). Among the expected business values, economic benefit or cost saving is the most cited objective in both ITO and BPO research (e.g., Lacity et al. 2010; Lacity et al. 2011a; Lacity and Willcocks 1998; Rottman and Lacity 2004; Willcocks et al. 2007). In a successful outsourcing relationship, a client firm can realize the economic benefits they expect.

2.7 Summary

Our literature review highlights the critical links between determinants (client's capabilities, provider's capabilities, contractual governance, relational governance) and outsourcing

performance (e.g., business value realization, service quality). However, there are some limitations in the extant literature.

First, very limited studies have looked at the interaction effects (Goo et al. 2009; Han et al. 2013; Parmigiani and Mitchell 2010; Poppo and Zenger 2002; Rai et al. 2012). Among the limited studies, the majority of them have examined the interaction effect between contractual governance and relational governance on outsourcing performance (Goo et al. 2009; Poppo and Zenger 2002; Rai et al. 2012). Little recognition has been given to the interactions between client's and provider's capabilities (e.g., Han et al. 2013) as well as the interactions between governance mechanisms and capabilities (e.g., Parmigiani and Mitchell 2010), leaving a gap of further understanding how to foster capabilities from two parties and how to combine capabilities with appropriate governance mechanisms. Second, although previous studies have examined a wide range of contractual governance factors, IS scholars paid little attention to the role of contract specification in outsourcing performance. Third, the existing studies mainly adopt qualitative research methods such as case studies or interviews to test impacts of determinants on outsourcing performance. Hence, survey instruments for some of the constructs, in particular for capabilities constructs, have not been replicated enough. Last, the extant literature lacks a contingency perspective. According to contingency theory (Fielder 1964; Drazin and Van de Ven 1985; Schoonhoven 1981), different patterns of relevant contextual, structural, and strategic factors may result in various firm performance (Doty et al. 1993). Therefore, when considering from different perspective (client vs. provider), the impacts of capabilities and governance mechanisms on the outsourcing performance may change.

This study aims to bridge these gaps in IS literature by examining: (1) main effects of capabilities and governance mechanisms on outsourcing performance; (2) interaction effects of client's and provider's capabilities and governance mechanisms; and (3) whether the main effects and interaction effects vary from different perspective (client versus provider).

Chapter Three

RESEARCH MODEL AND HYPOTHESES

This study focuses on modeling the main and interaction effects of capabilities and governance mechanisms on outsourcing performance. In particular, we examine how capabilities and governance mechanisms influence provider's service quality and client's economic benefits independently and jointly. These are two most often used indicators of outsourcing success in the literature (e.g. Grover et al. 1996; Su and Levina 2011). We develop a research model based on resource-based theory, transaction cost economics, relational exchange theories and IS literature. Method suggested by Goo et al. (2009) and Rai et al. (2012) is used to empirically test the relationships between these critical determinants and outsourcing performance. Figure 2 depicts our research model at a broad level.

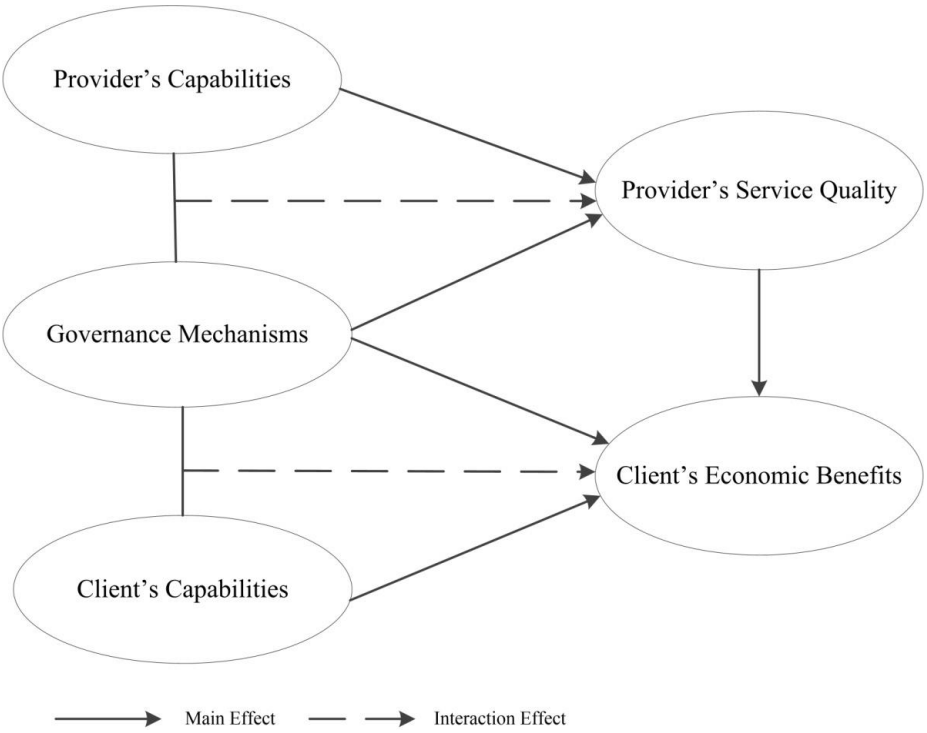


Figure 2: Research Model at a Broad Level

In this research model, we propose that: (1) provider's service quality is determined by provider's capabilities and governance mechanisms; (2) client's economic benefits are determined by client's capabilities, governance mechanisms, and provider's service quality; (3) provider's capabilities and governance mechanisms work together in affecting provider's service quality; (4) client's capabilities and governance mechanisms are intertwined in influencing client's economic benefits; and (5) provider's service quality mediates the relationship between provider's capabilities and client's economic benefits. We make the above arguments based on the following three rationales.

First, according to resource-based theory (RBT) (Barney 1991; Grant 1996), a firm's competitive position within an industry depends on its resources and capabilities. Thus, we argue that provider's service quality, which is an indicator of provider's firm performance, highly depends on its own capabilities. Likewise, client's economic benefits, which is also an indicator of client's firm performance also heavily rely on its own capabilities. In addition, in an outsourcing arrangement, clients receive services, not capabilities, directly from providers. Change a word, provider's service quality is also an input source of client's firm performance. As a result, provider's service quality can affect client's economic benefits directly. Therefore, we also argue that provider's capabilities don't affect client's economic benefits directly, rather, they influence it through their service quality.

Second, as suggested by transaction cost economics (TCE) (Williamson 1975; 1981) and relational exchange theories (Blau 1964; Macneil 1978, 1980), both contractual governance and relational governance are vital to outsourcing performance. Contractual governance can prevent provider's opportunistic behaviors and protect client's benefits (e.g., Poppo and Zenger 2002). Relational governance can build a trustful environment for providers to deliver high quality of services and ensure clients harvest expected economic benefits (e.g., Grover et al. 1996). Hence,

we propose that governance mechanisms (contractual and relational) influence both provider's service quality and client's economic benefits.

Third, as suggested by Barney et al. (2011), firm's resources and capabilities are always linked with other external sources in maintaining performance of inter-firm arrangements. Also, prior literature has suggested that firm's capabilities and governance mechanisms jointly influence buyer-supplier relationship (Parmigiani and Mitchell 2010). Therefore, we propose that the interaction effects of provider's capabilities and governance mechanisms, and of client's capabilities and governance mechanisms affect provider's service quality and client's economic benefits respectively (Argyres and Zenger 2012).

To further our understanding, we expand our research model by examining specific client's and provider's capabilities. More specifically, we examine the most important client's capability - client's ability to manage providers, and three provider's capabilities - provider's human resource management capability, provider's risk management capability, and provider's innovativeness. Table 7 summarizes constructs used in this study. Figure 3 presents the complete research model and hypotheses. Hypotheses development is discussed as below.

Table 7: Constructs Used In The Research Model

Construct	Definition	Key Reference
Client's Capability to Manage Provider	Client's capability to manage an outsourcing relationship with providers using effective processes, tools, and technologies.	Feeny and Willcocks (1998) Ranganathan and Balaji (2007) Sanders et al. (2007) Willcocks et al. (2007)
Provider's Human Resource Management Capability	A provider's capability to identify, recruit, train, deploy, and retain effective human capital and to have effective policies in place to achieve expected outsourcing objectives.	Koh et al. (2004) Levina and Ross (2003) Kuruvilla and Ranganthan (2010) Lacity et al. (2004)
Provider's Risk Management Capability	A provider's capability to identify, rate and mitigate potential risks and compliance in order to minimize the probability of their negative impacts.	Taylor (2007) Sen and Shiel (2006) Narayanan et al. (2011)
Provider's Innovativeness	A provider's capability to create innovations or continuous improvements to client firm.	Lacity and Willcocks (2013) Willcocks et al. (2013)

Table 7: Constructs Used In The Research Model		
Contractual Governance	Governance of outsourcing relationship through written contracts and legal provisions. In this study, we focus on the specification of contract financial terms, such as whether having appropriate incentives for providers, reflecting the best practices in the current market, and considering currency inflation.	Rai et al. (2012) Fitsoussi and Gurbaxani (2012) Kim et al. (2013)
Relational Governance	Governance of outsourcing relationship through implementation of obligations, promises, and expectations.	Goo et al. (2009) Poppo and Zenger (2002) Wüllenweber et al. 2008
Economic Benefits	Achievement of expected economic value in general.	Grover et al. (1996) Lacity and Willcocks (2001) Lee et al. (2004)
Service Quality	A perception of service performance delivered by a provider.	Grover et al. (1996) Lacity et al. (2010) Lee and Kim (1999)

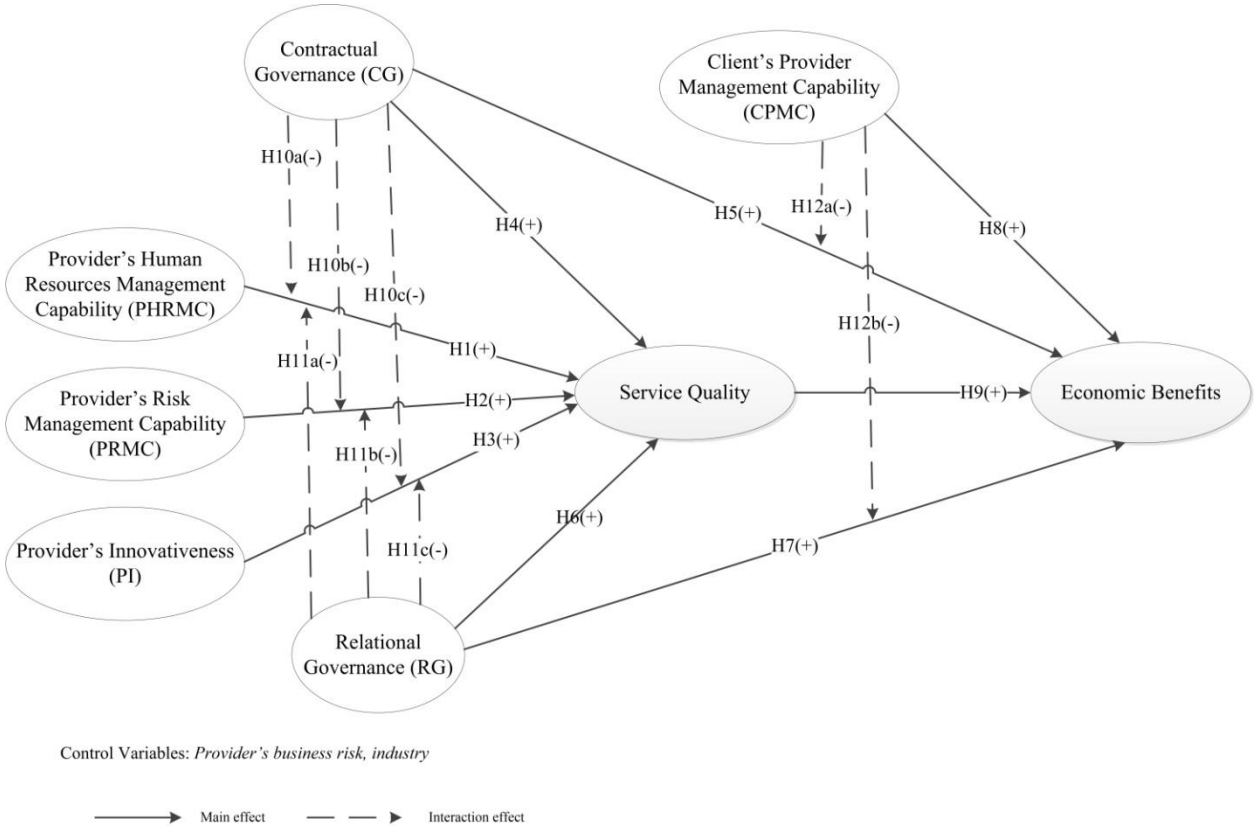


Figure 3: Complete Research Model and Hypotheses

3.1 Hypotheses of Main Effects

Provider's Human Resources Management Capability has been deemed as one of the most important factors related to outsourcing performance (e.g., Koh et al. 2004; Kuruvilla and Ranganathan 2010; Lacity et al. 2010, 2011a; Levina and Ross 2003). One of the top reasons why clients outsource is to gain access to provider's skills and expertise (Lacity et al. 2010, 2011a). For this to take place, providers should be able to manage their human resources effectively by assigning right people with right skill sets to work on outsourcing projects and having certain mechanisms in place to retain high-quality employees during the project (Koh et al. 2004). In addition, providers should have appropriate domain knowledge to understand client's implemented technologies or business processes (e.g., Gopal et al. 2002, Rao et al. 2006). Providers with better domain understanding can be more responsive to client's demands, thus providing better service quality. Moreover, outsourcing arrangements may involve transferring employees from clients to providers (e.g., Beulen and Ribbers 2003). Providers should be able to identify transferred staff's strengths and weaknesses, then learn from their strengths and create opportunities for their skills improvement. By this way, providers can gain better understanding of client firm's business knowledge and culture, in turn, deliver better service to client firms. Therefore, we hypothesize:

Hypothesis 1: *Provider's human resources management capability is positively related to its service quality.*

Provider's Risk Management Capability. An outsourcing arrangement involves a variety of risks, ranging from country-level, firm-level, to transaction-level risks (Taylor 2006, Taylor 2007, Sen and Shiel 2006). Country-level risks are environmental factors influenced by client's/provider's country characteristics. Country-level risks may include risks such as macroeconomic and financial shocks, infrastructure risks, regulatory and political stability, time and cultural differences, and government efficiency and corruption (Hahn et al. 2009; Rottman and Lacity 2004). Firm-level risks include risks such as intellectual property, brand identity, as well as data security (Earl 1996; Loh and Venkatraman 1995; Lacity et al. 2010; 2011a). Transaction-level

risks results from transaction-specific factors, including provider opportunism, asset specificity, transaction frequency, uncertainties, and interdependency (Oh et al. 2006). In this study, we investigate how provider's capability to manage these risks is related to outsourcing performance.

Prior studies have suggested that prudent risk management can help achieve successful outcomes (Schmidt et al. 2001). However, many of them have underlined the importance of risk management from clients (e.g., Rottman and Lacity 2004), largely ignoring the equally important one from providers. We argue that provider's risk management capability is positively associated with their service quality. There are two underlying reasons for this. First, providers with better risk management capability are more likely to establish a stable business environment, which is critical for providers to deliver high quality service. Second, outsourcing risks are evolving (Hahn et al. 2009). It is not easy to keep up with changing risks. Therefore, providers need to have strong risk management capability in place in order to be responsive to clients. Providers should be able to respond quickly to environmental or financial crisis with contingency plans. Providers should also be able to protect client's data, brand identify, and intellectual property. Moreover, they should be able to identify hidden risks in the outsourcing arrangements and mitigate them with appropriate actions. Providers can improve this capability through increasing investment in process control, technology, staff training, assessment and other management practices (Sen and Shiel 2006). Therefore, we hypothesize:

Hypothesis 2: *Provider's risk management capability is positively related to its service quality.*

Provider's Innovativeness. In recent years, innovation has become a top reason for both IT and business processes outsourcing (Ciravegna and Maielli 2011; Lacity and Willcocks 2013; Lucena 2011; Nieto and Rodriguez 2011). Many client firms have looked beyond short-term objectives such as cost savings or technical expertise and focused more on long-term objectives such as continuous improvement of existing technologies/business processes and new product/market (Lacity and Willcocks 2013). In this study, we argue that provider's innovativeness

can also improve its service quality. Since this study focuses on ongoing outsourcing relationships, innovations can also be referred to as proactive improvements made to an existing service (Wallenburg 2009). Proactive improvements are very important in an outsourcing arrangement for two reasons. First, the bounded rationality of both clients and providers prevent them from ex ante designing the service in a way accounting for all possible contingencies (Williamson 1975; 1981). Therefore, over time, clients may change their strategies and requirements. Whether providers can cooperate with these changes affect client's perception of provider's service quality. Second, over time, providers gain more knowledge about client needs and specific technologies or business functions. According to the theory of organizational learning (March 1991; Nevis et al. 1995; Nonaka 1994), providers with innovativeness are more likely to learn from their experience and then improve their services. Combined, these reasons support our argument that provider's innovativeness can improve its service quality. Therefore, we hypothesize:

Hypothesis 3: *Provider's innovativeness is positively related to its service quality.*

Contractual Governance. Contractual governance relies on formal contracts and legal stipulations to govern outsourcing arrangements (Goo et al. 2009; Poppo and Zenger 2002). The more detailed the contract is, the greater is the description of obligations, promises, legal processes for dispute resolution, and terms of early termination (Poppo and Zenger 2002). It monitors outsourcing exchange process and enforces roles and responsibilities of each party according to the contract terms. Contract specification is a firm's ability to design appropriate terms that align the goals of both parties (Ranganathan and Balaji 2007). Thus, how to accurately and properly specify contract terms is very crucial to outsourcing performance.

Outsourcing is a service provided by an external provider that could involve developing an IT product, providing IT operations and management services, or taking care of a client firm's business processes (Grover et al. 1996; Lacity et al. 2010; Lacity et al. 2011a). As suggested by marketing literature, services are fundamentally different from physical goods (Bowen and

Schneither 1988). Services are intangible and integrally involve buyers in services creation (Levitt 1981; Parasuraman et al. 1985; 1988). Therefore, evaluation of the service quality is more difficult than that of the physical goods. When there is no tangible evidence existing to assess service quality, buyers or potential buyers must rely on other surrogates or cues for quality (Grover et al. 1996). Prior literature has suggested that formal contracts in outsourcing can serve as surrogates to ensure service quality delivered by providers (Domberger et al. 2000; Fitoussi and Gurbaxani 2012; Gopal and Koka 2012; Lacity et al. 1995). Formal contracts can provide a set of SLAs to protect opportunistic behaviors from both clients and providers, which may result in better service quality from providers.

Many scholars have also claimed that contractual governance has a significant impact on client's economic benefits realization (e.g., Allen et al. 2002; Barthélemy 2001; Lacity and Willcocks 1998; Lee et al. 2004; McFarlan and Nolan 1995; Wüllenweber et al. 2008). For example, Allen et al. (2002) argue that a poorly structured contract may leave clients in a vulnerable position with providers. The effects may include a routine slow response to client's requests. This may result in switching provider, contract renegotiation, or even legal disputes in court. All of these incur extra transaction costs, which in turn reduce client's economic benefits. In addition, as indicated by TCE (Williamson 1975; 1981) and Agency Theory (Eisenhardt 1989), outsourcing arrangements involve various risks arising from exchange hazards and provider opportunism. The effective client firms usually have structured processes for contract design. Clients can include appropriate incentives in contract to reduce provider's opportunistic behaviors. They can also define contract terms based on current market best practices to address possible changes in the contract terms. All of these can help clients achieve expected economic benefits. Therefore, we hypothesize:

Hypothesis 4: *Contractual governance positively influences service quality in outsourcing.*

Hypothesis 5: *Contractual governance positively influences client's economic benefits.*

Relational Governance. We adopt the social conceptualization of relational governance in this study, which deviates from the economic conceptualization proposed by Williamson (1985). Williamson (1985) posits that relational governance is an intermediary governance mode between market and vertical integration and it is upheld by economic weapons to prevent opportunistic behavior. We define relational governance as implementation of obligations, promises, and expectations through social processes such as trust, communication, and conflict resolution (Goo et al. 2009; Poppo and Zenger 2002).

It is widely accepted that an outsourcing relationship with high quality is more likely to achieve greater service quality (Chakrabarty et al. 2008; Klepper 1995; Saxena and Bharadwaj 2009). In a healthy outsourcing relationship, a client and a provider share common goals, trust each other, make specific investment to the relationship, communicate effectively, and have a strong tie. Under this kind of circumstance, a provider firm is more likely to assign high-quality and experienced employees to the project, and respond to client firm's requests promptly. Likewise, a client firm may commit more to knowledge sharing and transfer, and pay fees in time. As a result, it is more likely that provider firm will deliver expected outsourcing services on time and within budget.

In general, firms with effective relational governance institute formal and informal structures, as well as new processes to monitor and coordinate their outsourcing relationship (Ranganathan and Balaji 2007). They establish joint teams and committees, periodically review outsourcing performance, hold meetings to coordinate between the firms, put mechanisms in place for shared decision marking, and set up conflict resolution procedures counting on mutual communications and collaborative problem solving. Accordingly, relational governance is more likely to result in more economic benefits of clients. Thus, we argue:

Hypothesis 6: *Relational governance positively influences service quality in outsourcing.*

Hypothesis 7: *Relational governance positively influences client's economic benefits.*

Client's Provider Management Capability. According to the theories on inter-firm coordination (Sobrero and Schrader 1998), client's capability to manage providers in an outsourcing arrangement can ensure that they receive expected business values (Willcocks et al. 2007). When clients have required skills and experienced human resources, they know more about the potential behavioral implications of contract terms, the commercial consequences of new technologies deployment or business processes redesign, and the benchmarking applied to measure whether they get the expected values. In addition, established processes, tools, or technologies can help clients periodically review the performance of providers with key internal stakeholders or their providers. Taken together, clients with stronger capability to manage providers can execute better controls on outsourcing contracts/relationships, which in turn ensure that they realize expected economic benefits. Therefore, we hypothesize:

Hypothesis 8: *Client's provider management capability is positively related to its economic benefits achieved from an outsourcing relationship.*

Service quality. IS literature has primarily examined service quality as a dependent variable and focused on identifying determinants of service quality (e.g., Domberger et al. 2000; Blumenberg et al. 2009). For instance, Domberger et al. (2000) analyze data of 48 outsourcing contracts for IT support and maintenance and find that larger contracts are more likely to have better service quality. Blumenberg et al. (2009) interview six German banks with their providers and their results indicate that effective knowledge sharing positively influence service quality. Only very limited studies have examined the impact of service quality on other outsourcing performance indicators (Charkrabarty et al. 2008; Rajeev and Vani 2009; Yoon and Im 2005). Charkrabarty et al. (2008) and Yoon and Im (2005) examine the relationship between service quality and user satisfaction in ITO. They find that service quality positively influences user satisfaction. Rajeev and Vani (2009) highlight the importance of service quality in improving the provider's firm business performance. Although the number of previous studies on the impact of service quality is small, they all indicate that service quality has a positive effect on other outsourcing performance

indicators. In this study, we argue that service quality positively affect client's economic benefits for two reasons. First, high level of service quality implies that providers are responsive, flexible, and adaptable to client's changes. As a result, clients will incur less extra costs for contract facilitation and renegotiation (Dibbern et al. 2008). Second, providers with high level of service quality are able to meet specified requirements in contracts in terms of delivering products or services on time and within budget. It is more likely that clients would realize expected economic benefits specified in the contract. Therefore, we hypothesize:

Hypothesis 9: *Provider's service quality is positively related to client's economic benefits achieved from an outsourcing relationship.*

3.2 Hypotheses of Interaction Effects

According to Resource-based Theory (Barney 1991; Grant 1996; Oliver 1997; Winter 2003), client's and provider's capabilities are strategic resources for outsourcing performance. However, there are many other factors that are also crucial to outsourcing performance such as contractual governance and relational governance. Prior literature has suggested that scholars should integrate resource-based view with other perspectives to explain inter-organizational relationship and explore their interaction effects (e.g., Makadok 2011; Mayer and Salomon 2006). Therefore, in this study, besides examining the main effects, we also explore the interaction effects of governance mechanisms and capabilities on two indicators of outsourcing performance. More specifically, we explore the interaction effects of two governance mechanisms and three provider's capabilities on service quality, and the interaction effects of two governance mechanisms and client's provider management capability on economic benefits.

3.2.1 Contractual Governance and Three Provider's Capabilities

As suggested by literature (Barney et al. 2011; Mayer and Salomon 2006), we integrate the transaction cost economics with resource-based theory to understand outsourcing phenomenon. Past research on outsourcing has suggested that both contractual governance and provider's

capabilities are critical to outsourcing performance (e.g., Lacity et al. 2010; Lacity et al. 2011a). In this study, we focus on outsourcing arrangements which have selected providers. Therefore, we are trying to answer the research question: *in the presence of strong contractual governance, how will the relationships between provider's capabilities and service quality change?*

Contractual governance has been demonstrated as a determinant of outsourcing performance in prior literature (Goo et al. 2009; Poppo and Zenger 2002; Rai et al. 2012). In the presence of strong contractual governance, clients and providers select appropriate contract type and specify contract terms in details to include measurements of outcomes, incentives, and penalties in the contract (Goo et al. 2009; Lacity and Willcocks 1998; Poppo and Zenger 2002). Under this kind of circumstance, even providers with poor capabilities will try their best to meet client's requirements and deliver satisfied service because they may face penalties if not delivering expected products or services. In contrast, when contractual governance is low, service quality of an outsourcing arrangement highly depends on provider's capabilities. Providers with excellent human resource management capability are still able to assign qualified employees to the project, have risk management and compliance in place, and create innovations for clients. All of these may result in a high service quality. However, providers with poor human resources management capability, risk management capability, and innovativeness may take advantage of this. They are more likely to deliver poor quality because there is little formal controls in place. Therefore, we hypothesize:

Hypothesis 10a: *In the presence of strong contractual governance, the relationship between provider's human resources management capability and service quality decreases.*

Hypothesis 10b: *In the presence of strong contractual governance, the relationship between provider's risk management capability and service quality decreases.*

Hypothesis 10c: *In the presence of strong contractual governance, the relationship between provider's innovativeness and service quality decreases.*

3.2.2 Relational Governance and Three Provider's Capabilities

As discussed early, both relational governance and provider's capabilities are critical to service quality (e.g., Lacity et al. 2004; Rao et al. 2006; Winkler et al. 2008). We integrate relational exchange theories with resource-based view to understand the interaction effects of relational governance and three provider's capabilities. According to relational exchange theory, relational exchange such as outsourcing arrangement is based on social components, by and large denoted by mutual trust and commitment (Macneil 1980). In addition, outsourcing relationship is dynamic. As clients and providers know more about one another, relational governance may be adjusted. Therefore, it is essential for us to understand how the relationships between provider's capabilities and service quality will change with different levels of relational governance. In this study, we argue that relational governance negatively moderate the relationships between provider's capabilities and service quality. That is, in the presence of strong relational governance, the impacts of provider's capabilities on service quality decrease.

When clients and providers have effective relational governance in place, they have shared goals, trust and depend on each other, and make adaptations as circumstances change (Goo et al. 2009; Poppo and Zenger 2002). That is, in the presence of strong relational governance, both clients and providers are trying to develop a mutually beneficial and long-term relationship. Regardless of their capabilities, providers will try to deliver best services they can. Providers with poor capabilities may try to assign their best employees to the project, invest more in risk management and compliance, and focus more on creating innovations rather than making profits. Likewise, clients tend to perceive higher service quality of providers even though providers may have relatively poor capabilities. Therefore, in the presence of strong relational governance, service quality depends less on provider's capabilities. In contrast, when the level of relational governance is low, client and providers may have divergent business goals, mistrust, and conflicts. Under this circumstance, service quality highly relies on provider's capabilities. Providers have good capabilities can still deliver desired service. While providers with poor capabilities may assign junior staff to the outsourcing project, invest less in risk management and compliance initiatives,

and focus more on making profits rather than creating innovations. All of these may result in poor service quality. Therefore, we hypothesize:

Hypothesis 11a: *In the presence of strong relational governance, the relationship between provider's human resources management capability and service quality decreases.*

Hypothesis 11b: *In the presence of strong relational governance, the relationship between provider's risk management capability and service quality decreases.*

Hypothesis 11c: *In the presence of strong relational governance, the relationship between provider's innovativeness and service quality decreases.*

3.2.3 Governance Mechanisms and Client's Provider Management Capability

A small number of previous studies has examined the interaction effects of client's capability and governance mechanisms in outsourcing arrangements (e.g., Mayer and Salomon 2006; Parmigiani and Mitchell 2010; Vankatraman 1989). Vankatraman (1989) suggests that a fit between capabilities and governance mechanisms may influence firm's performance. Mayer and Salomon (2006) address the joint effects of client's technological capabilities and interdependencies between clients and providers on the decision of subcontracting. They find that the interaction of client's technological capabilities and interdependency has a positive and significant effect on subcontracting decision. That is, strong client's technological capabilities allows client firms to subcontract a project in the face of higher levels of interdependencies between clients and providers. Parmigiani and Mitchell (2010) also consider the joint effects of client's technical expertise and governance mechanisms on multiple indicators of outsourcing performance. They find that the interaction of client's technical expertise and relational governance has a positive and significant effect on one outsourcing performance indicator - cooperation.

Among a set of client's core capabilities, client's provider management capability has been considered as the most important one to govern and manage outsourcing arrangement (Feeny and Willcocks 1998; Lacity et al. 2010; Lacity et al. 2011a). However, none of the existing studies has explored the interaction effects of client's provider management capabilities and governance mechanisms on outsourcing performance. In this study, we integrate resource-based view,

transaction cost economics, and relational exchange theories to explore the interaction effects of client's provider management capabilities and governance mechanisms on client's economic benefits.

After providers have been selected, clients who have strong capability to manage providers are able to coordinate outsourcing activities with organization's core and critical activities, monitor the progress of outsourcing arrangement, and assess outsourcing risks and contingency plan (Bharadwaj et al. 2010). Consequently, in the presence of strong client's provider management capability, clients are able to execute more controls on the outsourcing arrangements in order to realize economic benefits even when contractual governance and relational governance are low. Change a word, when contractual governance is low, clients can monitor outsourcing arrangements more closely in order to realize economic benefits. Also, when relational governance is low, strong client's provider management capability can prevent providers from behaving opportunistically which in turn can ensure clients achieve expected benefits. Therefore, we hypothesize:

Hypothesis 12a: *In the presence of strong contractual governance, the relationship between client's provider management capability and economic benefits decreases.*

Hypothesis 12b: *In the presence of strong relational governance, the relationship between client's provider management capability and economic benefits decreases.*

In summary, the model we are proposing, based on three theoretical perspectives (resource-based theories, transaction cost economics, and relational exchange theories), hypothesizes that provider's service quality and client's economic benefits are affected by independent and joint effects of client's and provider's capabilities and the two prevailing governance mechanisms. The hypotheses in our research model are summarized in Table 8 below.

Table 8: Summary of Hypotheses in the Research Model	
#	**Hypothesis**
H1: PHRMC ->SQ (+)	*Provider's human resources management capability is positively related to its service quality.*
H2: PRMC -> SQ (+)	*Provider's risk management capability is positively related to its service quality.*
H3: PI -> SQ (+)	*Provider's innovativeness is positively related to its service quality.*
H4: CG -> SQ (+)	*Contractual governance positively influences service quality in outsourcing.*
H5: CG -> EB (+)	*Contractual governance positively influences client's economic benefits.*
H6: RG ->SQ (+)	*Relational governance positively influences service quality in outsourcing.*
H7: RG -> EB (+)	*Relational governance positively influences client's economic benefits.*
H8: CPMC -> EB (+)	*Client's provider management capability is positively related to its economic benefits achieved from an outsourcing relationship.*
H9: SQ -> EB (+)	*Provider's service quality is positively related to client's economic benefits achieved from an outsourcing relationship.*
H10a: CG*PHRMC -> SQ (-)	*In the presence of strong contractual governance, the relationship between provider's human resources management capability and service quality decreases.*
H10b: CG*PRMC -> SQ (-)	*In the presence of strong contractual governance, the relationship between provider's risk management capability and service quality decreases.*
H10c: CG*PI -> SQ (-)	*In the presence of strong contractual governance, the relationship between provider's innovativeness and service quality decreases.*
H11a: RG*PHRMC -> SQ (-)	*In the presence of strong relational governance, the relationship between provider's human resources management capability and service quality decreases.*
H11b: RG*PRMC -> SQ (-)	*In the presence of strong relational governance, the relationship between provider's risk management capability and service quality decreases.*
H11c: RG*PI -> SQ (-)	*In the presence of strong relational governance, the relationship between provider's innovativeness and service quality decreases.*
H12a: CPMC * CG -> EB (-)	*In the presence of strong contractual governance, the relationship between client's provider management capability and economic benefits decreases.*
H12b: CPMC * RG -> EB (-)	*In the presence of strong relational governance, the relationship between client's provider management capability and economic benefits decreases.*

Note: where *PHRMC=Provider's Human Resources Management Capability, PRMC=Provider's Risk Management Capability, PI=Provider's Innovativeness, CG=Contractual Governance, RG=Relational Governance, CPMC=Client's Provider Management Capability, SQ=Service Quality, EB=Economic Benefits*.

Chapter Four

RESEARCH DESIGN

4.1 Sample and Data

The current study utilizes a data set collected by International Association of Outsourcing Practitioners (IAOP) and a consulting company Global Sourcing Optimization Services (GSOS) between 2009 and 2012, to empirically test our research model. IAOP and GSOS developed a commercial software named Value Health Check Survey (VHCS) for outsourcing clients and providers to self-evaluate the health of their outsourcing relationships. Commonly, a client firm purchases the VHCS license and then invites provider(s) to take the survey regarding an ongoing outsourcing arrangement. Informants who are engaged in an outsourcing contract are selected to take the survey. In general, for a given outsourcing arrangement, multiple informants from the client firm and the provider firm take the survey. This method gathers data from multiple informants, and thus provides a comprehensive view of an outsourcing relationship (Goo et al. 2009). In total, our sample has 306 respondents from 41 firms, among which 21 firms are clients and 20 firms are providers. Table 9 summarizes the data distribution of each contract in our sample.

Table 9: Profile of Outsourcing Contracts

Contract	Client		Provider		Total	Sourcing Type	Date	Service Function
Contract 1	CLIENT1	5	PROVIDER1	4	9	ITO	2010	Technology (Hardware, Software)
Contract 2	CLIENT2	8	PROVIDER2	5	13	ITO	2012	Engineering Services
Contract 3	CLIENT3	5	PROVIDER3	5	10	ITO	2012	Engineering Services
Contract 4	CLIENT4	12	PROVIDER4	4	16	ITO	2011	Engineering Services
Contract 5	CLIENT4	10	PROVIDER5	2	12	ITO	2011	Engineering Services
Contract 6	CLIENT5	5	PROVIDER6	5	10	BPO	2010	Engineering Services
Contract 7	CLIENT5	5	PROVIDER7	5	10	ITO	2011	Engineering Services

Table 9: Profile of Outsourcing Contracts								
Contract	**Client**		**Provider**		**Total**	**Sourcing Type**	**Date**	**Service Function**
Contract 8	CLIENT6	12	PROVIDER8	13	25	BPO	2009	Technology (Hardware, Software)
Contract 9	CLIENT7	6	PROVIDER5	4	10	ITO	2009	Financial Services (Insurance)
Contract 10	CLIENT8	5	PROVIDER9	4	9	BPO	2011	Engineering Services
Contract 11	CLIENT9	5	PROVIDER10	4	9	BPO	2010	Air Transportation
Contract 12	CLIENT10	8	PROVIDER1	10	18	BPO	2009	Automotive
Contract 13	CLIENT11	7	PROVIDER11	5	12	BPO	2011	Engineering Services
Contract 14	CLIENT12	4	PROVIDER12	3	7	BPO	2010	Other
Contract 15	CLIENT7	5	PROVIDER13	5	10	ITO	2011	Engineering Services
Contract 16	CLIENT13	6	PROVIDER14	5	11	BPO	2011	Engineering Services
Contract 17	CLIENT14	16	PROVIDER15	15	31	BPO	2010	Engineering Services
Contract 18	CLIENT14	7	PROVIDER16	1	8	BPO	2010	Engineering Services
Contract 19	CLIENT15	6	PROVIDER17	4	10	ITO	2012	Engineering Services
Contract 20	CLIENT16	5	PROVIDER18	4	9	ITO	2012	Engineering Services
Contract 21	CLIENT17	5	PROVIDER4	5	10	BPO	2011	Engineering Services
Contract 22	CLIENT18	7	PROVIDER15	11	18	BPO	2012	Engineering Services
Contract 23	CLIENT19	5	PROVIDER19	4	9	BPO	2011	Engineering Services
Contract 24	CLIENT20	5	PROVIDER20	4	9	BPO	2009	Retail and Consumer Goods
Contract 25	CLIENT21	7			7	ITO	2009	Financial Services (Banking, Markets)
Contract 26	CLIENT21	4			4	ITO	2009	Financial Services (Banking, Markets)
Total		**174**		**132**	**306**			

In Table 9, we give each firm a pseudonym in order to protect privacy of the firms. These 41 firms are engaged in 26 contracts. Among these 26 contracts, two contracts only have the data from a same client firm--CLIENT21. The client firm CLIENT21 only asked its employees to take

the surveys and did not invite engaged providers in the Contract 25 and the Contract 26. For the majority of client firms, we only have data for one outsourcing contract, except four client firms. Client firms CLIENT4, CLIENT5, CLIENT7, and CLIENT14 took the VHCS with two contracted providers. Likewise, we have data from 16 provider firms engaged in one contract and four provider firms engaged in two contracts. More specifically, provider firms PROVIDER1, PROVIDER4, PROVIDER5, and PROVIDER15 took the VHCS with two client firms. Therefore, the 20 client firms and the 20 provider firms were engaged in 24 contracts. Table 10 summarizes the profile of participating firms.

As exhibited in Table 10, the majority of the client firms and provider firms are large-cap firms. For instance, 80% of the client firms and provider firms have more than ten thousands employees. Also, more than 95% of the clients and 75% of provider firms have annual revenue greater than $1 billion.

Table 10: Profile of the Responding Firms

Total Number of Employees				
Number of Employees	**Client Firms**		**Provider Firms**	
Range	**Frequency**	**Percent**	**Frequency**	**Percent**
Less than 5000	2	9.52%	2	10.00%
5001-10000	1	4.76%	2	10.00%
10001-50000	10	47.62%	8	40.00%
50000-100000	5	23.81%	3	15.00%
100000 and above	2	9.52%	5	25.00%
Unanswered	1	4.76%	0	0.00%
Total	21	100.00%	20	100.00%
Total Sales Revenue				
Annual Revenue	**Client Firms**		**Provider Firms**	
Range	**Frequency**	**Percent**	**Frequency**	**Percent**
less than $1 billion	0	0.00%	5	25.00%
$1 - $5 billion	5	23.81%	3	15.00%
$5 - $10 billion	2	9.52%	5	25.00%
$10 billion and above	13	61.90%	6	30.00%
Unanwered	1	4.76%	1	5.00%
Total	21	100.00%	20	100.00%

In total, we have 306 informants, with 174 from client firms and 132 from provider firms. Table 11 shows the profile of informants. As illustrated in Table 11, over 80% of our informants were from the management team (e.g., CEO, CIO, COO, vice president, senior manager, relationship executive, service delivery executive), who appear to be the accurate source of information as regards management of outsourcing arrangements and outsourcing performance (Goo et al. 2009). Also, we have 121 informants who were engaged in ITO contracts and 185 informants who were engaged in BPO contracts. A large percent (68%) of informants came from engineering services industry.

Table 11: Profile of Informants (n=306)

Characteristics	**Frequency**	**Percentage**
Firms		
Clients	175	57.2%
Providers	131	42.8%
Sourcing Type		
ITO	121	39.5%
Applications Development and Maintenance	59	
Data Center Operations	13	
Help Desk/Call Center	29	
Print & Fulfillment	20	
BPO	185	60.5%
Contact/Call Center	76	
Financial & Accounting	28	
Human Resources-Benefits	9	
Other	72	
Types of Industry		
Air Transportation	9	2.9%
Automotive	18	5.9%
Engineering Services	208	68.0%
Financial Services (Banking, Markets)	11	3.6%
Financial Services (Insurance)	10	3.3%
Retail and Consumer Goods	9	2.9%
Technology (Hardware, Software)	34	11.1%
Other	7	2.3%
Title of Respondents		
CEO/COO/President	4	1.3%
Vice President	24	7.8%
Manager/Senior Manager	102	33.3%
Director/Senior Director	61	19.9%
Program Manager	25	8.2%
Relationship Executive	16	5.2%
Service Delivery Executive	25	8.2%

Table 11: Profile of Informants (n=306)		
Sales and/or Marketing Executive	1	0.3%
Non-Management/Analyst/Consultant	10	3.3%
Not Mentioned	37	12.1%

4.2 Operationalization of Constructs

All constructs in this study are measured using multiple items with ten-point Likert scales. Table 12 summarizes measurement items used in this study. Since the wording of the VHCS survey questions are slightly different for client firms and provider firms. We include both versions in Table 12.

Table 12: Measurement Items			
Factor	**Item**	**Question**	**Question Text**
Dependent Variables			
Service Quality *(reflective construct)*	SQ1	Client Version	The supplier is responsive, flexible and adaptable to our changing business needs for capabilities in this business area.
		Provider Version	We (the service provider) are responsive, flexible and adaptable to our client's changing needs for business capabilities as it relates to this contract/relationship.
	SQ2	Client Version	End-Users are satisfied with the quality of service provided by the supplier.
		Provider Version	Our client's end-users are satisfied with the quality of service provided by us (the supplier).
	SQ3	Client Version	The supplier meets or exceeds current service levels agreements (SLA).
		Provider Version	We meet or exceed current service levels agreements (SLA) with our client in this relationship.
Economic Benefits *(reflective construct)*	EB1	Client Version	We are realizing the business benefits from the outsourcing relationship as outlined in the original business case &/or contracts.
		Provider Version	Our client is realizing the business benefits from the outsourcing relationship as outlined in the original business case &/or contracts.
	EB2	Client Version	We're getting the financial business value we should from this supplier.
		Provider Version	Our client believes they are getting the financial business value they should from us (their supplier).

Table 12: Measurement Items			
Factor	**Item**	**Question**	**Question Text**
Independent Variables			
Relational Governance *(reflective construct)*	RG1	Client Version	There is clarity between our key stakeholders and supplier concerning the current business value we expect from the outsourcing contract/relationship.
		Provider Version	There is clarity between our client's key stakeholders and us concerning the current business value our client expects from the outsourcing contract/relationship.
	RG2	Client Version	Relationships with the supplier at all levels are strong and if they aren't, we can still make the relationship work.
		Provider Version	Relationships with our client at all levels are strong and if they aren't, we can still make the relationship work.
	RG3	Client Version	There is clarity concerning supplier management practices, roles and responsibilities between our supplier and our key internal users and/or stakeholders.
		Provider Version	There is clarity concerning supplier management practices, roles and responsibilities between us (the supplier) and our client's key internal users and/or stakeholders.
	RG4	Client Version	Our governance processes facilitate fast and effective resolution to problems regardless of the organizational levels involved.
		Provider Version	Our client's governance processes facilitate fast and effective resolution to problems regardless of the organizational levels involved.
Contractual Governance *(reflective construct)*	CG1	Client Version	The contract terms with the supplier have sufficient protection to address fluctuations in currency value and inflation.
		Provider Version	The contract terms with our client provide sufficient protection for them to address fluctuations in currency value and inflation.
	CG2	Client Version	The contract's financial terms/conditions compare favorably to current market best practices.
		Provider Version	The contract's financial terms/conditions compare favorably to current market best practices.
	CG3	Client Version	The supplier is appropriately financially incented to deliver the business value we expect from outsourcing this business process/function.
		Provider Version	We (the supplier) are appropriately financially incented to deliver the business value our client expects from outsourcing this business process/function.

Table 12: Measurement Items			
Factor	**Item**	**Question**	**Question Text**
Client's Provider Management Capabilities *(reflective construct)*	CPMC1	Client Version	We have the necessary processes, tools and technologies in place to understand if we are getting the required capabilities from our supplier.
		Provider Version	Our client has the necessary processes, tools and technologies in place to understand if they are getting the required capabilities from us (the service provider).
	CPMC2	Client Version	We have the processes, tools and technologies to easily monitor, manage and report on the business case realization of outsourcing.
		Provider Version	Our client has the processes, tools and technologies to easily monitor, manage and report on the business case realization of outsourcing.
	CPMC3	Client Version	We have the necessary processes, tools and technologies in place to effectively and efficiently govern this outsourcing contract/relationship.
		Provider Version	Our client has the necessary processes, tools and technologies in place to effectively and efficiently govern this outsourcing contract/relationship.
Provider Human Resource Management Capability *(reflective construct)*	PHRMC1	Client Version	The level of employee turnover in all key areas of the supplier's workforce relevant to this outsourcing contract are within acceptable ranges.
		Provider Version	The level of employee turnover in all key areas of our (the service provider) workforce relevant to this contract are within acceptable ranges.
	PHRMC2	Client Version	The supplier has appropriate, recruiting, training and resource contingency plans in place to address current & future capabilities we need in this area.
		Provider Version	We (the service provider) have the appropriate recruiting, training, and resource contingency plan in place to address current and future capabilities the client requires in this area.
	PHRMC3	Client Version	The supplier has acceptable quality controls policies and procedures in place for this outsourcing contract/relationship.
		Provider Version	We (the supplier) have acceptable quality controls policies and procedures in place for this outsourcing relationship.
Provider Risk Management Capability *(reflective construct)*	PRMC1	Client Version	The supplier has adequate provisions in place to protect access to their systems that have access to our data/information/systems.
		Provider Version	We (the service provider) have adequate provisions in place to protect access to our systems that have access to our client's data/information/systems.

Table 12: Measurement Items			
Factor	**Item**	**Question**	**Question Text**
	PRMC2	Client Version	The supplier has contingency plans in place that are periodically tested to ensure they can deal with a crisis without significantly affecting our business.
		Provider Version	We (the service provider) have contingency plans in place that are periodically tested to ensure we can deal with a crisis without significantly affecting our client's business.
	PRMC3	Client Version	The supplier is sensitive to the brand identity of our organization and demonstrates the importance of protecting the value of our brand.
		Provider Version	We (the service provider) are sensitive to the brand identity and value of our client's organization and we demonstrate through our actions the importance of protecting the value of our client's brand.
Provider Innovativeness *(reflective construct)*	PI1	Client Version	The supplier is providing us with the appropriate level of innovation and creativity in addressing our current and future business needs.
		Provider Version	We (the service provider) are providing our client with the appropriate level of innovation and creativity in addressing our client's current future business needs.
	PI2	Client Version	The supplier cooperates with cost reduction initiatives and is willing to be proactive about it.
		Provider Version	We (the supplier) cooperate with cost reduction initiatives and are willing to be proactive about it.
Provider's Business Risk *(reflective construct, reverse items)*	PBR1	Client Version	The supplier's business is financially sound and there are no apparent threats to their operations which would cause us concern.
		Provider Version	Our outsourcing business (the service provider's overall outsourcing business) is financially sound and there are no apparent threats or risks to our clients.
	PBR2	Client Version	The supplier is currently supporting us from regions of the world that are relatively free from political, economic or other forms of serious business risk.
		Provider Version	We (the service provider) are currently supporting this client from regions of the world that are relatively free from political, economic and/or other forms of serious business risk.

Client's Provider Management Capability is conceptualized as a reflective construct in this study. It is measured using three items. More specifically, this construct measures whether a client firm has skilled employees to effectively monitor, coordinate, and evaluate an outsourcing

contract using necessary procedures, tools, and technologies (Ranganathan and Balaji 2007; Willcocks et al. 2007).

Provider Capabilities. *Provider's human resource management capability* refers to capability of a provider firm to identify, recruit, train, assign, and retain talents in order to achieve expected outsourcing objectives (Lacity et al. 2010; Levina and Ross 2003). We operate it as a reflective construct and use three items to measure it. *Provider's risk management capability* refers to capability of a provider firm to identify, rate, rank, and mitigate potential outsourcing risks (Lacity et al. 2011a). Three items are used to measure this reflective construct. *Provider Innovativeness* refers to a provider's capability to deliver continuous improvement, new technologies, or new business processes to clients with structured processes and quality control policies in place (Lacity and Willcocks 2013). It is operated as a reflective construct and measured by two items.

Governance mechanisms. *Contractual governance* is defined as governance of outsourcing relationship through written contracts and legal provisions (Rai et al. 2012). We conceptualize contractual governance as a reflective construct and measure it with three items. Particularly, we measure the degree to which an outsourcing contract has appropriate incentives for providers, reflect best practices in the current market, and address financial crisis. *Relational governance* is defined as govern of outsourcing relationship through social processes that promote shared norms (Goo et al. 2009; Poppo and Zenger 2002). We also operationalize relational governance as a reflective construct and use three items to measure it.

Outsourcing Performance in this study is assessed in terms of provider's service quality and client's economic benefits. *Service quality* refers to perceived service performance delivered by a provider (Lacity et al. 2010). We operationalize service quality as a reflective construct measured by three items. *Economic benefits* refers to the degree to which client firms achieve expected financial values. This construct is conceptualized as a reflective construct and measured by two items.

Control Variables. We incorporate two control variables that influence outsourcing performance in this study: *business risk of provider firm* and *industry type.* In general, business risk is defined as the probability of an action that will adversely affect a firm's business (Lacity et al. 2009). Prior literature has shown that provider's business risk has negative impact on both outsourcing decision (e.g., Benamati and Rajkumar 2002; Clark et al. 1995; Smith and McKeen 2004) and outsourcing performance (e.g., Atesci et al. 2010; Wüllenweber et al. 2008). A variety of risks may exist in provider firms. One is country-level risks such as turbulence in the environment and instability in political and economic policies. Another one is firm-specific risks such as unsound financial condition or threats to operations. With high level of business risk, providers may have to allocate resources to manage them, thus, reducing the quality of service. In addition, clients cannot just bypass all the risk mitigation responsibilities to providers. They would have to invest more in contract monitoring, or even renegotiating outsourcing contracts. Therefore, economic benefits of clients could be reduced. In this study, we are interested in knowing whether high level of business risk leads to poor outsourcing performance. Provider's business risk is conceptualized as a reflective construct and measured by two items.

We also examine the control effect of *industry type* on the outsourcing performance. Many researchers have found that outsourcing performance varies in different industries (e.g., Beasley et al. 2009; Hutzschenreuter et al. 2011; Kenyon and Meixell 2011; Mani et al. 2010). For example, Mani et al. (2010) find that financial services industry has lower level of satisfaction with outsourcing services compared to retail industry. We control industry type to know whether outsourcing performance in our model depend on industry type. The *industry type* is coded as a categorical variable.

Chapter Five

DATA ANALYSIS AND RESULTS

This study adopts a two-stage analysis for data analysis, in which the measurement model is first assessed, and then structural model is estimated in the second stage. We conduct data analysis primarily using structural equation modeling. PLS-graph 3.0 and LISREL8.53 are used for confirmatory factor analysis and PLS-Graph 3.0 is used for hypotheses testing. In addition, we also use SPSS 20.0 for exploratory factor analysis and STATA 13.1 for robustness test.

5.1 Measurement Models Assessment

Because some of our measurement items are newly developed, we followed the validation guidelines of Lewis et al. (2005) to conduct exploratory assessment and confirmatory assessment first and then followed the guidelines of Straub et al. (2004) to validate measurement instrument.

Before we conduct factor analysis, Kaiser-Meyer-Olkin (KMO) test and Bartlett's sphericity test are executed to ensure that we have amenable data for factor analysis and the original correlation matrix is not an identity matrix (Lewis et al. 2005). For the KMO test, as recommended by Kaiser (1974) and Hutcheson and Sofroniou (1999), a value of 0.5 is the minimum, a value of 0.5 to 0.7 is medium, a value of 0.7 to 0.8 is good, a value of 0.8 to 0.9 is great, and a value above 0.9 is superb. We have a value of 0.94 for the KMO test which indicates that our sample size is large enough for factor analysis. Bartlett's sphericity test was used to test whether the correlation matrix is an identity matrix (Dziuban and Shirkey 1974). An identity matrix indicates that variables in a dataset are unrelated and thereof unsuitable for structure detection (Dziuban and Shirkey 1974). Our Barlett's sphericity test had a value smaller than 0.05 which indicates that factor analysis is useful for our data.

5.1.1 Exploratory Factor Analysis

Exploratory factor analysis (EFA) was used to empirically derive the initial set of measurement items for the constructs. We assess the measurement model using EFA with principal component analysis for dependent variables and independent variables separately. The results of EFA is summarized in Table 13 for dependent variables and in Table 14 for independent variables.

Table 13: EFA Results for Outsourcing Outcome Variables

Construct	Item	Service Quality	Economic Benefits
Service Quality	*SQ1*	**.95**	-0.17
	SQ2	**.75**	0.11
	SQ3	**.73**	0.22
Economic Benefits	*EB1*	0.02	**.86**
	EB2	-0.04	**.85**

Table 14: EFA Results for Predictor Variables

Item	Relational Governance	Provider's Risk Management Capability	Provider's HR Management Capability	Client's Provider Management Capability	Contractual Governance	Provider's Business Risk	Provider's Innovativeness
RG1	**0.75**	-0.04	-0.04	0.02	-0.04	0.23	-0.04
RG2	**0.74**	0.07	0.17	-0.06	0.03	-0.17	0.05
RG3	**0.71**	0.11	-0.07	0.04	0.09	-0.19	0.18
RG4	**0.59**	-0.2	0.41	0.01	0.13	-0.13	-0.04
PRMC1	-0.11	**0.81**	0.11	0.07	0.15	0.08	-0.2
PRMC2	0.03	**0.73**	0.08	0.01	0.13	-0.05	0.03
PRMC3	0.47	**0.62**	-0.12	-0.02	-0.25	0.11	0
PHRMC1	0.01	-0.01	**0.82**	0.03	-0.15	-0.01	0.25
PHRMC2	0.08	0.14	**0.7**	0.07	-0.1	0.08	0.11
PHRMC2	0.09	0.23	**0.53**	-0.1	0.2	-0.04	0.17
CPMC1	-0.28	0.1	0.27	**0.89**	-0.12	0.02	-0.01
CPMC2	0.27	-0.08	-0.38	**0.7**	0.06	0.14	0.11
CPMC3	0.25	0.05	0.14	**0.63**	0.03	-0.2	-0.04
CG1	-0.2	0.15	-0.23	0	**0.77**	-0.05	0.33
CG2	0.19	0.06	-0.02	-0.11	**0.77**	0.08	-0.12
CG3	0.18	-0.11	0.1	0.18	**0.53**	0.19	-0.11
PBR1	-0.16	0.02	-0.08	0.02	0.05	**0.86**	0.19
PBR2	0.04	0.11	0.29	-0.05	0.1	**0.59**	-0.08
PI1	-0.01	-0.09	0.32	0.1	0.08	0.03	**0.73**
PI2	0.23	-0.1	0.28	-0.1	-0.08	0.24	**0.64**

As shown in Table 13 and Table 14, all the measurement items have factor loadings greater than 0.5 on the desired construct, which is a recommended cutoff point used in literature (e.g., Chi et al. 2005; Jones and Leonard 2008; Straub 1989). In addition, all the measurement items load low on the other constructs. That also infers that each item loads on only one factor. Therefore, our EFA results has empirically confirmed our conceptualization of constructs.

5.1.2 Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) "provides an appropriate means of assessing the efficacy of measurement among scale items and the consistency of a pre-specified structural equation model with its associated network of theoretical concepts" (Segars and Grover 1998, p.148). We assess CFA for dependent variables and independent variables separately using PLS-Graph 3.0. More specifically, we assess convergent validity, discriminant validity, and composite reliability in these two measurement models (Bagozzi and Phillips 1982; Chin 1995; 1998; Gefen and Straub 2005; Straub et al. 2004).

5.1.2.1 Measurement Model 1: Dependent Variables (DVs)

Convergent Validity is the extent to which measurement items of a construct converge (Campbell and Fiske 1959). It is evidenced when measurement items show significant and high correlations with one another on assigned construct (Straub et al. 2004). We assess the convergent validity using factor loadings and t-value. As shown in the Table 15, all the factor loadings of service quality and economic benefits are 0.7 or above with t-values greater than 1.96, indicating good convergent validity of constructs (Barclay et al. 1995; Gefen et al. 2000; Gefen and Straub 2005; Hair et al. 2006). In addition, all the Average Variance Extracted (AVE) scores are above their suggested threshold of 0.5 (Chin et al. 2003; Gefen et al. 2000).

Discriminant Validity refers to the distinctness of constructs (Lewis et al. 2005). Discriminant validity is inferred when measurement items load high on desired construct but low on other constructs (Segars and Grover 1998). Therefore, we conduct items-to-construct correlations analysis first. The results in Table 15 indicate that all the items load high on expected

construct and low on the other one. In addition, we compare the square root of each construct AVE to its correlations with the other constructs -- each construct's square root of AVE should be greater than its correlations with all the other constructs (Gefen et al. 2000; Gefen and Straub 2005). The results in Table 15 also shows that all the constructs have an AVE square root larger than its correlation with any other construct. Therefore, our dependent variable measurement model demonstrates good discriminant validity.

Table 15: Convergent and Discriminant Validity of DVs Measurement Model (n=306)

Construct	Item	Loadings	t-value	Item-to-Construct correlations		Composite Reliability	AVE (Square of AVE)	Correlation	
				SQ	EB			SQ	EB
Service Quality (SQ)	SQ1	0.82	28.07	**0.82**	0.52	0.87	0.69 (0.83)	1	
	SQ2	0.84	33.26	**0.84**	0.54				
	SQ3	0.84	39.13	**0.84**	0.47				
Economic Benefits (EB)	EB1	0.86	52.19	0.51	**0.86**	0.85	0.74 (0.86)	0.61	1
	EB2	0.86	52.19	0.54	**0.86**				

Reliability refers to the degree to which measurement items of a construct are stable and consistent across different samples (Lewis et al. 2005). Reliability of dependent variables measurement model was evaluated using composite reliability. As exhibited in Table 15, all the outcome constructs have composite reliability exceeding the recommended threshold of 0.7 (Gefen et al. 2000; Hair et al. 2006).

5.1.2.2 Measurement Model 1: Independent Variables (IVs)

Convergent Validity. We use20 items to measure six predictor constructs and one control variable, i.e., client's provider management capabilities (three items), provider's human resource management capability (three items), provider's risk management capability (three items), provider's innovativeness (two items), contractual governance (three items), relational governance (four items), and provider's business risk (two items). Convergent validity of IVs are also evaluated using factor loadings and t-statistics. As summarized in Table 16, all the items have factor loadings 0.7 or above and t-statistics greater than 1.96. All of these indicate good convergent validity of the

measurement model. Also, even the smallest AVE is 0.57, exceeding the recommended cutoff of 0.50 (Chin et al. 2003; Gefen et al. 2000). AVE indicates the average variance of construct extracted by the items. For instance, the AVE of contractual governance is 0.57. This indicates that 57% variances of contractual governance construct are extracted by the three measurement items.

Table 16: Convergent Validity of IVs Measurement Model (n=306)

Construct	Item	Loadings	t-value	Item mean	S.D.	Composite Reliability	AVE
Client's provider management capabilities	CPMC1	0.80	34.06	4.48	2.57	0.84	0.63
	CPMC2	0.77	21.49	4.19	2.64		
	CPMC3	0.82	35.31	4.75	2.85		
Provider's human resource management capability	PHRMC1	0.90	83.21	4.88	2.65	0.90	0.75
	PHRMC2	0.85	36.33	5.03	2.87		
	PHRMC3	0.84	36.13	5.39	2.78		
Provider's risk management capability	PRMC1	0.85	29.14	5.72	3.39	0.86	0.67
	PRMC2	0.75	23.32	6.06	3.04		
	PRMC3	0.85	30.01	4.97	3.18		
Provider's innovativeness	PI1	0.90	74.38	4.38	2.45	0.89	0.81
	PI2	0.90	74.38	5.00	2.95		
Contractual governance	CG1	0.78	25.97	3.86	3.04	0.80	0.57
	CG2	0.71	15.95	3.33	3.34		
	CG3	0.77	19.82	4.41	2.93		
Relational governance	RG1	0.77	19.82	5.05	2.43	0.87	0.62
	RG2	0.83	42.90	5.83	2.63		
	RG3	0.78	27.56	5.24	2.38		
	RG4	0.76	20.12	4.85	2.59		
Provider's Business risk	PBR1	0.84	48.61	4.93	3.04	0.83	0.71
	PBR2	0.84	48.61	5.43	3.28		

Discriminant validity of measurement model for independent variables was also evaluated using two tests: (1) Test 1: calculating the Item-to-Construct correlations, and (2) Test 2: comparing the square root of each construct AVE to its correlations with the other construct. Table 17 and Table 18 summarize the testing results of Test 1 and Test 2 respectively. As shown in Table 17: all the items load 0.7 or greater on their assigned construct but lower on other constructs. Also, all the measurement items of IVs have squared AVE greater than its correlation with any other construct as shown in Table 18. The results of these two tests demonstrate good discriminant validity of IVs measurement model.

Reliability of independent variables measurement model was assessed using composite reliability. As indicated in Table 16, all the predictor constructs and the control variable have a composite reliability greater than 0.70.

Table 17: Item-to-Construct Correlations of IVs

Construct	Item	CPMC	PHRMC	PRMC	PI	CG	RG	PBR
Client's Provider Management Capabilities (CPMC)	CPMC1	**.80**	0.43	0.38	0.35	0.38	0.35	0.30
	CPMC2	**0.77**	0.24	0.28	0.33	0.37	0.38	0.22
	CPMC3	**0.82**	0.45	0.39	0.38	0.41	0.54	0.23
Provider's Human Resource Management Capability (PHRMC)	PHRMC1	0.36	**0.85**	0.46	0.54	0.27	0.51	0.40
	PHRMC2	0.46	**0.90**	0.59	0.59	0.34	0.59	0.50
	PHRMC3	0.41	**0.84**	0.59	0.53	0.47	0.54	0.43
Provider's Risk Management Capability (PRMC)	PRMC1	0.36	0.51	**0.85**	0.35	0.50	0.36	0.46
	PRMC2	0.33	0.50	**0.75**	0.47	0.29	0.54	0.42
	PRMC3	0.39	0.54	**0.85**	0.46	0.46	0.42	0.40
Provider's Innovativeness (PI)	PI1	0.44	0.57	0.47	**0.90**	0.41	0.48	0.36
	PI2	0.35	0.58	0.46	**0.90**	0.26	0.52	0.46
Contractual governance (CG)	CG1	0.36	0.37	0.41	0.27	**0.78**	0.35	0.28
	CG2	0.29	0.19	0.31	0.22	**0.71**	0.17	0.20
	CG3	0.45	0.40	0.43	0.36	**0.77**	0.46	0.35
Relational governance (RG)	RG1	0.41	0.44	0.46	0.44	0.30	**0.77**	0.38
	RG2	0.40	0.51	0.54	0.45	0.35	**0.83**	0.26
	RG3	0.46	0.44	0.47	0.45	0.39	**0.78**	0.27
	RG4	0.41	0.50	0.52	0.41	0.34	**0.76**	0.24
Provider's Business Risk (PBR)	PBR1	0.21	0.32	0.37	0.34	0.24	0.22	**0.84**
	PBR2	0.32	0.55	0.51	0.42	0.37	0.39	**0.84**

Table 18: Square Root of Each Construct's AVE and Correlations for IVs*

CORR/SQRT(AVE)	***CPMC***	***PHRMC***	***PRMC***	***PI***	***CG***	***RG***	***PBR***
Client's Provider Management Capabilities (CPMC)	***0.79***						
Provider's Human Resource Management Capability (PHRMC)	*0.45*	***0.86***					
Provider's Risk Management Capability (PRMC)	*0.47*	*0.63*	***0.82***				
Provider's Innovativeness (PI)	*0.44*	*0.6*	*0.52*	***0.90***			
Contractual governance (CG)	*0.49*	*0.43*	*0.51*	*0.37*	***0.75***		
Relational governance (RG)	*0.53*	*0.63*	*0.53*	*0.56*	*0.44*	***0.79***	
Provider's business Risk (BR)	*0.31*	*0.51*	*0.52*	*0.45*	*0.37*	*0.37*	***0.84***

*Note: the square roots of AVE are placed on the diagonal.

5.1.3 Assessment of Common Method Variance

Common method bias may occur when the data are collected through only one method or through different methods but only at one point in time (Campbell and Fiske 1959). Thus, the variance is accounted for more by the data collection method rather than by the desired constructs (Podsakoff et al. 2003). The data for this study was collected using a single method - survey. Thus, common method bias may be a source of concern. We perform Harman's single-factor test using both exploratory factor analysis (EFA) approach and confirmatory factor analysis (CFA) approach (Narayanan et al. 2011; Sabherwal and Becerra-Fernandez 2005) to estimate the degree of common method bias (Podsakoff et al. 2003).

When assessed using EFA approach, we put all the 25 items to a single factor. If considerable common method variance exists, either a single factor would emerge or the first factor would explain the majority of variances. The first factor explained 22.48% of the variances and no general factor emerged. We use LISREL 8.53 to assess common method variance with CFA approach, a single factor model with all the 25 items was assessed. This single factor model exhibited a poor fit with the data (chi-square to degrees of freedom ratio of 5.55, RMSEA=0.122, GFI=0.73, AGFI=0.68), as compared to the measurement model for dependent variables (chi-square to degrees of freedom ratio of 1.34, RMSEA=0.033, GFI=0.99, AGFI=0.97) and the measurement model for independent variables (chi-square to degrees of freedom ratio of 2.00, RMSEA=0.057, GFI=0.92, AGFI=0.88). Thus, the results suggest that common method bias doesn't present in either of the measurement model.

5.2 Structural Model Assessment

We apply PLS-Graph 3.0 to test the hypotheses. PLS is a prediction-oriented research model (Fornell and Bookstein 1982; Peng and Lai 2012). It aims to evaluate “the extent to which one part of the research model predicts values in other parts of the research model” (Peng and Lai 2012, p.468). As suggested by Peng and Lai (2012), when the research is exploratory and complex

and there is no well-established theory to support hypothesized relationships, PLS could be a suitable analysis tool. In addition, prior literature also suggests that PLS is a suitable tool for testing the significance level of interaction effects (Helm et al. 2010). For these reasons, we select PLS as our analysis tool for structural model testing. Table 19 presents descriptive statistics for constructs used in the research model.

Table 19: Descriptive statistics for entire sample (n=306)

Variable	Mean	Std. Deviation
Service quality	5.53	2.17
Economic benefits	4.74	2.54
Provider's human resources management capability	5.1	2.39
Provider's risk management capability	5.58	2.63
Provider's innovativeness	4.69	2.43
Client's provider management capability	4.47	2.04
Contractual governance	3.86	2.33
Relational governance	5.24	1.97

5.2.1 Control Variables

We first assess the impact of the two control: industry type and business risk of provider firm. Industry type was coded as a categorical variable. More specifically, the engineering services industry where a large percent of informants come from, was coded 0 as the reference industry, air transportation industry was coded as 1, automotive industry was coded as 2, financial services industry was coded as 3, retail and consumer goods industry was coded as 4, technology (hardware, software) industry was coded as 5, and "Other" industries was coded as 6.

The effects of other industries on the outsourcing performance are compared with those of the reference industry. We also consider the interactions between business risk and service function to see if there are any significant interaction effects on outsourcing performance. Table 20 presents the testing results of control variables.

As shown in Table 20, the two control variables and their interaction effects explain 40.82% variances of service quality and 27.63% variances of economic benefits. The results indicate that

outsourcing performance does vary in different industries. Compared to the reference industry engineering services, financial services and retail and consumer goods industries have significant lower values of service quality and economic benefits. That is, these two service functions achieved poorer outsourcing performance compared to those of engineering services. Interestingly, air transportation industry can generate more economic benefits for clients compared to engineering services industry. Provider's business risk has significant and negative effects on both the service quality and economic benefits.

Table 20: Testing Results of Controls Variables

Control Variables	**Service Quality (R^2=40.82%)**	**Economic Benefits (R^2=27.63%)**
Service Function	**Standardized Coefficient (beta)**	**Standardized Coefficient (beta)**
Air Transportation (Industry 1)	0.11	**0.26****
Automotive (Industry 2)	-0.04	0.03
Financial Services (Industry 3)	**-0.61****	**-0.35****
Retail and Consumer Goods (Industry 4)	**-0.49****	**-0.30****
Technology (Hardware, Software) (Industry 5)	-0.07	0.11
Other(Industry6)	-0.02	0.34
Provider's Business Risk (PBR)	**-0.50****	**-0.32****
Interactions		
*Industry 1*PBR*	-0.07	**-0.21****
*Industry 2*PBR*	0.11	0.05
*Industry 3*PBR*	**0.32****	0.05
*Industry 4*PBR*	**0.38****	0.28
*Industry 5*PBR*	0.17	0.01
*Industry 6*PBR*	0.11	-0.25

Note: 1. ** p-value <0.05; 2. two regressions are conducted in STATA: service quality/Economic benefits=const + beta1*Industry + beta2*PBR + beta3*Industry*PBR; 3. All the coefficients are standardized, the constant for service quality is 7.61 and for economic benefits is 6.19.

Regarding the interaction effects, the negative impact of business risk on service quality was higher in financial services and retail and consumer goods industries as compared to engineering services industry. However, considering the client's economics benefits, the negative

impact of business risk was smaller in the air transportation industry as compared to the engineering services industry.

5.2.2 Main Effects and Interactions

We apply the PLS product-indicator approach recommended by Chin et al. (2003) to test the interaction effects, which examines the main effects and interaction effects simultaneously in a test. All the measurement items are standardized before calculating the product terms. We add the two-way interaction into the main effects model one at a time as recommended by Rai et al. (2012). Besides the interactions proposed in our research model, we also test the interaction effects of (1) client's provider management capability and three provider's capabilities, (2) contractual governance and relational governance, and (3) client's provider management capability and service quality on economic benefits. In total, 12 interactions are tested for service quality and 13 interaction are tested for economic benefits. Further, we add a dummy variable to control whether the informant is from client firm or provider firm, with 1 indicating client firm and 0 indicating provider firm. The testing results for service quality and economics benefits are summarized in Table 21 and Table 22 respectively.

We also conduct bootstrapping procedures for all the models to assess standard errors and significance level of parameter estimates (Chin 1998), in that "PLS lacks a classical parametric inferential framework" (Peng and Lai 2012, P.468). The default re-sampling setting in the PLS-Graph 3.0 is 100 times. However, the recommended number of bootstrap samples has increased in the literature (Chin 1998; Peng and Lai 2012). For instance, Peng and Lai (2012) recommend re-sampling 200 to 500 times and Chin (1998) recommends re-sampling 500 times. Therefore, we perform bootstrapping by re-sampling 300 times. The results in the Table 21 and Table 22 are bootstrapped using the re-sampling scheme of 300 times.

For those models having significant interactions, we also calculate effect sizes of the interaction terms using Cohen's f^2. Effect size is "the strength of the theoretical relationship found in an analysis and provides an estimation of the degree to which a phenomenon exists in a

population" (Chin et al. 2003, p.195), whereas it has been rarely reported in the extant literature (Chin et al. 2003). The following formula is used to calculate effect size:

$$Cohen's\ f^2 = \frac{R^2(interaction\ model) - R^2(main\ effects\ model)}{1 - R^2(main\ effects\ model)}$$

As suggested by Cohen (1988), effect size of 0.02 is considered small, of 0.15 is moderate, and of 0.35 is large. All of our significant interaction terms have effect sizes between small and moderate. It is very important for us to understand that a small effect size doesn't certainly imply an unimportant effect (Chin et al. 2003). A small interaction effect can also be meaningful when the consequential beta changes are meaningful (Chin et al. 2003). Consider an example in this study, as shown in Table 21, relational governance has a standardized beta of 0.39 to service quality, provider's human resource management capability has a standardized beta of 0.23 to service quality, and they together have an interaction effect of -0.13 to service quality. Therefore, these results imply that one standard deviation increase in relational governance will not only impact service quality by 0.23, but it would also decrease the impact of provider's human resource management capability on service quality from 0.39 to 0.26. This result is meaningful. It indicates that with the presence of strong relational governance, the impact of provider's human resources management capability on service quality decreases.

By including all the main effects of capabilities and governance mechanisms, we are able to explain 72.80% variances of service quality and 53.60% variances of economic benefits. More specifically, provider's human resources management capability, provider's risk management capability, provider's innovativeness, and relational governance have positive and significant effects on service quality. However, contractual governance doesn't significantly affect provider's service quality. Therefore, H1, H2, H3, H6 are supported, but H4 is not supported. Also, contractual governance, relational governance, client's provider management capability, and service quality have positive and significant effects on economic benefits. These are consistent with H5, H7, H8, and H9 respectively. Thus, H5, H7, H8, and H9 are supported.

Models 2-13 in Table 21 and Model 2-14 in Table 22 show the results of adding in the two-way interactions one at a time. As indicated in Table 21, the significant negative interactions between relational governance and provider's human resources management capability, and between relational governance and provider's risk management capability are consistent with H11a and H11b. In addition, the interactions between contractual governance and provider's innovativeness, and relational governance and provider's innovativeness also have weak but significant negative effects (0.05<p-value<0.1) on service quality. Thus, among our hypothesized interaction effects for service quality, H11a and H11b are supported, H10c and H11c are marginally supported, and H11b and H11c are not supported. Also, as shown in Table 22, only the interaction between client's provider management capability and contractual governance has a weak but significant negative effect on economic benefits. Hence, H12a is marginally supported, and H12b is not supported. Last, except the hypothesized interactions, the interaction between client's provider management capability and provider's innovativeness has a significant negative effect on service quality.

To provide a nuanced understanding of the pattern of each interaction effect, we follow the method used in Rai et al. (2012) to plot the interaction effects and calculate the significance level of simple slopes (see Figure 4 and Table 23). More specifically, we first plot the interaction effects at two levels of the moderator (low: one standard deviation below the moderator mean, and high: one standard deviation above the moderator mean). Then we use the formula recommended by Aiken et al. (1991) to calculate the simple slopes and their significance at each of these two level. The simple slopes and their significance levels at each level of moderator are calculated using the following two formulas (Aiken et al 1991; Rai et al. 2012):

$$simple\ slope = b_1 + b_3 * Z$$

$$significance\ level\ (t\ value) = \frac{b_1 + b_3 * Z}{\sqrt{var(b_1) + 2 * Z * Cov(b_1, b_3) + Z^2 * var(b_3)}}$$

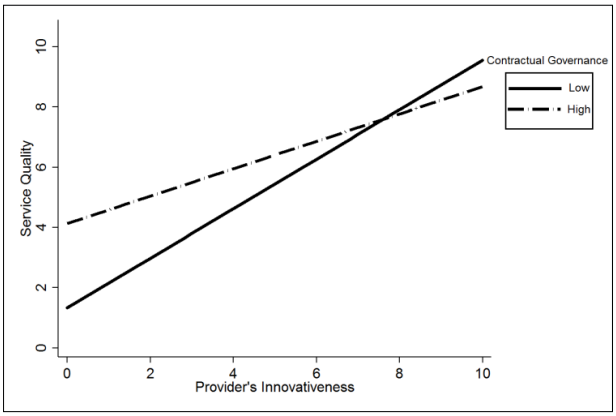
Here Z refers to the value of the moderator variable at different level, b_1 is the unstandardized regression coefficient of predictor variable, not moderator variable; b_3 refers to the unstandardized coefficient of interaction term; $var(b_1)$ refers to the variance of $b_1, i.e., (standard\ deviation\ of\ b_1)^2$, $Cov(b_1, b_3)$ refers to the covariance between $b_1\ and\ b_3$, and $var(b_3)$ refers to the variance of b_3, $i.e., (standard\ deviation\ of\ b_3)^2$.

Table 21: Estimates of Structural Path Coefficients (Dependent Variable: Service Quality)													
Predictor Constructs	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**	**Model 8**	**Model 9**	**Model 10**	**Model 11**	**Model 12**	**Model 13**
DummyCOrP^{+}	-0.01	-0.02	-0.02	-0.02	-0.01	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02
CPMC	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	0.04	-0.05	-0.05	-0.05	-0.04
PHRMC	**0.23****	**0.22****	**0.23****	**0.23****	**0.23****	**0.24****	**0.23****	**0.23****	**0.22****	**0.22****	**0.23****	**0.23****	**0.23****
PRMC	**0.14****	**0.14****	**0.12****	**0.14****	**0.14****	**0.14****	**0.14****	**0.14****	**0.14****	**0.14****	**0.12****	**0.14****	**0.14****
PI	**0.23****	**0.24****	**0.23****	**0.22****	**0.23****	**0.23****	**0.23****	**0.24****	**0.24****	**0.23****	**0.23****	**0.23****	**0.23****
RG	**0.42****	**0.41****	**0.43****	**0.43****	**0.42****	**0.42****	**0.40****	**0.43****	**0.39****	**0.41****	**0.42****	**0.41****	**0.42****
CG	-0.03	-0.02	-0.03	-0.02	-0.04	-0.03	-0.02	-0.03	-0.03	-0.03	-0.03	-0.01	-0.04
*CPMC*PHRMC*		-0.07											
*CPMC*PRMC*			-0.07										
*CPMC*PI*				**-0.09****									
*CG*RG*					0.04								
*CPMC*CG*						0.03							
*CPMC*RG*							-0.09						
*PHRMC*CG*								0.02					
*PHRMC*RG*									**-0.13****				
*PRMC*CG*										0.09			
*PRMC*RG*											**-0.09****		
*PI*CG*												**-0.08***	
*PI*RG*													**-0.09***
Adjusted R square	72.80%	73.30%	73.30%	73.60%	72.90%	72.90%	73.60%	72.90%	74.50%	73.60%	73.60%	73.40%	73.60%
Cohen f^2				0.03					0.06		0.03	0.02	0.03

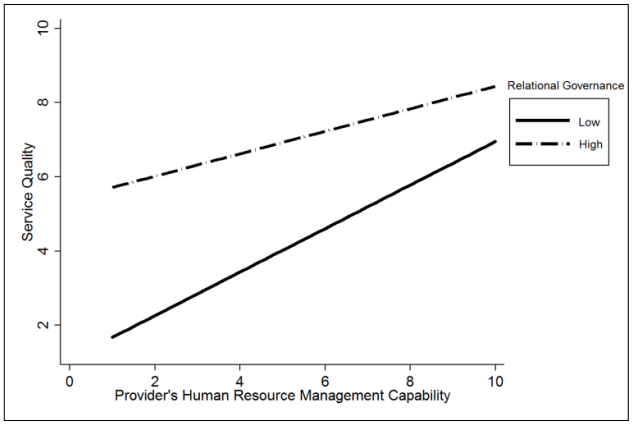
Note: (1). ** p-value<0.05, *p-value<0.10. (2). CPMC=*Client's provider management capability*, PHRMC= *Provider's human resources management capability*, PRMC= *Provider's risk management capability, PI= Provider's innovativeness, RG=Relational Governance, CG= Contractual Governance, (2)* $^{+}$*: This is a dummy variable, clients are coded as 1 and providers are coded as 0.*

Table 22: Estimates of Structural Path Coefficients (Dependent Variable: Economic Benefits)														
Predictor Constructs	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**	**Model 8**	**Model 9**	**Model 10**	**Model 11**	**Model 12**	**Model 13**	**Model 14**
DummyCOrP^{+}	**-0.08***	-0.08	-0.08	-0.07	-0.08	**-0.10****	-0.07	-0.08	-0.08	-0.08	**-0.08***	-0.07	**-0.09***	-0.06
CPMC	**0.20****	**0.20****	**0.20****	**0.21****	**0.20****	**0.21****	**0.20****	**0.20****	**0.21****	**0.20****	**0.20****	**0.20****	**0.21****	**0.19****
PHRMC	-0.01	-0.00	-0.00	-0.01	-0.00	-0.05	-0.00	-0.01	-0.00	-0.00	0.01	-0.01	-0.00	0.01
PRMC	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.00	0.00	-0.01	-0.03	-0.01	-0.01	0.00
PI	-0.01	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02	-0.03	0.00	-0.01	-0.01	-0.02	-0.01	0.02
RG	**0.31****	**0.31****	**0.32****	**0.30****	**0.30****	**0.35****	**0.32****	**0.30****	**0.32****	**0.32****	**0.32****	**0.32****	**0.32****	**0.31****
CG	**0.17****	**0.17****	**0.17****	**0.16****	**0.17****	**0.16****	**0.16****	**0.17****	**0.17****	**0.17****	**0.18****	**0.15****	**0.17****	**0.17****
SQ	**0.18****	**0.17****	**0.17****	**0.17****	**0.17****	**0.19****	**0.19****	**0.18****	0.13	**0.18****	**0.14***	**0.19****	**0.16***	**0.15***
*CPMC*PHRMC*		-0.02												
*CPMC*PRMC*			-0.01											
*CPMC*PI*				0.07										
*CG*RG*					0.03									
*CPMC*CG*						**-0.19***								
*CPMC*RG*							0.05							
*PHRMC*CG*								0.10						
*PHRMC*RG*									-0.09					
*PRMC*CG*										-0.01				
*PRMC*RG*											-0.10			
*PI*CG*												0.06		
*PI*RG*													-0.06	
*CPMC*SQ*														-0.11
Adjusted R^2	53.60%	53.60%	53.60%	54.00%	53.70%	56.60%	53.80%	54.50%	54.30%	53.60%	54.60%	53.90%	53.90%	55.20%
Cohen's f^2						0.06								

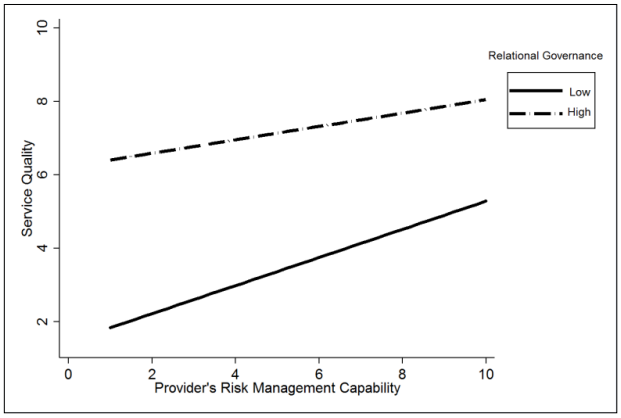
Note: (1). ** p-value<0.05, *p-value<0.10. (2). CPMC=*Client's provider management capability*, PHRMC= *Provider's human resources management capability*, PRMC= *Provider's risk management capability, PI= Provider's innovativeness, RG=Relational Governance, CG= Contractual Governance, (2)* $^{+}$*: This is a dummy variable, clients are coded as 1 and providers are coded as 0.*



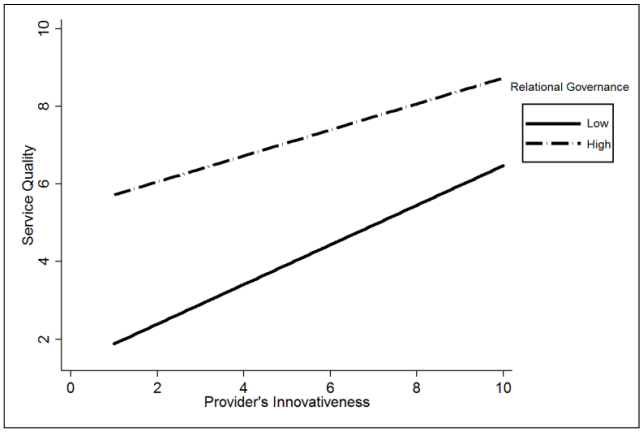
a: Contractual Governance and Provider's Innovativeness (H10c)



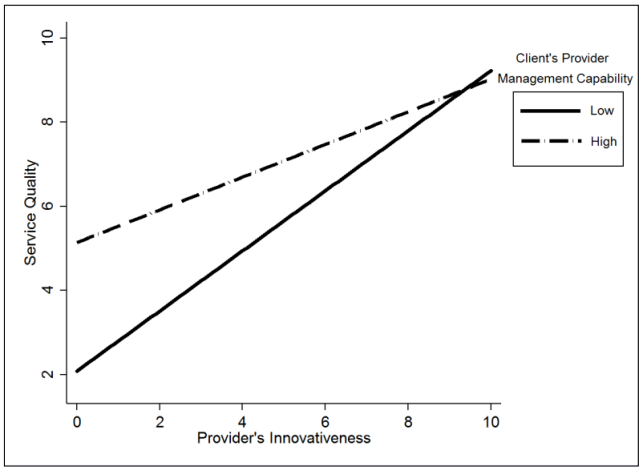
b: Relational Governance and Provider's Human Resources Management Capability (H11a)



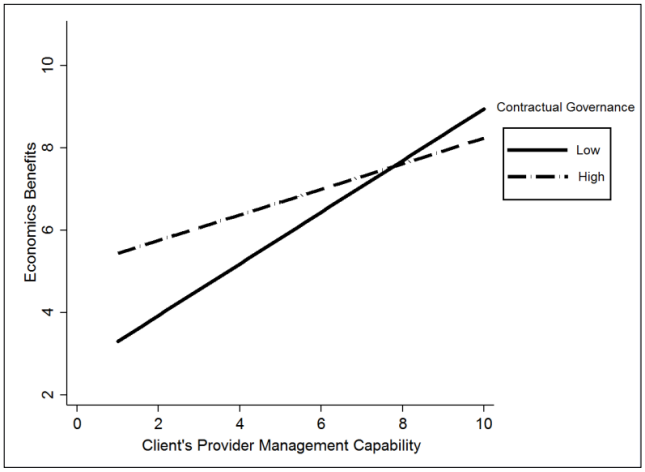
c: Relational Governance and Provider's Risk Management Capability (H11a)



d: Relational Governance and Provider's Innovativeness (H11c)



e: Client's Provider Management Capability and Provider's Innovativeness



f: Contractual Governance and Client's Provider Management Capability (H12a)

Figure 4: Interaction Effects on Outsourcing Performance

Table 23: Patterns of Interaction Effects on Outsourcing Performance							
Interaction Effect	**Predicator Variable**	**Moderator**	**Z=mean-1SD**		**Z=mean+1SD**		**Patterns of Interaction Effects**
			Slope	**t-value**	**Slop**	**t-value**	
H10c: PI*CG-> SQ (-)	Provider's innovativeness	Contractual governance	0.66	13.66**	0.46	9.01**	The significant positive effect of provider's innovativeness on service quality attenuates with increases in contractual governance, although the effect is still significant when contractual governance is high.
H11a: PHRMC*RG-> SQ (-)	Provider's human resources management capability	Relational governance	0.45	5.20**	0.31	3.50**	The significant positive effect of provider's human resources management capability on service quality attenuates with increases in relational governance, although the effect is still significant when relational governance is high.
H11b: PRMC*RG-> SQ(-)	Provider's risk management capability	Relational governance	0.32	3.43**	0.17	1.78*	The significant positive effect of provider's risk management capability on service quality attenuates with increases in relational governance and becomes marginally significant when relational governance is high.
H11c: PI*RG-> SQ(-)	Provider's innovativeness	Relational governance	0.42	9.66**	0.27	6.24**	The significant positive effect of provider's innovativeness on service quality attenuates with increases in relational governance, although the effect is still significant when relational governance is high.
H12a: CPMC*CG-> EB(-)	Client's provider management capability	Contractual governance	0.6	7.03**	0.44	5.32**	The significant positive effect of client's provider management capability on economic benefits attenuates with increases in contractual governance, although the effect is still significant when contractual governance is high.
CPMC*PI-> SQ (-)	Provider's innovativeness	Client's provider management capability	0.59	11.93**	0.048	9.48**	The significant positive effect of provider's innovativeness on service quality attenuates with increases in client's provider management capability, although the effect is still significant when relational governance is high.

***p-value<0.05, p-value<0.1*

5.2.3 Mediating Effect of Service Quality

We also examine the mediating effects of service quality on the relationships between three provider's capabilities and economic benefits. Provider's capabilities may affect economic benefits indirectly through its delivered service quality.

According to Baron and Kenny (1986), there are three rules for a variable to be a mediator: (1) mediator varies with levels of independent variables (IVs) (path a), (2) dependent variable (DV) varies with levels of mediator (path b), and (3) when path a and b are controlled, direct relation of IV to DV (path c) is no longer significant (fully mediated) or is significantly decreased (partially mediated).

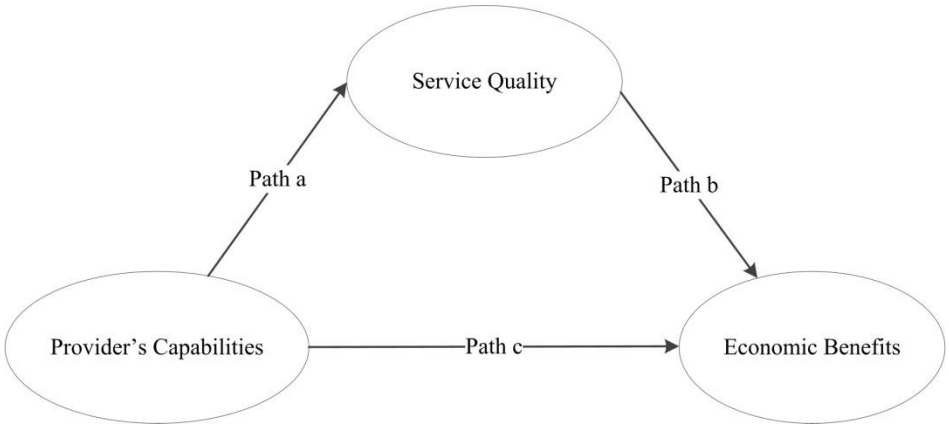


Figure 5: Service Quality Serves as a Mediator

Therefore, in order to test the mediating effect of service quality, three models are evaluated (see Figure 5): (1) paths from the three provider's capabilities to economic benefits, (2) paths from the three provider's capabilities to service quality, and (3) paths from both the three provider's capabilities and service quality to economic benefits. The testing results are summarized in Table 24. As shown in Table 24, all the three provider's capabilities have significant effects on economic benefits as well as on service quality. However, when considering the effects of both service quality and provider's capabilities on economic benefits, the paths from these provider's capabilities to

economic benefits become insignificant. This indicates that the effects of provider's capabilities on service quality are fully mediated by service quality.

Table 24: Testing Results of Mediating Effect of Service Quality

Predictor	*DV: Economic benefits*			*DV: Service quality*			*DV: Economic benefits*		
	Coef.	*Standard error*	*t-value*	*Coef.*	*Standard error*	*t-value*	*Coef.*	*Standard error*	*t-value*
Provider's HR management Capability	**0.27****	0.09	2.94	**0.36****	0.08	4.67	0.13	0.10	1.27
Provider's risk management capability	**0.22****	0.08	2.75	**0.25****	0.06	4.08	0.12	0.08	1.62
Provider's innovativeness	**0.19****	0.08	2.57	**0.31****	0.06	5.02	0.07	0.08	1.04
Service quality							**0.38****	0.09	4.16
R^2	35.1%			64.7%			40.6%		

***p-value<0.05*

5.3 Robustness Test of Research Model

5.3.1 Test of Cluster Robustness of Measurement Model Using STATA

Since our data were collected from 306 informants in 41 firms which were engaged in 26 outsourcing contracts, there might be intra-class correlations existing. Intra-class correlation indicates the correlation of the observations within a cluster (Shrout and Fleiss 1979; McGraw and Wong 1996). That is, the informants from the same firm might have answered the survey questions more similarly compared to the informants from other firms. Likewise, informants in a contract might also have answered the survey questions more similarly compared to informants in other contracts. The higher the intra-class correlation, the less unique information each informant in the same firm/contract provides. Therefore, we use the clustered robust standard errors to account for the intra-class correlation in the factor analysis and structural model testing (Handley and Benton 2012). We conduct two cluster robust tests to examine whether our measurement model and structural model hold after considering intra-class correlations: one with cluster variable as firm and the other one with cluster variable as contract.

The testing results of measurement model incorporating cluster robust standard errors are shown in Table 25. In the standard analysis where all the informants are assumed to be independent, all the items have significant factor loadings. Although some items have a factor loading lower than 0.6, it is understandable because usually PLS has higher factor loadings than STATA. Also, the goal of robustness test is to see whether the measurement model holds after taking the intra-class correlations into consideration. As indicated in Table 25, in the test where cluster variable is firm, the model has 41 clusters. Factor loadings are the same as those in the standard analysis and all significant. But the standard errors are larger and t-value are smaller than those of the standard analysis. When the cluster variable is contract, the model has 26 clusters. The testing results are similar to the model with firm as cluster variable. Overall, two tests of cluster robust standard errors indicates that the measurement model is valid after accounting for the intra-class correlations.

5.3.2 Test the Robustness of Structural Model Using STATA

We also test the robustness of structural model using cluster variables as firm and as contract. The main effects and interaction effects of governance mechanisms and capabilities on service quality and economic benefits are summarized in Table 26 and Table 27 respectively. As depicted in Table 26 and Table 27, most of the findings in our research model are robust after taking into account the intra-class correlations of informants in the same firm or informants engaged in the same contract. A slight variation in Table 26 is the interaction effect of provider's innovativeness and contractual governance on the service quality. It becomes less significant after considering the intra-class correlations among informants in a contract, with t-value changing from -2.10 to -1.76.

In table 27, the interaction effect of client's provider management capability and contractual governance on economic benefits also doesn't hold consistently in all the three tests. The interaction effect is only significant after accounting for the intra-class correlations among informants in a contract. These variation should be taken into account when interpreting the structural model testing results.

Overall, the robustness tests indicate that our measurement model and the majority of our hypothesized relationships are robust considering intra-class correlations. Figure 6 summarizes the significant main effects and interaction effects in the research model.

Table 25: Robustness Test Results of Measurement Models										
Construct	**Item**	**Standard Analysis**			**Cluster Variable=Firm**			**Cluster Variable=Contract**		
		Factor Loading	**Standard Error**	**t-vale**	**Factor Loading**	**Robust Standard Error**	**t-vale**	**Factor Loading**	**Robust Standard Error**	**t-vale**
Economic Benefits	EB1	0.68	0.04	15.35	0.68	0.09	7.69	0.68	0.08	8.63
	EB2	0.72	0.04	16.40	0.72	0.05	15.01	0.72	0.06	11.09
Service Quality	SQ1	0.72	0.04	19.55	0.72	0.11	6.87	0.72	0.08	8.90
	SQ2	0.76	0.03	22.04	0.76	0.04	18.01	0.76	0.05	15.78
	SQ3	0.72	0.04	19.61	0.72	0.04	16.75	0.72	0.06	12.21
Relational Governance	RG1	0.7	0.04	19.57	0.7	0.05	13.35	0.7	0.05	13.37
	RG2	0.76	0.03	23.71	0.76	0.03	22.68	0.76	0.04	17.06
	RG3	0.67	0.04	17.65	0.67	0.06	10.99	0.67	0.05	14.59
	RG4	0.68	0.04	18.49	0.68	0.06	10.81	0.68	0.05	14.10
Provider's Risk Management Capability	PRMC1	0.63	0.04	14.81	0.63	0.08	7.46	0.63	0.08	7.92
	PRMC2	0.76	0.03	22.97	0.76	0.04	18.76	0.76	0.04	18.63
	PRMC3	0.76	0.03	22.72	0.76	0.04	17.7	0.76	0.06	13.85
Provider's Human Resources Management Capability	PHRMC1	0.88	0.02	42.39	0.88	0.02	45.32	0.88	0.02	43.91
	PHRMC2	0.76	0.04	26.49	0.76	0.06	12.84	0.76	0.05	16.34
	PHRMC3	0.74	0.03	24.37	0.74	0.05	15.11	0.74	0.05	14.94
Client's Provider Management Capability	CPMC1	0.65	0.04	14.75	0.65	0.05	12.74	0.65	0.06	11.69
	CPMC2	0.59	0.05	12.53	0.59	0.09	6.75	0.59	0.09	6.86
	CPMC3	0.77	0.04	20.40	0.77	0.04	17.75	0.77	0.04	19.39
Contractual Governance	CG1	0.69	0.04	15.78	0.69	0.04	15.61	0.69	0.05	14.24
	CG2	0.61	0.05	12.93	0.61	0.06	9.61	0.61	0.06	10.35
	CG3	0.66	0.04	23.71	0.66	0.08	5.69	0.66	0.09	4.92
Provider's Innovativeness	PI1	0.76	0.04	21.30	0.76	0.06	12.86	0.76	0.06	12.60
	PI2	0.81	0.04	23.74	0.81	0.05	17.58	0.81	0.06	14.87
Provider's Business Risk	PBR1	0.79	0.05	15.34	0.79	0.05	16.07	0.79	0.05	15.00
	PBR2	0.52	0.05	10.11	0.52	0.10	5.29	0.52	0.08	6.22

Table 26: Cluster Robustness Test Results of Service Quality									
Predictor	**Standard Analysis**			**Cluster Variable: Firm (n=41)**			**Cluster Variable: Contract (n=26)**		
	Path Coefficient	*Standard Err.*	*t-value*	*Path Coefficient*	*Robust Standard Err.*	*t-value*	*Path Coefficient*	*Robust Standard Err.*	*t-value*
Relational Governance (RG)	0.46**	0.05	9.48	0.46**	0.07	6.75	0.46**	0.05	8.57
Contractual Governance (CG)	-0.04	0.04	-1.21	-0.04	0.04	-0.98	-0.04	0.03	-1.24
Client's Provider Management Capability (CPMC)	-0.04	0.04	-1.04	-0.04	0.05	-0.91	-0.04	0.05	-0.96
Provider's Human Resources Management Capability (PHRMC)	0.22**	0.04	5.07	0.22**	0.07	3.18	0.22**	0.07	2.94
Provider's Risk Management Capability (PRMC)	0.13**	0.04	3.54	0.12**	0.05	2.78	0.12**	0.05	2.31
Provider's Innovativeness (PI)	0.23**	0.04	6.02	0.23**	0.04	5.26	0.23**	0.05	4.77
*CPMC*PI*	-0.03**	0.01	-3.06	-0.03**	0.01	-2.79	-0.03**	0.01	-2.52
*PHRMC*RG*	-0.04**	0.01	-3.31	-0.04**	0.02	-2.62	-0.04**	0.02	-2.50
*PRMC*RG*	-0.04**	0.01	-3.06	-0.04**	0.02	-2.23	-0.04**	0.01	-2.57
*PI*RG*	-0.04**	0.01	-3.12	-0.04**	0.01	-2.86	-0.04**	0.01	-2.59
*PI*CG*	-0.02**	0.01	-2.10	-0.02**	0.01	-2.25	-0.02*	0.01	-1.76

Table 27: Cluster Robustness Test of Economic Benefits									
Predictor	**Standard Analysis**			**Cluster Variable: Firm (n=41)**			**Cluster Variable: Contract (n=26)**		
	Path Coefficient	*Standard Err.*	*t-value*	*Path Coefficient*	*Robust Standard Err.*	*t-value*	*Path Coefficient*	*Robust Standard Err.*	*t-value*
Relational Governance (RG)	0.47**	0.07	6.39	0.47**	0.13	3.58	0.47**	0.12	3.88
Contractual Governance (CG)	0.29**	0.11	2.69	0.29**	0.13	2.21	0.29**	0.11	2.70
Client's Provider Management Capability (CPMC)	0.36**	0.10	3.57	0.36**	0.12	2.97	0.36**	0.12	3.01
Provider's Human Resources Management Capability (PHRMC)	0.09	0.07	1.36	0.09	0.09	0.97	0.09	0.10	0.90
Provider's Risk Management Capability (PRMC)	0.05	0.06	0.88	0.05	0.07	0.69	0.05	0.06	0.79
Provider's Innovativeness (PI)	0.07	0.06	1.27	0.07	0.09	0.83	0.07	0.08	0.97
Service Quality	0.23**	0.09	2.57	0.23**	0.09	2.44	0.23**	0.10	2.31
*CPMC*CG*	-0.03	0.02	-1.55	-0.03	0.02	-1.55	-0.03*	0.02	-1.77

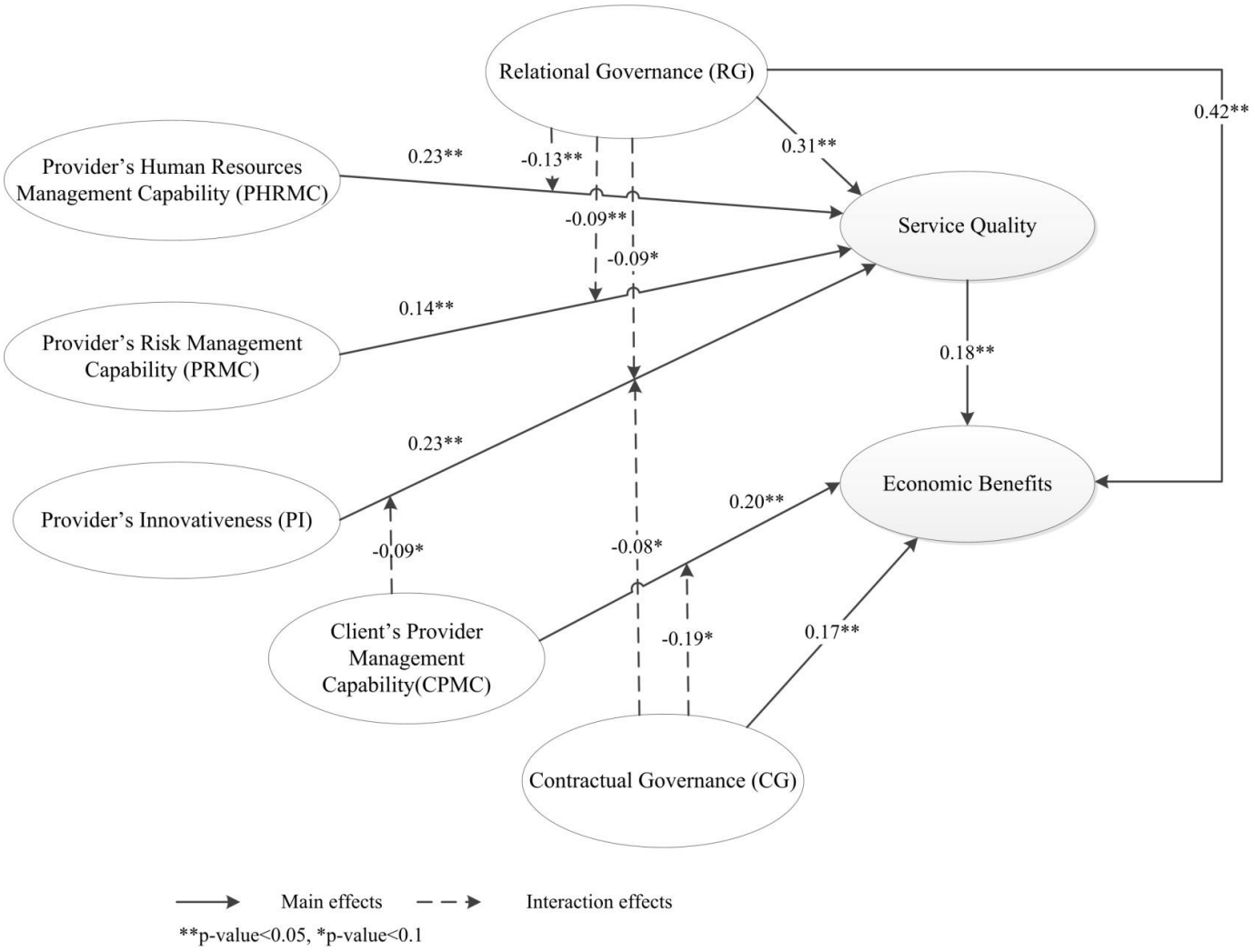


Figure 6: Findings in the Research Model (n=306)

5.4 Compare Client's and Provider's Perspectives

In order to answer the last research question, we test our research model with subsamples of client informants and provider informants. We have 175 informants from client firms and 131 informants from provider firms. Table 28 summarizes the descriptive statistics for client informants and provider informants. It is interesting to observe that provider informants in general rated constructs higher than clients. Our ANOVA test results indicate that except client's provider management capability and contractual governance, providers rated higher scores than clients for all the other constructs. Figure 7 and Figure 8 present the findings of client informants and provider informants respectively.

Table 28: Descriptive Statistics for Client Informants and Provider Informants

Variable	Client informants (n=175)		Provider informants (n=131)		Mean Difference (provider's – client's)	
	Mean	STD	Mean	STD	Value	F-value
Service quality	4.98	2.18	6.26	1.94	1.28	*28.27****
Economic benefits	4.28	2.57	5.34	2.36	1.06	*13.55****
Provider's human resources management capability	4.35	2.31	6.1	2.13	1.75	*45.94****
Provider's risk management capability	4.63	2.51	6.86	2.13	2.23	*64.93****
Provider's innovativeness	3.88	2.28	5.18	2.2	1.3	*53.11****
Client's provider management capability	4.33	2.04	4.66	2.02	0.33	1.93
Contractual governance	3.55	2.33	4.28	2.28	0.73	7.49***
Relational governance	5.09	1.92	5.44	2.04	0.35	2.43

****p-value<0.01*

From client's perspective, as shown in the Figure 7, service quality is determined by the provider's human resources management capability, provider's risk management capability, provider's innovativeness, and relational governance. Client's provider management capability and contractual governance don't have significant impacts on the service quality delivered by providers. Economic benefits are determined by the contractual and relational governance, client's provider management capability, and also provider's service quality. Those three provider's capabilities do

not affect client's economic benefits directly. The interactions between relational governance and provider's human resources management capability has significant negative effect on service quality. Similarly, the interactions between contractual governance and provider's innovativeness, and client's provider management capability and provider's innovativeness have weak but significant negative effects on service quality.

From provider's perspective, as shown in Figure 8, service quality is also determined by the three provider's capabilities and relational governance. However, economic benefits realized by clients rely solely on the two governance mechanisms. Provider's service quality doesn't have significant effect on the economic benefits of clients, neither does the client's capability to manage providers. Only the interaction between client's provider management capability and provider's innovativeness has significant negative effect on service quality.

A Summary of hypotheses testing results of entire sample, client informants, and provider informants is presented in Table 29.

Table 29: Summary of Hypotheses Testing in This Study

Hypothesis	**Entire Sample**	**Client's Perspective**	**Provider's Perspective**
H1: PHRMC -> SQ (+)	Supported	Supported	Supported
H2: PRMC -> SQ(+)	Supported	Supported	Supported
H3: PI -> SQ(+)	Supported	Supported	Supported
H4: CG -> SQ (+)	Not Supported	Not Supported	Not Supported
H5: CG -> EB (+)	Supported	Supported	Supported
H6: RG -> SQ (+)	Supported	Supported	Supported
H7: RG ->EB (+)	Supported	Supported	Supported
H8: CPMC -> EB (+)	Supported	Supported	Not Supported
H9: SQ -> EB (+)	Supported	Supported	Not Supported
*H10a: CG * PHRMC -> SQ (-)*	Not Supported	Not Supported	Not Supported
*H10b: CG * PRMC -> SQ (-)*	Not Supported	Not Supported	Not Supported
*H10c: CG * PI -> SQ (-)*	Supported	Supported	Not Supported
*H11a: RG * PHRMC -> SQ (-)*	Supported	Supported	Not Supported
*H11b: RG * PRMC -> SQ (-)*	Supported	Not Supported	Not Supported
*H11c: RG * PI -> SQ (-)*	Weakly Supported	Not Supported	Not Supported
*H12a: CPMC * CG -> EB (-)*	Weakly Supported	Not Supported	Not Supported
*H12b: CPMC * RG -> EB (-)*	Not Supported	Not Supported	Not Supported

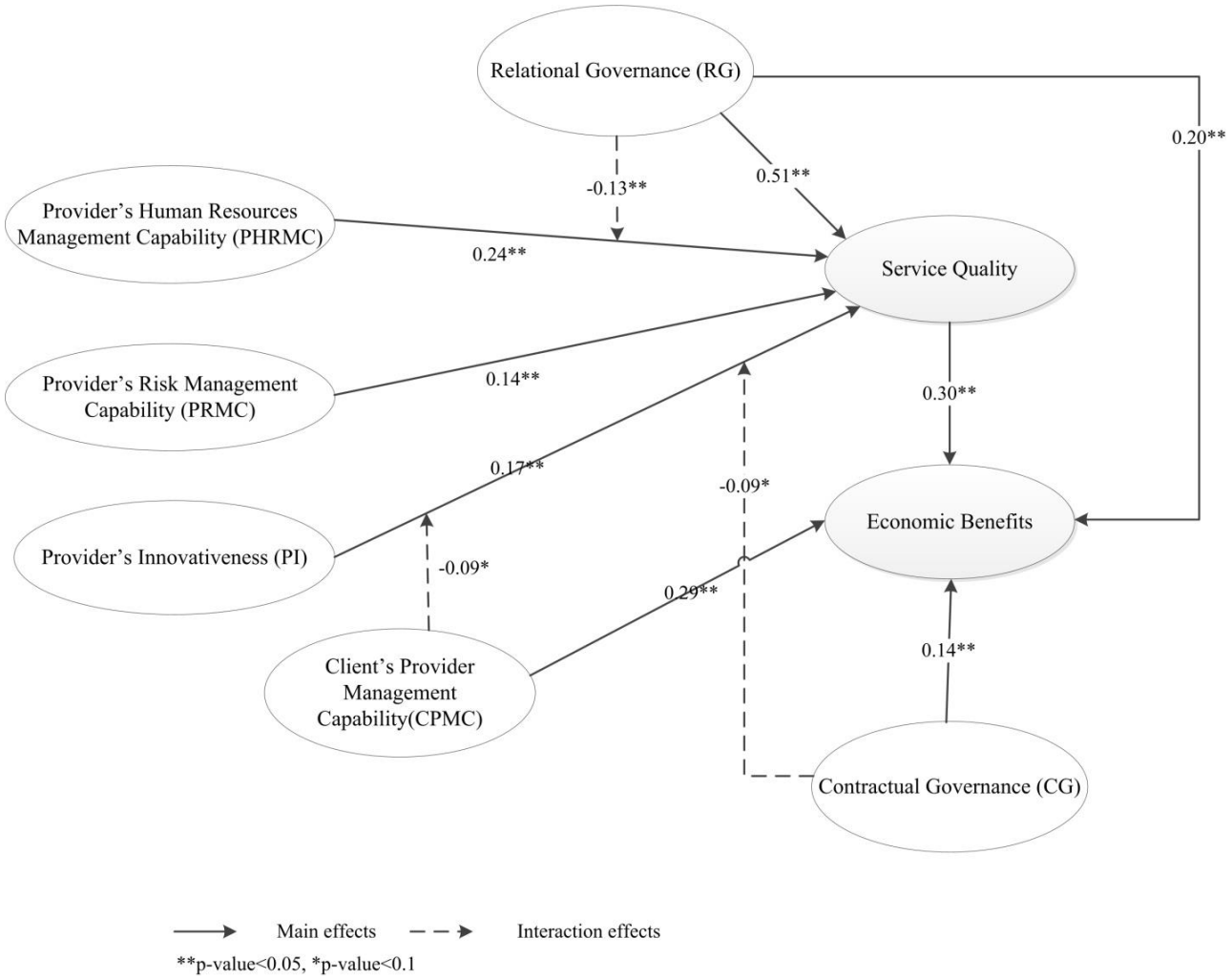


Figure 7: Findings of Research Model from Client's Perspective (n=175)

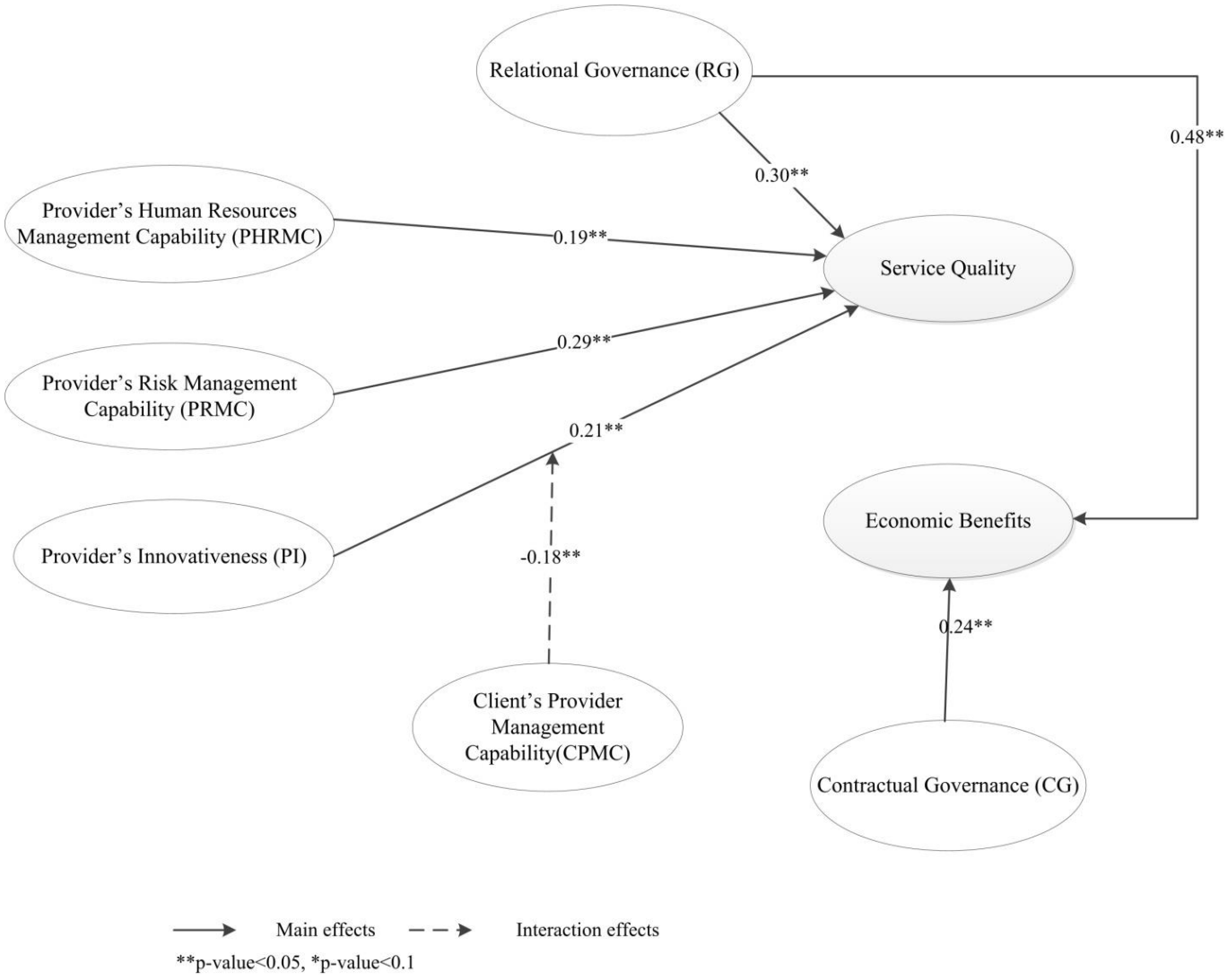


Figure 8: Findings of Research Model from Provider's Perspective (n=131)

Chapter Six

DISCUSSION, IMPLICATIONS, AND CONCLUSION

6.1 Discussion

6.1.1 Main Effects

In this study, we propose a research model to examine independent and joint effects of capabilities and governance mechanisms on outsourcing performance. Our results indicate that both client's and provider's capabilities as well as contractual and relational governance play significant roles in shaping outsourcing performance. More specifically, we find that provider's human resources management capability, provider's risk management capability, provider's innovativeness, and relational governance have significant positive effects on service quality. These four factors together explain 72.80% variances service quality. In addition, we reveal that contractual and relational governance, client's provider management capability, and service quality influence client's economic benefits significantly and positively, explaining 53.60% variances of client's economic benefits. We now expand on these findings of main effects.

Among these three provider's capabilities, *provider's human resources management capability* has the greatest effect on service quality. This finding is in line with previous studies in ITO and BPO (e.g., Lacity et al. 2010; Lacity et al. 2011a). When providers have high level of human resources capability, they are able to have adequate qualified talents at client's firm; offer state-of-the-art training to transferred employees from clients; and manage human resources effectively to reduce the level of employee turnover (Feeny et al. 2005; Oshri et al. 2007). As a result, they are more likely to deliver high quality of service.

Although *provider's risk management capability* has been extensively underlined in IS studies (e.g., Rottman and Lacity 2004; Smith and McKeen 2004), it has not received adequate attention from empirical researchers (Taylor 2007; Narayanan et al. 2011). This study contributes

to IS literature by empirically conceptualizing and testing the effect of provider's risk management capability on service quality. Our findings clearly indicate that provider's risk management capability plays an important role in influencing service quality. Provider's risk management capability can help ensure business continuity, which in turn creates a stable business environment for providers to deliver high quality of service.

Our findings also show that *provider's innovativeness* has almost the same level of effect as provider's human resources management capability on service quality. While Provider's innovativeness has been extensively considered in operation management studies (e.g., Merrifield 1989; Wallenburg 2009), it just received attention from IS scholars recently (e.g., Lacity and Willcocks 2013; Willcocks et al. 2013). This study suggests that high level of provider's innovativeness can create better service quality. In order to achieve high level of provider's innovativeness, it requires inputs from both clients and providers. Clients should focus less on cost reduction and more on value-adding objectives (Lacity and Willcocks 2013; 2014). Also, clients should provide appropriate incentives for providers to deliver expected innovations (Lacity and Willcocks 2013; 2014). On the other hand, providers should focus less on making profits and allocate more resources to deliver innovations and creativities (Lacity and Willcocks 2013; 2014). However, providers also need to be cautious about overwhelming clients with new ideas that may not workable. This is consistent with our finding of significant interaction effect of client's provider management capability and provider's innovativeness on service quality.

Our findings also suggest that *contractual governance* has a significant positive effect on economic benefits but not service quality. This result implies that clear specification of financial terms in an outsourcing contract can ensure clients achieve expected economic benefits, whereas it cannot guarantee that providers would deliver desired quality of service. We don’t find significant relationship between contractual governance and provider's service quality. One possible reason is that our measurement items of contractual governance do not capture protective contractual provisions for service quality, rather, we focus more on the financial terms specification in

outsourcing contracts. Another possible reason is that contractual governance becomes insignificant in the presence of provider's capabilities and relational governance. This argument is supported by our data analysis results, see Figure 9. We test a model including only contractual governance to predict service quality and economic benefits. The model testing results reveal that contractual governance has significant effects on both economics benefits and service quality. It alone explains 20.40% variances of service quality and 29.90% variances of economics benefits.

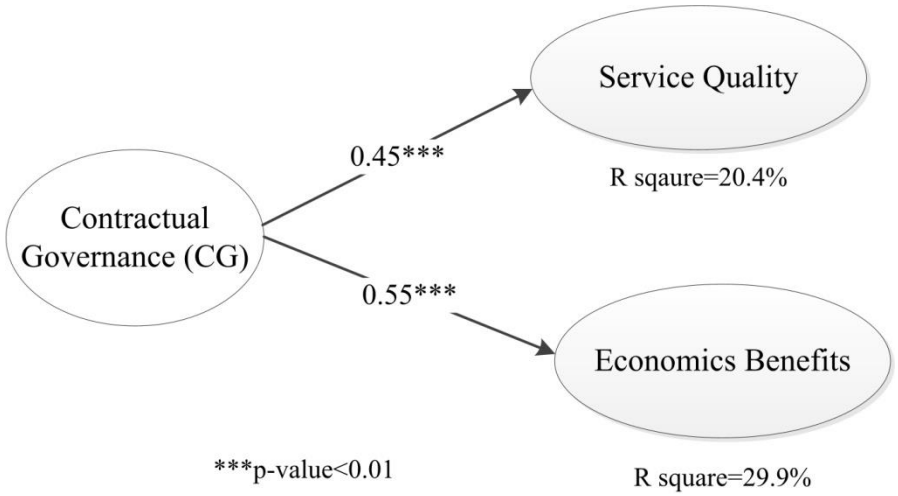


Figure 9: A Model Containing Contractual Governance as the Only Predictor

We also find that *relational governance* is significantly and positively related to both service quality and economic benefits. Relational governance is important to service quality from both client's and provider's views. From client's view, providers are more likely to deliver good service quality when clients and providers trust one another and have mutual understanding and common ways to work together (Lee and Kim 1999; Sabherwal 1999; Winkler et al. 2008). From provider's view, they expect clients to treat them with respect. They also believe that outsourcing relationships evolve and mature over the time of the contract and both parties need to invest in developing a long-term relationship. Likewise, the impact of relational governance on client's economic benefits is also undeniable (Balaji and Brown 2010; Qi and Chau 2012; Wüllenweber et al. 2008). From client's perspective, relational governance mechanisms such as harmonious conflict resolution mechanisms allow them to focus on value-adding business. Clients also believe that they

can maximize business values when they know who to go for questions/issues and when they understand provider's business. From provider's perspective, they think that relational governance such as commitment, communication, and mutual understanding of roles and responsibilities is critical for them to deliver client's expected business values.

Last, our results support the hypothesis that *client's provider management capability* has a significant effect on economic benefits. Even though we don't hypothesize the effect of client's provider management capability on service quality, we also analyze this relationship in our model testing. As shown in Table 21, when considering it with other predictor variables, client's provider management capability doesn't have significant effect on service quality. However, when we consider client's provider management capability as the only predictor of service quality and economic benefits, it does demonstrate significant effects on service quality and economic benefits. This implies that in the presence of provider's capabilities, relational governance, client's provider management capability becomes significant.

In summary, with reference to the main effects, *first*, provider's HR management capability, provider's risk management capability, and provider's innovativeness affect service quality directly, but not economic benefits. *Second*, the effects of client's provider management capability and contractual governance become insignificant in the presence of provider's capabilities. Despite that, they do affect economic benefits. *Third*, relational governance is critical to both service quality and economic benefits.

6.1.2 Interaction Effects of Capabilities and Governance Mechanisms

The interaction effects of governance mechanisms and capabilities on outsourcing performance represent another contribution of our research. Prior literature has tended to focus on the interaction effect of contractual and relational governance at either a broad level (Poppo and Zenger 2002) or a granular level (Goo et al. 2009; Rai et al. 2012). Only a handful of studies have examined the interactions among other key determinants of outsourcing performance (e.g., Han et

al. 2013; Parmigiani and Mitchell 2010), limiting our insights on how we can efficiently and effectively manage these key factors to maximize outsourcing outcomes. Therefore, we extend the prior literature *to explore* the interactions among these key determinants of ITO and BPO performance. More specifically, as described in Chapter Five, we find that the positive effects of three provider's capabilities on service quality are reduced in the presence of relational governance. In addition, in the presence of contractual governance, the positive effects of provider's innovativeness on service quality and of client's provider management capability on economic benefits are reduced. Further, we also find an interaction effect between client's provider management capability and provider's innovativeness on service quality. Strong client's provider management capability reduces the impact of provider's innovativeness on service quality.

In this study, ***we are not arguing that governance mechanisms and capabilities can substitute one another.*** *Rather, we propose that both governance mechanisms and capabilities are critical to outsourcing performance while the presence of governance mechanisms reduces the effects of capabilities on outsourcing performance.* We make this argument for the following two reasons. First, as suggested by Poppo and Zenger (2002), a complete and reliable test without information loss for substitutability should incorporate both negative bi-directional links and negative interaction effects. Our testing results of bi-directional links between relational governance and three provider's capabilities, contractual governance and provider's innovativeness, and contractual governance and client's provider management capability are all significant and positive (See Table 30). Second, as indicated by the patterns of interaction effects (see Table 23), client's and provider's capabilities have significant positive effects on outsourcing performance no matter what the level of governance mechanisms is. Thereby, clients and providers in an outsourcing relationship should consider carefully about how to manage capabilities with governance mechanisms in order to achieve optimal outsourcing performance. We expand the discussion of each interaction as below.

Table 30: Testing Results of Bi-directional Links						
Independent Variables	**Dependent Variables**					
	RG	**CG**	**PHRMC**	**PRMC**	**PI**	**CPMC**
Provider's human resources management capability (PHRMC)	0.36***					
Provider's risk management capability (PRMC)	0.21***					
Provider's innovativeness (PI)	0.21***	0.21***				
Relational governance (RG)			0.63***	0.56***	0.48***	
Contractual governance (CG)					0.16***	0.5***
Client's provider management capability (CPMC)		0.41***				

*** *p-value < 0.001*

The interaction between contractual governance and provider innovativeness has a negative effect on service quality. As shown in Figure 4a and Table 23, when contractual governance is low, service quality relies heavily on the provider's innovativeness. In contrast, when contractual governance is high, the significant positive effect of provider's innovativeness on service quality decreases. The core implication is that using contracts to monitor outsourcing performance is important in particular when providers have low capability to deliver innovations and creativities. Our findings also suggest that clients probably should emphasize less on contract terms when provider's innovativeness is high in order to receive better service quality.

The interactions between relational governance and three provider's capabilities have negative effects on service quality. As shown in Figure 4b-d and Table 23, in the presence of strong relational governance, the effects of the three provider's capabilities on service quality are reduced. The role of relational governance in influencing outsourcing performance, has been repeatedly emphasized in ITO and BPO research (e.g., Goo et al. 2009; Kern and Willcocks 2002; Klepper 1995; Lacity et al. 2010; Lacity et al. 2011a; Poppo and Zenger 2002; Rai et al. 2012). Relational governance contains elements such as trust (Sabherwal 1999), communication (Sen and Shiel 2006),

mutual understanding (Kern and Willcocks 2002), effective knowledge sharing (Rottman and Lacity 2006), and conflict resolution (Goo et al. 2009). In the presence of strong relational governance, clients and providers in general would have a good relationship (Alami et al. 2008; Sen and Shiel 2006), thereby creating a trustful and committed environment for the parties. Our results suggest that strong relational governance would encourage providers to deliver best service quality they could, even when they have poor capabilities in human resources management, risk management, and innovativeness. In contrast, when relational governance is low, implying a bad relationship between clients and providers, service quality is highly dependent upon provider's capabilities. Among these three interactions, the interaction between relational governance and provider's human resources management has the greatest effect. This implies that in presence of strong relational governance, providers would assign high quality staff to work on the outsourcing projects even when they have high rate of attrition or less sophisticated training for employees.

The interaction between contractual governance and client's provider management capability has a negative effect on economic benefits. As seen in Figure 4f and Table 23, when contractual governance is high, indicating that clients and providers have clearly specified financial terms and incentive mechanisms appropriately in a contract, client's economic benefits may depend less on client's provider management capability. Appropriate incentives such as revenue sharing would encourage providers to deliver expected outcomes, e.g., cost reduction or innovations (Lacity and Willcocks 2013; Lacity and Willcocks 2014), even when the level of client's controls is level. On the other hand, when the contractual governance is low, clients need to have processes, tools, or technologies in place to monitor providers for achieving economic benefits.

Besides hypothesized interactions, we also tested the interactions between contractual and relational governance, and between client's provider management capability and the three provider's capabilities on service quality and economic benefits.

We don't find any significant or even marginally significant interaction effect of contractual and relational governance. This is different from the findings in previous studies (e.g.,

Goo et al. 2009; Poppo and Zenger 2002; Rai et al. 2012). Poppo and Zenger (2002) and Goo et al. (2009) find that contractual and relational governance act as complements in influencing ITO performance. Rai et al. (2002) reveal that contractual and relational governance serves as substitutes in affecting BPO performance. One difference between these three studies and our study is that the above three studies include only contractual and relational governance in their research model, excluding other determinants of outsourcing performance. One possible reason is that the interaction of contractual and relational governance become insignificant after considering other determinants.

Among the interactions between client's provider management capability and the three provider's capabilities, we find only the interaction between client's provider management capability and provider's innovativeness is significant. As seen in Figure 4e and Table 23, the significant effect of provider's innovativeness on service quality is reduced in the presence of strong client's provider management capability. When client's provider management capability is low, service quality depends more on provider's innovativeness. In contrast, when client's capability to manage providers is high, even lower level of provider's innovativeness can generate moderate level of service quality. The core implication is that clients cannot just hand over outsourcing arrangements to providers and count on providers for high quality of service, rather, they should execute controls using well-designed processes, tools or technologies. This is consistent with what have been proposed in the prior literature (e.g., Feeny and Willcocks 1998; Sanders et al. 2007).

6.1.3 Mediating Effect of Service Quality

Another contribution of this study is that it affirms the mediating effects of service quality on the relationships between three provider's capabilities and economic benefits. Previous studies have proposed that service quality may act as an intervening factor in influencing outsourcing performance (Chakrabarty et al. 2008; Grover et al. 1996). Grover et al. (1996) examine the moderating effect of service quality on the relationship between degree of outsourcing and

outsourcing success in ITO. They conclude that service quality directly influence outsourcing success rather than act as a moderator. Chakrabarty et al. (2008) propose that service quality may act as the mediator between relationship quality and user satisfaction in BPO but they don't empirically test it. In addition, many previous studies have argued that provider's human resource management capability (e.g., Lacity et al. 2004; Rao et al. 2006), risk management capability (e.g., Narayanan et al. 2011) , and innovativeness (e.g., Willcocks et al. 2013) are critical to realize expected client's economic benefits. Furthermore, prior work has also empirically confirmed that service quality can help clients achieve better business values (Rajeev and Vani 2009). In this study, we argue that service quality mediates the relationships between provider's capabilities and client's economic benefits. That is, in the presence of service quality, the direct effects of the three provider' capabilities on client's economic benefits become less significant or even insignificant.

As shown in Table 24 and Figure 5, when considering economic benefits as the dependent variable and the three provider's capabilities as the only predictors, all of them have positive effects on economic benefits. They together explain 35.10% variances of economic benefits. Similarity, when considering service quality as the dependent variable and the three provider's capabilities as the predictors, all of them affect service quality significantly and positively. They together explain 64.70% variances of service quality. Yet, when considering the impacts of the three provider's capabilities and service quality together on economic benefits, the effects of the three provider's capabilities become insignificant. Service quality alone explains 40.60% variances of economic benefits, more than the variances explained by the three provider’s capabilities. These results, taken together, indicate that service quality fully mediates the relationships among provider's capabilities (i.e., provider's human resources management capability, provider's risk management capability, and provider's innovativeness) and economic benefits. That is to say, provider's capabilities don't influence economic benefits directly, rather, they influence it through service quality.

6.1.4 Comparing Client's and Provider's Perspectives

Our results also suggest that clients and providers view the relationships in our research model differently, a finding that fills a gap of lacking comparative studies in IS literature (Dibbern et al. 2004).

***Main Effects*.** As seen in Figure 7, from client's perspective, service quality of provider is determined by provider's human resources management capability, provider's risk management capability, provider's innovativeness, and relational governance. Client's provider management capability and contractual governance don't have significant impacts on service quality delivered by providers. These factors explain 74% variances of service quality. Economic benefits realization of clients is determined by two governance mechanisms (relational and contractual), client's provider management capability, and also provider's service quality. These three provider's capabilities do not affect client's economic benefits directly. Two governance mechanisms and client's provider management capability along with service quality explain 55.30% variances of economic benefits. These findings are pretty consistent with the findings of our entire sample.

In contrast, as shown in Figure 8, from provider's perspective, service quality is also determined by the three provider's capabilities and relational governance. They together explains 67.5% variances of service quality. However, economic benefits realized by clients rely more on the two governance mechanisms. Provider's service quality doesn't have significant effect on economic benefits of clients, neither does client's capability to manage providers. The two governance mechanisms explain 52.8% variances of economic benefits.

Interaction Effects. Our results of client informants support two hypothesized interaction effects. These two are interaction between relational governance and provider's human resources management capability and interaction between contractual governance and provider's innovativeness. When examining the hypothesized interaction effects with provider informants, none of the hypothesize interaction effect was supported. Interestingly, the un-hypothesized interaction between client's provider management capability and provider's innovativeness has

significant and marginally significant effect on service quality from client's and provider's perspectives respectively. Figure 10 depicts the interaction effects.

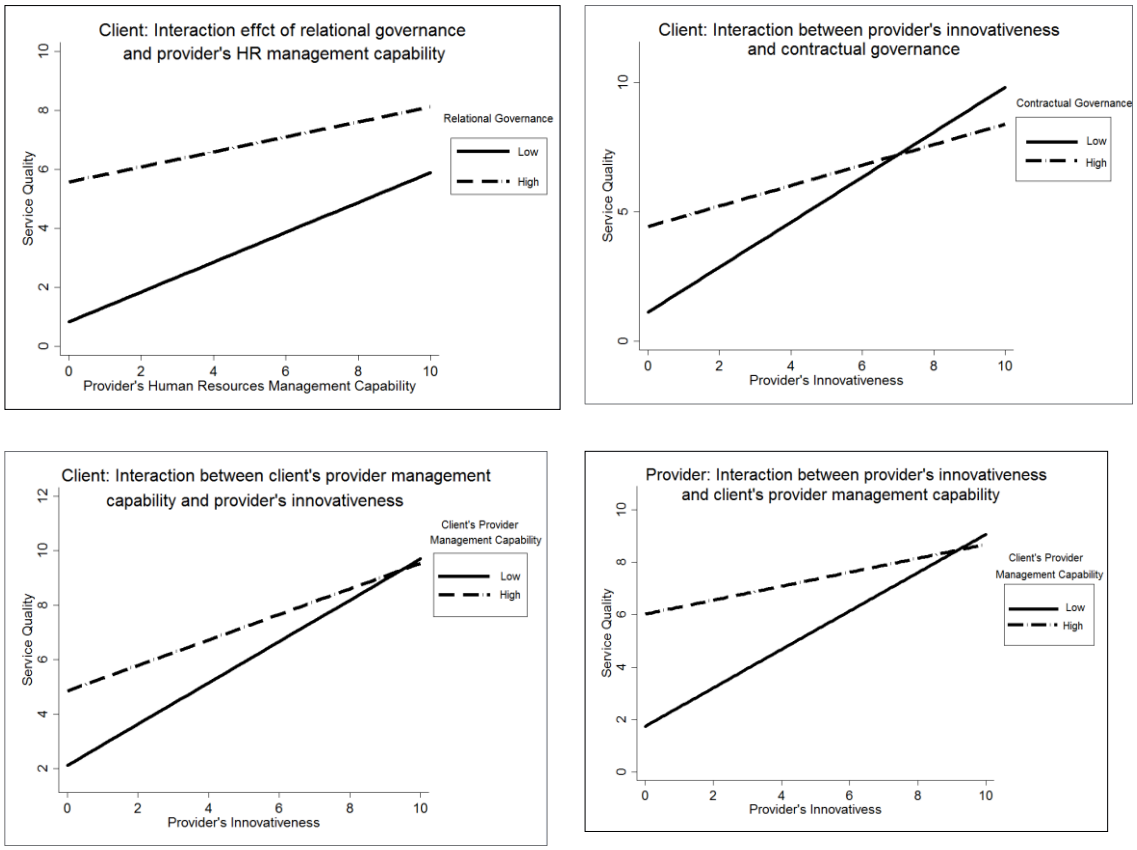


Figure 10: Significant Interaction Effects from Client's and Provider's Perspectives

Overall, the comparison of findings from client's and provider's perspectives suggests that from client's view, service quality depends on provider's capabilities and relational governance. Also, client's provider management capability plays a significant role in achieving expected economic benefits. However, from provider's view, they consider that service quality largely depends on their own capabilities and economic benefits relies on governance mechanisms. They don't think client's provider management capability influence either of outsourcing outcome, yet, they do agree that client's provider management capability can moderate the relationship between provider's innovativeness and service quality. In the presence of strong client's capability, providers are more likely to deliver better service quality.

6.2 Implications

6.2.1 Theoretical Implications

Our findings have a number of significant theoretical implications for understanding outsourcing performance, more specifically, for our understanding of effective governance to achieve high performance in ITO and BPO. ***First***, this study is the first attempt to conceptually and empirically investigate the relationships between capabilities and governance mechanisms. Conceptually, we develop a framework to measure client's provider management capability, three provider's capabilities, and contractual and relational governance based on IS literature and best practices of outsourcing industry. Empirically, we validate the measurement model of capabilities and governance mechanisms, and tested their relationships using the survey data collected from outsourcing practitioners. ***Second***, our results indicate that a set of capabilities and governance mechanisms are predictive of provider's service quality and client's economic benefits, two most important outcome variables in outsourcing literature (Grover et al. 1996; Jiang et al. 2000). ***Third***, we find that the significant positive effects of client's and provider's capabilities on outsourcing performance attenuate in the presence of strong governance mechanisms. The investigation of interaction effects fills the gap of lack of studies on interactions in IS literature (Karimi-Alaghehband et al. 2011; Lacity et al. 2011b). In addition, these interaction effects contribute to our theoretical understanding of outsourcing performance, offering richer insights of how clients and providers should design their governance mechanisms with capabilities in order to achieve high ITO and BPO performance. ***Fourth,*** our results also reveal that provider's capabilities don't affect client's economic benefits directly. Rather, they affect it through quality of their services. ***Last,*** the comparison of findings from client informants and provider informants suggest that clients and providers view the independent and joint effects of capabilities and governance mechanisms on outsourcing performance differently.

6.2.2 Implications for Practitioners

This study also provides significant implications for outsourcing practitioners including clients, providers, and advisors. ***First***, this study highlights those capabilities and governance mechanisms that are important to achieve better service quality and assist in realizing client's economic benefits, including provider's human resources management capability, provider's risk management capability, provider's innovativeness, client's provider management capability, contractual governance, and relational governance. Thus, clients and providers can focus on developing these capabilities, improving controls, and fostering better relationships to achieve high ITO or BPO performance.

Second, this study informs outsourcing practitioners *how* client's and provider's capabilities interact with governance mechanisms in influencing outsourcing performance. This provides insights for them to effectively design governance mechanisms in the presence of client's and provider's capabilities. When providers have poor capabilities, strong governance mechanisms should be in place for the purpose of achieving expected outcomes. For instance, when providers have poor human resources management capability, strong relational governance may help clients achieve desired level of services. Likewise, when provider's innovativeness is low, clients can provide some incentives for providers to deliver high quality of service. In addition, when clients and providers already have a well-specified contract in place, clients can invest less in developing their skills to manage providers. By doing this, clients can switch their focus to internal core activities.

Third, this study examines relationships in the research model from both client's and provider's perspectives. From client's view, the success of an outsourcing arrangement should get both clients and providers involved and have strong governance mechanisms in place. On the other hand, from provider's view, high quality of services are primarily dependent on them and governance mechanisms such as appropriately designed contracts, a long-term and healthy relationship can ensure client's economic benefits realization. In an outsourcing arrangement, it is always important to understand the opinions or thoughts of the other party. Our findings provide

insights for clients and providers to better understand each other. Through better communication and understanding, providers can deliver better services and clients can improve their management on the outsourcing arrangements.

Last, this study also highlights that provider's business risk has significant negative effects on service quality and economic benefits. Therefore, providers should have certain strategies in place to reduce the level of business risks. They can move their services to locations where have stable business environment and infrastructures. Similarly, clients should carefully select outsourcing destination as well as providers. Clients should look for providers who have sound financial status and good reputation and outsourcing destination that has stable political environment and attractive financial policies.

6.3 Limitations and Future Directions

This study has some limitations that need caution and we discuss them below. First, this study is limited by an inability to design and develop survey instruments to measure constructs in the research model. The measurement model of constructs is identified from a secondary dataset from outsourcing practitioners. We determine the measurement model of constructs in two steps: exploratory factor analysis (EFA) and cross coding. We use EFA to identify the number of components in the dataset. Then we read the survey questions in the VHCS carefully to categorize them into different components. Based on the results of EFA and cross coding, we identify the measurement items of client's provider management capability, provider's human resources management capability, provider's risk management capability, provider's innovativeness, service quality, economic benefits, and business risk. When using a secondary data set, we are unable to create our own survey instruments. Thus, for some constructs, we only have two measurement items, for instance, provider's innovativeness and business risk. However, the industry data in our study are especially important and valuable, given the fact that firms purchase licenses to take the

survey. Accordingly, they may provide more real and accurate information about their outsourcing arrangements.

Second, the majority of the participating firms in our data are large-cap firms and primarily from the United States. Results of our study would surely be more insightful if we can incorporate small and mediums firms from other countries into our study. Therefore, future research can further advance our understanding by investigating small and mediums firms outside the United States.

Third, we only consider one client's capability in this study due to the limitation of secondary data. Previous studies have identified other important client's capabilities in ITO and BPO such as client's cultural distance management capability, client's technological and methodological capability, and client's risk management capability (see Lacity et al. 2010; Lacity et al. 2011a). Future work is needed to examine the role of other critical client's capabilities in outsourcing arrangements.

Fourth, this study examines the moderating effects of contractual and relational governance at the broad level. We don't investigate how contractual governance factors such as goal expectations and contractual flexibility (Rai et al. 2012), and relational governance factors such as trust and conflict resolution (Goo et al. 2009; Rai et al. 2012) affect the relationships between client's and provider capabilities and outsourcing performance. Future research would add values to IS literature by examining the moderating effects of contractual and relational governance factors using a granular approach (Tiwana 2010).

Last, we examine the main effects and interaction effects of capabilities and governance mechanisms at a single point in time. Prior literature has argued that outsourcing relationship is dynamic and evolving (Whitley and Willcocks 2011). There is a learning curve existing for both clients and providers. For example, at the initial phase of outsourcing, involved parties tend to use more contractual governance. They manage the outsourcing relationship based on SLAs and focus on costs. However, as they get mature and learn more from their experience or mistakes, they begin to use more relational governance. Thus, contractual governance may play more critical role than

relational governance in influencing service quality at the initial stage of outsourcing arrangement. Longitudinal studies in the future can provide insights to understand the dynamic and evolving nature of outsourcing relationship.

6.4 Conclusion

Our study is the first attempt to incorporate capabilities and governance mechanisms into a research model and empirically test their main effects and interaction effects on outsourcing performance. This provides a holistic and robust view of an outsourcing relationship (Goo et al. 2009). *First*, our results suggest that capabilities and governance mechanisms affect service quality and economic benefit differently. In particular, service quality is determined by provider's human resources management capability, provider's risk management capability, provider's innovativeness, and relational governance, while economic benefits is determined by contractual and relational governance, client's provider management capability, and service quality. *Second*, our findings indicate that governance mechanisms negatively moderates the relationships between capabilities and outsourcing performance. More specifically, we find that in the presence of strong relational governance, the positive effects of three provider's capabilities (provider's human resources management capability, provider's risk management capability, provider's innovativeness) on service quality are reduced. Similarly, in the presence of contractual governance, the positive effect on provider's innovativeness on service quality is also reduced. In addition, in the presence of contractual governance, the positive effect of client's provider management capability on economic benefits decreases. *Third*, our findings reveal that service quality fully mediates the relationships among the three provider's capabilities and economic benefits. That is, provider's capabilities do not affect client's economic benefits directly, instead, they affect it through service quality. *Fourth*, our results also indicate that clients and providers perceive the relationships between determinants (i.e., capabilities and governance mechanisms) and outsourcing performance (i.e., service quality and economic benefits) differently. This is consistent with the call made by Dibbern et al. (2004)

to conduct more comparative studies in IS outsourcing. Overall, this study contributes to IS literature as well as to practical outsourcing management. It suggests that management strategies that appropriately configure capabilities with governance mechanisms may be particularly effective for outsourcing governance.

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