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VENDOR FIRM CHARACTERISTICS AND BUYERS' PERCEPTIONS OF  
TRANSACTION COSTS AND RELATIONSHIP GOVERNANCE

by

Imran M. Khan

A Dissertation

Presented in Partial Fulfillment of Requirements for the  
Degree of Doctor of Business Administration  
in the  
Coles College of Business  
Kennesaw State University

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**Coles College of Business  
Doctor of Business Administration**

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## DEDICATION

*To my beloved Parents and dearest Grandma who instilled in me the values of hard work, commitment, and quest for knowledge*

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## ABSTRACT

### VENDOR FIRM CHARACTERISTICS AND BUYERS' PERCEPTIONS OF TRANSACTION COST AND RELATIONSHIP GOVERNANCE

by  
Imran M. Khan

The utilization of outsourced business services continues to grow as organizations focus on core competencies. Outsourced services span the gamut from financial services to information processing to engagement of third party logistic services by enterprise customers. When outsourcing business services, organizational buyers often have to select from a plethora of small, mid-sized, and large vendors that offer competing services at comparable prices. Given this choice conundrum, what factors influence buyers' perceptions of vendors and their capacity to deliver expected value?

The current research integrates three distinct, yet related, theoretical streams including transaction cost, vendor selection, and buyer-seller relational exchange in studying how vendor firm attributes affect buyers' perceptions of the vendor as well as their willingness-to-engage in a particular type of relationship exchange with the vendor. Two separate, but conceptually-related essays are offered to add some clarity to variables influencing vendor assessment and selection. Essay 1 introduces vendor firm attributes as antecedents to the opportunism and uncertainty constructs thereby extending the transaction cost research. Specifically, Essay 1 examines how vendor firm size and

reputation influence organizational buyers' a priori perceptions of vendor opportunism and uncertainty.

Essay 2 examines the influence of buyers' opportunism and uncertainty perceptions on their relationship governance choices. Concomitantly, Essay 2 studies how opportunism and uncertainty perceptions on the part of the buyer mediate the relationship between vendor firm characteristics and buyers' willingness-to-engage in contractual and relational exchange/governance with a given vendor.

A panel of IT buyers, across various industries, was surveyed to determine the impact of vendor attributes on buyers' perceptions of opportunism and technological uncertainty associated with the vendor. In addition, the survey also tested the relationship between buyers' perceptions of vendor opportunism and uncertainty and their willingness-to-engage in legal contracts/bonds and relational exchange with the vendor. Results support the linkages between vendor firm reputation and buyers' perceptions of opportunism and technological uncertainty. Moreover, a direct linkage was found between vendor firm reputation and buyers' relationship preferences. Implications are discussed along with limitations and areas of future research.

**Keywords:** *transaction cost, relational exchange, buyer-seller relationships, opportunism, uncertainty, information sharing, idiosyncratic investments, asset specificity, behavioral uncertainty, environmental uncertainty, technological uncertainty, legal bonds, contracts, outsourcing*

## TABLE OF CONTENTS

Dedication.....	iv
Acknowledgements.....	v
Abstract.....	vii
Table of Contents.....	ix
List of Tables.....	xi
List of Figures.....	xii
Chapter 1: Introduction.....	13
Chapter 2: (Essay 1): Effects of Vendor Firm Size and Reputation on.....	27
Buyers' Perceptions of Opportunism and Uncertainty	
Abstract.....	27
Introduction.....	29
Background Literature.....	33
Hypotheses Development.....	47
Methodology.....	57
Results.....	63
Discussion and Implications.....	68
Limitations.....	72
Future Research.....	73
Conclusion.....	74
References.....	76
Chapter 3: (Essay 2): Influence of Opportunism and Uncertainty.....	86
on Buyers' Relationship Governance Choices	
Abstract.....	86
Introduction.....	88
Background Literature.....	90
Hypotheses Development.....	96
Methodology.....	103
Results.....	108

Discussion and Implications.....	118
Limitations.....	122
Future Research.....	123
Conclusion.....	124
References.....	129
Appendix-I Summated References.....	135
Appendix-II Measures.....	151

## LIST OF TABLES

### Chapter 2: Effects of Vendor Firm Size and Reputation on Buyers’ Perceptions of Opportunism and Uncertainty (Essay 1)

#### Table

2.1 Respondent Profile.....	60
2.2 Scale Reliability Results.....	65
2.3 Convergent Validity Results.....	66
2.4 Discriminant Validity Results.....	66
2.5 Summary of Hypotheses Results.....	68

### Chapter 3: Influence of Opportunism and Uncertainty on Buyers’ Relationship Governance Choices (Essay 2)

#### Table

3.1 Respondent Profile.....	105
3.2 Scale Reliability Results.....	109
3.3 Convergent Validity Results.....	110
3.4 Discriminant Validity Results.....	111
3.5 Results for Model A.....	113
3.6 Results for Model B.....	115
3.7 Results for Model C.....	117
3.8 Summary Overview of Constructs in Essay 1.....	126
3.9 Summary of Linkages Examined in Essay 1.....	127
3.10 Summary Overview of Control Variables in Essay 1.....	128

## LIST OF FIGURES

### Chapter 1: Introduction

#### Figure

1.1 Summary Research Model.....	23
---------------------------------	----

### Chapter 2: Effects of Vendor Firm Size and Reputation on Buyers’ Perceptions of Opportunism and Uncertainty (Essay 1)

#### Figure

2.1 Research Model.....	33
-------------------------	----

### Chapter 3: Influence of Opportunism and Uncertainty on Buyers’ Relationship Governance Choices (Essay 2)

#### Figure

3.1 Research Model.....	93
-------------------------	----

## CHAPTER 1

### Introduction

The market for outsourced business services continues to expand (Duan, Grover, & Balakrishnan, 2009; Gholami, 2012; Lacity, Solomon, Yan, & Willcocks, 2011) as organizations focus on their core competencies and rely increasingly on outsourcing service providers to provide non-core, yet mission-critical services. The growth of outsourced services is well-documented in many industry studies. For instance, a recent study by Global Industry Analysts (GIA, 2011) shows that the global business process outsourcing market is expected to reach \$280.7 billion by 2017. Others such as Gartner Group (2011) estimate the worldwide market for outsourced information technology services to reach \$983 billion in 2015, a figure that is larger than the GDP of countries such as Greece, Hong Kong, Indonesia, Singapore, Sweden, Switzerland, Saudi Arabia, and many others according to the World Bank (2011).

In that regard, organizations are outsourcing a range of functional activities including, but not limited to, manufacturing, advertising, payroll, and public relations. The definition of *outsourcing* is rather broad in that it refers to the purchase of any goods or services by an organization from an outside firm (Gilley & Rasheed, 2000). Outsourcing offers firms a range of advantages including reduction in capital and operating expenditures, faster time to market, and savings in human resource-related costs (Ang & Straub, 1998). Within manufacturing, for instance, outsourcing allows

firms to take advantage of lower labor costs in less-developed countries. Similarly, in the financial services sector, outsourced call centers enable organizations to offer cost-effective, around the clock customer support to their banking customers.

While the outsourcing phenomenon has existed for decades, the degree of outsourcing has escalated specifically within the information and communications technology (IT) sector (Bhali & Rivard, 2003; Gholami, 2012; Wang, 2002).

Outsourcing of IT enables firms to leverage state-of-the art, ubiquitous networks capable of delivering reliable and cost-effective services. Moreover, IT outsourcing provides firms with access to advanced services such as cloud computing, data centers, network security, and many other applications that otherwise would require significant internal investments in infrastructure. Growth of outsourcing has essentially reshaped the historical “make or buy” debate into one that focuses on vendor evaluation and selection, a process that is just as integral as the outsourcing decision itself (Cao & Wang, 2007). In addition, outsourcing of various functions to overseas service providers has further added to the complexity of selecting and managing offshore vendors (Tate, Ellram, & Brown, 2009).

Given the strategic significance of outsourcing decisions, it is incumbent upon scholars and practitioners to identify and understand which vendor firm attributes affect buyers’ perceptions of overall costs, particularly transaction costs. Such an understanding is crucial as it influences various organizational processes and outcomes, including the buyers’ vendor evaluation and selection process as well as the ability of outsourcing providers to win business.



## Background Literature

The expansion of outsourced services has attracted the attention of scholars from various schools of thought, including transaction cost analysis (TCA), agency theory, service quality, and buyer-seller relational exchange scholars (e.g., Cannon & Perreault, 1999; Mahaney & Lederer, 2011; Niranjana & Metri, 2008; Tiwana & Bush, 2007; Williamson, 2008). In fact, TCA, the conceptual focus of this paper, constitutes the predominant foundation for outsourcing research as can be evidenced from the large number of outsourcing studies employing various TCA constructs (Bhali & Rivard 2003; Lonsdale, 2001; Stump & Heide, 1996; Wang 2002). Similarly, buyer-seller relationship literature is rife with discussion of organizational outsourcing arrangements, thereby rendering it pertinent to this research (Cannon and Homburg, 2001; Hawkins, Knipper, & Strutton, 2009; Kalwani & Narayandas, 1995).

Transaction cost theory, originally proposed by Coase (1937) and then developed upon by Williamson (1975), examines the efficacy of performing a particular transaction internally versus externally (Geyskens, Steenkamp, & Kumar, 2006). In that regard, TCA evaluates the benefits and disadvantages of outsourcing vis a vis in-house development of a product (Ang & Straub, 1998; Bhali & Rivard, 2003; McNally & Griffin, 2004). TCA research shows that while in-house product development allows for better governance mechanisms and control over operations (Rindfleisch & Heide, 1997), outsourcing provides firms with significant cost advantages and faster time to market (MacFarlan & Nolan, 1995). Moreover, outsourcing can also expose the buyer to a variety of risks including unreliable service, lock-in agreements that eliminate organizational flexibility to switch vendors, and potential litigation costs (Bhali &

Rivard, 2003).

In addition, outsourcing can lead to the creation of potential competitors as is evidenced from the ongoing battles over intellectual property rights between many technology firms such as Apple, Inc. and Samsung. Although Apple has utilized Samsung as a provider of components for its smartphones and other computing devices, its lawsuits asserted that Samsung copied and incorporated Apple's product design and many of its features in its mobile communications products (Bosker & Grandoni, 2012; Wingfield, 2012). Given the range of risks, from the buyers' perspective, the decision to outsource is rather critical in that they not only have to select which organizational tasks/functions to outsource but also to whom (Foxy, Bunn, & McCay, 2009).

Within the transaction cost research framework, both vendor opportunism and uncertainty have been identified as conditions favoring hierarchical governance over market arrangements (Rindfleisch & Heide, 1997; Wathne & Heide, 2000), e.g., in-house development of products and services as opposed to outsourcing. *Opportunism* is defined as "self-interest seeking with guile" by Williamson (1975) and can include behaviors such as cheating, misleading, and shirking. *Uncertainty* is generally defined along two dimensions by TCA researchers: behavioral and environmental uncertainty (McNally & Griffin, 2004). *Behavioral uncertainty* is related to the inability of the buyer to anticipate and accurately assess the post-contractual behavior of the supplier (Aubert, Patry, & Rivard, 1998; Rindfleisch & Heide, 1997). *Environmental uncertainty* includes changes in industry conditions such as demand fluctuations, technological requirements, etc., that would require potential amendments to the contracts (Balakrishnan & Wernerfelt, 1986; Walker & Weber 1984).

In an outsourcing arrangement, vendor opportunism and uncertainty often serve as antecedents that influence several important buyer-seller relationship outcomes such as cost and quality (Wathne & Heide, 2000). For instance, opportunism is shown to have a negative influence on a buyer's level of trust and commitment to a supplier (Mysen, Svensson, & Payan, 2010). Similarly, evidence exists that vendor opportunism can hinder the success of an outsourcing project (Wang, 2002). Moreover, higher opportunism risk forces firms to expend resources on developing and employing effective vendor monitoring and control mechanisms thereby leading to higher opportunity costs (Wathne & Heide, 2000).

The incidence of vendor opportunism is likely to be high in many buyer-seller exchanges given the significant competitive pressures faced by suppliers in a range of industries (Hadfield 1990; Murry & Heide, 1998; Phillips, 1982). Also, greater focus on long-term outsourcing contracts as well as relationship-specific investments among buyers and sellers further lead to lock-in conditions that generally foster opportunism (Lonsdale, 2001). Opportunism is likely to be a threat specifically in high-tech industries where both buyers and sellers of hardware components, software, and services often compete for the same customer. For instance, while Google competes with Apple in the mobile phone market, Google was also the supplier of various critical applications to Apple, Inc., such as Google Maps. Apple's eventual decision to develop its own Maps application for its iPhone and iPad devices largely stemmed from Google's unwillingness to continue to make timely improvements to the application for devices that ran Apple's operating system (Hardy, 2012). Google, however, continued to improve the application for its Android-based mobile operating systems marketed by Apple's rivals.

Likewise, while Microsoft marketed its Windows mobile operating system to various device manufacturers such as Samsung, the company also competed directly with Samsung and others in the tablet computing device market via its Surface tablet. Similar examples exist across other industries such as telecommunications services, whereby wireless operators often engage in purchasing network access from each other, hence exposing them to the risk of partner/supplier opportunism.

Behavioral uncertainty essentially renders it difficult for the buyer to assess whether the vendor has performed according to terms of the contract (Geyskens et al., 2006). Environmental uncertainty, on the other hand, can have a negative impact on the willingness of a firm to outsource (Paulraj & Chen, 2007). In addition, higher degree of behavioral and environmental uncertainty would force the buyer to either make contractual adjustments and or invest in robust monitoring systems to protect against uncertainty (Bhali & Rivard 2003; Crosno & Dahlstrom, 2008; Hawkins et al., 2009; Mysen et al., 2010). Consistent changes to existing contracts as well as investments in monitoring systems can increase a buyer's overall operating costs. The inability of the buyer to evaluate vendor performance has been shown to influence the proclivity of a vendor to engage in opportunistic behavior (Anderson, 1988; Rindfleisch & Heide, 1997). Behavioral uncertainty is also positively related to the willingness of the buyer to use in-house resources (as opposed to outsourcing) as well as having full ownership of foreign operating subsidiaries rather than using joint ventures or alliances (Anderson & Schmittlein, 1984; Gatignon & Anderson, 1988).

Environmental uncertainty, specifically higher risk of technological obsolescence, is shown to negatively influence organizational buyers' vertical integration decision

(Balakrishnan & Wernerfelt, 1986). In addition, both behavioral and environmental uncertainties serve as precursors to opportunism (Mysen et al., 2010). Furthermore, uncertainty and opportunism also encourage organizations to seek in-house development or backsource (bring back in-house) activities that have previously been outsourced thereby negatively affecting vendor revenues or their ability to win new business (Whitten & Leidner, 2006). Current TCA research has focused on the behavioral (opportunism) as well as transaction-related attributes (uncertainty). There is a general lack of emphasis on analyzing how vendor firm attributes influence buyers' perceptions of opportunism and uncertainty as both these variables influence overall transaction costs (Williamson, 1975). Similarly, buyers' negative perceptions can constrain the ability of an outsourcing vendor to win business.

Agency theory has also been utilized to study contractual arrangements within an outsourcing context. Agency relationships, as defined by Jensen and Meckling (1976, p. 308) are formed "when one party (principal) engages or contracts another party (agent) to perform a particular task(s) on their behalf and that the task involves assigning of or transferring some decision-making authority from the principal to the agent." The general premise of agency theory is that the principal and the agent have conflicting goals and while the principal is risk neutral, the agent is generally risk-averse (Godfrey & Hill, 1995). The inability of the principal to effectively monitor agent behavior further adds to the agency problem (Eisenhardt, 1989).

Two key variables in agency research include moral hazard and information asymmetry (Fama, 1980). *Moral hazard*, which is similar to the opportunism concept in TCA research, involves shirking on the part of the agent in that he or she may seek to

safeguard personal interests which may be in conflict with the interests of the principal. *Information asymmetry* is defined as the inability of the principal to monitor agent's behavior including before and during the contract term (Eisenhardt, 1989). The information asymmetry, whereby one party to an exchange has more information than the other, that exists between buyers and sellers further complicates vendor selection in that it can lead to adverse selection as well as higher monitoring costs for the buyer (Eisenhardt, 1989). Within an outsourcing context, the potential of moral hazard and information asymmetry are identified as key variables that influence the decision of the principal to engage in a particular governance mechanism, i.e., behavioral vs. outcome-based contracts. Combined, moral hazard and information asymmetry can influence various outcomes associated with an outsourcing relationship including cost, quality, and customer support.

Although transaction cost as well as agency theory researchers have studied inter-organization outsourcing arrangements (Dawson, 2002; Mahaney & Lederer, 2011; Whitten & Leidner, 2006), there exists a research gap regarding the influence of vendor firm characteristics on buyers' perceptions of vendor opportunism and uncertainty. Alternatively, traditional transaction cost and agency theory literature streams have not considered the impact of vendor firm attributes such as size and reputation on transaction cost variables of opportunism and uncertainty. Understanding of these linkages is crucial for scholars and practitioners alike given the continuing increase in outsourcing activity and the presence of a wide array of vendor types offering comparable value propositions.

For academicians, the linkages between vendor firm attributes and transaction cost variables essentially connect transaction cost research to the vendor selection

literature. In that regard, while both agency and transaction cost literatures have proposed a variety of vendor governance mechanisms, they have failed to study whether vendor firm attributes serve as antecedents to the core variables (opportunism and uncertainty) that affect governance choices. From practitioners' perspective, it is important to understand the relationship between vendor firm attributes and buyers' perceptions of opportunism and uncertainty, as such knowledge can assist in outsourcing vendor evaluation processes.

Within the relational exchange and vendor selection literature streams, various scholars have studied the influence of variables such as vendor size, mutual trust, commitment, long-term orientation, reputation, cost, quality, information exchange, and relationship-specific investments on buyer-seller relationships (Kwon & Suh, 2004; Macneil, 1980; Morgan & Hunt 1994; Ono & Kubo, 2009; Pearson & Ellram, 1995; Petroni & Braglia, 2000). Most of these studies, however, do not incorporate the impact of vendor firm attributes on buyers' perceptions of vendor opportunism and uncertainty. For instance, while Kwon and Suh (2004) studied the influence of variables such as behavioral uncertainty on buyers' level of trust and commitment, their research did not incorporate how vendor size may affect uncertainty perceptions of the buyer.

Similarly, while Ganesan (1994) identified various determinants of long-term orientation in buyer-seller relationships, the research lacked in studying whether vendor firm size affects the long-term orientation of the supplier. Large and small vendors enjoy varying perceptions, on the part of the buyer, with regard to their operational capabilities. For instance, while small vendors are often cited as having short-term orientation (Larson, Carr, & Dhariwal, 2005), long-term relationships or lock-in agreements with

large vendors can expose the buying firm to the risk of opportunism (Wathne & Heidi, 2000).

Other vendor selection research has mainly focused on studying the influence of variables such as cost, quality, customer satisfaction, and delivery reliability (Hsu, Kannan, Leong, & Tan, 2006; Petroni, 2000; Sarkis & Talluri, 2002) on the likelihood of purchase from a particular vendor. This research stream has largely excluded vendor opportunism and uncertainty from the vendor evaluation criteria despite the fact that both these variables can have a direct influence on many vendor evaluation metrics such as cost, quality, and reliability. Given that opportunism and uncertainty impact many outcomes in buyer-seller relationships, it is important to understand how the incidence of opportunism and uncertainty aligns with small vs. large outsourced solution providers.

Overall, the monumental growth of outsourced business services has essentially rendered the make-or-buy and the markets vs. hierarchies' debate rather obsolete in that outsourced services have become an integral component of organizational success. Specifically in the case of information technology (IT) services, fewer organizations are inclined to develop in-house solutions due to a variety of reasons such as lack of expertise, risk of technological obsolescence, and higher capital as well as operating expenses associated with such initiatives. The cost efficiencies inherent in outsourcing are the leading drivers behind greater demand for such services (MacFarlan & Nolan, 1995).

When purchasing outsourced business services, it is likely that an organization is more concerned with transactions that reduce overall costs in comparison to those providing better governance mechanisms (Nooteboom, 1992). This further creates the

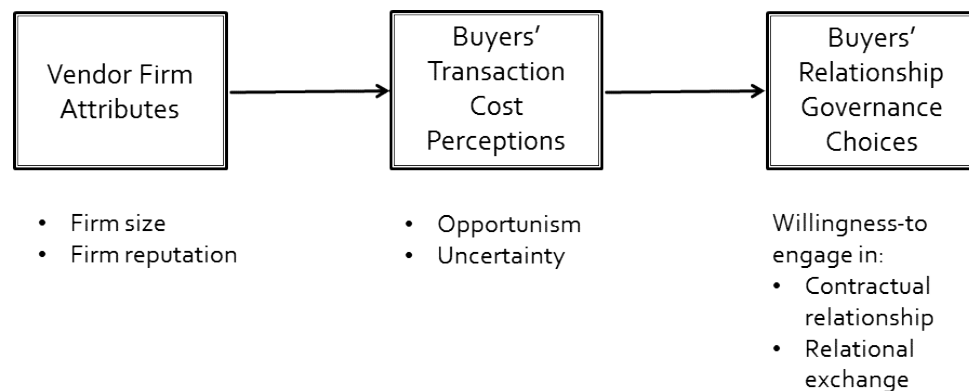


need for repositioning the historical make-or-buy debate to one that also takes into consideration vendor firm attributes and their impact on organizational buyers' perceptions of transaction costs as well as their relationship choices with a vendor.

### Purpose and Contribution

This research integrates three distinct, yet related, theoretical streams including transaction cost, vendor evaluation, and relational exchange in studying how vendor firm attributes affect buyers' perceptions as well as their willingness-to-engage in an exchange with the vendor. Figure 1.1 offers the summary research model.

Figure 1.1: Summary Research Model



In doing so, this research fills several conceptual and managerial gaps associated with these three streams. First, existing TCA research has focused on transaction attributes to predict make-or-buy decisions and has not taken into account how vendor firm attributes influence buyers' perceptions of overall transaction costs once the decision to outsource has been made. Second, vendor evaluation research fails to include opportunism and uncertainty as part of the vendor evaluation criteria given that both variables can impact many outcomes in a buyer-seller exchange. Lastly, the relational exchange literature has also ignored how vendor firm characteristics affect buyers'

perceptions of vendor opportunism and uncertainty and how these perceptions influence buyers' willingness-to-engage in a relational exchange with a potential vendor.

Essay 1 focuses on studying how vendor firm attributes influence perceived degree of opportunism and uncertainty on the part of the buyer as such perceptions can impact the ability of a vendor to win outsourcing business. Essay 1's first contribution is that it introduces vendor firm characteristics, size and reputation, as antecedents to the fundamental transaction cost constructs of opportunism and uncertainty within the context of outsourced business services. Current TCA research mainly focuses on asset specificity and bounded rationality as antecedents of supplier opportunism and uncertainty within the context of outsourced manufacturing and or production-related activities (Anderson & Weitz, 1992; Hawkins et al., 2009; Lonsdale, 2001; Stump & Heide, 1996; Wang, 2002). Existing TCA research lacks analysis on the impact of vendor firm characteristics on buyers' perceptions of vendor opportunism and uncertainty with regard to outsourced business services.

Both vendor firm size and reputation have been used by a variety of vendor selection and buyer-seller relationship scholars (Carmel & Nicholson, 2005; Cannon & Perreault, 1999; Doney & Cannon, 1997; Homer, 1985; Pearson & Ellram, 1995). Supplier firm attributes such as size and reputation have been shown to influence buyers' perceptions of vendor capability, trustworthiness, and commitment, (Larson et al., 2005; Doney & Cannon, 1997). Similarly, empirical research shows that higher potential vendor opportunism and uncertainty often encourage in-house product/service development as opposed to outsourcing of such activities (Wathne & Heide, 2000). By linking vendor firm characteristics to buyers' perceptions of opportunism and

uncertainty, Essay 1 extends the traditional transaction cost perspective beyond make-or-buy and relationship governance decisions to one that involves vendor evaluation.

A second contribution of Essay 1 is that it expands the existing supplier selection and purchasing literature. Both opportunism and uncertainty, while impacting important outcomes in buyer-seller exchanges (Wathne & Heide, 2000), have not been used in vendor evaluation and selection models. In doing so, this research examines whether buyers' perceive the incidence of higher overall transaction costs when purchasing outsourced services from small vs. large vendors. In that regard, Essay 1 further shifts the focus of transaction cost from the make-or-buy and relationship governance debates to one that helps organizations in their vendor selection processes.

Essay 1's third contribution focuses on helping business-to-business service providers identify and understand how vendor firm characteristics affect buyers' perceptions of potential opportunism and uncertainty associated with a vendor. Such an understanding is important from the vendors' perspective as opportunism and uncertainty perceptions can influence buyers' decisions to outsource (Ang & Straub, 1998). Moreover, ex ante perceptions of vendor opportunism and uncertainty can also impact the perceived risk involved in outsourcing (Aubert et al., 1998), hence affecting a vendor's ability to win new business. Furthermore, understanding of buyers' perceptions can also help outsourcing vendors develop and implement marketing mix strategies that aim at improving their overall positioning.

The goal of Essay 2 is to test the influence of buyers' opportunism and uncertainty perceptions on two key outcome variables, i.e., the willingness-to-engage in legal contracts/bonds and relational governance with providers of outsourced IT

services/solutions. Another objective of Essay 2 is to analyze how transaction cost variables of opportunism and uncertainty mediate the relationship between vendor firm attributes and the relationship governance choices of the buyers. Contractual relations between buyers and sellers involve the use of legal bonds whereby each party is obligated to perform certain activities as specified in the contract (Cannon & Perreault, 1999; Platz & Temponi, 2007). A relational exchange, in contrast, may take various forms including joint investment in relationship-specific assets as well as effective and continuous sharing of information among exchange partners (Barringer, 1997).

To date, the relational exchange literature has not incorporated the influence of perceived vendor opportunism and uncertainty on the proclivity of the buyer to engage in a relationship with a particular vendor. In that regard, Essay 2 extends existing relational exchange literature by adding vendor opportunism and uncertainty as antecedents that influence buyers' willingness-to-engage in a relational and contractual exchange with a particular vendor. While opportunism and uncertainty impact many relational exchange outcomes such as trust and commitment (Kwon, 2004; Ono & Kubo, 2009), there is a lack of research examining how these variables mediate the relationship between vendor firm attributes and buyers' willingness-to-engage in relational and or contractual exchange. Overall, current B2B research has not combined transaction cost, vendor selection, and relational exchange theories within the context of outsourced business services.

## CHAPTER 2 (ESSAY 1)

### Effects of Vendor Firm Size and Reputation on Buyers' Perceptions of Opportunism and Uncertainty

#### Abstract

The purpose of this paper is to measure the influence of vendor firm characteristics on organizational buyers' perceptions of overall transaction costs related to B2B services outsourcing. The past two decades have seen a continuing increase in demand for outsourced B2B services. The growth in outsourcing has led to a renewed focus on vendor evaluation and selection criteria since many core and non-core functions that were previously being performed in-house are now being outsourced to domestic and foreign outsourced services providers. Inept vendor selection can have an adverse impact on the financial and operational aspects of an organizational buyer.

While transaction cost researchers have extensively studied outsourcing arrangements, they have failed to study how vendor firm characteristics affect buyers' a priori perceptions of overall transaction costs associated with that vendor. Vendor firm characteristics such as size and reputation are at the core of vendor evaluation and selection research, however, the transaction cost literature has not studied how these variables influence buyers' perceptions of vendor opportunism and uncertainty once the decision to outsource has been made. Similarly, despite the fact that both opportunism and uncertainty influence a variety of outcomes such as trust and commitment in a buyer-

seller exchange, these variables remain absent from the vendor evaluation and selection literature.

This paper combined two research streams in studying how vendor firm size and reputation influence buyers' perceptions of vendor opportunism and uncertainty as they evaluate various outsourced services providers. The hypotheses were tested on a panel of IT buyers across a range of industries. Findings provide support for the linkages between vendor firm reputation and buyers' ex ante or a priori perceptions of opportunism and uncertainty associated with the vendor. Results also provide support for the linkage between opportunism and technological uncertainty. Implications are discussed along with limitations and future research.

*Keywords: transaction cost analysis, IT outsourcing, opportunism, technological uncertainty, vendor reputation, vendor size, B2B services*

## Introduction

The purpose of this paper is to study the influence of vendor firm characteristics on organizational buyers' a priori perceptions of overall transaction costs within a B2B outsourcing services context. Within the organizational markets, the trend toward outsourcing continues to grow as companies focus on core competencies and seek operational cost reductions (Ang & Straub, 1998; Lacity, Solomon, Yan, & Willcocks, 2011). *Outsourcing* is defined as the use of external firms to perform a variety of business functions that otherwise would be performed in-house (Gilley & Rasheed, 2000). Outsourced activities include manufacturing and production as well as utilization of business services including payroll processing, legal services, web designing and hosting, advertising, IT network management, data center services, and many others (Loh & Venkatraman, 1992).

While the degree of outsourcing varies from one firm to another and from one industry to another (Whitten & Leidner, 2006), demand for outsourced business services is expected to continue to grow over the next several years. Gartner Group (2011) estimates the worldwide market for outsourced information technology services to reach \$983 billion in 2015. Improvements in technology, growth in competition, and the continuing movement toward globalization that has led to reduced trade barriers among nations is further spurring utilization of outsourced business services, specifically offshore outsourcing (Shih, 2011; Taylor 2007).

Growth in outsourcing has invited significant attention from both the academic and practitioner communities. Within academia, outsourcing has been studied by a cross-section of scholars spanning the transaction cost, agency, buyer-seller relational

exchange, and service quality research streams (Cannon & Perreault, 1999; Mahaney & Lederer, 2011; Niranjana & Metri, 2008; Richmond, Seidmann, & Whinston, 1992; Tiwana & Bush, 2007; Williamson, 2008). Transaction cost analysis, hereafter TCA, which is the focus of this paper, was originally proposed by Coase (1937) and then significantly improved upon by Williamson (1975). TCA evaluates whether a transaction can be more effectively and efficiently performed in-house or by external firms (Geyskens, Steenkamp, & Kumar, 2006), hence rendering it pertinent to the outsourcing discussion.

The decision to outsource is rather complex in that it requires organizations to not only identify what processes and functions to outsource but also from which vendors (Foxy, Bunn, & McCay, 2009). In that regard, outsourcing organizations often have to choose from among a range of small, medium, and large vendors that vary in their capabilities. Ineffective vendor selection can expose the outsourcing firm to a variety of risks such as loss of control, dependence on vendors/suppliers, and degradation of product/service quality (Bhali & Rivard, 2003). Such risks, when materialized, defeat the very objectives behind outsourcing, i.e., cost savings as the outsourcing firm may find itself making costly post-contractual changes or investing in monitoring systems (Walker & Weber, 1984, Williamson, 1975).

TCA has been employed by a range of scholars to study outsourcing (Bhali & Rivard 2003; Lonsdale, 2001; Stump & Heide, 1996; Wang 2002). However, extant literature has focused only on evaluating the impact of transaction attributes and behavioral factors on an organization's make-or-buy decision. In addition, while TCA researchers (Anderson & Weitz, 1992; Heide & John, 1998; McNally & Griffin, 2004)



have suggested a range of governance mechanisms in inter-firm relations including outsourcing, they have failed to incorporate how vendor firm characteristics influence the decision to employ a specific governance mechanism a priori. In essence, current TCA research has not examined how vendor firm characteristics influence buyers' a priori perceptions of the overall transaction costs associated with a particular vendor.

Vendor firm characteristics such as size and reputation are at the core of most suppliers' evaluation as well as buyer-seller relational exchange research (Carmel & Nicholson, 2005; Doney & Cannon, 1997; Ganesan, 1994; Homer 1985; Pearson & Ellram, 1995). However, TCA researchers have not studied the influence of these attributes on buyers' perceptions of vendor opportunism and uncertainty in an outsourcing arrangement. Similarly, vendor evaluation and selection research has excluded vendor opportunism and uncertainty in its analysis (Dickson, 1996; Hsu, Kannan, Leong, & Tan, 2006; Petroni & Braglia, 2000; Verma & Pullman, 1998).

Understanding of linkages between vendor attributes and buyers' a priori perceptions of opportunism and uncertainty helps purchasers of outsourced services reduce the likelihood of selecting an inept vendor. *Opportunism*, defined as self-interest seeking with guile (Williamson, 1975) and *uncertainty*, defined as inability to anticipate environmental changes and evaluate supplier performance (Rindfleisch & Heide, 1997) are central constructs with the TCA research stream. Both opportunism and uncertainty are shown to influence a range of outcomes such as service quality and costs in an outsourcing arrangement (Wathne & Heide, 2000). Opportunism can emerge in both ex ante (pre-contract) and ex post (post-contract) stages in an inter-firm relationship.

Traditionally, both transaction cost and outsourcing research paths have focused

on ex post opportunism and uncertainty and how they influence the make or buy decision as well as relationship governance mechanisms (Jap & Anderson, 2003; Lonsdale, 2001; Mysen, Svensson, & Payan, 2010; Stump & Heide, 1996; Wang, 2002). The purpose of this paper is to measure the influence of vendor firm characteristics on organizational buyers' a priori perceptions of overall transaction costs related to a particular vendor. Measurement of ex ante or a priori opportunism and uncertainty perceptions can help buyers reduce the risk of adverse selection i.e., the likelihood of engaging in a relationship with a vendor that lacks required capability or commitment (Eisenhardt, 1989). Therefore, by linking vendor firm characteristics to buyers' perceptions of opportunism and uncertainty, this research extends the traditional transaction cost perspective beyond governance mechanisms to one that involves vendor evaluation. A second contribution of this research is that it expands existing supplier selection research as well as the purchasing literature. Both opportunism and uncertainty, while impacting important outcomes in buyer-seller exchanges (Wathne & Heide, 2000), have not been combined with vendor evaluation and selection variables such as size and reputation.

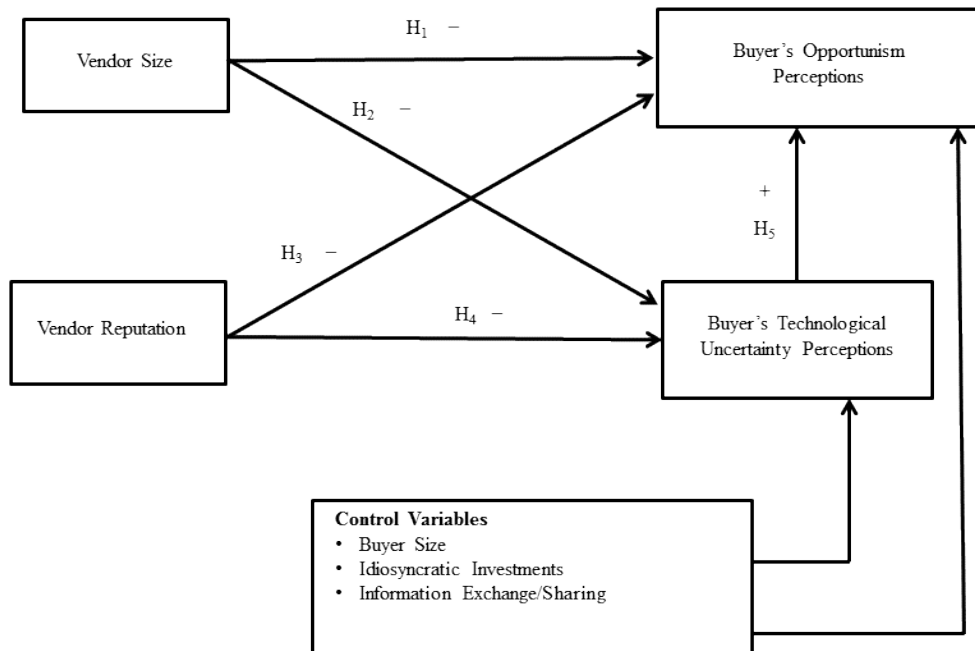
A third contribution of this research focuses on helping business-to-business service providers identify and understand how vendor firm characteristics affect buyers' perceptions of potential opportunism and uncertainty associated with a vendor. From a vendor's perspective, higher degree of opportunism and uncertainty perceptions can influence an organization's decision to outsource (Ang & Straub, 1998; Earl, 1996), thereby reducing vendor revenue growth opportunities. Understanding of buyers' a priori perceptions can also help outsourcing vendors develop and implement marketing mix strategies that aim at improving their overall positioning. Similarly, from a buyer's

viewpoint, effective comprehension of the relationship between vendor firm characteristics and transaction cost constructs of opportunism and uncertainty can provide them with a holistic perspective on vendor evaluation and selection process.

### Background Literature

This section begins with a review of existing research on transaction cost followed by background literature on variables of interest, namely vendor firm size, vendor reputation, opportunism, and uncertainty. The paper then moves on to establish linkages between vendor firm attributes and how they influence buyers' a priori or ex ante (pre-contract) perceptions of vendor opportunism and uncertainty. Figure 2.1 provides the hypothesized model tested in this study.

**Figure 2.1: Research Model**



## Transaction Cost Analysis (TCA)

Transaction cost analysis was initially developed by Coase (1937) but was significantly expanded upon by Williamson (1975). Transaction cost is at the heart of outsourcing as well as inter-firm relational exchange research as is evidenced from extant literature (Heidi, 1994; Hill, 1990; Mysen et al., 2010; Ono & Kubo, 2009; Stump & Heide, 1996; Wang, 2002) in these areas. The basic premise of TCA is whether a particular transaction can be performed more efficiently within an organization or by outside firms (Geyskens et al., 2006), thereby rendering it relevant to the outsourcing phenomenon. TCA's two behavioral dimensions include bounded rationality and opportunism whereas its two transactional dimensions include asset specificity and uncertainty (Rindfleisch & Heide, 1997).

*Bounded rationality* is defined as constraints on decision-makers' cognitive capabilities and limits on their rationality which in turn affect their information processing and communication abilities (Simon, 1957). Within the context of outsourcing, bounded rationality is likely to limit the ability of a buyer to effectively evaluate a vendor a priori as well as assess its post-contractual performance.

*Opportunism* is defined by Williamson (1985) as self-interest seeking with guile and can include behaviors such as lying, cheating, deceit, and violating agreements.

*Asset specificity* refers to assets that are designed for a particular transaction and cannot be easily redeployed outside that relationship by either of the parties (Geyskens et al., 2006). Asset specificity is also referred to as idiosyncratic or relationship-specific investments (Anderson & Weitz, 1992). Williamson (1991) states that assets with a high amount of specificity reflect sunk costs that have little if any value outside a particular

transaction. In inter-firm relationships such as outsourcing, asset specificity or relationship-specific investments increase dependence and eventually expose the buyer or the seller to the risk of opportunism (Heide, 1994). Asset specificity, however, is studied as a control variable in this research given that it has already been shown to influence opportunism.

*Uncertainty*, within the transaction cost literature, is defined along two dimensions, including environmental as well as behavioral uncertainty. Environmental uncertainty involves changes in demand, supply, and technology whereas behavioral uncertainty reflects the inability of a buyer to accurately assess contractual compliance (Rindfleisch & Hiede, 1997). Behavioral uncertainty is also termed as performance ambiguity by transaction cost researchers whereby a buyer is unable to assess whether the vendor or the supplier has performed according to the terms of the agreement (Ouchi, 1979). Behavioral uncertainty when combined with bounded rationality can create post-contractual performance evaluation problems on the part of the buying firm (Stump & Heide, 1996).

Transaction cost literature treats uncertainty as a transactional dimension (Poppo & Zenger, 2002; Wang, 2002) and higher environmental and behavioral uncertainty perceptions are generally cited as factors that influence an organization's decision to vertically integrate as opposed to outsource (Geyskens et al., 2006). This paper focuses on technological uncertainty (a form of environmental uncertainty) perceptions of the buyer as they relate to a priori evaluation of an outsourced service provider. Given that behavioral uncertainty is a post-contractual phenomenon (Rindfleisch & Heide, 1997), it, therefore, is excluded from this analysis. Given the existence of bounded rationality, it is

logical for buyers to rely on external cues in their outsourced services' vendor evaluation and selection, once the decision to outsource has already been reached. In that regard, bounded rationality likely increases the importance of vendor firm characteristics and how they influence buyers' a priori or ex ante perceptions of opportunism and uncertainty associated with a particular vendor.

#### Independent Variables - Vendor Firm Characteristics

##### Vendor firm size.

When purchasing outsourced services, the buying firms often have to choose from among small, medium, and large vendors that may offer comparable services and at comparable prices. However, these vendors often vary in other facets of their operations such as geographic reach, customer support, and brand awareness. Within the inter-firm or dyadic relations literature, firm size (both buyer and supplier) is deemed as a key variable of interest (Campbell, 1985; Redondo & Fiero, 2007) since it affects various aspects in a relational exchange such as trust (Doney & Cannon, 1997).

The size of a seller or a buyer is also equated with the degree of power one exchange member will have over another (Anderson & Narus, 1990). Within the transaction cost literature, dependence of one party in an exchange over the other is cited as a variable that exposes the dependent party to the risk of opportunism (Geyskens et al., 2006; Nooteboom, 1993). A small supplier, for instance, is likely to be more dependent on a larger buyer (Larson, Carr, & Dhariwal, 2005), specifically if the buyer accounts for a majority of the supplier's business (Krause, Ragatz, & Hughley, 1999). Under that scenario, a smaller supplier may often find it necessary to comply with the buyer's demands such as changes in quantity ordered and/or product specifications. For instance,

when Walmart implemented the use of radio frequency identification systems to improve inventory control and management, smaller suppliers had two options, i.e., abandon the relationship with Walmart or absorb the high cost of deploying radio frequency identification systems. Similar to this, Morgan (2000) found that small suppliers are reluctant to implement electronic data interchanges as they view these as more advantageous for their larger buyers.

Conversely, a small buyer may have more dependence on a larger supplier and hence may be at a disadvantage when the supplier increases its prices. For instance, an increase in micro-processor prices by Intel, a major component provider to the computing industry, is likely to have a greater negative impact on smaller computer manufacturers than larger ones. Unlike smaller buyers that often buy small quantities, larger firms, by virtue of bulk buying, may be able to offset the effects of price increase through volume discounts.

Vendor or supplier firm size is also equated with their capabilities, as indicated by Nootboom (1993), positing that small firms lack economies of scale and are unable to allocate resources to expand their expertise. With regard to outsourcing, a small vendor may find it difficult to offer around the clock customer support due to high costs of developing such capability as well as the reduced number of customers over which to spread costs. Small suppliers may also find it difficult to develop frequent product updates or improvements due to their limited resources.

Within the context of TCA, Nootboom (1993) contends that smaller firms, buyers or sellers, not only experience higher transaction costs for themselves but also for their partners including buyers. Lack of economies of scale, for instance, is likely to limit

a smaller supplier's ability to offer lower prices for the products and services it provides to its organizational customers. In addition, Dilts and Prough (1989) found that small firms not only face resource constraints but also lack managerial expertise. In an IT outsourcing arrangement, lack of managerial expertise is likely to hinder the ability of a supplier to develop innovative services or effectively understand and comply with the product/service specifications required by its exchange partners.

The definition of firm size remains rather convoluted given that it may be a function of the type of industry or a country in which a firm operates (D'Amboise & Muldowney, 1988; Nooteboom, 1993). Within the U.S. market alone, there are a number of ways to define firm size, including number of employees, number of locations, and revenues. For instance, Larson et al. (2005) defined small suppliers as those with fewer than 500 employees to study the use of electronic media and relational exchange within supply chain management. Similarly, Carmel and Nicholson (2005) define a small firm based on the number of employees when examining offshore software outsourcing. Krause et al. (1999) define small and large suppliers in terms of annual sales generated by the supplier. Further, Doney and Cannon (1997) asked buyers to classify their supplier as a large or small firm. In essence, based on existing research discussed above, vendor firm size is a key variable that can impact a number of outcomes in an inter-firm relationship. Moreover, vendor firm size also influences buyers' perceptions of the capabilities of a vendor.

Vendor reputation.

*Vendor reputation* is described as a multi-faceted construct and involves aspects such as reliability (Weigelt & Camerer, 1988), honesty (Milgrom & Roberts, 1988), and



trustworthiness (Ring & Van de Ven, 1992). Doney and Cannon (1997) further classify reputation as the extent to which industry participants believe a supplier is not only honest but also concerned about its customers. Rindova, Williamson, Petkova, & Sever (2005) argue that there are two distinct dimensions of reputation that include perceived quality and prominence. The perceived quality aspect of reputation alludes to the extent to which stakeholders positively assess a particular organizational attribute or characteristic whereby the prominence part reflects the collective awareness and recognition of an organization by its various stakeholders (Rindova et al., 2005). Fombrun (1996, p. 165) states that reputation is a “perceptual representation of a company’s past actions and future prospects that describe the firm’s appeal to all of its key constituents.” In that regard, while reputation is earned over a period of time, it can also change quickly based on the operational activities of an organization. For instance, financial scandals of organizations such as Arthur Andersen, Enron, and others quickly tarnished their reputation in addition to incurring considerable legal problems. Chun (2005) argues that organizational reputation is a multidimensional concept and should be measured as such and that a global measure of reputation may produce different results under different scenarios.

Vendor reputation is a key variable in inter-firm relational exchanges as it is shown to influence important outcomes such as opportunism (Wang, 2002) and trust (Ganesan, 1994; Kwon, 2004). From a relational exchange perspective, a supplier’s desire to protect its reputation serves as a deterrent against opportunism (Houston & Johnson, 2000). Within the vendor selection literature, reputation is also positively linked to the degree of product quality as well as vendor reliability (Tracey & Tan, 2001).

Given the transaction cost assumption of bounded rationality whereby a buyer is unable to anticipate and incorporate all contingencies in a formal contract (Richmond et al., 1992), vendor reputation is likely to serve as a cue or signal to the buyer regarding the overall trustworthiness of a particular vendor (Sarkis & Talluri, 2002), specifically in the pre-contract or ex ante stage and in situations where a past relationship with the vendor is non-existent. Since positive reputation increases buyers' trust in a vendor (Doney & Cannon, 1997), the need for costly post-contractual (ex post) monitoring and management of a vendor is, therefore, minimized. While both transaction cost and outsourcing researchers have evaluated the impact of reputation on variables such as outsourcing project success (Wang, 2002), the effects of vendor reputation on reducing buyers' perceptions of uncertainty in an exchange have not been evaluated. This paper specifically tests the influence of vendor reputation on reducing buyers' perceptions of technological uncertainty involved in an outsourcing arrangement.

#### Dependent Variables – Opportunism and Uncertainty

##### Opportunism.

*Opportunism*, is defined as “self-interest seeking with guile (Williamson, 1975, p. 6) and includes a variety of behaviors including lying, cheating, misleading, shirking, and deceit” (Williamson, 1985, p. 47). Wathne and Hiede (2000, p. 38) state “what sets opportunism apart from the standard economic assumption of self-interest seeking behavior is the notion of guile.” In their research, Wathne and Heide (2000) further classify opportunism as active or passive whereby *active opportunism* involves situations whereby a party to the exchange overtly engages in behaviors specifically forbidden in the contract” while *passive opportunism* includes eluding performing pre-specified tasks.

Opportunism is a key behavioral construct in TCA research and one that has been studied in inter-firm relationship literature (Jap & Anderson, 2003; Ring & Van De Ven, 1992; Stump & Heide, 1996) as well as outsourcing (Parkhe, 1993). Within the inter-firm relational exchange literature, Hawkins et al. (2009) identify six antecedents of opportunism including dependency, formalization, centralization, control, uncertainty, and relational norms. Within the outsourced manufacturing context, Parkhe (1993) found that perceptions of opportunistic behavior negatively influence performance of a strategic alliance, level of relationship-specific investments, and contractual safeguards. In other words, as perceptions of opportunism increase, partners in an exchange are less inclined to invest in relationship-specific investments or perceive that the alliance has performed to its potential. Similarly, Aubert, Patry, & Rivard (1998) suggest the likelihood of a buyer and or its supplier to default on the terms of the agreement is present in each outsourcing arrangement. Given the assertion by Aubert et al. (1998), it is therefore necessary for both the buyer and the supplier to identify and understand the impact of various opportunism antecedents.

Opportunism can be manifested in the *ex ante* (pre-contract) as well as *ex post* (post-contract) stages of a transaction. For instance, in the pre-contract stage, a vendor may misrepresent information about its capabilities and resources (Williamson, 1985) while in the *ex post* stage a vendor may change product quality in order to reap better margins (Wathne & Heide, 2000). In the *ex ante* stage, vendor opportunism and bounded rationality on the part of the buyer may lead to *adverse selection*, whereby the principal or the buyer cannot observe or verify the characteristics of the agent (Aubert et al., 1998), thereby tying a buyer into a non-conducive relationship. *Ex post* opportunism, within an

outsourcing context, includes behaviors such as quality shirking (Hadfield, 1990) or violation of contracts (Murry & Heide, 1998) and can come in the form of quality degradation, service debasement, and hidden costs (Aubert et al., 1998).

Within the extant literature, a range of attributes or antecedents influence the presence and degree of opportunism. These include lock-in arrangements or contracts (Dutta et al., 1995), idiosyncratic or relationship-specific investments also called asset specificity (Brown, Dev, & Dong-Jin, 2000), short-term orientation of the supplier (Larson et al., 2005), and dependence in terms of the availability and the number of alternative suppliers (Ganesan, 1994). In addition, environmental and behavioral uncertainty is cited as a key condition that fosters opportunism in inter-firm relationships including outsourcing (Geyskens et al., 2006; Stump & Heide, 1996; Walker & Weber, 1984).

Overall, as discussed above, opportunism may exist in various forms in an inter-firm relationship hence affecting a range of outcomes including costs and quality. Williamson (1996) contends that although strong governance mechanisms can limit the extent of ex post opportunism, such tools are unlikely to completely rid an inter-firm arrangement of the threat of post-contractual opportunism. In order to constrain the incidence of ex post opportunism, it is important for a buying firm to study ex ante variables such as vendor firm characteristics that may affect the degree of ex post opportunism. In that regard, this research focuses on buyers' ex ante perceptions of opportunism related to a particular vendor.

Uncertainty.

Within the context of transaction cost analysis, *uncertainty* is identified as a

transaction (as opposed to behavioral) dimension and involves the inability of the parties to anticipate all pertinent contingencies related to an exchange. Moreover, uncertainty also refers to the incapability to evaluate performance in an inter-firm relationship (Geyskens et al., 2006). Uncertainty, according to Rindfleisch and Heide (1997), creates an adaptation problem in that contracts would have to be re-written or renegotiated if and when variations occur in the circumstances surrounding a buyer-seller exchange. For instance, an electronic medical record application provider may develop product updates that can render the software incompatible with other billing and operational systems deployed by a hospital (the buyer). Under such a scenario, the hospital may have limited choice but to either replace the application provider or pay for costly integration services that would make the new application compatible with legacy systems. In essence, the inability to anticipate all contingencies due to the presence of bounded rationality renders all contracts as incomplete (Nooteboom, 1992).

Scholars such as Klein (1989) argue that uncertainty is a broad concept that requires further refinement. Klein (1989) classifies uncertainty along two dimensions; environmental and behavioral, whereby *environmental uncertainty* includes changes in demand/supply conditions as well as technological uncertainty while *behavioral uncertainty* involves problems in assessing whether a supplier has actually performed according to the terms laid out in the contract (Walker & Weber, 1989). With regard to changes in demand and supply conditions, TCA scholars have largely equated this type of environmental uncertainty with the inability to accurately forecast volume or *volume uncertainty* in a buyer-seller exchange (Geyskens et al., 2006; Walker & Weber, 1984). Given that the focus of this paper is on outsourced services as opposed to manufacturing,

volume uncertainty is excluded from this analysis. This is consistent with other IT outsourcing studies that have not included volume uncertainty due to its lack of relevance to B2B services (Ang & Straub, 1998; Earl, 1996; Loh & Venkatraman, 1992; Wang, 2002).

The definition of *technological uncertainty*, which is a subset of environmental uncertainty, varies slightly among scholars. For instance, Stump and Heide (1996) and Walker and Weber (1994) view it as difficulties in accurately forecasting the technical requirements in an exchange. This is generally the case for many outsourced IT services whereby technical requirements often need revising several times over the course of the project. In addition to the difficulties associated with defining technological specifications within an outsourced project, Stump and Heidi (1996) as well as McNally and Griffin (2004) further equate technological uncertainty with the risk of technology obsolescence. Quinn and Hilmer (1994) contend that technological uncertainty is reflected by higher frequency of technical change, rising intricacies in product architecture, and the threat of obsolescence.

Technological obsolescence, within IT services, typically occurs when a provider's solution becomes incompatible with other applications or hardware after it has been deployed. For instance, an electronic medical record application by a vendor may become technologically obsolete if the vendor does not continue to invest in product development and support activities thereby forcing a hospital or a physician's office to incur replacement costs. Given the focus of this paper is on outsourced IT services, only technological uncertainty is included in the overall research model and analysis.

*Behavioral uncertainty* is defined as the level of difficulty inherent in accurately

assessing a supplier's post-contractual performance (Poppo & Zenger, 2002). Behavioral uncertainty is specifically an issue that stems from the intangibility characteristic of services that makes accurate performance evaluation rather difficult, if not impossible (Parasuraman, Zeithaml, & Berry, 1985). Behavioral uncertainty can come into play in a variety of outsourcing arrangements. For instance, complex products and services purchased by an organization can render it difficult for a buyer to accurately evaluate a supplier's capability *ex ante* or its *ex post* performance (Cannon & Perreault, 1999). Moreover, in new buy situations that generally suffer from lack of past experience with a vendor or a product/service, it may be difficult for the buyer to determine whether the vendor or the supplier has actually performed according to the letter and the spirit of the contract.

In addition to the intricacies involved in evaluating quality, monitoring is also likely to be more complex in a services environment (Hawkins et al., 2009). As an illustration, when marketing outsourced data storage services, vendors often provide organizational buyers with the option to subscribe to shared or dedicated storage servers. However, even when a customer chooses dedicated storage servers, it is rather difficult, if not impossible, for the buyer to verify whether the server that hosts their data is in fact one-hundred percent dedicated, unless the server resides at the buyer's premises. The same applies to the provision of dedicated customer support to a corporate client.

While the inclusion of uncertainty in outsourcing arrangements as well as other inter-firm relationships has been well-documented in literature (Anderson, 1985; Bucklin & Sengupta, 1993; Dutta, Bergen, Heide, & John, 1995; Heide & John, 1990), researchers vary in their use of uncertainty-related constructs. John and Weitz (1988), for

instance, in their study of manufacturers of industrial products found a positive relationship between environmental and behavioral uncertainty and a manufacturer's degree of forward integration into the distribution channels. Similarly, Weiss and Anderson (1992) found that behavioral uncertainty is positively related to a manufacturer's intention to use a direct sales force as opposed to other intermediary-dependent distribution and sales arrangements. Balakrishnan and Wernerfelt (1986) in their study of manufacturing industries found that technological obsolescence, which is part of environmental uncertainty, negatively influences the likelihood for vertical integration. In other words, the higher the degree of technological obsolescence, the less likely a firm is to invest in vertical integration.

It should be noted here that technological uncertainty is cited as a condition that discourages vertical integration or in-house development of products and services (Balakrishnan & Wernerfelt, 1986; Geyskens et al., 2006). On the contrary, behavioral uncertainty has been shown as a factor that encourages hierarchy or in-house development over market or outsourced arrangements (Heide & John, 1990; Weiss & Anderson, 1992). This renders technological uncertainty as a more pertinent construct when evaluating outsourced service providers. Stated otherwise, while technological uncertainty can be aligned with a vendor, behavioral uncertainty is more likely aligned with the characteristics of a transaction or purchase (Cannon & Perreault, 1999) as opposed to a particular vendor. In addition, behavioral uncertainty or performance evaluation issues are likely more inherent across a broad spectrum of services (Parasuraman et al., 1985) regardless of the type of vendor used, thereby further limiting its relevance to the current research. Finally, as discussed above, behavioral uncertainty



is more closely associated with post-contractual performance evaluation issues (Rindfleisch & Heide, 1997) hence accounting for its omission from this paper.

### Hypotheses Development

#### Vendor Firm Characteristics and Buyers' Perceptions of Opportunism and Uncertainty

Vendor firm size, opportunism, and technological uncertainty.

With regard to opportunism, Barney (1990) contends that it is difficult to determine a party's opportunistic behavior a priori. This is likely more so in the case of outsourcing arrangements whereby an organization may not have past experience with a vendor, hence relying on cues such as vendor firm size to evaluate a vendor's capabilities. In addition, the presence of bounded rationality further increases the importance of external cues such as firm size when evaluating a vendor for outsourcing.

Doney and Cannon (1997) argue that buyers can use a transference process, through which they may rely on the experiences of others, to determine the trustworthiness of a supplier based on its firm size. In that regard, vendor firm size can offer a buyer several insights into a supplier. Small firms, for instance, typically have limited resources including research budgets as well as managerial capabilities (Carmel & Nicholson, 2005), which renders them at a disadvantage in terms of investments in research and development as well as other operational functions such as customer support. The fact that smaller firms are unable to rely on economies of scale (Feigenbaum & Karnani, 1991) can have an impact on a supplier's internal costs as well as its pricing strategies. For instance, smaller advertising agencies are likely to pay higher rates when purchasing media compared to large firms that are not only able to command lower prices but are also able to spread media costs over a large number of

clients thereby keeping their rates low for individual clients.

Dean, Brown, & Bamford (1998) state that small firms face limitations in raising financial resources compared to large firms. In the context of outsourcing, lack of financial resources can impact the ability of a vendor to expand and or upgrade its facilities, such as customer support, in order to meet the growing needs of its customers. Furthermore, Larson et al. (2005) state that small firms, due to their limited resources, are more likely to focus on short-term gains and benefits. Short-term orientation or the focus on short-term gains by an economic actor is cited as a condition that serves as an antecedent or precursor to opportunism while long-term orientation suppresses opportunism (Doney & Cannon, 1997; Hill, 1990).

Doney and Cannon (1997, p. 38) state that “supplier size provides a signal to the buying firm that the selling firm can be trusted,” given that larger vendors often have larger market shares thereby reflecting that many buyers trust the seller. In situations where a buyer may not have a past relationship with a particular vendor, supplier firm size serves as a basis for “transferring trust to unknown or untried suppliers, relying on the experience of others,” (Doney & Cannon, 1997, p. 47). With regard to smaller firms, their lower market share or fewer customers as well as their private ownership structure is also likely to render it difficult for buyers to cost-effectively verify the vendors’ capabilities a priori. Similarly, within the ex post stage, resource constraints faced by smaller vendors may, for instance, prevent them from expanding their customer support staff in order to meet the needs of their growing customer base.

Within an outsourcing context, therefore, a smaller supplier due to its focus on short-term survival (Larson et al., 2005) is likely to inflate its capabilities when bidding

on a contract. Moreover, a smaller vendor is also likely to engage in post contractual shirking (such as service quality debasement) due to its limited resources thereby leading to the following hypothesis:

*H<sub>1</sub>: Vendor firm size is negatively related to buyer's perceptions of opportunism.*

From a technological uncertainty perspective, small vendors, due to their limited financial resources (Dean et al., 1998) as well as lack of expertise (Dilts & Prough, 1989) are likely to face a higher degree of technological uncertainty. Such uncertainty may revolve around their inability to make frequent product improvements. In a study of small minority suppliers, Krause et al. (1999) found that smaller suppliers indicated that their firms were frequently undercapitalized. Lack of access to capital can impair a firm's ability to undertake necessary investments in improving its products/services as well as expanding its facilities. Monteverde and Teece (1982) argue that in many buyer-seller exchanges, technology requirements are likely to continue to evolve and it is often difficult to specify such requirements ex ante. Therefore, a vendor that lacks in economies of scale, scope, experience, and learning is less likely to make cost-effective adaptations to the changing needs of the relationship (Nooteboom, 1992).

Larson et al. (2005) contend that despite the declining costs of technology, investments in new systems remain cost-prohibitive for small firms. Specifically in industries such as healthcare, telecommunications, and information technology where technological requirements are constantly changing, a small supplier may find it cost-prohibitive to make changes in product architecture on a routine basis. Within the healthcare services industry, for instance, hospital information systems remain in a state of flux as hospitals migrate to electronic medical records and other applications in order

to comply with the changing regulatory environment. For a smaller provider of electronic medical record systems, they may have to make several updates to their product in order to keep it compatible with other software and applications being deployed by a hospital. Lack of economies of scale (Nooteboom, 1992) plus capital constraints on the part of smaller vendors render it difficult for them to develop continuous updates to their systems thereby exposing them to technology obsolescence.

In addition to capital constraints, Larson et al. (2005) also cite that smaller firms generally lack internal expertise to keep pace with the technological changes. Similarly, Chen, Paulraj, & Lado (2004) found that in addition to high cost of technology, lack of technological know-how served as main barriers to e-commerce adoption among small and medium-sized enterprises. Paulraj and Chen (2007) in their study of environmental uncertainty and strategic supply management use measures of technological uncertainty that establish linkages between the need to keep up with technology changes and firm competitiveness. While Teece (1996) acknowledged that firms can add new capabilities, they also state that the process is time-intensive and also costly hence leading to the following hypothesis:

*H<sub>2</sub>: Vendor firm size is negatively related to buyers' perceptions of technological uncertainty.*

Vendor reputation, opportunism, and technological uncertainty.

Reputation is defined as a multi-faceted construct that involves perceptions of fairness (Ganesan, 1994), credibility (Kwon & Suh, 2004), reliability (Weigelt & Camerer, 1988), and trustworthiness (Ring & Van de Ven, 1992). As discussed above, vendor reputation is a key variable in the buyer-seller relationship literature as various

scholars such as Kwon and Suh (2004) have studied its impact on constructs such as inter-organizational trust and commitment. Still others such as Houston and Johnson (2000) have examined the influence of vendor reputation on curbing opportunistic behavior in a buyer-seller exchange. Vendors with a superior reputation are perceived as attractive exchange partners (Dyer, 1996) as reputation signals the trustworthiness of a supplier.

With regard to linkages between reputation and opportunism, Garvey (1995) contends that as vendor reputation increases, there will be a lesser need for the buyer to engage in costly integration activities with its supplier. Greater integration into a supplier's processes provides the buying firm with greater visibility into supplier performance. For suppliers with weaker reputation, a buyer may not only employ alternative governance mechanisms but also require such vendors to make relationship-specific investments (Houston & Johnson, 2000). Hennart (1993) argues that reputation constrains opportunistic behavior on the part of the supplier as such behavior would lead a supplier to lose credibility and hence its ability to win future business in the marketplace. Positive reputation is also viewed as an asset by scholars such as Dasgupta (1988) in that it shows that a firm has made significant investments in earning such reputation and hence is less likely to jeopardize it by acting opportunistically.

The importance of vendor reputation cannot be underemphasized within the context of B2B services, many of which suffer from performance evaluation (Parasuraman et al., 1985) as well as monitoring (Hawkins et al., 2009) difficulties. Also, given that most inter-firm contracts are deemed incomplete (Williamson, 1985), positive reputation is likely to provide the buyer with ex ante assurance that a vendor will be less

inclined to act opportunistically ex post thereby leading to the following hypothesis:

*H<sub>3</sub>: Vendor firm reputation is negatively related to buyers' perceptions of opportunism.*

With regard to linkages between vendor firm reputation and technological uncertainty, positive reputation not only conveys a sense of credibility and fairness (Anderson & Weitz, 1992; Ganesan, 1994) to the buyers but also increases their trust in a vendor (Kwon, 2004). Provided that reputation is generally earned over a period of time and requires significant investments in a range of operational areas (Dasgupta, 1988), it is also likely to provide buyers with insights into the ability of a vendor to sustain investments in product/service development and improvement. For instance, within the outsourced IT services market, vendors such as IBM, Oracle, SAP, and Microsoft have, over the past several decades, built a reputation for offering innovative solutions to their customers. Their positive reputations for superior technological know-how in the marketplace can be evidenced from their large market shares in a multitude of B2B IT services markets. As suggested by Hill (1990), suppliers that are perceived as less trustworthy (i.e., those with less favorable reputations) are unable to garner larger sales or market shares hence establishing a linkage between market share and reputation.

When seeking a new outsourced IT solution such as data analytics, many buyers such as healthcare services providers (hospitals) are choosing to outsource such solutions from vendors such as IBM that have a strong reputation in the marketplace as compared to smaller vendors. Given the extensive scale and scope of their operations, IT solutions from vendors such as IBM are less likely to face the risk of technological obsolescence than smaller vendors with a less favorable reputation (Doney & Cannon, 1997), limited

resources (Nooteboom, 1992), and fewer customers. Hoetker (2005, p. 78) in his research on supplier selection for technically innovative component argues that “potential suppliers differ in their technical capabilities and, thus, in their ability to produce a component according to the desired specifications and schedule.” A supplier’s reputation can, therefore, signal to the potential buyer whether a vendor is capable of developing a technologically sophisticated product or service as well as its ability to sustain such a solution. Moreover, in complex purchase situations that render it difficult for a buyer to accurately specify all technical requirements ex ante (Richmond et al., 1992), vendors with a strong reputation for technical know-how are able to help buyers develop such specifications.

*H<sub>4</sub>: Vendor firm reputation is negatively related to buyer’s perceptions of technological uncertainty.*

The linkages between environmental uncertainty (including technological uncertainty) and opportunism are well established across extant TCA literature (Joshi & Stump, 1999; McNally & Griffin, 2004; Mysen et al., 2010; Williamson, 1985). Rindfleisch and Heide (1997), for instance, contend that environmental uncertainty creates adaptation problems in that it may require the parties in an exchange to modify existing contracts in order to fit the changing circumstances (Williamson, 1985). Contractual renegotiation is likely a costly undertaking and one that can be used to gain concessions by an exchange partner (Hawkins et al., 2009). Crosno and Dahlstrom (2008) argue that environmental uncertainty along with inability to predict an exchange partner’s behavior lead to a higher likelihood of opportunism. Moreover, Skarmas, Katsikeas, & Schlegelmilch (2002) suggest that changing market conditions may lead to

higher information asymmetry between the buyer and the supplier and may drive a supplier to engage in opportunistic behavior.

Given the high rate of technical change in IT outsourcing arrangements (Bahli & Rivard, 2003; Wang, 2002), the advent of new technologies can render existing solutions either obsolete or incompatible. Such circumstances can essentially force exchange partners to renegotiate contracts in order to meet changing technological needs (Earl, 1996). Within the network access services market, for instance, there is a constant flux of new fiber-based transport technologies that are capable of delivering multiple services (voice, data, and video) over a single platform thereby rendering existing copper-based solutions rather obsolete. From a buyer's perspective, as availability of fiber-based technologies increases, they may find themselves either having to seek new providers or renegotiate contracts with existing suppliers for migration of their voice, data, and video traffic over new network facilities. In either of these situations, buyers are likely to face the risk of vendor opportunism in that the existing provider may not wish to terminate the relationship without charging significant termination fees or charging higher than market prices. Higher degree of uncertainty that requires renegotiation of existing agreements is cited as a condition that fosters opportunistic behavior on the part of certain economic actors (Williamson, 1985) thereby leading to the following hypothesis:

*H<sub>5</sub>: There is a positive relationship between buyers' perceptions of technological uncertainty and vendor opportunism.*

#### Control Variables

A number of control variables must be considered in this study. Specifically, buyer firm size, idiosyncratic investments, and information exchange/sharing have been



shown to influence perceptions of opportunism and uncertainty, and will therefore be examined. With regard to *buyer firm size*, Nooteboom (1992) states that both buyer and supplier firm size influence the perceptions of dependency in an exchange. Smaller or larger buyer size is also cited as a determinant of higher or lower power-dependency on the part of the buyer (Anderson & Naurus, 1990; Kim, 2000). For instance, if a buyer accounts for a large portion of a supplier's overall revenues, the supplier is generally more dependent on the buyer and vice versa. While the sources of dependency in a buyer-seller relationship vary, it is cited as a key variable that can expose the dependent party to the risk of opportunism (Williamson, 1985).

Similarly, Larson et al. (2005) contend that larger buyers are more inclined to develop long-term relational exchange with larger suppliers due to the reason that smaller vendors are viewed as having short-term orientation. The perception of short-term supplier orientation on the part of the buyer can influence the ability of these vendors to attract more interest from among larger buyers. Homer (1985, p. 57) states that "a small buyer is likely to be more sympathetic to small business vendors due to awareness of the challenges faced by small business people." Within the context of outsourced IT services, larger buyers with more complex needs are likely to perceive greater uncertainty with regard to the ability of a smaller vendor to adequately fulfill their needs across a broad range of geographic locations. Various scholars have generally measured in terms of the number of employees or the annual revenues (Krause et al., 1999; Larson et al., 2005).

*Idiosyncratic investments* or relationship-specific investments, also termed as asset specificity in TCA literature (Geyskens et al., 2006, Williamson, 1985), are assets

that are employed for a particular exchange and have little if any residual value outside that exchange. Jap and Anderson (2003) contend that while ex ante relationship-specific investments by both buyers and suppliers are designed to reduce the perception of opportunism, such investments can also lead to greater dependency on the exchange partner as circumstances surrounding a transaction alter. Heide (1994) contends that relationship-specific investments lead to dependence and hence increase the risk of opportunistic behavior on the part of exchange members. From a buyer's perspective, the willingness of the supplier to invest in relationship-specific investments can also indicate to the buyer that a supplier can be trusted (Ganesan, 1994) thereby reducing buyer's perceptions of vendor opportunism. With regard to uncertainty, idiosyncratic investments influence buyers' concerns about environmental and behavioral uncertainty related to a particular transaction or a supplier.

*Information sharing/exchange* is defined by Cannon and Perreault (1999, p. 441) as "expectations of open sharing of information" on the part of both the buyer and the seller. Such information sharing is expected to benefit both parties in an exchange. Open channels of communication as well as effective exchange of information from the vendor provide buyers with insights into a supplier's future plans (Cannon & Homburg, 2001). Such insights can then enable buyers to adjust their internal operational needs and processes. Lack of information exchange as well as the absence of effective vendor monitoring may lead to greater information asymmetry among buyers and sellers.

Information asymmetry, whereby one party in an exchange has more information than the other, is cited as a condition that fosters opportunistic behavior in a principal-agent relationship (Eisenhardt, 1989; Wathne & Heide, 2000). In that regard, sharing of

information provides the buyer (principal) with knowledge of the supplier's (agent) activities hence reducing the need for costly monitoring. Information sharing also reduces uncertainty about the exchange outcomes (Kelley & Thibaut, 1978). Cannon and Perreault (1999) further argue that sharing of confidential information may be deemed as a sign of trust thereby leading to greater relationship commitment. In essence, information sharing by the supplier or vendor assists buyers in their monitoring of a vendor's behavior. In addition, open sharing of information is also likely to reduce buyer's anxieties with regard to a vendor's future actions.

## Methodology

### Sample

The sample for the current research was based on an online panel of organizational buyers responsible for IT procurement (including outsourced IT services such as cloud computing, network security, data center services, etc.) for their respective organizations. Studies have utilized online panels (e.g., Wolfinbarger & Gilley, 2003; Hansen, Møller Jensen, & Stubbe Solgaard, 2004; Duffy, Smith, Terhanian, & Bremer, 2005). Moreover, Skinner, Autry, & Lamb (2009, p. 233) state "research on panels is beginning to indicate that the use of predetermined respondents does not lead to negative or biased results, and results from panel surveys do not differ significantly from those collected through random mail samples, provided that the target population holds the requisite competencies needed for effective response." Similarly, Dennis (2001) conducted a variety of online panel-based studies and did not find any negative impacts in the results that could be attributed to the use of a panel.

The use of an online panel is consistent with the sampling options suggested by

Zikmund and Babin (2010) and Hair, Black, Babin, & Anderson (2010) for cross-sectional and or longitudinal studies. Zikmund and Babin (2010) state that the utility of a panel resides in its ability to screen-out respondents that do not fit the required sample profile or those that are not representative of the population of interest. Still others such as Evans and Mathur (2005) cite the value-added capabilities of online panels in terms of access to a large population from which to recruit respondents for B2B and B2C research.

With regard to the respondent profile, use of organizational IT buyers is consistent with existing research on outsourcing as well as transaction cost analysis (Huber & Power, 1985; Wang, 2002; Whitten & Leidner, 2006). Wang (2002), for instance, utilized a sample of 163 chief information officers from a range of industries including manufacturing, services, and the financial sector in studying the impact of transaction attributes on outsourcing success. Similarly, in their research on IT vendor switching behavior, Whitten and Leidner (2006) surveyed 160 IT executives across multiple industries. This paper utilized a similar approach as the above cited research studies in identifying survey respondents.

As part of the screening process, respondents were asked to identify whether they are involved with their organization's IT outsourcing purchase process, whether they had been involved in an IT outsourcing purchase decision within the past twelve months, and their level of involvement/role in the IT procurement process. The respondents that cleared the screening questions were then asked to identify the type of IT solution that their organization outsourced, number of vendors evaluated, and names of vendors that were selected as well as of those that were not selected. The respondents were then asked to select the vendor that they were most familiar with, from among the list of vendors that

they had evaluated but not selected, and answer a series of questions pertaining to that vendor.

#### Data Collection Procedures

The data collection process was initiated with direct email invites sent by the online panel provider to its members requesting them to complete the survey. A total of 1,478 respondents involved in IT purchase decision-making were contacted by the third-party online panel provider via an email invite. Data was collected in three phases. The first phase involved a soft launch of the survey. During this stage, lasting 5 days, a total of 66 responses were collected and analyzed for response validity to the survey items. The second phase involved a full-launch of the survey that lasted another week and pushed the total number of completed surveys to 220. A third round was initiated a week later that included direct email reminders to survey panel members. At the end of the third phase, a total of 301 completed surveys were received. Data from all three stages was compared to examine any differences in responses as per Armstrong and Overton (1977). No significant differences in responses were found for the three stages in the data collection phase.

#### Sample Profile

Of the 1,478 respondents that were contacted via email, a total of 301 completed surveys were received yielding a 20.4 percent response rate. The average survey completion time was measured at ten minutes. The 301 completed surveys were examined for missing data, response accuracy, outliers, and other issues which led to further reduction in the number of respondents. In terms of response inaccuracy, respondents that failed to identify the outsourced IT solutions as well as the vendors that

they evaluated, those that had been on their job for less than one year, had less than one year of IT procurement experience were removed from the final analysis. In addition, respondents whose procurement responsibility was below \$1,000/year, whose organizations had fewer than five employees, whose company annual revenues were below \$10,000, whose overall company IT budget was less than \$1,000, and who had below one percent of their total IT budget dedicated to outsourcing were also eliminated. Thus, leaving 203 valid completes and an effective usable response rate of 13.7 percent.

The sample size of 203 is within the guidelines provided by Hair et al. (2010) for research models with seven or fewer constructs. All usable respondents indicated that they had been involved in an IT outsourcing decision within the past twelve months and while 72.4 percent identified themselves as having the final purchase authority, 27.6 percent stated that they recommend or influence their organization’s IT procurement decisions. Table 2.1 provides a summary of respondents’ characteristics.

Table 2.1: Respondent Profile

Male	66%
Female	34%
Number of Years Employed with their Current Organization (median)	7
Number of Years in IT Procurement (median)	10
Respondents’ Annual IT Procurement Responsibility (median)	\$400,000
Number of Employees in the Firm (median)	530
Annual Revenues of the Firm (median)	\$34 million
Annual IT Budget of the Firm (median)	\$750,000
Percent of Total IT Budget Dedicated to Outsourcing (median)	25%

With regard to industry affiliation, 24.6 percent of respondents were involved in manufacturing, 7.9 percent in construction and professional services respectively, 6.9 percent in retail trade, 4.4 percent each in telecommunications and educational services, and the remainder 43.9 percent represented a range of other industries. No other

individual industry accounted for over 4 percent of total respondents.

## Measures

The survey items were adapted from established scales for the measurement of vendor firm size, vendor reputation, buyers' perceptions of vendor opportunism, and technological uncertainty to fit within an ex ante context. The multi-faceted vendor reputation scale included eleven items (anchors: strongly disagree/strongly agree) to study buyer's perceptions of vendor reputation with regard to fairness/honesty, product/service quality, and vision/leadership. Four items were adapted from Ganesan (1994) to measure the perceived fairness and honesty aspects of reputation (e.g., this vendor has a reputation for being honest; most buyers think that this vendor has a reputation for being fair). Another seven items were adapted from the Reputation Quotient (RQ) developed by Fombrun, Gardberg, & Sever (2000), Chun (2005), and Caruana (1997). These include four items that measure reputation for product/service quality (e.g. this vendor offers high quality products and services; this vendor develops innovative products and services) as well as three items for vision and leadership (e.g. this vendor has a clear vision for its future; this vendor has excellent leadership).

Vendor size was measured using a five-item seven point Likert-type scale (anchors: strongly disagree/strongly agree) developed by Doney and Cannon (1997) that asked respondents to identify who their supplier was and whether they considered their supplier a large or small company (e.g., this vendor is a very large company; this vendor is the industry's biggest vendor of this outsourced solution).

Vendor opportunism was measured using six items adapted from Rokkan, Heide, & Wathne (2003) that asked respondents to classify the extent to which certain

statements reflected an inaccurate/accurate description of how they felt about the vendor during the evaluation process (e.g., on occasion this vendor would have lied about certain things in order to protect their interests; this vendor would have promised to do things without actually doing them later). Vendor technological uncertainty was measured using items adapted from Stump and Heide (1996). The four-item scale asked respondents to classify the extent to which they perceived predictability/unpredictability with the vendor's technology as well as the outsourced solution itself.

Three control variables including buyer size, vendor idiosyncratic investments, and information sharing by the vendor were measured in this research. Buyer size was measured by asking respondents to estimate the number of employees in their organization. This is consistent with other research such as Larson et al. (2005) that used number of employees to determine size of the supplier firm. Idiosyncratic or relationship-specific investments was measured via a five-item, seven point Likert-type scale used by Anderson and Weitz (1992), which asked respondents to express their level of disagreement/agreement with various statements pertaining to the willingness of the vendor to make relationship-specific investment. Information sharing was measured by a five-item scale that included two items from Doney and Cannon (1997) and three items from Pesamaa and Hair (2007).

#### Research Technique/Data Analysis

This paper utilized structural equation modeling (SEM) to assess the impact of vendor firm characteristics on buyers' perceptions of opportunism and technological uncertainty associated with the vendor. In conducting data analysis, IBM's SPSS as well as Analysis of Moment Structures (AMOS) software were used. The use of SEM is



consistent with other B2B research studies including Heide and John (1992), Heide and Miner (1992), and Doney and Cannon (1997).

## Results

### Measurement Model Results

The measurement model which included seven constructs and 36 items was tested. In addition, a reliability analysis was run to evaluate the consistency of all scales. The initial Cronbach's alpha was used to identify items with low reliability scores. The vendor size scale included a reverse-coded item (this vendor is a small player in the market), the reliability analysis revealed that deletion of the said item would enhance the scale reliability to 0.895 and was dropped.

### Common Method Variance (CMV)

After performing scale reliability, all the constructs were tested for common method variance. Common method variance, defined by Podsakoff, MacKenzie, Lee, & Podsakoff, (2003, p. 879) as "the amount of variance that is attributable to the measurement method rather than to the constructs that the measures represent," may be an issue given this research relies on buyers' self-reported perceptions of the various constructs examined. While common method variance or common method bias is a valid issue, "the amount of variance attributable to method bias varies considerably by discipline and by the type of construct being investigated" as described by Podsakoff et al. (2003, p. 880). In a meta-analysis of studies across a variety of disciplines, Cote and Buckley (1987) found that, on average, common method variance was the lowest in the marketing area.

In order to address the common method issue, guidelines offered by Podsakoff

and Organ (1986) were used in identifying and addressing such concerns. From a procedural perspective, this paper utilized scales that had varying anchors (such as strongly disagree/agree, predictable/unpredictable) to address CMV. Marker variables (Williams, Hartman, & Cavazotte, 2010) were used at the mid-point in the survey. In addition, a one-factor test (Podsakoff & Organ, 1986) was performed on the summated scales for each construct (including control variables) which revealed multiple factors.

#### Confirmatory Factor Analysis (CFA)

An initial confirmatory factor analysis (CFA) was performed to test the fit of each survey item with the constructs it represents using guidelines provided by Hair et al. (2010, p. 659) which call for assessing a model's fit by evaluating the Chi-Square (the difference between observed and estimated covariance matrices) and the associated degrees of freedom ( $p$ -value below .05), RMSEA (values between .03 and .08), and incremental fit index such as CFI (values above 0.90) or TLI (values closer to 1). The initial CFA results offered adequate fit (Chi-Square = 1208.99; DF = 574; CMIN/DF = 2.106; CFI = 0.908; TLI = 0.899; RMSEA = .074) based on the framework provided by Hair et al. (2010), Hu and Bentler (1999), Tabachnick and Fidell (2007), and Wheaton et al. (1977).

Subsequently, a review of modification indices was done which identified further opportunities to improve the GOF by eliminating items that either had higher unstandardized regression weights (values greater than 10) and also by reviewing standardized residual covariances for values greater than  $|4|$  as suggested by Hair et al. (2010). With the deletion of each item, the measurement model was run again to determine the improvement in overall model fit. After examining several AMOS outputs,

a total of 28 items were used in the final model. Table 2.2 provides the reliability, means, and standard deviations for each of the construct scales in the final measurement model.

The results of the final measurement model suggested good model fit (Chi-Square = 583.671; DF = 330; CMIN/DF = 1.769; CFI = 0.95; TLI = 0.943; RMSEA = 0.062).

Table 2.2: Scale Reliability Results

Construct	Reliability ( $\alpha$ )	Mean	Std. Deviation
Vendor Size (4 items)	0.895	5.088	1.342
Vendor Reputation (7 items)	0.934	5.416	0.995
Perceived Opportunism (6 items)	0.971	3.617	1.974
Perceived Technological Uncertainty (4 items)	0.910	3.858	1.386
Idiosyncratic Investments by Vendor – control (3 items)	0.895	4.827	1.356
Information Sharing by Vendor – control (3 items)	0.915	4.277	1.724

*Note: Buyer size, the third control variable, is excluded from the table given that it was measured using a single item variable (number of employees).*

Next, each construct was examined for convergent and discriminant validity.

With regard to convergent validity, all constructs had an average variance extracted (AVE) score above 0.50, all Eigenvalues higher than 1, and all reliability scores above the 0.70 threshold provided by Bagozzi, Yi, & Phillips (1991) as well as Hair et al. (2010). The results of convergent validity are presented in Table 2.3. With regard to discriminant validity, the AVE scores for each construct must be higher than the squared inter-construct correlations to establish discriminant validity (Fornell & Larcker, 1981; Hair et al., 2010) and these results are presented in Table 2.4. All constructs exhibit discriminant validity based on this guideline.

Table 2.3: Convergent Validity Results

Construct	Average Variance Extracted (AVE)	Eigen-Values
Vendor Size (4 items)	0.687	2.746
Vendor Reputation (7 items)	0.673	4.711
Perceived Opportunism (6 items)	0.849	5.092
Perceived Technological Uncertainty (4 items)	0.720	2.878
Idiosyncratic Investments by Vendor – control (3 items)	0.747	2.240
Information Sharing by Vendor – control (3 items)	0.788	2.365

*Note: Buyer size, the third control variable, is excluded from the table given that it was measured using a single item variable (number of employees).*

Table 2.4: Discriminant Validity Results

	SZ	REP	OPP	TU	IDV	ISV
Squared Inter-construct Correlations						
SZ	1					
REP	0.231	1				
OPP	0.075	0.011	1			
TU	0.004	0.005	0.247	1		
IDV	0.106	0.317	0.050	0.012	1	
ISV	0.055	0.104	0.206	0.078	0.539	1

*SZ = Vendor size; REP = Vendor reputation; OPP = Perceived opportunism; TU = Perceived technological uncertainty; IDV = Idiosyncratic investments by vendor; ISV = Information sharing by vendor*

### Structural Model Results

Based on the adequacy of the CFA results, a structural equation model (SEM) was then performed. The structural model results were acceptable (Chi-Square = 695.587; DF = 337; CMIN/DF = 2.064; CFI = 0.929; TLI = 0.92; RMSEA = 0.073). After having established the adequacy of SEM, a test of the hypotheses was then conducted. Results are detailed in the next section. Control variables were examined for significant linkages. Only information sharing by vendor was found to have a significant impact on buyers’

perceptions of opportunism ( $p. <.01$ ) and technological uncertainty ( $p. <.01$ ).

#### Results of Hypotheses Testing

Results for H1, which links vendor firm size negatively to buyer's perceptions of opportunism, failed to receive support. The link was significant in the opposite direction yielding a beta of 0.446 ( $p. <.05$ ). These results, while failing to provide support for the hypothesis, however, do indicate the presence of a strong positive relationship in the opposite direction between vendor size and buyers' perceptions of opportunism.

Results for H2, which links vendor firm size negatively to buyer's perceptions of technological uncertainty, yielded a non-significant beta ( $p. >.05$ ). These results fail to provide support for H2. Results for H3, which negatively links vendor firm reputation to buyer's perceptions of opportunism, yielded a significant beta of -0.701 ( $p. <.05$ ). The results support H3.

Results for H4, which links vendor firm reputation negatively to buyer's perceptions of technological uncertainty, yielded a significant beta of -0.268 ( $p. <.05$ ). Results provide support for H4. Results for H5, which positively links buyer's perceptions of technological uncertainty to vendor opportunism, yielded a significant beta of 0.478 ( $p. <.05$ ). Results reveal support for H5.

Table 2.5: Summary of Hypotheses Results

Hypotheses	Unstandardized Regression Coefficient	Supported /Not Supported
H1: Vendor firm size is negatively related to buyer's perceptions of opportunism.	0.446	Not Supported
H2: Vendor firm size is negatively related to buyers' perceptions of technological uncertainty.	0.083	Not Supported
H3: Vendor firm reputation is negatively related to buyers' perceptions of opportunism.	-0.701	Supported
H4: Vendor firm reputation is negatively related to buyer's perceptions of technological uncertainty.	-0.268	Supported
H5: There is a positive relationship between buyers' perceptions of technological uncertainty and vendor opportunism.	0.478	Supported

#### Squared Multiple Correlations for Structural Model

The results of the structural model paths yielded weak to moderate squared multiple correlations for each of the predicted constructs. The predicted variable perceived opportunism yielded an  $R^2$  of 0.55. The predicted variable perceived technological uncertainty yielded a  $R^2$  of 0.15.

#### Discussion and Implications

##### Vendor Firm Size and Perceptions of Opportunism

Despite the lack of support for H1, which negatively links vendor size to buyers' perception of opportunism, the findings offer a valuable insights in that buyers of outsourced IT perceive a greater sense of opportunism from larger vendors than smaller firms offering such solutions. One potential explanation here, as suggested by Ganesan (1994) and Geyskens et al. (2006) is that buyers may perceive a greater sense of dependence on larger vendors thereby essentially creating barriers to exit the relationship. Vendor firm size also influences the degree of power one party in the exchange will have

over another (Anderson & Narus, 1990). In that regard, buyers may perceive a lack of power when purchasing outsourced IT solutions/services from national and global vendors. Regardless of the antecedents of dependence (such as supply constraints, channel member power, etc.), buyer-seller relationship research positively links dependence with opportunism (Heide, 1994).

From a managerial perspective, while larger vendors may have a better reputation as suggested by Doney and Cannon (1997), *ex ante* perceptions of opportunism on the part of the buyer, as shown in this paper, may negatively impact their evaluation and selection by organizational IT buyers. Keeping in consideration the findings of this research, large vendors must engage in branding strategies that alleviate opportunism perceptions of B2B IT buyers. For instance, large vendors can focus on enhancing their sales and customer support functions in a way that conveys greater empathy for the customer. Moreover, large vendors must also improve their level of responsiveness to customer problems, specifically smaller buyers that may often feel neglected by the larger vendor.

Previous research conducted by Nooteboom (1993) shows that unlike large vendors, smaller vendors are often able to deliver personalized service to their customers thereby further supporting the positive linkage between vendor size and buyer's perceptions of opportunism in the *ex ante* vendor evaluation stage. For smaller vendors, the findings imply that they must continue to differentiate themselves in the marketplace based on their ability to offer efficient and personalized solutions/service to their customers. Smaller vendors can also engage in positioning strategies that capitalize on the higher degree of perceived opportunism associated with large vendors as

demonstrated by this study. For instance, while larger vendors are often perceived as less responsive to customer support needs of buyers, smaller vendors can position themselves as more efficient in responding to complaints and other customer service issues.

#### Vendor Firm Size and Perceptions of Technological Uncertainty

The lack of support for H2, that proposes a negative linkage between vendor size and technological uncertainty, essentially stems from a variety of industry-specific traits that include overall pace of technological change in outsourced IT solutions as well as increasing understanding of advanced IT solutions on the part of organizational buyers. When asked which IT solution/function their organization outsourced in the past twelve months, the responses included solutions such as cloud computing, network security, network management, and application hosting. A majority, if not all, of these solutions have been available in the marketplace for quite some time now and it is likely that organizational buyers, specifically those with internal IT staff, do not perceive technological uncertainty surrounding these solutions or their providers. From a managerial perspective, this bodes well specifically for smaller vendors that are often perceived to have fewer resources and limited expertise (Larson et al., 2005) hence leading to the association of higher technological uncertainty with smaller vendors.

#### Vendor Firm Reputation and Perceptions of Opportunism

This research shows that strong vendor reputation indeed serves as a key variable that reduces buyers' ex ante perceptions of vendor opportunism in an IT outsourcing context. This is consistent with findings of other scholars that researched buyer-seller relationship in non-IT outsourcing contexts such as manufacturing (Hennart 1993; Houston & Johnson, 2000). Doney and Cannon (1997) contend that positive vendor



reputation instills trust among buyers thereby alleviating the need for costly post-contractual vendor management processes. From a managerial viewpoint, the importance of vendor reputation cannot be undermined when evaluating and selecting a vendor for an outsourced IT solution. Similarly, for vendors of such solutions, they must continue to focus on building a strong reputation for the brand itself as well as the products and services associated with it. Stronger reputation is even more important for off-shore outsourced IT solution providers as a buyer may not always have the capability to monitor post-contractual activities of these vendors.

#### Vendor Firm Reputation and Perceptions of Technological Uncertainty

With regard to H4, vendor reputation is negatively related to buyer's perceptions of technological uncertainty, the results carry several implications. First, the support for H4 indicates that stronger overall reputation helps reduce buyers' perception of technological uncertainty, including the risk of obsolescence, associated with the vendor. Perception of technological uncertainty is likely to either prevent buyers from engaging in a relationship with a vendor altogether or prompt them to seek only short-term transactions. Secondly, by remaining on the cutting-edge of IT, vendors are able to garner a reputation for product/service innovation. The ability to offer innovative products and services constitutes an important aspect/trait of firm reputation as identified by Caruana (1997) and Chun (2005). Within the software segment, for instance, Microsoft continues to develop upgrades for its operating system as well as other productivity applications and these updates and innovations are largely driven by the expectations of the customers as well as the innovation-related reputation that the company has built for itself.

## Technological Uncertainty and Opportunism

The significant support for the linkage between technological uncertainty and opportunism is in line with findings in extant literature that identify uncertainty (both technological and behavioral) as antecedents to opportunism (Joshi & Stump, 1999; McNally & Griffin, 2004; Mysen et al., 2010; Williamson, 1985). From a managerial perspective, buyers must be aware that while they expect IT providers to be on the cutting-edge of technology, such technological changes can expose them to the risk of costly upgrades, technological obsolescence and incompatibility. In certain cases, technological changes may even increase dependence on the vendor if the IT solutions being purchased are based on proprietary systems. From a vendor's perspective, given the presence of a linkage between technological uncertainty and buyer's perceptions of vendor opportunism, they must keep existing customers apprised of upcoming changes in their systems. Doing so is likely to build trust as opposed to using such product upgrades only to squeeze new revenue from clients. Similarly, ongoing education and training by the vendor can also help reduce customer anxiety associated with new technologies hence limiting the impact of perceived vendor opportunism on the part of the buyer.

## Limitations

Similar to other research studies, this paper also has a number of limitations. First, this study utilizes a cross-section of IT buyers across a myriad of industries and it is quite likely that IT buyers across different industries may vary in their perceptions of vendor opportunism and uncertainty compared to the findings of this study. For instance, companies in high-tech industries such as telecom may not perceive a strong fear of technological obsolescence and may even engage in planned-obsolescence of their IT

systems. Compared to the telecom sector, however, healthcare providers such as hospitals may have much to lose in the wake of technological uncertainty.

Secondly, this study does not focus on a specific outsourced IT solution. It is likely that buyers of outsourced data center services or software-as-a service solution such as analytics may vary in their perception of vendor opportunism and technological uncertainty compared to those that purchase basic IT installation and maintenance services. Third, the study does not differentiate between domestic versus off-shore IT outsourcing providers. It is likely buyers may associate a higher degree of perceived opportunism with off-shore IT outsourcing vendors compared to domestic providers due to the inability of buyers to monitor activities of overseas vendors.

#### Future Research

Future research areas could include applying the research model in this paper to specific industries in order to determine the similarities and differences across markets. For instance, it is likely that buyers in high-tech industries may perceive lower degree of opportunism and technological uncertainty associated with IT vendors compared to similar respondents whose firms operate in construction and mining and may or may not be as tech-savvy.

Similarly, future research can focus on a specific outsourced IT solution to gain a better understanding of how vendor firm attributes influence buyers' perceptions of vendor opportunism and technological uncertainty. It is likely that outsourced IT solutions that are deemed complex may generate different buyer responses with regard to opportunism and uncertainty compared to a simpler solution such as network maintenance.

Future research can also add additional dependent variables to determine how vendor firm size and reputation influence buyers' perceptions of those variables. Some of those variables can include buyers' willingness-to-engage in a relationship or the need for vendor monitoring given higher perceptions of opportunism and technological uncertainty. Also, future research can include variables from other research streams such as service quality to determine how buyers' ex ante perceptions of vendor opportunism and uncertainty affect their perceptions of key outcome variables.

### Conclusion

This study is unique in its ability to integrate vendor evaluation/selection literature with extant research on transaction cost analysis to test how the vendor firm attributes of size and reputation influence buyers' perceptions of vendors on two key TCA variables of opportunism and technological uncertainty. The study hypothesized five linkages and its findings supported three of these linkages. A key finding of the study is that while vendor firm reputation negatively impacts buyers' perceptions of vendor opportunism, vendor firm size positively correlates with such perceptions. This is an important finding in that it creates a dilemma for vendors that otherwise may have a positive reputation yet their larger size may signal higher degree of perceived opportunism to buyers of outsourced IT services.

The findings in this paper also offer an alternative perspective to what had been previously found in buyer-seller and transaction cost research (Hill, 1990; Nooteboom, 1993; Doney & Cannon, 1997; Larson et al., 2005) that labeled smaller suppliers/vendors as having lower reputation, greater short-term orientation, and lack of expertise, conditions that foster opportunism. This paper's findings portray larger vendor size as an

antecedent to buyers' ex ante perceptions of opportunism. Also, the results of this study do not support the negative linkage between vendor size and buyers' perceptions of technological uncertainty. This bodes well for smaller vendors in that lack of perceived technological uncertainty based on vendor firm size is less likely to prevent smaller IT outsourcing providers from effectively competing for business. At the same time, the negative relationship between vendor reputation and technological uncertainty conveys the message that while firm size may not foster perceptions of technological uncertainty, weak vendor reputation can prevent IT outsourcing providers from winning business.

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## CHAPTER 3 (ESSAY 2)

### Influence of Opportunism and Uncertainty on Buyers' Relationship Governance Choices

#### Abstract

This paper examines the influence of organizational buyers' opportunism and uncertainty perceptions on their willingness-to-engage in contractual and relational governance with a vendor. The increased use of outsourced services has precipitated considerable change in buyer-seller relations in that organizations are seeking optimal outsourcing arrangements that not only reduce operating costs but also reduce the risk of vendor opportunism. While it is not possible to eradicate all opportunism and uncertainty, it is important to understand how the presence of these variables affects the relationship engagement choices of the outsourcing firm or the buyer.

From a buyer's perspective, understanding which relationship governance choice to employ when facing opportunism and uncertainty can help reduce their overall exposure to such risks. At the same time, effective understanding of buyers' relationship governance choices for outsourcing arrangements provides suppliers with greater insight into buyer behavior. Such insight is important for the supplier to align or realign its service-engagement and other strategies in order to reduce the incidence of lost business. In addition, this paper examines how organizational buyers' perceptions of vendor opportunism and uncertainty mediate the relationship between vendor firm size and reputation.



While the role of opportunism and uncertainty has been researched extensively within the context of outsourcing, there is a paucity of research linking vendor size and reputation to buyers' perceptions of vendor opportunism and uncertainty, as well as their relationship choices. The research model is tested on an online panel of information technology (IT) buyers across a range of industries. Findings suggest that buyers' perceptions of opportunism and technological uncertainty do not have a direct impact on their relationship choices. The study also finds direct linkages between both vendor size and vendor reputation in relation to buyers' willingness-to-engage in legal contracts/bonds as well as relational governance.

*Keywords: transaction cost analysis, opportunism, technological uncertainty, vendor reputation, vendor size, information sharing, idiosyncratic investments*

## Introduction

The purpose of this paper is to examine the influence of perceived opportunism and uncertainty on organizational buyers' choice of relationship governance with an outsourcing service provider. The past two decades have seen enormous growth in the level of outsourcing within the business-to-business (B2B) marketplace (Duan, Grover, & Balakrishnan, 2009; Gholami, 2012; Lacity, Solomon, Yan, & Willcocks, 2011). Organizations of all sizes and scope are increasingly relying on outsourced solutions to reduce operating and capital expenses (Ang & Straub, 1998; Gilley & Rasheed, 2000). Outsourcing involves contracting out a range of business tasks and functions that were historically performed in-house. Given that most, if not all, outsourced arrangements face the risk of vendor opportunism and uncertainty (Rindfleisch & Heide, 1997; Williamson, 1975), it is important for the buying organization to not only understand the degree of opportunism and uncertainty embedded in a transaction but also what governance choices should be adopted to cope with these variables.

*Opportunism*, within the transaction cost analysis (TCA) literature, involves behaviors such as deceiving, performance avoidance, and providing false or incorrect information (Williamson, 1975) and can come into play in a variety of ways in a buyer-seller exchange (Wathne & Heide, 2000). *Uncertainty* includes lack of ability to predict the changes in various aspects of an exchange or transaction that then forces post-contractual adjustments (Balakrishnan & Wernerfelt, 1986; Walker & Weber 1984). The importance of effective vendor management is vital in that passive vendor management can introduce the outsourcing organization to a range of operational issues including service quality debasement, hidden costs, and other issues (Bhali & Rivard, 2003;

Wathne & Heide, 2000). Within the context of outsourcing, organizations typically face two choices with regard to vendor management. The first choice rests upon post-contractual or ex post monitoring of vendor activities which requires the buying organization to invest resources in monitoring systems (Williamson, 1994). These monitoring tools, while costly, are also unlikely to provide a buyer with insight into the full scope and extent of vendor opportunism and uncertainty. The second choice focuses on effective vendor evaluation and selection mechanisms that are likely to limit the incidence of post-contractual opportunism and uncertainty.

Existing scholarly research within outsourcing (Gholami, 2012; Mysen, Svensson, & Payan, 2010; Wang, 2002) and transaction cost analysis (Brown, Dev, & Dong-Jin, 2000; Jap & Anderson, 2003; Lonsdale, 2001) has evaluated and suggested various mechanisms to reduce post-contractual opportunism and uncertainty. However, there is a gap in existing research with regard to the linkages between a priori perceptions of opportunism and uncertainty and buyers' choice of a specific relationship governance mode. For instance, while Wathne and Heide (2000) proposed options such as monitoring to curb post-contractual vendor opportunism, their research does not discuss whether and how perceptions of opportunism, actually affect a buyer's willingness-to-engage in a legal contract or a relational exchange.

This paper studies the influence of buyers' opportunism and uncertainty perceptions and how they affect their willingness-to-engage in contractual or relational governance with the outsourcing vendor. In addition, the study examines if and to what extent opportunism and uncertainty mediate the relationship between vendor firm characteristics and organizational buyers' willingness-to-engage in a contractual or a

relational governance mechanism. By examining linkages between opportunism and uncertainty, this paper fills a number of gaps in existing transaction cost, outsourcing, and buyer-seller relationship literature. Extant literature in these areas (Celly, Spekman, Robert, & Kamauff, 1999; Cannon & Homburg, 2001; Paulraj & Chen, 2007; Richmond, Seidmann, & Whinston, 1992; Weed & Mitchell, 1980) has failed to address how a priori perceptions of vendor opportunism and uncertainty influence buyers' relationship choice. Secondly, by studying how opportunism and uncertainty perceptions mediate the relationship between vendor firm characteristics and buyers' relationship choices, this research contributes to the existing vendor selection literature. Identification and understanding of such linkages can provide buyers with a complementing vendor evaluation model while helping vendors develop insights into buyer behavior. The study utilizes a survey of IT procurement professionals to test the linkages between organizational buyers' perceptions of opportunism, technological uncertainty and their relationship preferences with outsourced IT providers. The findings are discussed along with limitations of the study and future research opportunities.

### Background Literature

The growth in domestic and international B2B outsourcing arrangements has changed the cultural and economic fabric of an organization in that while it has led to a reduction in operating costs, it has placed a greater onus on buyer-seller relationship management. Within existing scholarly research, outsourcing has been examined by both transaction cost as well as relational exchange scholars (Hawkins, Knipper, & Strutton, 2009; Jap & Anderson, 2003; Lonsdale, 2001; Mysen et al., 2010; Rokkan, Heide, & Wathne, 2003). TCA research cites opportunism and uncertainty as conditions that favor

hierarchical or in-house product and service development over outsourcing (Geyskens, Steenkamp, & Kumar, 2006). Specifically, from a seller's perspective, higher perceptions of opportunism can prompt buyers to engage in arm's length or discrete transactions with suppliers, thereby limiting the prospects of ongoing revenues for the vendor. Such discrete transactions may increase overall customer acquisition costs for vendors in that at the end of a transaction cycle, a vendor would have to either identify and attract new customers or engage in costly renegotiations with the existing buyer. From the buyers' viewpoint, repeated discrete transactions likely increase the time and costs involved in the vendor evaluation and selection process.

Given the pervasiveness of B2B outsourced services, the transaction cost debate has shifted more toward identifying and implementing effective buyer-seller relationship strategies (Carson, Madhoo, & Wu, 2006; Joshi & Stump, 1996) as opposed to finding the appropriate mix between hierarchical vs. market arrangements. Within the buyer-seller relational exchange research stream, scholars such as Stump and Heide (1996) offer a range of control mechanisms such as relationship-specific investments and monitoring as tools for addressing post-contractual or ex post supplier opportunism. However, their research does not address whether a priori opportunism perceptions on the part of the buyer will increase or decrease the likelihood of the buyer engaging in contractual or relational governance with the supplier.

Similarly, Wang, Li, Ross, & Craighead (2012) suggest ways firms can use social capital to guard against the risk of opportunism. While their research addresses how greater social capital affects the degree of opportunism, it does not establish a linkage between reduced opportunism and its influence on buyers' vendor relationship choices.

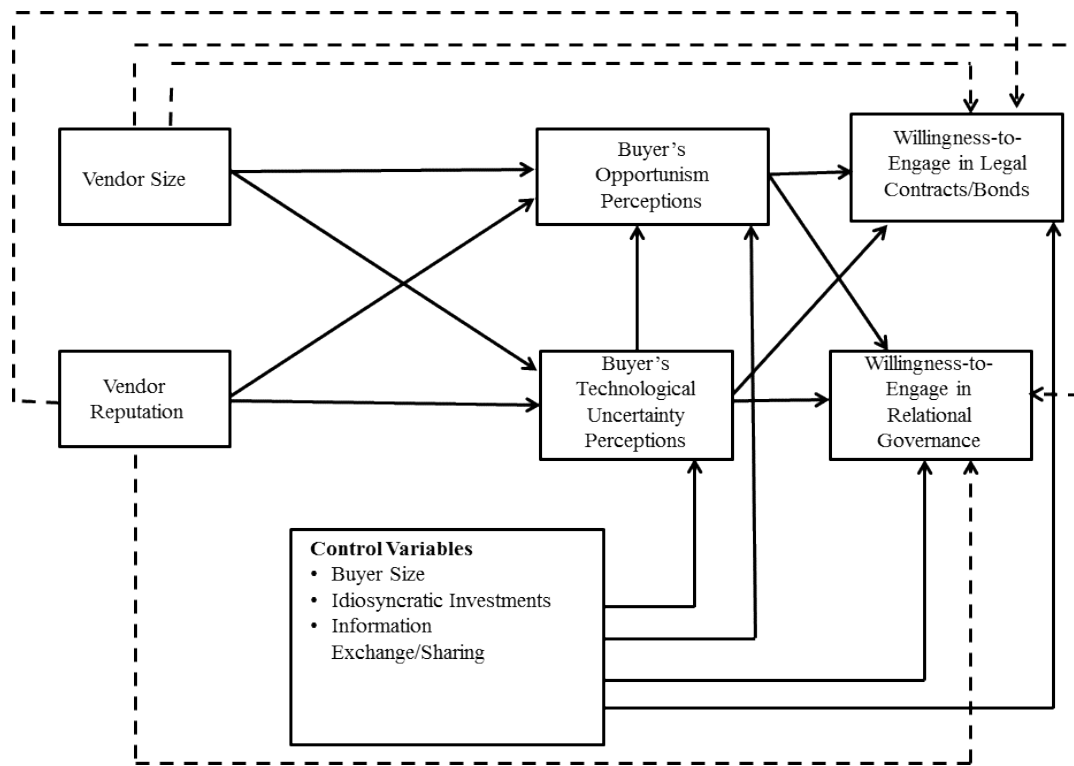
Still others such as Fink, Edelman, & Hatten (2006) studied the relationship between supplier technological uncertainty and its impact on customer performance, but their research did not assess the direct impact of such uncertainty on buyer's relationship choices.

An effective understanding of linkages between perceived opportunism and uncertainty and buyers' choice of a relationship governance mode can assist suppliers in crafting and revamping their service marketing strategies. Such an understanding can also help buyers identify and seek relationship choices that best help cope with opportunism and uncertainty inherent in a particular transaction. While current vendor selection research such as that undertaken by Sarkis and Talluri (2002), Harmon, Conrad, & Brown (1997), and Tracey and Tan (2001) provides a range of vendor evaluation criteria and metrics, their research does not incorporate opportunism and uncertainty. Nor does it study how *ex ante* vendor opportunism and uncertainty perceptions affect buyers' relationship preferences. Similarly, while Hoetker (2005), DeBoer, Labro, & Morlacchi (2001), and Wu (2008), have studied supplier selection from varying perspectives, their research does not establish linkages between supplier firm characteristics, opportunism, uncertainty, and relationship preferences of the buyer.

The sections below encompass a brief overview of scholarly research on vendor firm characteristics, transaction cost variables of opportunism and uncertainty, and buyer-seller relational exchange. A summary table of constructs and construct definitions used in Essay 1 is provided in Table 3.8. The paper then examines the relationship between buyers' perceptions of opportunism and uncertainty and their preferences for a particular relationship governance mechanism. Moreover, the section also provides a review of the

interaction between vendor firm characteristics, buyers' a priori perceptions of opportunism and uncertainty, and their willingness-to-engage in contractual and/or relational governance with a particular outsourcing service provider.

Figure 3.1: Research Model



*Dashed lines indicate mediating relationship.*

### Buyer-Seller Relationship Governance

Legal contracts/bonds.

Most buyer-seller relationships involve some sort of a contractual arrangement that formally specifies the future roles, duties, responsibilities, and penalties for non-conformance (Cannon & Perreault, 1999; Macneil, 1978). In the past two decades, much emphasis has been placed on developing mutually beneficial relational exchanges (Barringer, 1997; Cannon & Homburg, 2001; Dwyer, Schurr, & Oh, 1987; Ono & Kubo,

2009). Despite the increased focus on relational exchanges, contractual bonds remain the primary focus of many buyer-seller arrangements including outsourced services (Poppo & Zenger, 2002; Richmond et al., 1992). Contractual relations, also labeled as legal bonds by Cannon and Perreault (1999), typically provide the buyer with the opportunity to reduce perceived risks in an outsourcing arrangement by listing specific performance requirements as well as remedies for breach of various clauses.

The importance of formal contracts has also been emphasized by agency theory scholars such as Eisenhardt (1989) in that a tightly structured contract is likely to suppress self-serving behavioral tendencies or opportunism on the part of the agent (or seller). In addition, such contracts also reduce the need for costly monitoring. In order to avoid performance deviances on the part of the agent (or seller or channel partner), Celly and Frazier (1996) suggest implementation of outcome-based or performance-contingent contracts that compensate the seller/supplier only when certain pre-defined metrics are satisfactorily accomplished. Conversely, Jaworski and McInnis (1989) argue that under conditions of environmental uncertainty, use of outcome-based contracts can be detrimental to the buyer-seller relationship in that such contracts may erroneously hold the supplier responsible for factors that are beyond their control.

Despite the extensive usage of contractual arrangements in buyer-seller exchanges, Williamson (1975) argues that all contracts are incomplete due to the presence of bounded rationality whereby there exist constraints on the decision-makers' ability to anticipate all relevant contingencies surrounding an exchange. Given the bounded rationality assumption as well as the potential of opportunism and uncertainty in a transaction, it is therefore important for the supplier to understand how such perceptions



affect the buyers' decision to engage in a contractual relationship with a particular outsourced solution provider. Such an understanding can help vendors develop and incorporate elements into their outsourcing contracts that are perceived as mutually beneficial by the buyer.

Relational exchange/governance.

While the contractual relationships are said to be more specific (Cannon & Perreault, 1999), such exchanges are viewed as arm's length transactions by scholars such as Barringer (1997) and Dwyer et al. (1987). The strong focus of legal contracts on performance of specific tasks within set time frames is likely to contribute to arm's length perception of such relationships. Barringer (1997) argues that while contractual relationships are not exactly the same as discrete transactions, they still employ a similar governance mechanism as a discrete, arm's length transaction.

Compared to contractual relationships that may often span shorter time periods, relational exchanges involve an extended time horizon and are designed to mutually benefit both parties (Heide, 1994; Macneil 1980). Extant literature on buyer-seller relationship identifies a relational exchange as having the following attributes: long-term orientation, mutual dependence, mutual trust, and open communications (Dwyer et al., 1987; Ganesan 1994). Heide (1994) further classifies relational exchange as an arrangement in which the parties involved share common norms.

In addition to the above listed attributes of relational exchanges, these relationships are also often likely to involve bilateral investments on the part of the buyer and the seller or channel partner (Rokkan et al., 1994). Such investments usually exhibit the level of trust each exchange partner has in the other. It is to be noted, however, that

unilateral asset investment in the transaction cost literature is viewed as a condition that leads to safeguarding problems (Rindfleisch & Heide, 1997). Bilateral investments, to the contrary, are reflective of mutual trust more so than serving as an opportunism deterrent.

While a range of scholars have covered relational exchange or relational contracting (Brown et al., 2000; Fink et al., 2006; Heide, 1994, Weitz & Jap, 1995), most have focused on relational governance within the context of channel relationship management. There exists a gap in relational exchange research with regard to how buyers' a priori perceptions of opportunism and uncertainty affect their vendor relationship choices. An awareness and understanding of the relationship between opportunism and uncertainty and buyers' willingness-to-engage in a relational exchange can help vendors rethink and adjust their positioning strategies.

### Hypotheses Development

This section examines the relationship connectors between independent and dependent variables as well as proposes hypotheses. Similar to the overview of construct and construct definitions, hypotheses examined in Essay 1 are summarized in Table 3.9. In addition to the main model, the section also discusses mediation hypotheses.

#### Opportunism, Technological Uncertainty, and Buyer's Relationship Preferences

Opportunism, technological uncertainty, and contractual relationship.

Since *opportunism* is defined as self-interest seeking with guile (Williamson, 1975), both transaction cost and agency scholars (Carson et al., 2006; McNally & Griffin, 2004; Stump & Heide, 1996) suggest various contractual arrangements to limit the incidence of post-contractual vendor opportunism. At the same time, extant literature

does not offer any guidance on whether higher a priori opportunism perceptions on the part of the buyers actually force them to seek stringent legal contracts/bonds with their exchange partners. A key factor that renders it difficult to assess opportunism is the degree of information asymmetry that may exist between the vendor and the buyer (Wathne & Heide, 2000). In order to cope with the information asymmetry problem, a buyer typically has two options: increase the degree of monitoring which may require the buyer to incur additional costs, or to seek outcome-based contracts (Eisenhardt, 1989). Monitoring of vendor behavior can be cost prohibitive (Stump & Heide, 1996) as a buyer may have to invest significant resources in developing and deploying a monitoring mechanism. Monitoring is also less likely to be an option for relationships with shorter duration.

The use of contractual arrangements to guard against opportunism is prevalent in the TCA, outsourcing, and channel relationship literature (Celly & Frazier, 1996; Platz & Temponi, 2007; Wathne & Heide, 2000). For instance, Richmond et al. (1992) contend that in a comprehensive contract, the roles and expectations of each party are explicitly stated thereby reducing the potential of opportunism-related payoffs. Similarly, Platz and Temponi (2007) suggest that a well-structured contract can reduce the incidence of conflict of interest between the buyer and the seller thereby leading to the following hypothesis:

*H<sub>1</sub>: There is a positive relationship between buyers' perceptions of opportunism and their willingness-to-engage in a contractual relationship with the outsourced vendor.*

From an *uncertainty* perspective, a range of TCA and relational exchange scholars

including Williamson (1975) and Barringer (1997) agree that uncertainty renders most buyer-seller contracts as incomplete. This forces parties in an exchange to either seek amendments in existing contracts (Geyskens et al., 2006) or disband their relationship altogether. Richmond et al. (1992) argue that most information system outsourcing contracts are incomplete due to changing technological and organizational (both buyer and vendor) environments. Moreover, merger and acquisition activities on the part of the outsourcing organization and or its suppliers are further likely to render existing contracts as incomplete or unenforceable.

McNally and Griffin (2004) suggest that when facing environmental and behavioral uncertainty, a buying firm is likely to opt for a joint action with the supplier as opposed to seeking arm's length relationships. Similarly, if the parties to an exchange perceive lower levels of uncertainty, they are less likely to engage in a relational exchange and more likely to seek contractual arrangements (Salancik and Pfeffer, 1978; Williamson, 1985). Fink et al. (2006) further contend that when anticipating environmental and/or technological uncertainty in a transaction, buyers and suppliers tend to seek a relational exchange in order to reduce the overall risk. The following hypothesis is therefore proposed:

*H<sub>2</sub>: There is a negative relationship between buyers' perceptions of technological uncertainty and their willingness-to-engage in a contractual relationship with the outsourced vendor.*

Opportunism, uncertainty, and relational governance/exchange.

When perceiving a higher degree of *opportunism*, parties to an exchange are less likely to trust each other (Jap and Anderson, 2003) and hence are unlikely to engage in

open communications and confidential information sharing. Information sharing is identified as a key trait of inter-organizational relational exchanges (Cannon & Perreault, 1997; Cannon & Homburg, 2001). Greater information sharing is generally employed with the objective to reduce information asymmetry that exists between the buyer and the seller and provides a buyer with insights into a supplier's future plans (Cannon & Homburg, 2001). While confidential information-sharing or open communication with the buyer also enables a supplier to better anticipate the environmental uncertainties in the buyer's business, such level of collaboration is unlikely in the presence of opportunism (John, 1984). When perceiving opportunism, parties to a transaction are unlikely to engage in confidential information-sharing given that it may create a safeguarding problem (Heide & John, 1990).

Moreover, a higher degree of opportunism also affects the willingness-to-engage in an extended relationship with each other (Ono & Kubo, 2009). Long-term or extended relationships closely resemble the attributes of a relational exchange and often involve relationship-specific investments by the exchange partners (Rokkan et al., 2003). When facing a higher degree of opportunism, however, the parties to an exchange are less likely to make relationship-specific investments as such assets often create a lock-in condition (Godfrey & Hill, 1995; Lonsdale, 2001) thereby leading to the following hypothesis:

*H<sub>3</sub>: There is a negative relationship between buyers' perceptions of opportunism and their willingness-to-engage in a relational exchange with the outsourced vendor.*

*Uncertainty* is a condition that renders all contracts as incomplete (Richmond et al., 1992), and creates adaptation problems for the parties in an exchange (Poppo &

Zenger, 2002; Williamson, 1975). Specifically with regard to technology that faces rapid changes in specifications and a higher risk of obsolescence, it is less likely that a buyer and a supplier will anticipate and include all relevant contingencies in a formal contract (Richmond et al., 1992). Stated otherwise, the notion of comprehensive contracts is rather rare in IT outsourcing arrangements due to the inherent uncertainty in technology. Furthermore, such inherent uncertainty is also likely to have a negative impact on the overall success of an IT outsourcing initiative (Wang, 2002). The incomplete contracting phenomenon in IT outsourcing therefore renders it important for buyers and suppliers to collaborate closely to accomplish the overall transaction objectives.

In their study of the relationship between IT managers and their outsourced vendors, Poppo and Zenger (2002) found that technological uncertainty combined with asset specificity led IT managers to seek closer relationships with their suppliers. Similarly, Noordewier, John, & Nevin (1990) also found the presence of a relationship between environmental uncertainty and relational exchange in their research on performance outcomes in buyer-seller exchanges. Still others (Crocker & Masten, 1991; Macneil, 1978; Williamson, 1991) found that inter-firm arrangements are more likely to follow a relational exchange when facing higher degrees of environmental and technological uncertainty. This is likely a function of the higher costs of adaptations that may need to be made to traditional contracts as a result of the changes in the environment surrounding inter-firm relationships thereby leading to the following hypothesis:

*H<sub>4</sub>: There is a positive relationship between buyers' perceptions of technological uncertainty and their willingness-to-engage in a relational exchange with the outsourced vendor.*

## Mediating Role of Opportunism and Uncertainty

Opportunism is identified as a variable that affects many outcomes and decisions in a buyer-supplier exchange (Wang, 2002; Wathne & Heide, 2000). In addition, the degree of opportunism also impacts the relationship governance choices in a buyer-supplier or manufacturer-channel exchange (Brown et al., 2000; Heide and John, 1990). Williamson (1975) contends that market arrangements are preferred for transactions that face a lower risk of opportunism. Regarding the linkages between firm reputation, opportunism, and governance choices, TCA and relational exchange scholars agree on the notion that firm reputation serves as a deterrent against opportunism and opportunistic behavior (Doney & Cannon, 1997; Ganesan, 1994; Wang, 2002). Firm reputation is not only associated with trust (Kwon, 2004), but it is also cited as a key driver or indicator of firm performance. Bharadwaj (2000) states that signaling a sense of assurance to a potential buyer will improve the likelihood that a buyer will prefer relational as opposed to arm's length contractual exchange. Similarly, a weaker reputation is likely to increase the perceived degree of opportunism on the part of the buyer (Houston & Johnson, 2000) thereby forcing the buyer to seek legal bonds as a safeguarding mechanism.

*H<sub>5</sub>: The relationship between vendor firm reputation and buyers' relationship governance choices is mediated by buyers' perceptions of vendor opportunism.*

With regard to uncertainty, relational scholars (Crocker & Masten, 1991; Macneil, 1978) suggest that when facing uncertainty, buying firms tend to choose collaboration or relational exchange over structured contractual arrangements. Rindova, Williamson, Petkova, & Sever (2005 p. 1035) state that a firm's reputation generally comprises two dimensions. These include perceived quality (the extent to which various stakeholders

evaluate a specific attribute of a firm such as its products or services) as well as prominence (the extent to which a firm is a recipient of mass recognition in its industry). Both these dimensions of reputation are likely to reduce the uncertainty perception of the buyer as well as their relationship governance choices.

*H<sub>6</sub>: The relationship between vendor firm reputation and buyers' relationship governance choices is mediated by buyers' perceptions of vendor technological uncertainty.*

The linkages between vendor firm size, opportunism, and relationship governance choices are evident from research conducted by various scholars including Larson et al. (2005), and Nooteboom (1992). Larson et al. (2005) found that larger buying organizations are likely to engage in closer and collaborative relationships with larger suppliers as smaller suppliers are less likely to invest in various collaboration technologies such as electronic data interchange (EDI). Larger suppliers not only have greater resources at their disposal (Nooteboom, 1992), they are also likely to enjoy a stronger reputation (Doney & Cannon, 1997).

Similarly, the study conducted by Redondo and Fierro (2007) found that firm size has an impact on the long-term orientation of buyer-supplier relationships. Smaller firms are also said to incur higher costs for themselves as well as their partners due to the lack of economies of scale (Nooteboom, 1992). Moreover, from an opportunism and uncertainty perspective, smaller firms, lacking in strong reputation are likely to be perceived as opportunistic due to their focus on short-term gains (Homer, 1985). At the same time, there is likely greater technological uncertainty surrounding their products and services because smaller firms are cited to have fewer financial resources and are viewed



as lacking expertise (Carmel & Nicholson, 2005).

*H<sub>7</sub>: The relationship between vendor firm size and buyers' relationship governance choices is mediated by buyers' perceptions of vendor opportunism.*

*H<sub>8</sub>: The relationship between vendor firm size and buyers' relationship governance choices is mediated by buyers' perceptions of vendor technological uncertainty.*

### Control Variables

Based on extant literature on transaction cost and relational exchange (Cannon & Perreault, 1999; Geyskens et al., 2006; Larson et al., 1997; Nooteboom, 1992), the control variables analyzed in this study include size of the buying organization, idiosyncratic or relationship-specific investments, and information sharing/exchange between the buyer and the supplier or vendor. A summary table of control variables and their definitions used in Essay 1 is provided in Table 3.10.

## Methodology

### Sample

This research utilizes a sample that includes an online panel of IT buyers across a variety of industries. As discussed by Skinner, Autry, & Lamb (2009), panel-based samples do not lead to significantly different results compared to the studies that utilize other sample selection mechanisms. The use of IT procurement professionals also aligns with other research that studied outsourcing as well as other B2B phenomenon such as transaction cost analysis (Huber & Power, 1985; Wang, 2002; Whitten & Leidner, 2006).

First, the study employed screening questions in order to ensure that sample respondents matched the characteristics of the population of interest. The screening

questions focused on the respondents' level of involvement and role in their organizations IT procurement process, number of years in IT purchasing, and whether their organizations outsourced an IT function/solution in the past 12 months. Non-filtered respondents were then asked to list the solution they outsourced along with the vendors they evaluated and selected for such solutions. Lastly, the respondents were asked to select a vendor that they closely evaluated but did not select for the identified IT solution.

#### Data Collection Procedures

Altogether, 1,478 IT procurement professionals were invited to participate in the survey. At the onset of the survey, an initial 66 respondents took the survey and the survey link was disabled temporarily to review for validity and accuracy of preliminary responses. The survey was then re-launched and an additional 154 respondents completed the survey, bringing the total to 220. In order to increase the sample size, a third stage of the survey was launched a week later that included reminders to respondents that had not taken the survey. This effort yielded 81 more surveys bringing the total number of completed surveys to 301. Using the recommendations of Armstrong and Overton (1977), the results for each stage were then compared to ensure consistency. The results of the consistency check did not reveal any major differences between the means, standard deviations, and reliability scores for each of the three stages of the survey.

#### Respondent Profile

The 301 completed surveys provided a response rate of 20.4 percent. The collected survey data was then analyzed to identify missing data or inaccurate/invalid responses as well as any outliers. The data screening process then led to the elimination

of 98 respondents that had either entered invalid/inaccurate responses or had missing data. The elimination of 98 respondents was based on their inability to satisfy additional criteria such as size of the respondents' organization, depth of their experience with IT procurement, etc. The 203 valid surveys provided a usable response rate of 13.7 percent.

The sample respondent profile is detailed in Table 1. A total of 72.4 percent of the 203 respondents stated that they had the final say over their organization's IT outsourcing while the remainder, 27.6 percent, classified their role as that of a recommender or influencer. The respondents reflected a cross-section of industries including manufacturing (24.6 percent), construction (7.9 percent), professional services (7.9 percent), retailing (6.9 percent), telecommunications (4.4 percent), and education (4.4 percent). The rest of the respondents (43.9 percent) were affiliated with a multitude of industries, with each having less than four percent of the total sample share.

Table 3.1: Respondent Profile

Male	66%
Female	34%
Number of Years Employed with their Current Organization (median)	7
Number of Years in IT Procurement (median)	10
Respondents' Annual IT Procurement Responsibility (median)	\$400,000
Number of Employees in the Firm (median)	530
Annual Revenues of the Firm (median)	\$34 million
Annual IT Budget of the Firm (median)	\$750,000
Percent of Total IT Budget Dedicated to Outsourcing (median)	25%

*Adopted from Essay-1*

## Measures

Scales were used from extant literature and adapted where needed. All scales met the reliability guidelines by Nunnally (1978). Appendix-II contains the adapted scales. The Vendor Reputation Scale included eleven items (anchors: strongly disagree/strongly agree) that reflected buyers' vendor reputation perceptions on accounts of

fairness/honesty, product/service quality, and vision/leadership. Of the eleven items, four items were adapted from Ganesan (1994) that measured vendor reputation for fairness and honesty. Seven additional items were adapted from the Reputation Quotient (RQ) developed by Fombrun, Gardberg, & Sever (2000), Chun (2005), and Caruana (1997) including four items for product/service quality reputation and three items for reputation for vision and leadership. Vendor size measures were adapted from Doney and Cannon (1997) and contained a four-item 7-point Likert-type scale.

With regard to buyers' opportunism perceptions, the scale used by Rokkan et al. (2003) was adapted to fit the ex ante or vendor evaluation context. The 7-point Likert-type scale contained six items. Technological uncertainty items were adapted from the four-item 7-point scale used by Stump and Heide (1996). With regard to willingness-to engage in contractual relationship/legal bonds, five items measured on a 7-point Likert-scale format, were adapted from Carey et al. (2011). The buyers' willingness-to-engage in a relational exchange construct adapted three items from Joshi and Stump (1999) and an additional three items from Poppo and Zenger (2002). All items were based on 7-point Likert-type scales.

In addition, the research model also included three control variables that focused on buyers' firm size, willingness of the vendor to make relationship-specific or idiosyncratic investments, as well as open sharing of information by the vendor. With the exception of buyer size which was measured by the number of employees as suggested by Larson et al. (2005), the other two variables were adapted from established scales for idiosyncratic investments (Anderson & Weitz, 1992) and information sharing (Doney & Cannon, 1997; Cannon & Homburg, 2001; Pesamaa & Hair, 2007).

## Research Technique/Data Analysis

Structural equation modeling (SEM) is employed to determine the nature and extent of the relationship between IT buyers' perceptions of vendor opportunism and technological uncertainty and their relationship choices with the vendors. Specifically, SPSS and AMOS were used to run the data analysis. To test mediation, the paper followed the mediation testing guidelines provided by Baron and Kenny (1986, p. 1176):

- a) changes in independent variables (vendor firm characteristics) significantly influence changes in the mediating variables (opportunism and technological uncertainty)
- b) changes in mediators have a significant impact on the dependent variables (legal contracts/bonds and relational governance), and
- c) the relationship between independent and dependent variables is no longer significant when controlling for the mediating variables.

As suggested by Hair, Black, Babin, & Anderson (2010), if the relationship between independent (vendor firm characteristics) and dependent variables (relationship choices) remains significant and unchanged after including the mediating variables (opportunism and uncertainty), then mediation will not be supported. However, if the direct relationship between independent and dependent variables remains significant but is reduced when mediating variables are included, then a partial mediation will be supported (Hair et al., 2010). Lastly, if the direct relationship between independent and dependent variables is not statistically significant ( $p < .01$ ) when the mediating variables are included, then full mediation will be supported (Hair et al., 2010).

## Results

### Measurement Model Results

The initial measurement model tested 46 items. The results revealed the following: Chi-Square = 1940.226; DF = 999; CMIN/DF = 1.942; CFI = 0.89; TLI = 0.881; RMSEA = 0.068, all within the guidelines suggested by Hu and Bentler (1999) and Hair et al. (2010). While these results suggested acceptable fit, modification indices were reviewed. In doing so, construct items that reflected higher unstandardized regression weights, a value higher than 10, as well as those that had higher standardized residual covariances, higher than |4|, were identified as candidates for deletion. This process was carried out in iterations in that the model was run subsequently after deletion of individual items in order to assess the enhancement in model fit. The final measurement model comprised of 33 items with results indicating an adequate fit (Chi-Square = 821.693; DF = 492; CMIN/DF = 1.67; CFI = 0.943; TLI = 0.935; RMSEA = 0.058). Reliabilities, means, and standard deviations for each construct are presented in Table 3.2.

Table 3.2: Scale Reliability Results

Construct	Reliability ( $\alpha$ )	Mean	Std. Deviation
Vendor Size (4 items)	0.895	5.087	1.342
Vendor Reputation (7 items)	0.934	5.415	0.995
Perceived Opportunism (6 items)	0.971	3.616	1.973
Perceived Technological Uncertainty (4 items)	0.910	3.857	1.385
Willingness-to-Engage in Legal Contracts/Bonds (3 items)	0.865	5.567	1.130
Willingness-to-Engage in Relational Governance (3 items)	0.768	5.300	1.119
Idiosyncratic Investments by Vendor – control (3 items)	0.895	4.828	1.356
Information Sharing by Vendor – control (3 items)	0.915	4.278	1.724

*Partially Adopted from Essay-1*

*Note: Buyer size, the third control variable, is excluded from the table given that it was measured using a single item variable (number of employees).*

All constructs met the convergent validity requirements including AVE scores higher than 0.50, Eigenvalues greater than 1, and reliability scores above 0.70 as identified by Hair et al. (2010). Table 3.3 portrays the results for convergent validity. Each construct was then tested for discriminant validity following the guideline provided by Fornell and Larcker (1981) that involved a comparison of AVE with squared inter-construct correlations for all constructs. Results of discriminant validity are highlighted in Table 3.4.

Table 3.3: Convergent Validity Results

Construct	Average Variance Extracted (AVE)	Eigen-Values
Vendor Size (4items)	0.687	2.747
Vendor Reputation (7 items)	0.673	4.713
Perceived Opportunism (6 items)	0.849	5.094
Perceived Technological Uncertainty (4 items)	0.720	2.878
Willingness-to-Engage in Legal Contracts/Bonds (3 items)	0.685	2.054
Willingness-to-Engage in Relational Governance (3 items)	0.545	1.635
Idiosyncratic Investments by Vendor – control (3 items)	0.747	2.240
Information Sharing by Vendor – control (3 items)	0.789	2.366

*Note: Buyer size, the third control variable, is excluded from the table given that it was measured using a single item variable (number of employees).*



Table 3.4: Discriminant Validity Results

	SZ	REP	OPP	TU	LB	RE	IDV	ISV
Squared Inter- construct Correlations								
SZ	1							
REP	0.231	1						
OPP	0.075	0.011	1					
TU	0.004	0.005	0.247	1				
LB	0.058	0.295	0.006	0.012	1			
RE	0.162	0.347	0.002	0.004	0.445	1		
IDV	0.106	0.318	0.050	0.012	0.244	0.270	1	
ISV	0.055	0.104	0.206	0.078	0.029	0.111	0.542	1

*SZ = Vendor size; REP = Vendor reputation; OPP = Perceived opportunism; TU = Perceived technological uncertainty; IDV = Idiosyncratic investments by vendor; ISV = Information sharing by vendor*

*Note: Buyer size, the third control variable, is excluded from the table given that it was measured using a single item variable (number of employees).*

#### Common Method Variance (CMV)

Common method variance issues were assessed. According to Podsakoff, MacKenzie, Lee, & Podsakoff (2003), CMV reflects the amount of variance that stems from the use of a specific measurement method as opposed to the constructs that are represented by the various items or measures. In assessing for CMV, this paper used the procedures suggested by Podsakoff and Organ (1986) and included use of different anchors for many of the questions as well as conducting a one-factor test. The results of the one-factor test indicated the presence of multiple factors whereby none of the factors

accounted for majority of the variance. Moreover, three marker variables were also used within the data analysis (Williams, Hartman, & Cavazotte, 2010).

### Structural Model Results

#### Step one.

Next, steps were taken to examine the hypothesized linkages. In accordance with the Baron and Kenny (1986) guidelines, in Step 1 a model (Model A) with direct paths between independent variables (vendor firm characteristics) and mediating variables (opportunism and technological uncertainty) was created. The model also contained direct paths between mediating variables and dependent variables (willingness-to-engage in legal contracts/bonds and willingness-to-engage in relational governance). Overall fit indicators suggest adequate model fit (Chi-Square = 1010.123; DF = 504; CMIN/DF = 2.004; CFI = 0.912; TLI = 0.902; RMSEA = 0.071). Control variables were examined for significant linkages. Specifically, idiosyncratic investment by vendor was found to have a significant impact on buyers' willingness-to-engage in legal contracts/bonds ( $p < .01$ ) and relational governance ( $p < .01$ ). Similarly, information sharing by the vendor significantly impacted buyers' perceptions of vendor opportunism ( $p < .01$ ), technological uncertainty ( $p < .05$ ), and their willingness-to-engage in legal contracts/bonds ( $p < .05$ ).

Next, hypothesized linkages are examined. Results for H1 do not provide support for the linkages (beta of -0.038 and a  $p > .05$ ). Results for H2 are not significant (beta of -0.058 and a  $p > .05$ ). The findings fail to support H2. H3 produced a marginally significant relationship ( $p < .1$ ) with a beta of -0.063. Results indicate marginal support for H3. H4 examined if a positive relationship between buyers' perceptions of

technological uncertainty and their willingness-to-engage in a relational exchange with the vendor exists, however, results do not provide support for this linkages ( $p > .05$ ).

Table 3.5 provides a summary of the hypotheses testing results for the direct effects.

Table 3.5: Results for Model A

Predictor Variable		Outcome Variable	Unstandardized Coefficient of Regression	Significance (p-value)
Vendor Size	→	Perceived Opportunism	0.593	$p < 0.01$
Vendor Size	→	Perceived Technological Uncertainty	0.11	$p > 0.05$
Vendor Reputation	→	Perceived Opportunism	-0.702	$p < 0.01$
Vendor Reputation	→	Perceived Technological Uncertainty	-0.271	$p < 0.05$
Perceived Technological Uncertainty	→	Perceived Opportunism	0.481	$p < 0.01$
Perceived Opportunism (H1)	→	Willingness-to-Engage in Legal Contracts/Bonds	-0.038	$p > 0.05$
Perceived Technological Uncertainty (H2)	→	Willingness-to-Engage in Legal Contracts/Bonds	-0.058	$p > 0.05$
Perceived Opportunism (H3)	→	Willingness-to-Engage in Relational Governance	-0.063	$p < 0.10$
Perceived Technological Uncertainty (H4)	→	Willingness-to-Engage in Relational Governance	-0.037	$p > 0.05$

Step two.

Step 2 involved development of a second model (Model B). This model established direct paths from independent variables (vendor firm characteristics) to

mediating variables (perceived opportunism and perceived technological uncertainty) as well as direct paths from independent variables to dependent variables (willingness-to-engage in legal contracts/bonds and relational governance). Further, no paths were tested between mediating variables and dependent variables. This allowed us to examine whether a significant direct relationship exists among the independent variables and the dependent variables without accounting for the direct influence of the mediating variables.

Overall fit indicators suggest adequate model fit (Chi-Square = 964.890; DF = 504; CMIN/DF = 1.914; CFI = 0.920; TLI = 0.911; RMSEA = 0.067). Step 2 yielded an improvement in model fit compared to Step 1 due to lower values for Chi-Square, and CMIN/DF as well as slightly higher CFI and TLI scores, and a lower RMSEA score. Control variables were examined for significant linkages. Idiosyncratic investments by the vendor were found to have a significant impact on buyers' willingness-to-engage in legal contracts/bonds ( $p < .01$ ) and willingness-to-engage in relational governance ( $p < .05$ ). Similarly, information sharing by the vendor significantly impacted buyers' perceptions of vendor opportunism ( $p < .01$ ), technological uncertainty ( $p < .01$ ), and their willingness-to-engage in legal contracts/bonds ( $p < .01$ ).

Table 3.6: Results for Model B

Predictor Variable		Outcome Variable	Unstandardized Coefficient of Regression	Significance (p-value)
Vendor Size	→	Perceived Opportunism	0.593	p<0.01
Vendor Reputation	→	Perceived Opportunism	-0.702	p<0.01
Vendor Reputation	→	Perceived Technological Uncertainty	-0.267	p<0.05
Perceived Technological Uncertainty	→	Perceived Opportunism	0.474	p<0.01
Vendor Reputation	→	Willingness-to-Engage in Legal Contracts/Bonds	0.428	p<0.01
Vendor Reputation	→	Willingness-to-Engage in Relational Governance	0.337	p<0.01
Vendor Size	→	Willingness-to-Engage in Relational Governance	0.101	p<0.10
Vendor Size	→	Perceived Technological Uncertainty	0.112	p>0.05
Vendor Size	→	Willingness-to-Engage in Legal Contracts/Bonds	-0.025	p>0.05

The results for Model B do not indicate the presence of a significant relationship between vendor size and buyers' willingness-to-engage in legal contracts/bonds.

However, there exists a marginally significant relationship between vendor size and buyers' willingness-to-engage in relational governance with the vendor. In examining direct paths between independent and dependent variables, the linkage between vendor size and buyers' willingness-to-engage in legal contracts/bonds was insignificant (beta - 0.025; p. >.05). However, the linkage between vendor size and buyers' willingness-to-

engage in relational governance was marginally significant (beta 0.101;  $p < .10$ ). With regard to the direct linkage between vendor reputation and buyers' willingness-to-engage in legal contracts/bonds, the relationship was significant (beta 0.428;  $p < .01$ ). Same was the case with the linkage between vendor reputation and buyers' willingness-to-engage in relational governance (beta 0.337;  $p < .01$ ).

### Step three.

Step 3 involved testing the full model (Model C) with all the relevant linkages between independent (vendor size and vendor reputation) and mediating variables (perceived opportunism and perceived technological uncertainty) as well as mediating and dependent variables (willingness-to-engage in legal contracts/bonds and relational governance). In addition, the model also tested direct relationships between independent variables and dependent variables. A total of thirteen linkages were examined. Overall fit indicators suggest adequate model fit (Chi-Square = 961.150; DF = 500; CMIN/DF = 1.922; CFI = 0.920; TLI = 0.910; RMSEA = 0.068). From an overall fit perspective, Model C offers a better goodness-of-fit than Model A due to improved values/scores for CMIN/DF, CFI, TLI, and RMSEA. However, Model B offered better goodness-of-fit measures compared to Model C, for CMIN/DF, CFI, TLI, and RMSEA.

Control variables were reviewed for significant linkages. In that regard, idiosyncratic investments by the vendor had a significant impact on buyers' willingness-to-engage in legal contracts/bonds ( $p < .01$ ), as well as relational governance ( $p < .05$ ). Moreover, information sharing by the vendor also significantly impacted buyers' perceptions of vendor opportunism ( $p < .01$ ), technological uncertainty ( $p < .01$ ), and willingness-to-engage in legal contracts/bonds ( $p < .05$ ).

Table 3.7: Results for Model C

Predictor Variable		Outcome Variable	Unstandardized Coefficient of Regression	Significance (p-value)
Vendor Size	→	Perceived Opportunism	0.593	p<0.01
Vendor Size	→	Perceived Technological Uncertainty	0.11	p>.05
Vendor Reputation	→	Perceived Opportunism	-0.70	p<0.01
Vendor Reputation	→	Perceived Technological Uncertainty	-0.268	p<0.05
Perceived Technological Uncertainty	→	Perceived Opportunism	0.478	p<0.01
Perceived Opportunism (H1)	→	Willingness-to-Engage in Legal Contracts/Bonds	-0.02	p>0.05
Perceived Technological Uncertainty (H2)	→	Willingness-to-Engage in Legal Contracts/Bonds	-0.053	p>0.05
Perceived Opportunism (H3)	→	Willingness-to-Engage in Relational Governance	-0.054	p>0.05
Perceived Technological Uncertainty (H4)	→	Willingness-to-Engage in Relational Governance	-0.021	p>0.05
Vendor Size	→	Willingness-to-Engage in Legal Contracts/Bonds	-0.03	p>0.05
Vendor Size	→	Willingness-to-Engage in Relational Governance	0.144	p<0.05
Vendor Reputation	→	Willingness-to-Engage in Legal Contracts/Bonds	0.43	p<0.01
Vendor Reputation	→	Willingness-to-Engage in Relational Governance	0.287	p<0.01

From the perspective of hypotheses, H5 posits that the relationship between vendor firm reputation and buyers' relationship choices is mediated by buyers'

perceptions of vendor opportunism. The mediation results highlighted in Tables 6 and 7 do not offer support for this linkage as the relationship between vendor reputation and buyers' relationship choices (willingness-to-engage in legal contracts/bonds and relational governance) remains significant ( $p < .01$ ) for both Model B and Model C. Similarly, results in Tables 3.6 and 3.7 do not lend support to H6 that suggests the linkage between vendor reputation and buyers' relationship choices is mediated by their perceptions of technological uncertainty.

For H7, the relationship between vendor firm size and buyers' willingness-to-engage in legal contracts/bonds and relational governance is mediated by buyers' perceptions of vendor opportunism, results in Tables 3.6 and 3.7 do not offer support. No changes are detected in the significant/insignificant of the relationship between Model B and Model C. At the same time, H8 that posits that the relationship between vendor firm size and buyers' relationship choices is mediated by their perceptions of technological uncertainty, results in Table 3.6 and Table 3.7, do not lend support.

## Discussion and Implications

### Perceived Opportunism & Legal Contracts/Bonds

Although the study fails to support a positive linkage between buyers' perceptions of vendor opportunism and their willingness-to-engage in legal contracts/bonds with the vendor, as outlined in H1, the results, nevertheless, carry several meaningful implications for researchers and practitioners. While previous scholarly research on agency theory, transaction cost analysis, and channel management research streams (Eisenhardt, 1989; Celly & Frazier, 1996; Wathne & Heide, 2000; Platz & Temponi, 2007) suggests that in order to curb post-contractual vendor opportunism,



buyers need to engage in stringent contractual relationships, including outcome-based contracts, to safeguard their interests, this is the first study that actually tested the impact of perceived opportunism on buyer's relationship choices. The findings of this paper essentially offer an alternative perspective to the existing research on agency theory, transaction cost, and channel management by showing that higher perceived vendor opportunism does not lead to an increased likelihood on the part of buyers to seek contractual relationships in the ex ante stage. Stated otherwise, the results do not support the notion that stringent legal contracts/ bonds are perceived as an effective mechanism to control post-contractual opportunism.

A possible explanation resides in research by Nootebom (1992) that alludes to the incompleteness of all business contracts due to presences of bounded rationality on the part of the buyer. Bounded rationality refers to the inability of the parties in a transaction to anticipate all contingencies in a contractual relationship (Rindfleisch & Heide, 1997). In essence, findings of this paper suggest that perhaps buyers lack confidence in the ability of formal, legal contracts to provide adequate protection against ex-post vendor opportunism thereby reinforcing previous assertions by Williamson (1979) and Nooteboom (1992) regarding incompleteness of inter-organizational contracts.

#### Perceived Technological Uncertainty & Legal Contracts/Bonds

With regard to H2, the negative relationship between perceived technological uncertainty and buyers' willingness-to-engage in legal contracts/bonds with the vendor, the results of the study fail to support such a linkage. Given the focus of this study on outsourced IT solutions, it is likely that buyers perhaps anticipate a certain degree of technical change in such solutions. For instance, hospitals that purchase various

applications such as electronic medical records expect that their vendors will perform certain application upgrades, over time, in order to keep those applications current and/or compatible with other software.

In essence, within IT outsourcing, technological uncertainty is not only anticipated but may even be considered as a norm thereby explaining the lack of support for the negative linkage between technological uncertainty and buyers' willingness-to-engage in legal contracts/bonds with the vendors. Overall, existing transaction cost research shows that buyers are less likely to seek contractual relationships when anticipating a higher degree of technological uncertainty (Salancik & Pfeffer, 1978; Williamson, 1985; Fink et al., 2006). However, the results of this study reveal a lack of support for this perspective, at least within the IT outsourcing context.

#### Perceived Opportunism & Relational Governance

While the study finds only marginal support for H3, the negative linkage between perceived opportunism and buyers' willingness-to-engage in a relational governance with the vendor, these findings align with previous relational exchange and transaction cost research. Previous research (Godfrey & Hill, 1995; Lonsdale, 2001; Ono & Kubo, 2009) shows that opportunism in an inter-firm relationship is unlikely to foster information sharing and relationship-specific investments by the parties to a transaction. From a managerial perspective, vendors that suffer from higher perceived opportunism are unlikely to be viewed as business partners by the buying organization thereby limiting them to only short-term, arms-length, discrete, and perhaps less lucrative IT outsourcing transactions.

## Perceived Technological Uncertainty & Relational Exchange

With regard to H4, the positive linkage between perceived technological uncertainty and the willingness-to-engage in relational governance on the part of the buyer, the results do not find support for this hypothesis. One explanation could be that buyer-seller relational exchanges may be more appropriate when procuring customized as opposed to standardized solutions. For instance, within the IT outsourcing context, many solutions such as data storage or application hosting are deemed rather standardized which essentially renders fear of technological obsolescence as less of an issue for the individual buyer. This in turn alleviates the need on the part of the buyer to seek a closer relationship with its vendor(s).

Also, many IT outsourcing projects involve a certain degree of buyer-seller collaboration in general without having technological uncertainty as a precursor to such an exchange. For instance, the implementation cycle for various hospital IT systems can span several months and often require close-working relationships among internal hospital IT staff as well as vendor's personnel. Lastly, the type of solution outsourced (simple vs. complex) as well as the length of relationship is also likely to influence the degree of relational exchange between the buyers and sellers more so than just the fear of technological uncertainty. In essence, the findings of the study suggest that the mere presence of technological uncertainty is unlikely to be a reason for IT buyers to seek relational governance with their vendor and other factors must also be taken into consideration.

## Mediating Role of Perceived Opportunism and Technological Uncertainty

Although the study did not find support for H5 thru H8, the mediating role of

perceived opportunism and technological uncertainty between vendor firm characteristics (size and reputation) and buyers' relationship choices (legal contracts/bonds and relational governance), this research carries a number of implications. First, the mediation results uncovered a direct, positive relationship between vendor firm size and buyers' willingness-to-engage in relational governance with the vendor. These results reinforce previous findings by Larson et al. (2005) that show larger buyers seek more collaborative relationships with larger vendors.

Second, mediation testing also found a strong, positive relationship between vendor reputation and buyers' willingness-to-engage in legal contracts/bonds as well as relational governance. These results show that within the context of IT outsourcing, buyers are more likely to engage in a relationship with a vendor that has a stronger reputation. From an academic perspective, this aligns with previous assertion by Doney and Cannon (1997) that vendors with stronger reputation are likely to command higher trust on the part of the buyer. From a managerial viewpoint, lack of a direct positive relationship between vendor size and buyer's willingness-to-engage in a contractual agreement reveals that small vendors with stronger reputations are likely to continue to win IT outsourcing contracts. However, for smaller vendors that wish to remain competitive in the IT outsourcing vendor evaluation process, they must build a positive reputation for innovation, quality/reliability, and personalized service.

#### Limitations

As with most research, the current study has limitations that should be highlighted. These limitations include lack of focus on a specific outsourced IT solution, as well as a particular sector or industry. Some variation in results can be expected when

applying this research model within the context of a particular IT solution. For instance, it is likely that buyers may perceive a higher degree of vendor opportunism and uncertainty for emerging solutions versus those that have been available in the market for some time.

Similarly, while the respondent base in this survey is comprised of senior IT procurement professionals across multiple industries, it is likely that the results of the study may vary across individual industries. Organizations that are new to outsourcing may have a different perspective on vendor opportunism and uncertainty compared to those that have a history of employing outsourced solutions. For instance, while firms within the financial services and manufacturing sectors have long been engaged in outsourcing, others, such as healthcare providers, have only recently begun to employ outsourced IT and hence may differ in their perceptions of vendor opportunism and uncertainty.

In addition, given that IT outsourcing is rather global in nature in that it often involves global providers and global buyers, this study does not make a distinction between domestic vs. off-shore IT outsourcing. It is likely that buyers may perceive a different degree of opportunism and uncertainty attached with off-shore outsourcing solutions. Moreover, the study also does not differentiate between a simple versus a complex IT solution. These differences can have an impact on buyer's perceptions of vendors on accounts of opportunism and technological uncertainty.

#### Future Research

One area of future research revolves around using variables such as idiosyncratic investments and information sharing as moderating variables within the existing research

model. These variables may influence the relationship between buyer's perceptions of vendor opportunism and technological uncertainty and their inclination to engage in a particular relation type (contractual or relational exchange) with the vendors. Another research avenue could incorporate other TCA and/or relational exchange variables such as behavioral uncertainty, performance ambiguity, and goal congruence within the existing research model. Yet another research option could apply the existing research model to either specific industry settings or a particular IT solution. Given that IT outsourcing is a global phenomenon, it is important to study buyers' perceptions of not just domestic vendors but also off-shore IT solution providers. This creates another potential area for future research.

Another potential area for future research would be to evaluate how vendor firm attributes impact buyers' willingness to engage in other aspects of a relational exchange such as making relationship-specific investments. Moreover, future research could also evaluate the impact of buyers' perceptions of vendor opportunism on their willingness to employ various vendor monitoring mechanisms. Yet another avenue of future research would be to include buyer's perceptions of behavioral uncertainty on the part of the vendor and how those perceptions then influence their relationship choices with the vendor. Behavioral uncertainty is a key variable in TCA research, however, its impact has only been analyzed in an ex post (post contractual) context.

### Conclusion

This was the first study that directly examined the impact of buyers' perceptions of vendor opportunism and technological uncertainty on their relationship choices in an ex ante context. From this perspective, the study carries meaningful implications for the

academic community as well as practitioners. With regard to scholarly research, while both TCA as well as agency theory scholars have emphasized the need for “tight” contractual agreements to curb ex post or post-contractual opportunism (Eisenhardt, 1989; Geyskens et al., 2006), this study evaluates how buyer’s ex ante perceptions of vendor opportunism and uncertainty affect their relationship choices. In that regard, this study complements existing TCA as well as other research streams including relational exchange.

Another important contribution of this study is that the research findings established a direct and positive relationship between vendor firm reputation and buyers’ relationship preferences. From a managerial view point, vendor reputation, and not vendor size, influences buyers’ willingness-to-engage in both legal contracts/bonds as well as relational governance with vendors of outsourced IT solutions. For smaller IT vendors, this is a positive finding in that if they build a strong reputation, they may be equally likely to win outsourcing business in a marketplace that involves larger vendors with more resources.

Table 3.8: Summary Overview of the Constructs in Essay 1

Construct	Definition	Summary
Firm Size	Firm size is defined by scholars in a variety of ways. Larson et al., (2005) defined small suppliers as those with fewer than 500 employees. Similarly, Carmel and Nicholson (2005) define a small firm based on the number of employees. Krause et al., (1999) define small and large suppliers in terms of annual sales generated by the supplier. Still others such as Doney and Cannon (1997) asked buyers' to classify their supplier as a large or small firm.	Firm size is a rather important indicator of a supplier or vendor's capabilities within the vendor evaluation and selection literature as well as the buyer-seller relational exchange research (Campbell, 1985; Doney & Cannon, 1997; Redondo & Fiero, 2007). Firm size is also reflective of the bargaining power or the leverage a supplier may have in a buyer-seller exchange (Anderson and Narus, 1990).
Reputation	Vendor reputation refers to the various positive or negative perceptions of an organization held by multiple stakeholders such as employees, customers, investors, and others (Fombrun, 1996; Rindova et al., 2005).	Vendor reputation is a key variable in inter-firm relational exchanges as it is shown to influence important outcomes such as opportunism (Wang, 2002) and trust (Ganesan, 1994; Kwon, 2004). From a relational exchange perspective, a supplier's desire to protect its reputation serves as a deterrent against opportunism (Houston and Johnson, 2000). Within the vendor selection literature, reputation is also positively linked to product quality and vendor reliability (Tracey & Tan, 2001).
Opportunism	Opportunism is defined by Williamson (1975) as "self-interest seeking with guile and includes a variety of behaviors including lying, cheating, misleading, shirking, and deceit" Opportunism is a key behavioral construct in TCA research and one that has been studied in inter-firm relationship literature (Jap & Anderson, 2003; Ring & Van De Ven, 1992; Stump & Heide, 1996) as well as outsourcing (Parkhe, 1993).	Opportunism can come into play in the ex ante (pre-contract) as well as ex post (post-contract) stages of a transaction. For instance, in the pre-contract stage, a vendor may misrepresent information about its capabilities and resources (Williamson, 1985) while in the ex post stage a vendor may change product quality in order to reap better margins (Wathne & Heide, 2000).
Uncertainty	Uncertainty pertains to the difficulties in foreseeing events and conditions that can essentially render a transaction contract invalid or incomplete (Williamson, 1975). Uncertainty can either be environmental and or behavioral (Geyskens et al., 2006). It includes changes in demand and supply as well as technological requirements. Behavioral uncertainty refers to difficulties associated with evaluating performance (Geyskens et al., 2006). Technological uncertainty, the variable of interest in this research, is a result of the changes in technical specifications, product complexity, and the risk of technological obsolescence (Quinn & Hilmer, 1994).	Stump and Heide (1996) and Walker and Weber (1994) view it as difficulties in accurately forecasting the technical requirements in an exchange. Similarly, Quinn and Hilmer (1994) contend that technological uncertainty is reflected by higher frequency of technical change, rising intricacies in product architecture, and the threat of obsolescence. In addition to the difficulties associated with defining technological specifications within an outsourced project, Stump and Heidi (1996) as well as McNally and Griffin (2004) further equate technological uncertainty with the risk of technology obsolescence.

*Adopted from Essay 1*



Table 3.9: Summary of Linkages Examined in Essay 1

Effect/Interaction	Linkages
Vendor size and opportunism	Vendor firm size is negatively related to buyer's perceptions of opportunism.
Vendor size and technological uncertainty	Vendor firm size is negatively related to buyers' perceptions of technological uncertainty.
Vendor reputation and opportunism	Vendor firm reputation is negatively related to buyers' perceptions of opportunism.
Vendor reputation and technological uncertainty	Vendor firm reputation is negatively related to buyer's perceptions of technological uncertainty.
Uncertainty and opportunism	There is a positive relationship between buyers' perceptions of technological uncertainty and vendor opportunism.

*Adopted from Essay 1*

Table 3.10: Summary Overview of the Control Variables in Essay 1

Construct	Definition	Summary
Buyer Size	Various scholars have generally measured in terms of the number of employees or the annual revenues (Krause et al., 1999; Larson et al., 2005).	Nooteboom (1992) states that both buyer and supplier firm size influence the perceptions of dependency in an exchange. Smaller or larger buyer size is also cited as a determinant of higher or lower power-dependency on the part of the buyer (Anderson & Naurus, 1990; Kim, 2000). Larson et al. (2005) contend that larger buyers are more inclined to develop long-term relational exchange with larger suppliers due to the reason that smaller vendors are viewed as having short-term orientation.
Idiosyncratic / Relationship-specific Investments	Idiosyncratic investments or relationship-specific investments, also termed as asset specificity in TCA literature (Geyskens et al., 2006, Williamson, 1985) are assets that are employed for a particular exchange and have little if any residual value outside that exchange.	From a buyer's perspective, the willingness of the supplier to invest in relationship-specific investments can also indicate to the buyer that a supplier can be trusted (Ganesan, 1994) thereby reducing buyer's perceptions of vendor opportunism. Although Heide (1994) contends that relationship-specific investments lead to dependence and hence increase the risk of opportunistic behavior on the part of exchange members.
Information Sharing/Exchange	Information sharing/exchange is defined by Cannon and Perreault (1999, p. 441) as "expectations of open sharing of information" on the part of both the buyer and the seller.	Open channels of communication as well as effective exchange of information from the supplier/vendor provide buyers with insights into a supplier's future plans (Cannon & Homburg, 2001) thereby enabling them to adjust their internal operational needs and processes. Information asymmetry, whereby one party in an exchange has more information than the other, is cited as a condition that fosters opportunistic behavior in a principal-agent relationship (Eisenhardt, 1989; Wathne & Heide, 2000).

*Adopted from Essay 1*

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APPENDIX-I  
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(For both Essays)

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APPENDIX-II

Measures  
(For Both Essays)

Imran Khan  
IT Outsourcing Vendor Evaluation Survey

Introduction

Thank you for agreeing to participate in this survey. You must be at least 21 years or older to participate in this survey. This survey focuses on IT outsourcing. The purpose of the study is to develop a better understanding of organizational buyers' perceptions of outsourcing IT providers during the vendor evaluation process. You may opt out of the survey at any time with no penalty. You are invited to participate because of your procurement position within your company. Please be assured that your responses will remain completely anonymous and in no way will you, personally, or your company, in general, be identifiable in the final results.

Your participation in this study will allow us to gain important insights into organizational buyers' vendor selection decisions within an IT outsourcing context. Participation in this study will require approximately 10-15 minutes of your time. Instructions are provided for each section of this survey. This research is not affiliated in any way with any firm or commercial enterprise. Although there may be no direct benefit to you, the participant, in taking part in this study, your involvement will help broaden the understanding of how vendor firm characteristics affect buyer's perceptions of those vendors as well as their vendor relationship choices. The results (in aggregate) of the study will be available upon request to those who participate. Your participation in this survey is voluntary and may be withdrawn without penalty at any time. The research has no risks or implied responsibilities to the respondents. Please contact Imran M. Khan, Doctoral Candidate at 270-809-6202 or [ikhan5@students.kennesaw.edu](mailto:ikhan5@students.kennesaw.edu) or Brian N. Rutherford, Ph.D., at [bruther1@kennesaw.edu](mailto:bruther1@kennesaw.edu) if you have any questions about this study. Research at Kennesaw State University that involves human participants is carried out under the oversight of an Institutional Review Board. Questions or problems regarding these activities should be addressed to the Institutional Review Board, Kennesaw State University, 1000 Chastain Road, #0112, Kennesaw, GA 30144-5591, (678) 797-2268.

**PLEASE PRINT A COPY OF THIS CONSENT DOCUMENT FOR YOUR RECORDS,  
OR IF YOU DO NOT HAVE PRINT CAPABILITIES, YOU MAY CONTACT THE  
RESEARCHER TO OBTAIN A COPY**

Participation:

\_\_\_\_\_ I agree and give my consent to participate in this research project. I understand that participation is voluntary and that I may withdraw my consent at any time without penalty. I am aware that Internet Protocol addresses will be collected by the survey program.

\_\_\_\_\_ I do not agree to participate and will be excluded from the remainder of the questions.

*If the participant chooses NOT to agree, then the participant is skipped to the end of the survey.*

## IT OUTSOURCING

Many organizations today are choosing to outsource in order to reduce costs as well as increase focus on their core competencies. Outsourcing involves the purchase of any goods or services by an organization from an outside firm. Outsourcing includes both business process outsourcing (such as outsourcing of payroll function) as well as IT outsourcing (such as cloud computing, application outsourcing, network management outsourcing, etc.).

This research specifically focuses on IT outsourcing whereby an organization outsources various IT functions/services/solutions from an outside vendor. Some examples of IT outsourced services include: data center services, data storage, software as a service, application outsourcing, managed services, cloud computing, and others. Furthermore, IT outsourcing also includes network management functions whereby a provider manages a firm's network infrastructure.

We are interested in understanding your perspectives on IT outsourcing as well as vendors of such solutions/services.

1. Are you currently involved or have been involved in IT outsourcing (function/solution/service) decisions at your organization?

- Yes
- No

*If no is selected, please skip to the end of the survey.*

2. In the past 12 months, have you been involved in an IT outsourcing decision?

- Yes, I have been involved in an IT outsourcing decision at my current organization
- Yes, I had been involved in an IT outsourcing decision at the company I worked for previously
- No, I have not been involved in an IT outsourcing decision

*If no is selected, please skip to the end of the survey.*

3. Which of the following best describes your role in the IT decision-making within your organization?

- I have the final purchasing approval for my organization's IT decisions including outsourcing
- I recommend or influence my organization's IT decisions including outsourcing but do not have the final purchasing authority

- I am not involved in IT outsourcing decisions

*If option 3 is selected, please skip to the end of the survey.*

4. Overall, how many people are typically involved in an IT outsourcing purchase decision in your organization?

\_\_\_\_\_

5. Please identify the most recent (within the last 12 months) IT function/solution/service that your organization outsourced that required your organization to evaluate multiple vendors. Some examples of outsourced IT solutions include cloud computing, software as a service, infrastructure as a service, application hosting and management such as electronic medical record solutions, data center services, network security management, data analytics, etc. Please be specific in your answer.

\_\_\_\_\_

6. Please list how many total vendors your organization evaluated for the above listed outsourced IT function/solution/service.

\_\_\_\_\_ (Numeric field only)

7(a). Please identify the vendor your organization selected for \_\_\_\_\_

\_\_\_\_\_ (Vendor we selected)

7(b). You said that you evaluated \_\_\_\_\_ vendors. (Please identify at least TWO other vendors that your organization evaluated but DID NOT select.

\_\_\_\_\_ (Vendor that we evaluated but DID NOT select)

\_\_\_\_\_ (Vendor that we evaluated but DID NOT select)

\_\_\_\_\_ (Vendor that we evaluated but DID NOT select)

\_\_\_\_\_ (Vendor that we evaluated but DID NOT select)

8. From the list of vendors that your organization evaluated but DID NOT select please select a vendor that you are MOST familiar with, i.e. one that your organization closely evaluated but DID NOT select, for the above listed outsourced function/solution/service.

\_\_\_\_\_

9. Has your organization used \_\_\_\_\_ in the past?

- Yes
- No

We are interested in finding out more about the vendor that your organization closely evaluated but DID NOT select for any outsourcing solution/function/service. Specifically, we are trying to understand the extent to which certain factors impacted your organization's decision to not select \_\_\_\_\_. All of the questions below pertain to your perceptions of this vendor.

10. Please tell us your level of agreement/disagreement with the following statements as they pertain to \_\_\_\_\_.

	Strongly Disagree				Strongly Agree		
This vendor is a very large company	1	2	3	4	5	6	7
This vendor is the industry's biggest vendor of this solution	1	2	3	4	5	6	7
There are not many vendors as large as this vendor	1	2	3	4	5	6	7
This vendor is among the largest in its industry	1	2	3	4	5	6	7
This vendor is a small player in the market (R)	1	2	3	4	5	6	7
This vendor has a reputation for being honest	1	2	3	4	5	6	7
This vendor has a reputation for being concerned about its customers	1	2	3	4	5	6	7
This vendor has a good reputation in the market	1	2	3	4	5	6	7
Most buyers think that this vendor has a reputation for being fair	1	2	3	4	5	6	7

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Please tell us your level of agreement/disagreement with the following statements as they pertain to \_\_\_\_\_.

	Strongly Disagree					Strongly Agree	
This vendor stands behind its products and services	1	2	3	4	5	6	7
This vendor develops innovative products and services	1	2	3	4	5	6	7
This vendor offers high quality products and services	1	2	3	4	5	6	7
This vendor offers products and services that are a good value for money	1	2	3	4	5	6	7
This vendor has excellent leadership	1	2	3	4	5	6	7
This vendor has a clear vision for its future	1	2	3	4	5	6	7
This vendor recognizes and takes advantage of market opportunities	1	2	3	4	5	6	7

11. Please tell us the extent to which the following statements provide an inaccurate/accurate description of the reasons for NOT SELECTING \_\_\_\_\_?

While evaluating this vendor, my organization felt that:

	Completely Inaccurate Description					Completely Accurate Description	
	1	2	3	4	5	6	7
On occasion, this vendor would have lied about certain things in order to protect their interests	1	2	3	4	5	6	7
This vendor would have promised to do things without actually doing them later	1	2	3	4	5	6	7
This vendor would not have always acted in accordance with our contract(s)	1	2	3	4	5	6	7
This vendor would have tried to breach informal agreements between our companies to maximize their own benefit	1	2	3	4	5	6	7
This vendor would have tried to take advantage of "holes" in our contract to further their own interest	1	2	3	4	5	6	7
This vendor would have used unexpected events to extract concessions from our organization	1	2	3	4	5	6	7

12. Please express the extent to which technical changes with the vendor that your organization closely evaluated but did not select as well as the outsourced solution are considered predictable/unpredictable.



	Unpredictable					Predictable	
Technological changes in this vendor's solution are	1	2	3	4	5	6	7
Technological developments in the market for the identified outsourced solution are	1	2	3	4	5	6	7
Your organization's changes in specifications for the identified outsourced solution are	1	2	3	4	5	6	7
This vendor's changes in specifications for the identified outsourced solution are	1	2	3	4	5	6	7

*Please express your level of disagreement/agreement with the following statement as it pertains to your organization:*

	Strongly Disagree	Strongly Agree
<i>(M1) My organization devotes a lot of effort to charitable programs.</i>	0.....	100
<i>(M2) My organization is committed to preserving the natural environment.</i>	0.....	100
<i>(M3) My organization is committed to the betterment of society.</i>	0.....	100

When outsourcing, buying organizations often have a choice of entering into an arm’s length, formal relationship with their vendor or they can enter into a more flexible relationship with their vendor that can then be modified as the relationship progresses.

13. For the vendor that your organization closely evaluated but DID NOT select, we are interested in finding out about the nature of relationship your organization would have sought with this vendor. Please express the level of disagreement/agreement with the following statements:

	Strongly Disagree					Strongly Agree	
	1	2	3	4	5	6	7
My organization would have had formal written agreements outlining the operational requirements of this vendor	1	2	3	4	5	6	7
My organization would have had formal written agreements that detail how this vendor’s performance would be monitored	1	2	3	4	5	6	7
My organization would have had formal written agreements outlining warranty policies	1	2	3	4	5	6	7
My organization would have had formal written agreements outlining how to handle complaints and disputes	1	2	3	4	5	6	7
My organization would have had formal written agreements outlining the level of service expected from this vendor	1	2	3	4	5	6	7
My organization would have had an extremely collaborative relationship with this vendor	1	2	3	4	5	6	7

My organization would have shared long and short-term goals and plans with this vendor	1	2	3	4	5	6	7
My organization would have relied on this vendor to keep promises	1	2	3	4	5	6	7
My organization would have been willing to share any information that may be of use to this vendor	1	2	3	4	5	6	7
My organization would have been willing to make adjustments in our relationship with this vendor to cope with changing circumstances	1	2	3	4	5	6	7
My organization would have been willing to view this vendor as a partner	1	2	3	4	5	6	7

Q.14. For the vendor that your organization closely evaluated but DID NOT SELECT, please express the level of agreement/disagreement with the following statements.

	Strongly Disagree				Strongly Agree		
This vendor would have gone out of its way to link us with its business	1	2	3	4	5	6	7
This vendor would have made significant investments in training our people	1	2	3	4	5	6	7
It would have been difficult for this vendor to repurpose its investment in us if it switched to another customer	1	2	3	4	5	6	7

This vendor would have done a lot to help us become more effective by providing specialized training

1	2	3	4	5	6	7
---	---	---	---	---	---	---

This vendor would have put on helpful programs designed to enhance our overall business

1	2	3	4	5	6	7
---	---	---	---	---	---	---

This vendor would have shared proprietary information with us

1	2	3	4	5	6	7
---	---	---	---	---	---	---

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This vendor would have shared confidential information to help us

1	2	3	4	5	6	7
---	---	---	---	---	---	---

This vendor would have frequently talked with us about its business strategy

1	2	3	4	5	6	7
---	---	---	---	---	---	---

This vendor would have frequently discussed strategic issues with us

1	2	3	4	5	6	7
---	---	---	---	---	---	---

This vendor would have openly shared confidential information with us

1	2	3	4	5	6	7
---	---	---	---	---	---	---

## *DEMOGRAPHIC QUESTIONS*

15. What is your gender?

- Male
- Female

16. How long have you been employed with your current organization?

\_\_\_\_\_ Years \_\_\_\_\_ Months (this can be numerical fields only with maximum value of 30 for Years and 12 for months)

17. In what industry does your organization operate?

\_\_\_\_\_

- Accommodation/Hospitality
- Administrative and Support Services
- Agriculture, Forestry, Fishing and Hunting
- Arts, Entertainment, and Recreation
- Banking, Credit Intermediation and Related Activities
- Construction
- Educational Services
- Federal Government
- Food Services
- Funds, Trusts, and Other Financial Vehicles
- Hospitals
- Insurance Carriers and Related Activities
- Internet Service Providers, Web Search Portals, and Data Processing Services
- IT Services
- Local/State Government
- Management of Companies and Enterprises
- Manufacturing
- Nursing and Residential Care Facilities
- Physicians, Ambulatory Health Care Services
- Professional, Scientific, and Technical Services
- Publishing, Motion Pictures, Broadcasting
- Real Estate and Rental and Leasing
- Retail Trade
- Securities, Commodity Contracts, and Other Financial Investments and Related Activities
- Social Assistance
- Telecommunications
- Transportation and Warehousing
- Waste Management and Remediation Services
- Wholesale Trade
- Other \_\_\_\_\_

18. What is your current job title?

- CEO
- CIO/CTO

- CFO
- Owner/Partner
- Senior level/executive management/VP
- Mid-level Management
- MIS/IS/IT Administrator
- Business Manager
- Other (please specify) \_\_\_\_\_

19. Overall, how many years of IT procurement experience do you have?

\_\_\_\_\_ Years \_\_\_\_\_ Months

20. What is the approximate dollar value of IT procurement for which you are responsible for in a given year?

(\$) \_\_\_\_\_/year

21. Estimate the number of people employed in your firm.

\_\_\_\_\_

22. Please estimate the total annual revenue/sales for your firm for the last year.

\_\_\_\_\_

23. Please estimate your organization's average annual IT budget?

(\$) \_\_\_\_\_/year

24. What percentage of your organization's total IT budget is allocated to outsourcing?

\_\_\_\_\_

25. Please indicate the total number of locations for your organization (across all regions). \_\_\_\_\_

Thank you for your time and participation. Should you have interest in receiving a summary of the research findings, please provide a contact e-mail address:

\_\_\_\_\_.