

**THE DUALITY OF  
CONTRACTUAL RELATIONS  
IN IT OUTSOURCING:  
ESSAYS ON  
PSYCHOLOGICAL CONTRACTING  
AND VALUE CREATION**



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# THE DUALITY OF CONTRACTUAL RELATIONS IN IT OUTSOURCING: ESSAYS ON PSYCHOLOGICAL CONTRACTING AND VALUE CREATION

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## **ABSTRACT**

The continued growth of IT outsourcing suggests that it is an important strategic alternative that cannot be simply ignored. However, research has been heavily biased towards the client's perspective, with little work being done from the vendor's perspective, even though outsourcing is essentially an inter-organizational relationship that involves two parties. The primary objective of this thesis is, therefore, to provide a balanced view by looking at the duality of IT outsourcing, to address the broad research question: How successful is IT outsourcing, from both the client and vendor perspective? This is done through two separate but related studies that focus on the duality of IT outsourcing.

The first essay uses psychological contract theory to study IT outsourcing management from a dual perspective. Research has focused on antecedents to outsourcing, and comparatively few studies have looked at managing of the relationship. Essay 1 addresses this gap by studying outsourcing management through a psychological contract lens that focuses on mutual client-vendor obligations. Using a sequential, qualitative-quantitative approach, I identified these obligations, and demonstrated empirically their impact on success. Content analysis of interview transcripts from the qualitative study showed that both clients and vendors identified six obligations from each other that are critical to success. Results from the second quantitative study showed that fulfilled obligations predicted success over and above the effects of project type, duration, and size.

The second essay uses production and transaction costs theories to study IT outsourcing outcomes from a dual perspective. Research has focused on outsourcing success in terms of satisfaction and met expectations, and little empirical evidence exists of the impact on objective firm performance. Essay 2 addresses this gap by providing an objective assessment of the impact on clients' and vendors' firm performance. I conducted an event study of IT outsourcing announcements over an eleven-year period (1989-1999), and assessed the impact on value creation as measured by short-term stock-market reaction and long-term change in performance. Results showed that, on the whole, IT outsourcing created value for both clients and vendors. For clients, IT outsourcing created value in terms of positive short-term stock market returns, but the effect on long-term operating performance was not significant. For vendors, IT outsourcing created value in terms of both positive short-term stock market returns and long-term operating performance. Further, results showed that the value created is contingent upon the IT activity being outsourced. Software outsourcing created more value for clients than vendors; operations outsourcing created more value for vendors than clients; while network outsourcing created value for both clients and vendors.

# **CHAPTER ONE**

## **INTRODUCTION**

IT outsourcing has grown over the years, and the outlook remains robust even today. According to recent estimates, outsourcing accounts for 53 percent of the total worldwide IT services market, and the figure is projected to grow to 56 percent by 2007 (Source: Gartner Press Release, May 17 2004). The worldwide outsourcing market is estimated to reach US\$241 billion in 2004, and to grow to US\$278 billion in 2006 (Source: Gartner Dataquest, July 2004). The U.S. and U.K. remain the largest and most established markets, but other countries such as New Zealand, Australia and Asia are also growing rapidly.

Newer forms of IT outsourcing continue to appear today. The advent and wide-spread use of the internet has propelled a rapid growth in Application Service Providers (ASPs). Business Process Outsourcing (BPO), with its promise of cost reduction, process streamlining, and strategic repositioning, is becoming the fastest growing segment, accounting for 42 percent of the total IT outsourcing market (Source: Gartner, November 2003). Firms are also extending their outsourcing offshore, attracted by the often vast cost differentials. Offshore BPO spending is expected to increase by 65 percent from US\$1.3 billion in 2003 to US\$3 billion in 2004 (Source: Gartner Press Release, May 18 2004); while offshore software development and services is expected to

increase from US\$10 billion in 2003 to US\$31 billion by 2008 (Source: Global Insight, reported in PC Magazine, May 18, 2004).

The continued exponential growth of IT outsourcing suggests that outsourcing is an important strategic alternative that cannot be simply ignored. However, several major gaps exist in the current literature. First and most importantly, research to-date has focused primarily on the client perspective, and little exists on the vendor perspective, even though IT outsourcing involves an inter-organizational relationship between the two parties (Dibbern, et al. 2004, Hui and Beath 2002). More work is needed to provide a balanced view that looks at the duality of IT outsourcing.

In addition, research has focused mainly on the antecedents to IT outsourcing, and only recently has there been more work on managing the outsourcing relationship (Dibbern, et al. 2004, Hui and Beath 2002). There is a dire need for more theory-based work to improve our understanding of how to managing the outsourcing relationship, given its importance to outsourcing success.

Last but not least, evidence on IT outsourcing success remains scarce, even after more than a decade of research on the topic. Results on IT outsourcing success have been mixed (Levina and Ross 2003), and the popular press is replete with examples of both high-profile successes as well as failures, with some even escalating to bitter lawsuits between the parties (Bahli and Rivard 2003). Outsourcing success remains elusive to many firms, with studies often showing dismaying success rates of only slightly more than fifty percent

(Lacity and Willcocks 1998, Lacity and Willcocks 2000b). Research has provided little conclusive evidence on the factors affecting outsourcing success, with studies often yield conflicting results on the effects of various determinants (Lee, et al. 2004). On the whole, there has been little empirical evidence of the impact of IT outsourcing on objective firm performance, and studies have looked at only satisfaction and met expectations (Dibbern, et al. 2004).

This thesis aims to address these issues and add to our understanding of IT outsourcing, by answering the broad research question of: ***How successful is IT outsourcing, from both the client and vendor perspective?*** Towards that end, I conducted two separate but related studies that focus on the duality of IT outsourcing.

In the first essay, I study IT outsourcing management, through a psychological contract lens that focuses on mutual client-vendor obligations. Research on managing IT outsourcing has demonstrated the importance of both the legal contract and the psychological contract (Sabherwal 1999, Saunders, et al. 1997). However, research has not identified the nature of this psychological contract. In Essay 1, therefore, I aim to address two specific research questions: first, ***what are the critical client-vendor obligations in an IT outsourcing relationship***; and second, ***what is the impact of fulfilling these obligations on success?*** Using a mixed method approach, I identify the nature of these psychological contract obligations, and investigate their impact on outsourcing success.

In the second essay, I focus on IT outsourcing success, and provide an objective empirical assessment of the impact of IT outsourcing on firm performance, for both clients and vendors. Research on IT outsourcing has relied mainly on perceptual measures such as satisfaction and met expectations, and little objective evidence exists on the impact of IT outsourcing on firm performance (Dibbern, et al. 2004). In Essay 2, therefore, I aim to answer the specific research question: *does IT outsourcing create value for (1) clients, and (2) vendors?* I assessed both short-term value in terms of stock-market reactions, and long-term value in terms of changes in performance, associated with IT outsourcing announcements for clients and vendors. In addition, I also investigated whether the value created is affected by the nature of the outsourced activity.

Together, the two essays contribute to our understanding of the duality of IT outsourcing, by providing a balanced view of both the client and vendor perspectives. This extends prior research that has focused mainly on the client's perspective, to the neglect of the vendor's perspective. Further, the two essays add to our understanding of IT outsourcing management and IT outsourcing outcomes respectively. The two essays complement each other by providing an assessment of both subjective impacts (essay one – perceived success in terms of satisfaction and intention to continue the relationship) and objective impacts (essay two – actual stock market returns and changes in performance), as well as the effects of different determinants on outsourcing success.

In the next section, I provide a review of the extant literature on IT outsourcing. Subsequent chapters present each essay in turn. I then conclude with a summary highlighting major overall contributions and directions for future research.

## **CHAPTER TWO**

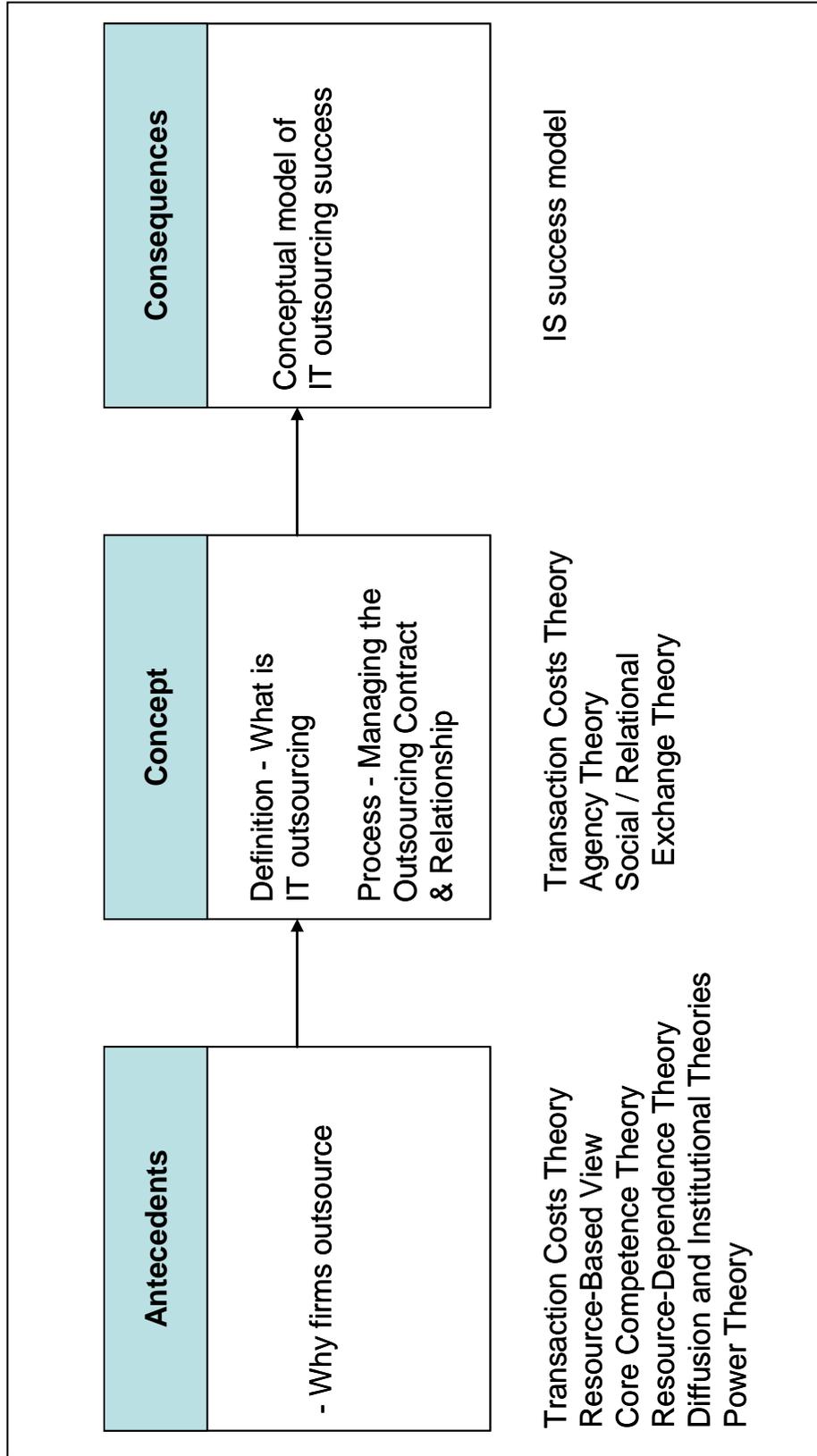
# **LITERATURE REVIEW ON IT OUTSOURCING**

### **Introduction**

This Chapter provides an overview of the IT outsourcing literature. While there are several excellent reviews on IT outsourcing (see, for example, Dibbern, et al. 2004, Hui and Beath 2002), the purpose of this Chapter is to synthesize the literature, and based on that, to identify the gaps which this thesis aims to address.

Figure 1 shows the nomological network used in this review to summarize prior IT outsourcing research. Nomological networks are conceptual building blocks for developing constructs whereby constructs are defined and distinguished from other constructs based on their suggested relationships with each other and with other constructs (Reynolds 1971, Schwab 1980). A nomological network is an intellectual construction whereby the relationships between different dimensions are depicted. Simply put, a nomological network consists of three main dimensions. The antecedents dimension refers to variables that affect how a concept/process is carried out, while the consequences dimension refers to the outcomes of adopting a series of steps. The concept dimension, which has definitional and process components, describes the phenomenon being studied.

Figure 1: *Nomological Network - Summary of Prior Research*



Nomological networks are important because “constructs are of interest only if they are connected to other constructs” (Schwab 1980). Nomological networks outline and distinguish various constructs based on their suggested relationships with each other and with other constructs (Reynolds 1971, Schwab 1980). The concept of the nomological network has been used pervasively in construct development and validation studies, and also in MIS research (examples include: Harrison and Rainer 1996, Straub, et al. 1995). By conceptualizing, establishing, locating a construct within its nomological network of concept, antecedents and consequences, one is able to link the construct to other related constructs and build a bridge to other knowledge domains related to the construct.

In the sections below, I first discuss the nomological network for IT outsourcing. I start with a review of definitions of IT outsourcing; understanding the definition is important in order to ensure a clear understanding of the concept under study (Bagozzi and Phillips 1991, Schwab 1980). This is followed by a review of the antecedents of IT outsourcing, where I discuss the different theoretical explanations used to explain why firms outsource. The next section discusses the processes involved in managing the IT outsourcing. I then conclude with a review of the consequences of IT outsourcing. In the last section, I provide a summary of the gaps in prior literature, and discuss how this thesis attempts to address these gaps.

## **Definition - What is IT Outsourcing**

Though IT outsourcing became increasingly popular only in the early 1990s, due to what some called the “Kodak effect” (Loh and Venkatraman 1992) or “bandwagon effect” (Lacity and Hirschheim 1993), IT outsourcing is actually not a new phenomenon. Its roots can be traced to the early 1960s in the form of facilities management, time-sharing bureaus, and computer services bureaus. Systems development has also been traditionally outsourced, through the use of contract programmers, application packages and software houses (Apte 1990, Grover, et al. 1996, Lacity and Hirschheim 1993). Early outsourcing usually involved small and medium-sized firms, who found it more cost-effective to use external vendors than to build the IT skills and/or equipment in-house. IT outsourcing comprised only a small portion of the IT budget, and was typically motivated by cost considerations (Lacity and Hirschheim 1993, McFarlan and Nolan 1995).

Nowadays, outsourcing is widely embraced even by large multinational corporations. Firms now outsource a wide range and depth of IT services; outsourcing contracts are growing in size and scope, often involving multiple vendors and new innovative contracting arrangements. This is propelled partially by the maturing marketplace, and the increasing trend towards mergers, acquisitions, strategic alliances and joint ventures among major vendors. This trend has enabled vendors to consolidate their strength and position within the industry, and to provide larger, multi-dimensional outsourcing arrangements involving multiple vendors (Currie 2000). In fact, many argue that the question

firms face today is no longer whether to outsource, but what to outsource (Venkatraman 1997).

**(a) Different Taxonomies of IT outsourcing**

The maturation of IT outsourcing practices has led to different types of IT outsourcing arrangements, and increasingly, different definitions of IT outsourcing. Broadly, IT sourcing can be defined as “the organizational arrangement instituted for obtaining IS services and the management of resources and activities required for producing these services” (Dibbern, et al. 2004, p.11). IT outsourcing, then, simply reflects the use of external agents to perform such IS activities. However, a review of the literature suggests that various taxonomies have been used to classify outsourcing arrangements. Outsourcing has been variedly defined based on the following parameters:

- **The degree of outsourcing** – the common distinction here is between total outsourcing and selective outsourcing. Total outsourcing refers to cases where the firm relinquishes the entire IT function to the external vendor, legally transferring the IT assets and human resources to the vendor in the process (Lacity and Hirschheim 1993). Selective outsourcing, on the other hand, refers to situations where the firm outsources only selected IT activities, while retaining ownership and control over other IT activities (Lacity, et al. 1996). The distinction between the two is based on the degree

of outsourcing, usually using an arbitrary threshold of 80 percent of the total IT budget as the cut-off (Lacity and Willcocks 1998).

- **The locus of management responsibility** – this is typically known as contracting-out versus buying-in (Lacity, et al. 1996). Contracting-out is defined as cases where firms contract-out IT services to vendors and the vendors assume responsibility for managing and delivering the services. On the other hand, buying-in involves cases where firms buy-in resources to supplement internal capabilities, and manage these resources internally (Lacity, et al. 1996). The most common form of buy-in sourcing is employment outsourcing, through either direct contract work (contracting directly with an IS professional for his/her services) and/or indirect contracting through an employment agency that provides IS professionals to client firms on a temporary basis (Slaughter and Ang 1996). Though contract-out arrangements probably represent the bulk of firms' outsourcing, employment outsourcing is also growing in popularity (Ang and Slaughter 2001, Cooper 1999, Drucker 2001) because of the many advantages it offers, such as increased flexibility to adapt to market changes, focus on core business, and better management of the IT skills market (Slaughter and Ang 1996).
- **The mode of outsourcing** – this classifies outsourcing arrangements based on the number of clients and vendors involved in the relationship (Gallivan

and Oh 1999). The simple-dyadic outsourcing arrangement reflects most people's common perception of outsourcing, where a client relies on a single vendor to meet all its outsourcing needs. A multi-vendor relationship describes the case where one client uses multiple vendors to achieve its objectives, and where division-of-labor is jointly negotiated and understood by all parties to the agreement. Lastly, complex relationships describe many-to-many relationships that feature both multiple clients and vendors in the same outsourcing contract (Gallivan and Oh 1999).

- **The medium of delivery** – the recent growth of the internet has led some researchers to distinguish between traditional outsourcing and netsourcing, alternatively known as application outsourcing using Application Service Providers (ASPs) (Currie and Seltsikas 2001, Kern, et al. 2002b). Generally, application service provision refers to “renting supplier-owned resources to customers and delivering over the Internet” (Kern, et al. 2002b). The main distinguishing characteristic between the two is that, for netsourcing, the “IT infrastructure, products, and services are delivered over a network” (Kern, et al. 2002b).
- **The nature of the activities outsourced** – the literature has distinguished between outsourcing of different IS activities, for example, facilities management, systems support, systems development and maintenance. A fast growing variant is Business Process Outsourcing (BPO), which

involves outsourcing not just the IT component, but the entire delivery of selected business processes, to an external vendor. BPO can be defined as “the assumption of a responsibility by a service provider for a series of tasks that, performed together, achieve a specific business outcome” (Weerakkody, et al. 2003). The most common processes outsourced are transaction-intensive processes such as payroll, card processing and claims processing; this is rapidly extending to include enterprise processes such as human resources, finance, accounting and procurement (Adler 2003).

- **The location of the service provider** - another distinction is between onshore and offshore outsourcing. Outsourcing is becoming increasingly global, and many companies are moving their outsourcing offshore to countries such as India, China, and Russia (Carmel and Agarwal 2002). The growth in offshore outsourcing can be attributed to improvements in technology, the sophistication of offshore IT vendors, and the substantial cost differentials that often exist (Carmel and Agarwal 2002, Heeks, et al. 2001, Rajikuma and Mani 2001).

**(b) Conceptual Definition of IT outsourcing**

The proliferation of outsourcing taxonomies and definition reflects a lack of conceptual clarity of what IT outsourcing actually involves. This problem was highlighted a decade ago by Ang (1994), who argued that ‘the concept of outsourcing remains nebulous. There is no precise definition of

outsourcing in common parlance” (Ang 1994, p.114). Yet, even today, despite the different taxonomies that have evolved, there appears little development in the conceptual definition of IT outsourcing.

Ang (1994) proposes that outsourcing needs to be understood within the context of a three-dimensional conception of organizational boundaries: (1) spatial or geographical boundary; (2) legal ownership boundary; and (3) control boundary. Outsourcing can be considered to have occurred as long as one or more of the three dimensions are met. Specifically, IT outsourcing involves:

- a) performing the IS activity away from the premises of the business entity; and/or
- b) relinquishing legal ownership of the physical assets required for executing the IS activity, and/or using non-employee agents to execute the IS activity; and/or
- c) relinquishing behavioral control over, and relying on the external service-providers for, process control over the IS activity.

In the section below, I review briefly each of the three dimensions.

(i) **Spatial or geographical boundary**

The spatial or geographical boundary is based on the notion that activities and functions of an organization reside within the limits of its premises. Co-location facilitates coordination between the parties involved,

leading to more efficient and effective production. Co-location also lowers monitoring costs and facilitates higher behavioral control (Ang 1994).

The concept of spatial and geographical boundary is of particular relevance when we consider the recent trend towards offshore outsourcing. Offshore outsourcing differs from onshore outsourcing in terms of the geographical boundary involved, and the distance creates greater difficulty in coordination and control for offshore outsourcing (Carmel and Agarwal 2001). Applying this criterion suggests that outsourcing has occurred whenever a firm moves its IT operations offshore, regardless of whether it is to a third-party provider or an internal group within a global corporation. This distinguishes sharply from the definition used, for example, by Carmel and Agarwal (2002), who distinguishes between “offshore outsourcing to a third-party provider” and “off-shore insourcing to an internal group within a global corporation” (Carmel and Agarwal 2002, p.65).

(ii) **Legal ownership boundary**

Legal ownership boundaries are defined by property rights associated with the legal ownership of assets (Ang 1994). In the context of IT outsourcing, this refers to ownership of physical assets such as hardware and software, as well as human assets such as the IS professionals.

The legal ownership boundary can be understood within the context of the property rights theory. The property rights theory views the firm as being composed of the assets that it owns, and emphasizes the residual rights of

control that legal ownership confers. Legal ownership provides the firm with residual rights of control, to make any decision concerning how the asset is used, as long as these are not explicitly controlled by law or assigned to another party by contract (Grossman and Hart 1986, Hart and Moore 1990). The property rights theory, although initially developed in the context of physical assets, equally applies to human assets, where the rights over action distinguish an employer-employee relationship from a contractor-contractee relationship (Grossman and Hart 1986).

Applying this criterion suggests that use of contract workers, through either direct contract work or indirect contracting with an employment agency (Slaughter and Ang 1996), should be considered as a form of IT outsourcing. This distinguishes, for example, from Lacity, et al. (1996)'s definition, which specifically considers such buy-in arrangements as insourcing.

**(iii) Control boundary**

Control boundary looks at the use of behavioral versus outcome controls over the activity, and suggests that outsourcing relies primarily on outcome control instead of behavioral control. IT outsourcing, therefore, involves relinquishing behavioral control over the IS activity, and transferring that control to the external provider instead (Ang 1994). The concept of management and control over the activity has been similarly emphasized in many definitions of IT outsourcing; Lacity, et al. (1996), for example, defines outsourcing in terms of where the management and control lies.

While spatial proximity and legal ownership facilitates behavioral control, contractual relationships can also be structured to promote behavioral control by embedding hierarchical elements into the contract (Ang and Beath 1993). This can be also achieved by careful allocation of decision rights. Early studies of IT's impact on organization designs have looked at the importance of decision rights in determining the centralization versus decentralization of the IS function (e.g. Anand and Mendelson 1997, Nault 1998). More recent work on firm boundaries similarly emphasizes that, even without ownership of assets, firms can still achieve control by incorporating into the contract specific terms to allocate decision rights (Holmstrom and Roberts 1998).

For the purposes of this dissertation, I draw on the conceptual definition of IT outsourcing as proposed by Ang (1994), and include as IT outsourcing, all arrangements where (1) the legal ownership of the physical and human assets vests with the external provider; and/or (2) control over the IS activity lies primarily with the external provider. In the next section, I discuss the antecedents to IT outsourcing.

## **Antecedents - Why Do Firms Outsource**

The literature discusses a wide range of reasons why firms outsource; many of these, however, are derived from practice rather than theory. Nonetheless, there have been some attempts to provide an integrated theoretical explanation for IT outsourcing (Cheon, et al. 1995, Jayatilaka, et al. 2003). In

this section, I discuss some of the dominant theoretical perspectives that have been used to explain why firms outsource.

**a) Transaction Costs Theory**

Transaction costs theory was first introduced by Coase (1937), but much of the subsequent theoretical developments have been attributed to Williamson (1971, 1981, 1987, 1991, 1996). Transaction costs theory addresses the basic question of why firms exist. The underlying premise behind transaction costs theory is that using the price system is not free, and there are costs involved. Firms, therefore, exist as an alternative governance mechanism.

The basic unit of analysis of transaction costs theory is the transaction, and transaction costs theory addresses the issue of the appropriate governance structure for organizing transactions. Transaction costs theory distinguishes primarily between market governance (i.e. contractual exchange) and hierarchical governance (i.e. through internal firm structures). Later developments have looked at market-hierarchy as a continuum, with intermediate forms involving varying degrees of bilateral governance (Williamson 1991).

Put simply, transaction costs theory proposes that organizational effectiveness depends on choosing the appropriate governance structure, so as to maximize economic efficiency. The basic hypothesis of transaction costs theory is, therefore, that the appropriate governance structure should be one that

minimizes total cost, which comprises both production costs and transaction costs (Williamson 1981).

Transaction costs theory has been widely used to study why firms outsource, viewing the outsourcing decision as a make-or-buy decision, where the choice is between using an outsourcing service provider (a market mechanism) and providing the services internally (an organizational hierarchy). Some notable examples of IT outsourcing research that uses a transaction costs theory perspective include: Ang and Straub 2002, Ang and Straub 1998, Aubert, et al. 1996, Aubert, et al. 2004, Cheon, et al. 1995, Jayatilaka, et al. 2003, Poppo and Lacity 2002, Poppo and Zenger 1998, Wang 2002.

The market is generally presumed to enjoy certain advantages in terms of production costs economies (Williamson 1981). Applied to IT outsourcing, this means that “a firm will choose to outsource or insource based on the comparative costs of internalizing IS versus the price it has to pay vendors for the same IS services” (Ang and Straub 2002, p.49).

Neo-classical economics provide a useful explanation of how such production cost economies can arise. Production cost economies can arise due to economies of (1) scale; (2) scope; and (3) specialization. Put simply, economies of scale arise when the average costs of production decline as the level of production increases. For example, once an initial large capital investment (e.g. machinery) has been made, it can be used to support higher levels of production; thus, average costs of production decline as the costs of the investment get spread over a larger quantity of goods produced. Economies

of scope, on the other hand, arises when the total costs of producing related goods or services together are lower than the sum of the costs of producing them separately. This can often be attributed to similar reasons as those giving rise to economies of scale; for example, when firms can leverage on the same capital investment to provide different services. Production cost economies can also arise due to economies of specialization. This arises when the cost of performing only one activity is lower than the cost of performing that activity as a small part of a portfolio of activities. By focusing on a single activity, hiring, management structure and incentive systems can be more focused than in a generalist firm, leading to lower costs.

In the context of IT outsourcing, vendors often enjoy economies of scale and scope, especially when providing functions such as data centre and communication operations, which require large capital investments (Apte 1990). Vendors are able to offer lower costs by pooling demands across multiple clients and services, and utilizing excess capacity (Aubert, et al. 1996). In addition, as vendors specialize in the provision of IT services, this is likely to be their core competences, and therefore, they should be more efficient compared to internal IT departments (Foss 1997, Levina and Ross 2003). This is particularly pertinent when the outsourced activity involves specialized skill sets that are infrequently needed, since it is often not cost-effective for the internal IT department to invest in developing these skills. Overall, therefore, vendor firms are likely to offer production cost economies compared to internal

IS departments. This suggests that firms can usually obtain production cost savings by acquiring their IT services from the market.

Cost savings are often cited as one of the most important reasons behind clients' outsourcing decision. For example, in a comprehensive study of 61 outsourcing companies, the authors found that the most often cited reason for firms outsourcing is to reduce IT costs (Lacity and Willcocks 1998). A more recent survey of 101 CIOs from the U.S. and U.K. similarly showed that cost savings is still the number one expected benefit for firms outsourcing their IT activities (Lacity and Willcocks 2000b).

The heavy emphasis on costs savings can be traced to the productivity paradox in the early 1990s, when initial interest in IT outsourcing coincided with a period where unanswered questions abound over returns on IT. The productivity paradox was triggered by statistics that showed a marked slowdown in productivity growth despite massive and growing investments in IT (Roach 1991), leading to laments that "we see computers everywhere except in the productivity statistics" (Brynjolfsson 1993). Senior executives' disillusionment over IT performance accounted for much of the initial motivation behind IT outsourcing. This was coupled by end-user dissatisfaction with the quality of internal IT services, usually over internal IT monopolies which became complacent and slow to respond to user needs (Lacity and Willcocks 1998, Lacity, et al. 1996, McFarlan and Nolan 1995). Consequently, senior executives viewed IT as a cost burden to be minimized, and looked to the external market to provide cheaper IT services. Many firms, therefore,

outsource with a focus on reducing costs and enhancing the efficiency of IT (DiRomualdo and Gurbaxani 1998). Even for more recent outsourcing deals, cost savings remain an important motivation. Many small and medium enterprises, for example, are attracted to ASPs primarily because of the cost savings they offer (Kern, et al. 2002b). Similarly, offshore outsourcing is often motivated by the substantial cost differentials that exist (Carmel and Agarwal 2002, Heeks, et al. 2001).

However, some researchers have questioned the ability of vendors to deliver such production cost economies (Lacity and Hirschheim 1993). The counter-argument put forth is that vendors can rarely achieve significant cost reductions in the cost of hardware or software from scale negotiations. Rather, many internal IT departments are sufficiently large to enjoy the same economies of scale and scope as external service providers. In addition, internal IT departments can usually replicate the cost reduction tactics adopted by vendors (Hirschheim and Lacity 2000, Lacity and Hirschheim 1993). As such, outsourcing for cost reasons alone is usually not recommended (Quinn and Hilmer 1994).

Regardless of whether IT outsourcing actually delivers production costs economies, according to transaction costs theory, any potential reductions in production costs must, nonetheless, be balanced against the accompanying increase in transaction costs. In fact, although transaction costs theory recognizes the potential trade-offs between production costs and transaction costs, transaction costs theory emphasizes the primacy of transaction costs, as

“transaction cost reasoning is central to this analysis” (Williamson 1981, p.558).

The reasons why transaction costs arise can be traced to the two fundamental behavioral assumptions underlying transaction costs theory: (1) bounded rationality and (2) opportunistic behavior (Williamson 1981). Transaction costs theory assumes that, despite attempts to be rational, human behavior can best be described as only limitedly rational. Individuals are bounded in their rationality (Simon 1978), due to cognitive limitations in their ability to fully evaluate all possible decisions and consequences. Bounded rationality gives rise to incomplete contracting, as parties cannot foresee all contingencies. This results in contractual hazards, because individuals are also assumed to be opportunistic. Opportunism, defined as self-interest seeking with guile, can take various forms. Opportunism can be passive or active, and occur ex ante (during relationship initiation in the form of various distortion or deliberate misrepresentation of information), or ex post (over the course of the relationship, in the form of renegeing or violating various explicit or implicit commitments) (Jap and Anderson 2003, Wathne and Heide 2000). Firms transacting through the market need to incur transaction costs in order to safeguard against such opportunistic behavior. Examples of transaction costs include searching, selecting, contracting, and monitoring.

Such transaction costs are also common in IT outsourcing. Researchers have often warned that firms often fail to fully consider the extent of transaction costs incurred, especially the cost of vendor search and contracting, and the cost

of managing the outsourcing effort (Barthelemy 2001). Cost of managing the contract, in particular, can escalate when multiple vendors are involved. Difficulties can arise at the interface between the different vendors, and the internal IT staff may end up playing the role of a middleman between end-users and vendors, introducing more inefficiencies and delays in the process (Earl 1996). Similarly, offshore outsourcing typically involves much higher transaction costs, due to the difficulty in coordination and control across distance (Carmel and Agarwal 2002, Rajkumar and Dawley 1998). This can be further exacerbated by governmental restrictions, legal uncertainties, languages / communication barriers, as well as political and cultural differences (Apte 1990, Carmel and Agarwal 2002, Chen and Lin 1998, Chen, et al. 2002).

The amount of transaction costs incurred, however, depends on the characteristics of the transactions. Transactions differ in at least three key attributes: (1) asset specificity, (2) uncertainty, and (3) frequency. Asset specificity refers to “the degree to which an asset can be redeployed to alternative uses and by alternative users without sacrifice to productive value” (Williamson 1991, p.113). Transactions involving highly specific assets are associated with higher transactions costs due to the increased contractual hazards. Since these assets cannot be easily deployed without loss of productive value, the parties involved are more likely to take advantage of the increased dependence and engage in opportunistic behavior. In the context of IT outsourcing, asset specificity includes both physical asset specificity (e.g. dedicated hardware equipment, unique software architectures, and software

systems tailored for the use of a specific organization) as well as human asset specificity (e.g. specialized know-how and expertise of IS professionals, knowledge of the company's unique business processes). Similarly, transactions involving high uncertainty are associated with higher transaction costs. Such uncertainty may arise due to unpredictable market, technological, economic trends, contractual complexity and quality of outputs. IT outsourcing can involve uncertainty in terms of requirements or volume of transactions, as well as unpredictable developments in business processes and changes in requirements. In addition, frequency also affects transaction costs. Frequency refers to how often a transaction occurs. Low frequency transactions are likely to be organized through market interactions, because it is not cost-justifiable to incur the costs involved to set up a specialized governance structure. Costs of a specialized governance structure are more easily recovered for high frequency transactions.

The underlying premise of transaction costs theory is that “transactions, which differ in their attributes, (should be) aligned with governance structures, which differ in their costs and competence, so as to effect transaction cost economizing outcome” (Williamson 1996, p.138). Transaction costs theory argues that acquiring transactions involving high asset specificity and uncertainty from the market would be less efficient, due to the associated contractual hazards. Vendors would have greater incentive to engage in opportunistic behavior, and clients would need to incur higher transaction costs in order to safeguard against it.

The implication of this is that certain IT activities are more suitable for outsourcing than others. It is widely accepted that IT comprises a portfolio of activities that vary widely in their characteristics. As such, certain IT activities are more suited for outsourcing than others. Research has consistently shown that selective outsourcing has a much higher success rate compared to total outsourcing (Lacity and Willcocks 1998, Lacity, et al. 1996), and that only outsourcing of certain IT activities (specifically, systems operations, telecommunications management and maintenance) were found to be significantly related to success (Grover, et al. 1996). Further, transaction costs theory suggests that only IT activities that involve low asset specificity and uncertainty (e.g. transaction processing) should be outsourced to an external vendor, while activities that involve high asset specificity and uncertainty (e.g. specialized application development) should be kept in-house (Lacity, et al. 1996). Researchers have investigated the effect of such transaction characteristics on the outsourcing decision (e.g. Aubert, et al. 1996, Aubert, et al. 2004). The effect of transaction characteristics on outsourcing success, however, has been mixed. Empirical studies have generally found a significant negative relationship between measurement difficulty and outsourcing success (Poppo and Zenger 1998, Poppo and Zenger 2002, Wang 2002). However, while some studies found that outsourcing performance is *negatively* related to asset specificity (Nam, et al. 1996, Poppo and Zenger 1998, Poppo and Zenger 2002), a more recent study on software outsourcing showed that asset specificity had a significant *positive* effect on outsourcing success (Wang 2002).

b) **Resource-Based View**

The resource-based view of the firm (Barney 1991) provides an alternative theoretical explanation for why firms outsource. The resource-based theory essentially views a firm as a collection of production resources. Put simply, resources are inputs required for performing a firm's tasks; typical resources include physical capital resources, human capital resources and organizational capital resources (Barney 1991). Broadly, resources include both assets and capabilities; assets are "anything tangible or intangible the firm can use in its processes for creating, producing, and/or offering its products (goods or services) to a market, whereas capabilities are repeatable patterns of actions in the use of assets to create, produce, and/or offer products to a market" (Wade and Hulland 2004, p.109).

The underlying premise of the resource-based view is that differences in firms' performance can be attributed to the nature of their resources and their ability to exploit those resources (Barney 1991, Wernerfelt 1984). According to the resource-based view, competitive advantage can only occur in situations of (1) firm resource heterogeneity and (2) firm resource immobility. Firm resource heterogeneity refers to the resources of a firm (physical, human and organizational capital) and how different these resources are across firms. If all firms possess similar resources, then no firm may have a competitive advantage over another. Thus, a firm's resources must be heterogeneous in order for the firm to gain competitive advantage. Further, when we consider the external

environment, a firm's competitors may imitate or acquire similar resources, thereby threatening / eroding the competitiveness of the firm. Therefore, immobility of resources is an essential condition for competitive advantage to occur. Firm resource immobility refers to the inability of competing firms to obtain resources from other firms (Barney 1991).

The resource-based view essentially looks at how organizations can gain competitive advantage by differentiating themselves in their collection of resources (resource heterogeneity), amidst the inability of other firms to obtain comparable resources (resource immobility). A firm's resources determine how efficiently and effectively it is able to carry out its business activities (Collis and Montgomery 1995), and therefore, are the source of any performance differences between firms (Barney 1991).

However, not all resources can give rise to sustained competitive advantage. In order for a firm's resource to provide sustained competitive advantage, four criteria must be met – the resource must be (1) valuable, (2) rare, (3) inimitable, and (4) non-substitutable. In other words, sustained competitive advantage can only be derived from the firm's resources that possess value (i.e. the resource must be valuable to the firm), rareness (i.e. the resource must be unique or rare among the firm's current and potential competition), inimitability (i.e. the resource must be imperfectly imitable) and non-substitutability (i.e. the resource cannot be substituted with another resource by competing firms) (Barney 1991). A firm's competitive position,

therefore, depends on its ability to gain and defend advantageous positions by careful evaluation and deployment of its existing resources.

A firm is not, however, limited to its existing stock of resources and capabilities. Where there are gaps in the firm's current capabilities, the firm can use outsourcing to gain access to these needed resources and capabilities. In other words, a firm can acquire complementary resources from the external market, in order to fill gaps in its current resources (Grant 1991). The resource-based view, therefore, treats outsourcing as a strategic decision which can be used to fill gaps (i.e. the difference between desired capabilities and actual capabilities) in the firm's resources and capabilities.

The resource-based view has also been used to explain why firms outsource. Examples of IT outsourcing research that adopt this perspective include: Cheon, et al. 1995, Jayatilaka, et al. 2003, Roy and Aubert 2002, Straub, et al. 2002, Teng, et al. 1995. According to the resource-based view, firms can use IT outsourcing to gain access to needed IS resources and capabilities (Grover, et al. 1998, Teng, et al. 1995). A firm's IS resources and capabilities may vary, depending both upon the firm's resource attributes (value, rareness, inimitability and non-substitutability) and upon the amount of the firm's resources allocated for IS. IT outsourcing can provide firms access to leading-edge technology and know-how that are difficult and/or expensive to maintain in-house (Teng, et al. 1995). Further, the fast pace of change in technology renders equipment and skills obsolete very quickly, often making it difficult for internal IT departments to attract and retain talented staff (Grover,

et al. 1996, McFarlan and Nolan 1995). Outsourcing can provide firms access to needed human resources such as skilled programming and telecommunication personnel (Teng, et al. 1995). This is especially important in situations where it is costly for the firm to develop the needed capabilities internally (Barney 1999). An example of this is software outsourcing. Software projects can vary greatly in terms of complexity and the skill sets required. Even large firms that have an in-house team of developers may not have the skills required for a particular software project. Outsourcing provides a cost-effective way for firms to gain access to these specialized skill sets, instead of developing the skills internally (Aubert, et al. 2004). Similarly, ASPs enable smaller firms to gain access to high quality applications easily without the need to attract and retain skilled IT professionals (Kern, et al. 2002b).

**c) Core Competence Theory**

An extension of the resource-based view is what is commonly known as the core competence argument. Since firms are limited in their stock of valuable, rare, inimitable and non-substitutable resources, firms should leverage on such resources to develop its core competences (Prahalad and Hamel 1990). Core competences are those activities that offer long-term competitive advantage to the firm, while peripheral activities are those activities that are not critical to the firm's competitive edge (Quinn and Hilmer 1994). By strategically outsourcing non-core activities, managers do not need to spend time managing such peripheral activities, and can instead focus on their core competences to deliver

greater value to their clients (Quinn 1999, Quinn and Hilmer 1994). Thus, to reduce cost and gain competitive advantage, organizations should source for services strategically by internalizing only those components critical to the product or service that they have a distinctive competence in, and outsourcing peripheral business activities.

Similarly, in the context of IT outsourcing, firms are generally advised to outsource only peripheral IT activities, and keep in-house strategic IT activities that can offer the firm competitive advantage in the market. A variety of frameworks exist to help firms decide which IT activities to outsource; for example, firms are often advised to look at factors such as the strategic importance of the IT activity (Apte 1990), the business value it can deliver (Earl 1996), its potential for competitive advantage (Quinn and Hilmer 1994), and its contribution to business positioning (Lacity, et al. 1996).

Nonetheless, researchers have cautioned that IT outsourcing may not be sufficient by itself to produce long-term competitive advantage (Porter 1996). With the widespread diffusion of outsourcing, such practices are now available to all competitors in the industry, and as such, are easily imitable. Further, by outsourcing, firms may end up losing the very competitive advantage they are seeking. This can occur for several reasons (Earl 1996). For example, firms may outsource a commodity application or activity, only to find it become strategic later on. As a result, they may find their new business strategy not well supported by their current outsourcing arrangements. This is made worse because outsourcing decisions are not easily reversible, and breaking the

contract can be prohibitively expensive. Further, as management focus gets shifted from the “what” to the “how”, there can be a loss of innovative capacity, and firms may find it harder to move to new innovative ways of providing IT services.

**d) Resource-Dependence Theory**

While the resource-based view focuses on the internal analysis of the firm in terms of resources and capabilities, the resource-dependence theory focuses on the external environment of the firm. The essence of the resource-dependence theory is that firms are dependent, to varying degrees, on their external environment for resources, due to the control these external environments have on the resources (Pfeffer and Salancik 1978, Thompson 1967). There are certain resources that the firm cannot generate internally, and the firm must acquire these through external acquisition. However, by acquiring such resources externally, firms become dependent on the environment, specifically, on these external vendors. The firm’s dependence on the vendor is determined by the importance of the resource to the organization, the number of potential suppliers, and the cost of switching suppliers.

Applied to IT outsourcing, resource-dependence theory suggests that firms may outsource in order to obtain critical resources that are not available internally, but in the process, firms become dependent on the external service provider. Resource-dependence theory has been used to explain IT outsourcing

decisions in general (Cheon, et al. 1995) and ASP outsourcing specifically (Jayatilaka, et al. 2003).

The resource-dependence theory can offer insights into why firms often outsource for financial reasons. Firms that are burdened with short-term liabilities and high debts may use IT outsourcing to gain access to critical capital investments that are not available otherwise (Smith, et al. 1998). For example, early total outsourcing deals usually involve transfers of assets to the vendors for significant amounts of cash. This enables the client firms to liquefy their intangible assets, improving their balance sheet in the process, as well as restructure their IT budgets from capital fixed costs to variable operating costs (Lacity and Hirschheim 1993, Lacity and Willcocks 1998, McFarlan and Nolan 1995). Smaller firms, in particular, can avoid incurring high capital IT investments by outsourcing to ASPs (Kern, et al. 2002b).

e) **Diffusion and Institutional Theories**

Diffusion and institutional theories have also been used to explain why firms outsource. According to diffusion theory, IT outsourcing can be considered as an organizational innovation, and studies have looked at the diffusion of IT outsourcing practices over time (Hu, et al. 1997, Loh and Venkatraman 1992). Institutional theory (DiMaggio and Powell 1983) provides an important theoretical framework for understanding the diffusion of IT outsourcing (Ang and Cummings 1997, Jayatilaka 2002).

The essence of institutional theory is that firms' behavior can be attributed to institutional influences from the external environment. Such institutional influences arise from various external constituents, and include key suppliers, consumers, regulatory agencies, and other firms that produce similar products and services. Firms exist in a larger institutional context, and such institutional factors play a primary role in determining firm behavior.

Institutional theory argues that isomorphism leads firms to act in a similar manner, resulting in homogeneity of organizational forms and practices.

Isomorphism describes the constraining process that forces one firm to resemble other firms facing the same environmental conditions. Firm behaviors are often attempts to gain / guarantee legitimacy in the environment. Firms attempt to legitimize their activities by following societal norms, by imitating other successful organizations, or by following societal regulations. These are known as normative isomorphism, mimetic isomorphism, and coercive isomorphism respectively (DiMaggio and Powell 1983).

IT outsourcing can similarly be considered as responses to normative, mimetic and regulatory influences from the environment. The much publicized Kodak total outsourcing case legitimated the practice of IT outsourcing among large firms, and contributed (at least partially) to its wide-spread diffusion (Hu, et al. 1997, Loh and Venkatraman 1992). Firms tend to follow successful companies in order to gain legitimacy as well as to become successful. Such mimetic isomorphism explains why firms often follow the lead of successful and well-known companies that have successfully outsourced IT. As IT

outsourcing becomes increasingly accepted as a best industry practice, firms may outsource simply to “jump on the bandwagon” (Lacity and Hirschheim 1993, Loh and Venkatraman 1992, McFarlan and Nolan 1995). Similarly, regulatory influences also play a major role, particularly in regulated industries such as banking, where well laid-out rules, structures, external regulation and practices govern organizational forms and operations. For example, results from a study of 243 banks in the U.S. showed that banks’ outsourcing can be attributed to institutional influences both from regulatory as well as mimetic pressures (Ang and Cummings 1997).

f) **Power Theory**

The theories discussed earlier reflect an underlying view that firms’ IT outsourcing decisions are based on rational reasons. However, power issues can also play an important role in firm decisions such as IT outsourcing. Power and politics have been shown to affect IT decisions in general (Markus 1983) and IT outsourcing in specific (Lacity and Hirschheim 1993).

Put simply, power may be defined as the potential of a party to influence the behavior of another party. Power theory emphasizes the interests, conflicts and power of individuals and political coalitions within the firm. Power theory essentially views firms as political entities, with individuals within the firm possessing different degrees of power. Power and politics play a particularly important role when conflicts of interest arise between different parties in the firm. The power and politics of the parties involved often serve as the medium

for ultimate conflict resolution. Consequently, parties will endeavor to maintain or increase their power within the firm where possible (Pfeffer 1981).

In the context of IT outsourcing, power issues are also important, because outsourcing can affect the balance of power within the organization. Traditionally, the internal IT department enjoys a monopoly within the organization, and this has been blamed as the cause for unresponsive and poor quality services, leading to much user dissatisfaction. IT outsourcing may be viewed as attempts by user departments to reduce the power of the internal IT departments. Outsourcing often reduces the size of the internal IT department, and consequently, reduces its power within the firm. This also explains why IT departments often resist outsourcing, and may try to utilize its power base to impede or prevent such outsourcing efforts (Lacity and Hirschheim 1993).

In summary, the theories above highlight different reasons why firms outsource. In reality, firms tend to outsource for a combination of reasons, and the outsourcing decision is driven by multiple complex, interrelated motives (Baldwin, et al. 2001). Together, the different theoretical paradigms provide an integrated perspective for why firms outsource.

## **Process - Managing the Outsourcing**

Making the right outsourcing decision, albeit important, is not a guarantee that the expected benefits will actually be derived. Firms must carefully manage the outsourcing arrangement in two areas: (1) managing the

contract and (2) managing the relationship. The importance of the legal contract and formal contractual controls can be understood from the perspective of transaction costs theory and agency theory. Social / relational exchange theory, on the other hand, provides a theoretical explanation for the importance of managing the outsourcing relationship.

a) **Transaction Costs Theory**

As explained in the earlier section, the underlying assumptions of transaction costs theory are bounded rationality and opportunism. Bounded rationality leads to incomplete contracting, and this exposes outsourcing firms to the risk of opportunistic expropriation by the vendor. Firms, therefore, need to minimize the risks of such opportunistic behavior by detailing as complete a contract as possible, and putting in place proper monitoring and control mechanisms. Although these lead to higher transaction costs, they cannot be avoided, and must necessarily be incurred to minimize contractual expropriation.

Transaction costs theory, therefore, helps us to understand the importance of the legal contract in IT outsourcing. Researchers have consistently reinforced the importance of a proper legal contract that spells out clearly the obligations and responsibilities of both parties. This is essential to prevent opportunistic behavior, as it provides the only certain way to ensure that expectations are met (Kern and Willcocks 2001). Many contractual guidelines have been provided regarding clauses that should be incorporated

into the contract – examples include evolution clauses, change-of-character clauses, termination clauses, reversibility clauses, and escalation procedures (Barthelemy 2001, Lacity and Hirschheim 1993).

Although much of these guidelines are developed from practice rather than theory, transaction costs theory provides useful insights into why these are important. In particular, the hierarchical elements framework (Ang and Beath 1993), based on transaction costs theory in general and Stinchcombe (1990)'s work in particular, proposes that firms can incorporate into the contract, elements that are commonly found when the IT activity is governed internally or hierarchically. These hierarchical elements (Ang and Beath 1993, Ang and Toh 1998) are:

- Authority structures where rights and responsibilities are assigned to either the client or vendor to make discretionary decisions, issue orders, or demand performance. Examples of these decisions include identifying and changing key personnel; making price adjustments; and changing the scope of the contract as price–performance ratios of IT drop.
- Rule-based incentive systems where rewards and punishments are tied to vendor performance, and not to the market. Market incentives work well under conditions of certainty, where all performance contingencies are considered prior to contractual agreement. Rule-based incentive systems dissociate compensation from market-determined forces. They reflect locally determined inducements for desirable future performance. For example, if timely delivery is vital, penalties for delays beyond agreed

completion date and bonuses for early completion may be incorporated into the contract.

- Standard operating procedures where routines are followed by parties in the contract to ensure that the contract progresses as planned. Examples of routines include requiring the vendor to produce formal progress reports; to conduct regular face-to-face meetings with clients; and to bring to the attention of the client potential IT operational problems and project delays.
- Nonmarket-based pricing systems where pricing algorithms are designed to accommodate cost uncertainties in long-term IT contracts. Non-market-based systems use market-price established by competitive bidding but modified by cost-recovery procedures. A combination of market pricing and cost-recovery algorithms is designed to ensure a reasonable balance between price risk for the client and compensation risk for the vendor.
- Informal mechanisms for resolving disputes where procedures are developed to settle conflicts without direct referral to court sanction. Unlike any typical arms-length contractual arrangement, a series of private and informal appeals is embedded in the contract to ensure that parties survive disputes. In the event of any disagreements, parties should agree to discuss and resolve the dispute informally and privately between top management of the client and vendor organizations. In the event that such negotiation is not successful, parties should submit the dispute to mediation by a third party arbitrator – a mutually agreed-upon computer professional. Only if the arbitration fails, formal legal litigation commences.

In summary, transaction costs theory highlights the importance of a complete legal contract. Research has generally shown that complete contracts are more likely to be successful. For example, a recent study found that contractual complexity (which can be considered an indirect measure of contract completeness) was significantly related with outsourcing success (Poppo and Zenger 2002). Other studies have similarly found that tight contracts are more successful compared to loose contracts (Sabherwal 1999, Saunders, et al. 1997), and failure to incorporate important contractual elements can lead to outsourcing failures (Ang and Toh 1998).

Complete contracting is, nonetheless, ineffective unless accompanied by diligent monitoring. Agency theory provides a useful perspective for understanding the various contractual controls that can / should be employed in IT outsourcing.

#### **b) Agency Theory**

Agency theory was first developed by Ross (1973), Macaulay (1963), Mitnick (1975, 1986), and Jensen and Meckling (1976). Similar to transaction costs theory, agency theory views the firm as a nexus of contracts, in this case, between principals and agents. The principals are represented by different groups or persons both within the firm as well as outside the firm, such as customers, suppliers and shareholders (Jensen and Meckling 1976). Agency theory examines the reasons for principal-agent relationships, the problems inherent in them, and the most efficient contract type for governing them.

A principal-agent relationship arises whenever a person (the principal) engages another person (the agent) to perform some service on his/her behalf, which involves delegating some decision-making authority to the agent (Jensen and Meckling 1976). Agency theory holds that individuals act through self-interest and, therefore, the goals of the principal and the agent often diverge. This means that the agent may not always behave in the principal's best interests, resulting in the danger of adverse selection and moral hazard (shirking). The principal-agent relationship, therefore, results in agency costs, which are the costs incurred as a result of discrepancies between the objectives of the principal and those of agents (Eisenhardt 1989).

Agency costs include: (1) monitoring costs; (2) bonding costs; and (3) residual loss. Principals incur monitoring costs in order to assess the performance of the agent. Agents, on the other hand, incur bonding costs in order to assure the principal of his commitment. In addition, principals incur a residual loss, as a result of having an agent perform the task. Agency costs are, therefore, the sum of the monitoring costs by the principal, the bonding costs by the agent, and the residual loss of the principal. The amount of agency costs incurred are determined by five factors: outcome uncertainty; risk aversion of the parties; programmability or the degree to which appropriate behavior can be specified in advance; outcome measurability or the extent to which outcomes can be easily measured; and the length of the agency relationship (Eisenhardt 1989). The focus of agency theory is on determining the most efficient contract that should be adopted to govern the relationship between the principal and the

agent (Eisenhardt 1989). These usually take the form of either behavior-based contracts or outcome-based contracts.

Agency theory has also been used to study IT outsourcing; notable examples include: Bahli and Rivard 2003, Cheon, et al. 1995, Choudhury and Sabherwal 2003, Jayatilaka, et al. 2003. IT outsourcing can be conceived as a principal-agent relationship involving a contract between a principal (the client) and an agent (the vendor), in which the agent is delegated with the performance of services. Consistent with agency theory, the outsourcing relationship is typified by goal incongruence between the client and the vendor (Lacity and Hirschheim 1993). Clients usually desire more (quality, service, customization, risk assumption, etc) for less (lower prices), while vendors strive to achieve the highest profit margins or revenue potential (Jap and Anderson 2003). Vendors are usually rewarded according to contract profitability, which is achieved through charging the client extra for anything which is not in the contract (Lacity, et al. 1995). The goal incongruence between the outsourcing client and vendor means that controls must be put in place in order to minimize the agency costs involved. This usually requires a portfolio of different controls (Choudhury and Sabherwal 2003), including both outcome-based controls and behavior-based controls. Employing behavior-based controls are, however, more difficult. The technological and business complexity of IT means that it is often difficult for outsourcing clients to choose a suitable vendor (adverse selection problem) and to monitor the vendor's work (moral hazard problem). As such, IT outsourcing often relies heavily on outcome-based control, where

emphasis is placed on accurate specification of current and future requirements and baselines. This highlights the importance of spelling out, in detail, the service scope, service levels, measures of performance, and penalties for non-performance (Lacity and Willcocks 1998).

**c) Social / Relational Exchange Theory**

Despite its importance, reliance on the legal contract alone is insufficient, because a legal contract can never specify completely all the contingencies that can arise (Aubert, et al. 1996). Rather, the contract must be balanced with efforts to build a strong relationship with the provider. This is frequently referred to as a partnership approach (Grover, et al. 1996, Lee and Kim 1999), considered by many to be pioneered by Eastman Kodak (DiRomualdo and Gurbaxani 1998, Lacity and Willcocks 1998). Advocates of this approach argue that firms need to move beyond a transient buyer-supplier association towards a strategic partnership, characterized by trust, commitment, communication, cooperation, flexibility and joint conflict resolution (Grover, et al. 1996, Klepper 1995, Lee and Kim 1999, Willcocks and Kern 1998). Studies have consistently found a strong positive relationship between partnership quality and outsourcing success (Grover, et al. 1996, Lee and Kim 1999, Sabherwal 1999, Saunders, et al. 1997).

However, early conceptualizations of “partnership” in the IT outsourcing literature have been largely a-theoretical (Klepper 1995). Recent developments have integrated social exchange theory and relational exchange

theory to provide a theoretical explanation of what the IT outsourcing relationship involves (Kern and Willcocks 2000).

The underlying premise of social / relational exchange theory is that IT outsourcing, like any other inter-organizational relationships, are in reality governed by more than legal exchanges. Although the legal contract is important, written obligations can never be complete, and important terms and conditions are often not explicitly incorporated. Instead, contractual parties have to rely on unwritten promises and the “spirit of the contract” in their interactions (Macaulay 1963, Macneil 1980). These reflect the social exchanges between the parties. Social exchange can be defined as “voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others” (Blau 1964, p.91). The basis of social exchange is reciprocity -- when one party supplies rewards in services to another, this obligates the latter; in order to discharge this obligation, the latter must furnish benefits to the first in return. Social exchange, therefore, usually involves cooperation and give-and-take between the parties. Social / relational exchange theory views the IT outsourcing relationship as a voluntary transaction, between a client and a vendor firm, for mutual benefit. Because the parties believe that the exchange is mutually beneficial, they will be motivated to consider the relationship important in and of itself, and to devote resources to develop and maintain the relationship.

The work by Kern and Willcocks (2000) draws on social / relational exchange theory to provide a comprehensive theoretical framework of the

outsourcing relationship. According to these authors, the relationship develops through the series of interactions between the parties, involving the (1) product / service exchange; (2) financial exchange; (3) service enforcement and monitoring; (4) communication / information exchange; (5) cultural adaptation; (6) investments in resources, knowledge and time; (7) shared adapted and reinforced vision; and (8) social and personal bond. Over time, this will be manifested through behavioral dimensions such as commitment, cooperation, expectations, satisfaction, conflict, dependency, power and trust (Kern and Willcocks 2000).

In summary, firms must manage both the contract and the relationship. Studies have shown that the really successful outsourcing arrangements are those with both tight contractual controls and a partnership-type relationship characterized by trust (Sabherwal 1999, Saunders, et al. 1997). Rather than being substitutes, a partnership-style relationship can and should complement contractual controls (Poppo and Zenger 2002).

## **Consequences – IT Outsourcing Success**

In the previous sections, I have reviewed dominant theoretical perspectives on why firms outsource, and how firms should manage the outsourcing contract and relationship. In the section below, I review current research on IT outsourcing success, and propose a conceptual model of IT outsourcing success.

a) **Current Research on IT Outsourcing Success**

Research on actual IT outsourcing success has been relatively scarce, with the majority of studies focusing on the outsourcing decision. The underlying assumption is that, if firms make the right outsourcing decision, structure and manage the outsourcing contract and relationship properly, then this should lead to outsourcing success.

However, the concept of IT outsourcing success remains nebulous, and empirical results have been mixed (Levina and Ross 2003). While there have been many reports of successful outsourcing stories in the popular press, scandals of failed outsourcing attempts also exist. Examples of widely heralded successful outsourcing deals include: the BPO deal between British Petroleum and Exult (Adler 2003); the UPS-Motorola outsourcing partnership (Zviran, et al. 2001); and Continental Bank's outsourcing of its "crown jewels" (Huber 1993). On the other hand, there have also been many reports of early terminations, for example, by American Express, East Midlands Electricity, and Sears UK (Kern, et al. 2002a). Cancellation of contracts appears to be common. For example, one study reported that nearly one-third of the clients have cancelled their contracts, out of which 29 percent involved a change of vendor and 22 percent involved bringing the IT work in-house (Michell and Fitzgerald 1997). Another study reported that 32 percent of their respondents had cancelled contracts in the last five years (Lacity and Willcocks 2000b). Some outsourcing arrangements have even escalated into lawsuits between the parties;

examples include the lawsuit between EDS and Xerox, and between Detroit Medical Center and HealthNet Services (Bahli and Rivard 2003).

One reason why assessing IT outsourcing success has been difficult is that the concept has remained nebulous even after more than a decade of research. Researchers have looked at different dimensions of IT outsourcing success, the most commonly studied ones being (1) firm performance; (2) satisfaction; and (3) met expectations.

- **IT outsourcing success as firm performance** - IT outsourcing success can be interpreted in terms of the impact on firm performance. King and Malhotra (2000), for example, propose that a right sourcing strategy should lead to positive impacts at three levels: (1) short-term operational impacts in terms of efficiencies, cost savings, productivity, and service levels; (2) mid-term tactical impacts in terms of performance, control, and risk sharing; and (3) long-term strategic impacts in terms of core competencies and learning competencies (King and Malhotra 2000). However, few studies have actually assessed the impacts of outsourcing in general, and IT outsourcing specifically, on firm performance. Studies on outsourcing in general have yielded mixed results regarding the impact on firm performance. For example, an early study showed that outsourcing of research and development and services was *negatively* associated with performance, measured as actual sales and net income, averaged over three years (Mosakowski 1991). A more recent study found that outsourcing of services

was *positively* associated with performance, measured by respondents' perception of the firm's financial and market performance relative to its competitors (Murray and Kotabe 1999). Yet, another study found *no significant relationship* between outsourcing and overall firm performance as perceived by managers (Gilley and Rasheed 2000). As far as I am aware, no study has assessed the impact of IT outsourcing directly on firm performance. Event studies provide some indirect evidence of the positive value of IT outsourcing; results showed that IT outsourcing announcements are associated with significant positive stock market reactions (Hayes, et al. 2000).

- **IT outsourcing success as satisfaction** – Given the inherent difficulties in assessing the impact of IT outsourcing on firm performance, satisfaction is frequently used as a surrogate measure of outsourcing success (Grover, et al. 1996, Kern and Willcocks 2000, Lee 2001, Lee and Kim 1999, Marcolin 2002, Saunders, et al. 1997). Satisfaction can be considered as a proxy for the perceived effectiveness of the outsourcing relationship, as it reflects the parties' feelings about whether they have been adequately or inadequately rewarded in the relationship (Anderson and Narus 1990). Studies have looked at different levels / types of satisfaction, including: (1) overall satisfaction with the outsourcing (Grover, et al. 1996, Saunders, et al. 1997); (2) satisfaction with performance goals such as overall cost, quality of the output/service, responsiveness to problems or inquiries (Poppo and Zenger

1998, Poppo and Zenger 2002); (3) user satisfaction with specific aspects of the outsourcing, such as the reliability, relevancy, accuracy, currency, completeness and timeliness of information (Lee and Kim 1999); as well as (4) satisfaction of different parties (senior management versus MIS department) with specific aspects of the services provided (security and privacy) (Susarla, et al. 2003).

- **IT outsourcing success as met expectations** - Another commonly used measure of outsourcing success is the degree to which various expectations and/or benefits have been realized. For example, one commonly used scale looks at the degree to which various strategic, economic and technological benefits have been achieved (Grover, et al. 1996, Lee, et al. 2004). Other measures look at the degree to which expected benefits have been achieved. For example, a recent survey asked respondents to indicate the extent to which a list of thirteen expected benefits has been achieved (Lacity and Willcocks 2000b). Among the expected benefits, some studies focused specifically on the degree to which expected cost savings have been achieved (Lacity and Willcocks 1998). These generally found that slightly more than half of IT outsourcing contracts have achieved expected cost savings; for example, Lacity and Willcocks (1998) reported 56% as having achieved cost savings, while Lacity and Willcocks (2000b) reported 53%.

**b) Conceptual Model of IT Outsourcing Success**

The review above reveals that researchers have focused on different aspects of IT outsourcing success, and there remains a lack of conceptual clarity of what IT outsourcing success actually means. A clearer understanding of this dependent variable is essential for evaluations of IT outsourcing to be properly carried out. This mirrors the importance of defining information systems (IS) success, when the issue was first raised by DeLone and McLean (1992), who argue that

*“The importance of defining the I/S dependent variable cannot be overemphasized. The evaluation of I/S practice, policies and procedures requires an I/S success measure against which various strategies can be tested. Without a well-defined dependent variable, much of I/S research is pure speculative” (DeLone and McLean 1992, p.61).*

In the same vein, it is essential for us to have a clear definition of IT outsourcing success. Towards that end, I propose a model of IT outsourcing success. To do so, I draw upon the larger body of work on IS success in general. One of the most popular and widely used model of IS success is that proposed by DeLone and McLean (1992), and “nearly 300 articles in refereed journals have referred to, and made use of, this IS Success Model” (DeLone and McLean 2003, p.10). Thus, I draw primarily upon the DeLone and McLean’s model, including subsequent refinements and updates to it.

The original IS success model proposed by DeLone and McLean (1992) was developed based on both theoretical research (specifically, Shannon and

Weaver's work on communications and Mason's information influence theory) and empirical research (where the authors coded a total of 100 MIS articles for the period 1981-1987). The model includes six dimensions – (1) system quality; (2) information quality; (3) use; (4) user satisfaction; (5) individual impact; and (6) organizational impact. The model has been criticized for including both process and variance interpretations, and a “re-specified model” has been proposed to include only the variance components (Seddon 1997). This variance model includes three broad measures of IS success - (1) measures of information and system quality; (2) general perceptual measures of net benefits of IS use, comprising perceived usefulness and user satisfaction; and (3) other measures of net benefits of IS use. DeLone and McLean recently updated their 1992 model to incorporate three main changes – to include service quality, clarify the notion of use to include intention to use, and accept the more general term net benefits (similar to that used in Seddon's model). The updated model comprises six dimensions – (1) information quality; (2) system quality; (3) service quality; (4) use / intention to use; (5) user satisfaction; and (6) net benefits (DeLone and McLean 2003).

Drawing on these and applying to the context of IT outsourcing, I propose a similar model of IT outsourcing success that comprises three broad dimensions – (1) quality measures; (2) attitudes / perceptions of net benefits; and (3) net benefits.

The first dimension, quality measures, similarly includes information quality, system quality and service quality. In the context of IT outsourcing,

service quality is particularly important, since IT outsourcing involves essentially the provision of services. Outsourcing research has also demonstrated the importance of service quality (Lee and Kim 1999), although in that paper, it was conceptualized as an antecedent to success, rather than as a dimension of success itself. The SERVQUAL instrument has been used to measure service quality of IT outsourcing (Lee and Kim 1999), IT consulting (Yoon and Suh 2004) as well as IS in general (Kettinger and Lee 1995, Pitt et al. 1995), despite debates over its usefulness and validity (Carr 2002, Jiang et al. 2002, Kettinger and Lee 1997, Pitt et al. 1997, Van Dyke et al. 1997). Although more work is needed to develop an improved measure, service quality is an important concept in IT outsourcing success. System and information quality are similarly important, and can be assessed through how well specific service level agreements have been met. Different metrics can be developed for this purpose, depending on the nature of the IT services being outsourced. Examples include: number and frequency of abnormal terminations of operating software, lines of code / function points delivered, number of security breaches, number of MIPS available, etc. (Smithson and Hirschheim 1998).

The second dimension, attitudes / perceptions of net benefits, includes perceived usefulness, use / intention to use, and user satisfaction. These measures have also been commonly used in IT outsourcing research. Met expectations (Grover, et al. 1996, Lacity and Willcocks 1998, Lacity and Willcocks 2000b, Lee, et al. 2004) can be considered as a measure of perceived usefulness. Use / intention to use, in the IT outsourcing context, refers to firms'

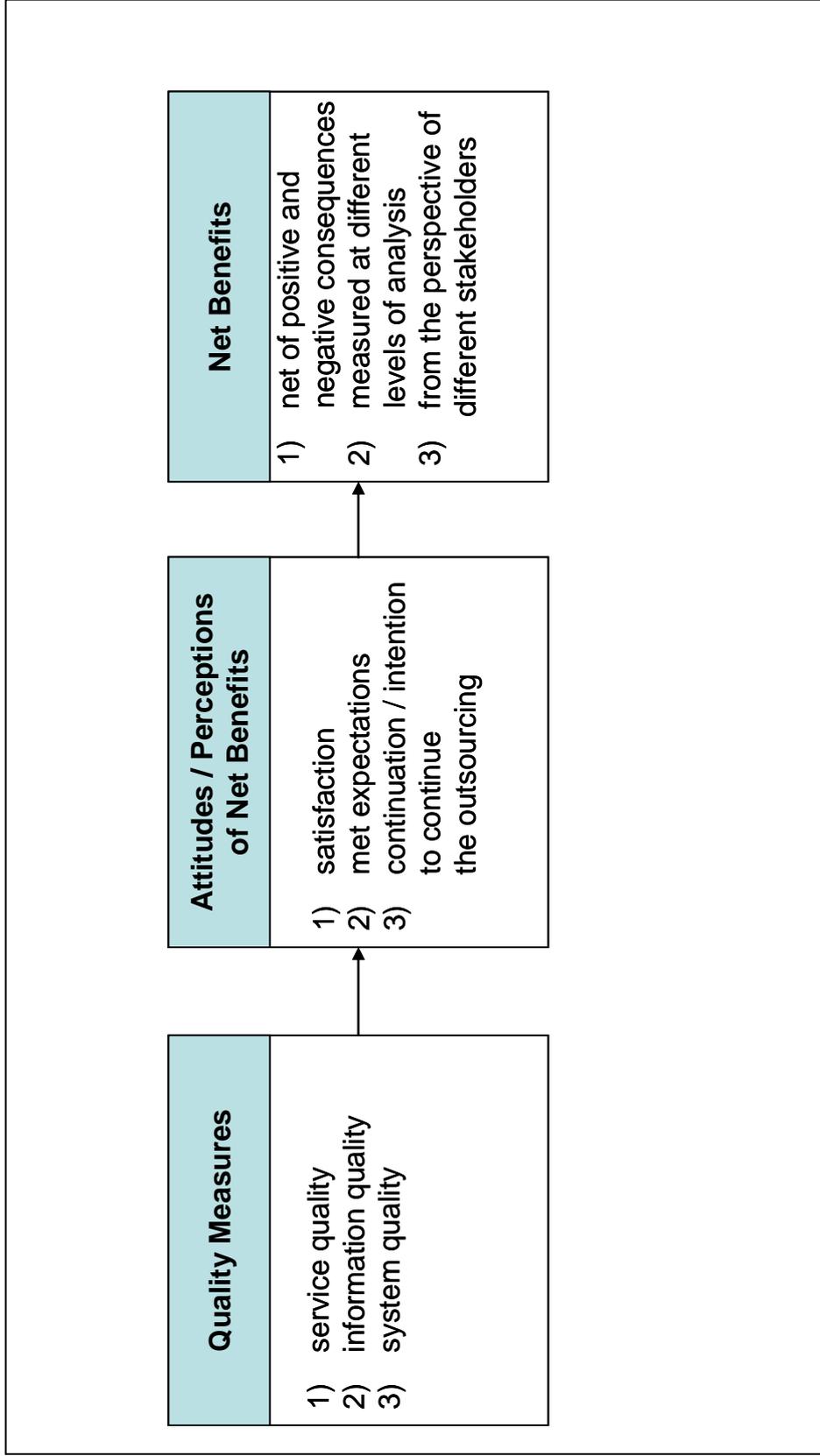
intention to retain the outsourcing partner (Nam, et al. 1996, Saunders, et al. 1997). Satisfaction is also frequently used, as a proxy for the perceived effectiveness of the outsourcing (Grover, et al. 1996, Kern and Willcocks 2000, Lee 2001, Lee and Kim 1999, Marcolin 2002, Saunders, et al. 1997).

The third dimension, net benefits, incorporates three important concepts. First, net benefits reflect the net of both positive and negative consequences, since “no outcome is wholly positive, without any negative consequences” (DeLone and McLean 2003, p.22). This is particularly important in the context of IT outsourcing, since prior success measures have focused only on the positive consequences. Yet, there are many risks involved in IT outsourcing (Earl 1996, Kern, et al. 2002b), and these can lead to negative consequences, such as service debasement (reduction in quality of services) and cost escalation (Bahli and Rivard 2003). Second, net benefits must be measured at different levels of analysis (DeLone and McLean 2003, Seddon 1997). Similarly, IT outsourcing, like any other inter-organizational relationships, is multilevel in nature and needs to be assessed at different levels of analysis, such as the individual, firm, dyadic, network, industry, and national levels (Klein, et al. 2000). Third, net benefits must be assessed from the perspective of different stakeholders (DeLone and McLean 2003, Seddon, et al. 1999), as success is essentially “a value judgment made by an individual, from the point of view of some stakeholder” (Seddon 1997, p.248). IT outsourcing research has similarly emphasized the importance of considering the perspective of multiple stakeholders, since different stakeholders are likely to hold different

expectations and goals. IT outsourcing stakeholders include – customer senior business managers, customer senior IT managers, customer IT staff, customer IT users, supplier senior managers, supplier account managers, supplier IT staff, and sub-contractors (Lacity and Willcocks 2000a).

In summary, IT outsourcing success can be conceptualized as a multi-dimensional, multi-stakeholder, multi-level construct. The proposed IT outsourcing success model, developed based on the widely accepted DeLone and McLean IS success model, comprises three broad dimensions – quality, attitudes / perceptions of net benefits, and net benefits. Figure 2 provides a summary of the proposed model of IT outsourcing success.

Figure 2: Proposed Conceptual Model of IT Outsourcing Success



## **Overall Research Model**

In the previous section, I have provided a comprehensive review of the IT outsourcing literature, focusing in particular on the different theories that have been used. Table 1 provides a summary of the different theoretical perspectives in IT outsourcing research.

Table 1: *Summary of Theoretical Perspectives in IT Outsourcing Research*

<b>Theoretical Perspectives</b>	<b>Overview</b>	<b>Implications for IT Outsourcing</b>	<b>Representative Research</b>
Transaction Costs Theory	Organizational effectiveness depends on choosing the appropriate governance structure, so as to minimize total costs, which comprises both production costs and transaction costs. The amount of transaction costs incurred depends on three key transaction attributes – asset specificity, uncertainty and frequency (Williamson 1981).	IT outsourcing is viewed as a make-or-buy decision. IT outsourcing can offer production costs savings, due to economies of scale, scope and specialization. This must, however, be balanced against the increase in transaction costs. In IT outsourcing, firms are subject to opportunistic expropriation by the partner. Firms need to minimize such risks by detailing as complete a legal contract as possible, and putting in place proper monitoring and control mechanisms.	Ang and Beath 1993; Ang and Straub 2002; Ang and Straub 1998; Aubert, et al. 1996; Aubert, et al. 2004; Cheon, et al. 1995; Jayatilaka, et al. 2003; Poppo and Lacity 2002; Poppo and Zenger 1998; Wang 2002
Resource-Based View	Differences in firms' performance can be attributed to the nature of their resources and their ability to exploit those resources. Firms can gain sustained competitive advantage through careful evaluation and deployment of their resources that are valuable, rare, inimitable and non-substitutable (Barney 1991, Wernerfelt 1984).	Firms can use IT outsourcing as a means to fill gaps in the firm's current resources and capabilities.	Cheon, et al. 1995; Jayatilaka, et al. 2003; Roy and Aubert 2002; Straub, et al. 2002; Teng, et al. 1995
Core Competence Theory	Firms are limited in their stock of resources, and should therefore leverage on these resources to develop its core competences (Prahalad and Hamel 1990).	Firms should outsource their non-core activities to and focus on their core competences instead.	Quinn 1999; Quinn and Hilmer 1994;

<i>Theoretical Perspectives</i>	<i>Overview</i>	<i>Implications for IT Outsourcing</i>	<i>Representative Research</i>
Resource-Dependence Theory	Firms are dependent on their external environment for resources. Resources that the firm cannot generate internally must be acquired through external acquisition. This, however, leads to dependence on the environment (Pfeffer and Salancik 1978; Thompson 1967).	Firms may outsource in order to obtain critical resources that are not available internally. This, however, makes the firms dependent on the external service provider.	Cheon, et al. 1995; Jayatilaka, et al. 2003;
Diffusion and Institutional Theories	Firms exist in the larger institutional context, and institutional factors play a primary role in determining firm behavior. Isomorphism leads firms to act in a similar manner, resulting in homogeneity of organizational forms and practices. Firms attempt to legitimize their activities by following society norms, by imitating other successful organizations, or by following societal regulations (DiMaggio and Powell 1983).	IT outsourcing is viewed as responses to normative, mimetic and regulatory influences from the environment.	Ang and Cummings 1997; Hu, et al. 1997; Jayatilaka 2002; Loh and Venkattraman 1992;
Power Theory	Firms are political entities, and individuals within the firm possess different degrees of power. Parties endeavor to maintain or increase their power within the firm where possible, because power and politics are the primary medium used for resolving conflicts (Pfeffer 1981).	IT outsourcing can affect the balance of power within the organization. User departments may attempt to reduce the power of the internal IT department through outsourcing. Conversely, IT departments may try to utilize its power base to resist outsourcing, in order to maintain their power.	Lacity and Hirschheim 1993

<b>Theoretical Perspectives</b>	<b>Overview</b>	<b>Implications for IT Outsourcing</b>	<b>Representative Research</b>
Agency Theory	<p>Firms are viewed as a nexus of contracts between principals and agents. The principal-agent relationship is characterized by goal incongruence between the principal and the agent, because individuals act through self-interest. This results in the danger of adverse selection and moral hazard (shirking). Agency costs should be minimized by using the most efficient contract form (Eisenhardt 1989, Jensen and Meckling 1976, Macaulay 1963, Mitnick 1975, Mitnick 1986, Ross 1973)</p>	<p>IT outsourcing is viewed as a principal-agent relationship involving a contract between a principal (the client) and an agent (the vendor). This gives rise to goal incongruence between the two parties, and so a portfolio of controls (including both behavior-based and outcome-based controls) are needed to minimize the agency costs involved.</p>	<p>Bahli and Rivard 2003; Cheon, et al. 1995; Choudhury and Sabherwal 2003; Jayatilaka, et al. 2003</p>
Social / Relational Exchange Theory	<p>Inter-organizational relationships involve not only legal exchanges between the parties, but also social exchanges based on reciprocity. This requires cooperation and give-and-take between the parties (Blau 1964, Macaulay 1963, Macneil 1980).</p>	<p>IT outsourcing involves social exchanges between the parties involved. Consequently, the client-vendor relationship is important in and of itself, and must be carefully managed.</p>	<p>Kern and Willcocks 2000; Popo and Zenger 2002;</p>
IS Success Model	<p>IS success is a multi-dimensional, interdependent construct comprising of quality measures, attitudes / perceptions of net benefits, and net benefits (DeLone and McLean 1992, 2003, Seddon 1997)</p>	<p>IT outsourcing success can be similarly viewed as a multi-dimensional, multi-stakeholder, multi-level construct, comprising of three dimensions – quality measures (system quality, information quality and service quality), attitudes / perceptions of net benefits (satisfaction, met expectations, continuation / intention to continue the outsourcing), and net benefits (net of positive and negative consequences, measured at different levels of analysis, from the perspective of different stakeholders)</p>	<p>n/a</p>

The literature review reveals several gaps in current research. First, and most importantly, research to-date has focused primarily on the client perspective, and little exists on the vendor's perspective (Dibbern, et al. 2004, Hui and Beath 2002). Although more recent studies have looked at the vendor's perspective (for example, Ang and Straub 2002, Currie and Seltsikas 2001, Swinarski, et al. 2002), this area remains heavily under-researched. This creates an imbalanced view, since IT outsourcing is essentially an inter-organizational relationship that involves two parties – both the client and the vendor. There is a dire need for research that includes the perspective of both parties involved. The primary objective of this thesis is, therefore, to provide such a balanced view by looking at the duality of IT outsourcing.

Second, prior research has focused mainly on the antecedents to IT outsourcing, and comparatively few studies have looked at the managing process, especially managing of the outsourcing relationship (Kern and Willcocks 2001). This is clearly an unsatisfactory state, since research has consistently demonstrated the importance of managing the relationship to outsourcing success. In addition, much of the current work on outsourcing relationship has not been based on sound theoretical perspectives (Klepper 1995). There is definitely room for more theory-based work on outsourcing management.

Third, evidence on IT outsourcing success remains scarce, even after more than a decade of research on the topic. Studies to-date have looked primarily at IT outsourcing success in terms of satisfaction and met

expectations (Dibbern, et al. 2004). Other important dimensions of IT outsourcing success have not been studied. In particular, there has been little empirical evidence of the impact of IT outsourcing on objective firm performance.

This thesis aims to address these gaps by focusing on the broad research question: *How successful is IT outsourcing, from both the client and vendor perspective?* Specifically, to answer this question, I conducted two separate but related studies that focus on the duality of IT outsourcing.

Essay 1 focuses on IT outsourcing management, through a psychological contract lens that focuses on mutual client-vendor obligations. Results on IT outsourcing success to-date have been mixed (Levina and Ross 2003); this suggests that not all potential determinants have been identified. Although research has recently recognized the importance of the outsourcing relationship, this is a recent development and we have still much to understand regarding what this relationship entails. Specifically, although the literature hints of the importance of both the legal and psychological contract (Sabherwal 1999), the nature of this psychological contract has yet to be identified. Essay 1 aims to extend prior research by using a psychological contract perspective to study IT outsourcing management. In Essay 1, I identify the nature of these psychological contract obligations, and demonstrate empirically their impact on outsourcing success.

Essay 2 focuses on IT outsourcing success, and aims to provide an objective assessment of the impact of IT outsourcing on firm performance, for

both clients and vendors. Specifically, in Essay 2, I use an event-study methodology to assess the impact of IT outsourcing announcements on both short-term stock-market reaction and long-term change in performance, for both clients and vendors. In addition, I also explore whether the value created is affected by the nature of the outsourced activity. Essay 2 aims to extend prior research, which has focused mainly on perceptual measures, by providing objective evidence of IT outsourcing consequences.

The two essays address different specific research questions, draw on different theoretical frames, and employ different research methods. While the primary focus of Essay 1 is IT outsourcing management, Essay 2 focuses on IT outsourcing outcomes. However, the common thread across both essays is the emphasis on the duality of IT outsourcing. Both essays provide a balanced viewpoint that incorporates both the client's and the vendor's perspectives. In addition, the two essays complement each other by providing both a subjective assessment (essay one – using satisfaction and intention to continue the relationship) and objective assessment (essay two – using actual stock market returns and changes in performance) of IT outsourcing success. Table 2 provides a summary comparison of the two essays.

Table 2: Comparison of the two Essays

	Essay 1	Essay 2
Title	IT Outsourcing Success: A Psychological Contract Perspective	Does IT Outsourcing Create Value for Clients and Vendors? Evidence from a longitudinal investigation on short-term market reactions and long-term financial operating performance
Research Question	(1) What are the critical client-vendor obligations in an IT outsourcing relationship? (2) What is the impact of fulfilling these obligations on success?	(1) Does IT outsourcing create value for clients? (2) Does IT outsourcing create value for vendors? (3) Does the IT activity outsourced affect the value created?
Focus	Outsourcing management	Outsourcing outcomes
Theory	Psychological contract theory	Production and transaction costs theory
Methodology	Mixed method (Qual-Quan)	Event study
Data	Primary data – interviews and surveys	Secondary data of IT outsourcing announcements in U.S. for period 1989-1999
Dependent Variable	Outsourcing success – perceptual measure of satisfaction and intention to continue the relationship	Outsourcing success – objective measure of stock market returns (short-term value) and average change in operating performance (long-term value)
Independent Variables	Fulfillment of psychological contract obligations	IT activity outsourced
Controls	Project type, duration and amount	N/A
Level of analysis	Outsourcing contract - Individual project managers (as agents for the firm)	Outsourcing contract

The next two chapters present each essay in turn. Each essay contains relevant literature reviews, conceptual underpinnings, development of hypotheses, research methodology adopted to test the hypotheses, results, discussion, contributions and limitations and suggested avenues for future research. Finally, in Chapter Five, I provide a unified summary highlighting major overall contributions of this thesis, and directions for future research.

# **CHAPTER THREE**

## **IT OUTSOURCING SUCCESS: A PSYCHOLOGICAL CONTRACT PERSPECTIVE**

### **Introduction**

The successful management of IT outsourcing continues to challenge organizations today. Undoubtedly, we have learnt much from more than two decades of outsourcing research, and evidence exists that newer contracts show higher success rates (Lacity and Willcocks 1998). Yet, reported success rates remain low (for example, average success rate reported by Lacity and Willcocks (1998) was only 56%). This paper aims to extend our understanding of factors contributing to IT outsourcing success, through a new theoretical lens using psychological contract, that incorporates both the client's and the vendor's perspectives.

Outsourcing research has focused heavily on pre-contract issues surrounding the outsourcing decision and the evaluation and negotiation process (Kern and Willcocks 2000, Kern and Willcocks 2001, Willcocks, et al. 1999). Studies have looked at a variety of reasons for outsourcing (Ang and Straub 1998, DiRomualdo and Gurbaxani 1998, Grover, et al. 1998, Lacity and Willcocks 1998, Quinn and Hilmer 1995, Quinn and Hilmer 1994), and proposed different decision frameworks on what and when to outsource (Cronk and Sharp 1995, Earl 1996, Lacity and Willcocks 2001, Lacity, et al. 1996,

McFarlan and Nolan 1995, Quinn and Hilmer 1994) as well as various contractual guidelines (Ang and Beath 1993, Barthelemy 2001, Lacity and Hirschheim 1993, Lacity and Willcocks 1998). Existing research's heavy emphasis on the pre-contract issues reflects an underlying assumption that, if the sourcing decision has been made correctly based on careful considerations of all the relevant factors, and all the important contractual terms have been carefully negotiated and incorporated, then outsourcing success should be a logical follow-on. However, I believe that pre-contract issues are an essential, but insufficient, condition for success. Post-contract management of the outsourcing venture is equally, if not more, important, and certainly warrants greater research concern.

Research on managing the outsourcing relationship has been relatively scarce (Kern and Willcocks 2001), though interest has increased in recent years. Much emphasis has been placed on the legal contract, with tight contractual controls being recommended to reduce opportunistic behavior (Lacity, et al. 1995). Others advocate managing the outsourcing relationship as a strategic partnership (Grover, et al. 1996, Klepper 1995, Lee and Kim 1999, McFarlan and Nolan 1995, Willcocks and Kern 1998). Studies have shown that both contractual controls and a partnering relationship are required for success (Sabherwal 1999, Saunders, et al. 1997). The two complement each other (Poppo and Zenger 2002); the contract provides the context in which the relationship exists, and defines the interactions between the parties involved

(Kern and Willcocks 2000, Kern and Willcocks 2001, Kern and Willcocks 2002).

Although research into outsourcing management has increased our collective understanding of the factors influencing outsourcing success, the vast majority of prior studies have focused on the client's perspective, and comparatively few research efforts have examined the vendor's perspective (Goles and Chin 2002, Lacity and Willcocks 2001, Lee, et al. 2002, Saunders 2002). Recognizing this need, more recent studies have looked at the vendor's perspective. However, many of them adopt a macro-perspective of the vendor industry, studying vendors' business models and strategies, services provided, and core capabilities (Ang and Straub 2002, Currie and Seltsikas 2002, Currie and Seltsikas 2001, Michell and Fitzgerald 1997, Swinarski, et al. 2002). Studies on outsourcing management that incorporate both the client's and the vendor's perspectives are still comparatively rare (exceptions include Kern and Willcocks 2002, Sabherwal 1999, Willcocks and Kern 1998, Zviran, et al. 2001), even though outsourcing involves a dyadic relationship between a client and a vendor.

I propose psychological contract theory as an alternative perspective to help us understand outsourcing success better. Psychological contract theory provides a sound theoretical lens for studying IT outsourcing management, because of its unique focus on mutual obligations between both parties to the contract, and its emphasis on psychological obligations (as distinct from legal contractual terms). As explained in more detail later on, a psychological

contract refers to “people’s mental beliefs and expectations about their mutual obligations in a contractual relation” (Rousseau 1995). The psychological contract has been widely studied in the employment context, and researchers have recently drawn upon this theory to examine the relationship between industrial buyers and suppliers (Blancero and Ellram 1997) and between internal customers and internal service providers (Llewellyn 2001). The objective of this research is to apply psychological contract theory as a framework to enhance our understanding of outsourcing success, from both the client’s and the vendor’s perspective.

The paper proceeds as follows. In the next section, I discuss psychological contract in more detail, and show how it can be applied to IT outsourcing. Using a sequential mixed-methods design (Creswell 1994, Tashakkori and Teddlie 1998), I develop and empirically validate my research models of client and vendor obligations in IT outsourcing. In my first study, I conduct in-depth interviews with client and vendor project managers to identify the nature of client-vendor obligations in IT outsourcing. I test the derived research model using a field sample of 179 client managers and 191 vendor managers. I conclude by discussing the theoretical and practical importance of my findings.

## **A Psychological Contract Perspective to IT Outsourcing**

The concept of a psychological contract was first introduced in the early 1960s (Argyris 1960, Levinson, et al. 1962) and takes its roots from legal

research. The legal contract has traditionally been emphasized in contractual relationships. Yet, in reality, all contracts are incomplete in nature, due to decision makers' bounded rationality (Williamson 1981, Williamson 1987). This means that the legal contract must always be supplemented, to varying degrees, by various informal agreements and unwritten promises made during the course of contract negotiation (Rousseau 1995). This suggests that what is important is not just the legal contract, but also the psychological contract, which comprises the parties' mental beliefs and expectations about their mutual obligations in the contractual relationship. These mutual obligations are based on perceived promises of a reciprocal exchange, and may or may not be written into the legal contract. What is important is that the parties involved believe (1) that an agreement exists, (2) that some sort of promise has been made, and (3) that considerations have been offered in exchange (Rousseau 1995).

Similarly, IT outsourcing involves a legal contract between the client and the vendor. Research has always emphasized the importance of the legal contract, and the literature is replete with examples of contractual guidelines (Ang and Beath 1993, Lacity and Hirschheim 1993). Yet, increasingly, researchers recognize that reliance on the legal contract alone is insufficient, given the complexities of real-life outsourcing arrangements and the rapid changes in technology and organizational environments (Altinkemer, et al. 1994, Aubert, et al. 1996). This has led some researchers to recommend managing the IT outsourcing venture as a strategic partnership, with emphasis on trust and flexibility, much like a marriage (Grover, et al. 1996, Lee and Kim

1999, McFarlan and Nolan 1995, Willcocks and Choi 1995). All these suggest that, despite the importance of the legal contract, reliance must also be placed on other unwritten promises and obligations between the parties. I believe that IT outsourcing similarly involves a psychological contract between the client and vendor. Mutual obligations are the essence of the contract: the vendor agrees to make specific contributions to the client in return for certain benefits from the client. These obligations extend beyond mere expectations and are based on the perceived promises of a reciprocal exchange. These promises may be written into the terms of a legal contract, or based simply on oral promises and other expressions of commitment made by the other party.

Prior work on psychological contract has focused mainly on the individual employee's perspective, in terms of what the employee perceives that he/she owes the organization, and what the employee perceives that the organization is obligated to provide in return (Lewis-McClearn and Taylor 1997). The organization, however, can similarly have a psychological contract. Inherent in the early definitions of psychological contract (Argyris 1960, Schein 1978) is an emphasis on the perceptions of *both* parties to the relationship (Marks 2001). In the employment context, this means that both the employee (individual) and the employer (organization) are parties to the psychological contract. In the same manner, in IT outsourcing, the client and vendor organizations can form a psychological contract through its agents (such as the project manager), acting in their organizational roles on behalf of the organization. Such a unitary view of the organization is not new and is not

inconsistent with other concepts such as organizational learning and organizational culture (Argyris and Schol 1996, Schein 1996). Recent research has also studied the organization's perspective of its psychological contract by focusing on its agents, such as supervisors, managers, and top-level executives (Herriot, et al. 1997, Lester, et al. 2002, Lewis-McClear and Taylor 1997, Porter, et al. 1998).

Research in the employment context has found that psychological contract fulfillment is associated positively with job satisfaction, organizational commitment, organizational citizenship behaviors and trust, and negatively with actual turnover and turnover intent (Guzzo, et al. 1994, Robinson and Rousseau 1994, Robinson 1996, Robinson and Morrison 1995, Robinson and Morrison 2000). Similarly, I argue that perceived outsourcing success will be positively related to the degree to which the parties perceive that their psychological contract obligations have been fulfilled. Outsourcing success therefore requires that clients and vendors understand what these specific obligations are, and manage the relationship to ensure that the obligations are fulfilled.

This paper aims to address two objectives: first, to identify the nature of these client-vendor obligations, and second, to assess the effect of fulfilling these obligations on outsourcing success. To achieve these objectives, I relied on a sequential qualitative-quantitative (qual-quant) mixed method of investigation (Creswell 1994, Tashakkori and Teddlie 1998), leveraging on the strengths of the different methods to obtain a richer understanding of the research topic (Mingers 2001).

## **Study 1: Identifying Psychological Contract Obligations in IT Outsourcing**

Since the concept of a psychological contract has not been examined in the context of IT outsourcing before, I started with an exploratory, qualitative study to develop the theoretical models. A qualitative approach was deemed appropriate as it enables me to develop a rich description and understanding of the context (Eisenhardt 1989a, Yin 1984). I used in-depth interviews with content experts to elicit the nature of client and vendor obligations in an outsourcing contract.

### **a) Study 1: Participants and Data Collection Procedures.**

Data collection was carried out as part of a larger project sponsored by the Singapore IT Dispute Resolution Advisory Committee (SITDRAC). SITDRAC is a local committee set up under the auspices of the Singapore National Computer Board, to look into IT disputes avoidance and resolution. Two of SITDRAC's major sponsors are the IT Management Association (ITMA) and the Singapore IT Federation (SITF). The ITMA is the professional society representing IT user organizations in Singapore, and has close to 200 members from a wide range of industries. ITMA members are all senior IT managers with responsibility for IT sourcing decisions, and many have significant experience with IT vendors. The SITF, on the other hand, is the professional society representing the IT vendor industry in Singapore. SITF

members are all IT vendor organizations, providing different types of IT products and services, including computer software and hardware, systems developers and integrators, IT education and training, and telecommunications. These two professional societies (ITMA and SITF) provided a convenience sample of IT outsourcing clients and vendors, and all data for both Study 1 and Study 2 were drawn from firms that were members of these two societies.

Data collection involved a series of in-depth interviews with key informants in client and vendor organizations. Following a purposive sampling strategy, I reviewed the list of ITMA and SITF members, and selected organizations that were actively involved in IT outsourcing. I contacted these organizations and requested to interview their project managers who have significant experience in managing outsourcing contracts. Four client organizations and four vendor organizations agreed to participate, and arranged for interviews with their project manager(s). In total, I interviewed nine client project managers and six vendor project managers from these organizations.

To guide the interview, I sent interviewees an interview protocol (see Table 3) prior to each session. Interviewees were asked to identify an outsourcing project that has proved particularly challenging, and to discuss their expectations of the other contractual party, as well as the other party's expectations of them, in relation to the project. I used the critical incident technique (Flanagan 1954) and asked interviewees to describe critical incidents illustrating situations where meeting these expectations was particularly challenging. All interviews were conducted on-site, and generally lasted one to

two hours. Interviews were documented with copious notes taken during the interview, and transcribed immediately afterward. This yielded a total of 89 pages of single-spaced text of transcripts, comprising 31,882 words.

Table 3: *Essay I Interview Protocol*

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The following interview protocol was developed and used to guide the interviews. Interviewees were asked to answer the questions with reference to a recently completed or a currently on-going IT contracting project that is extremely challenging.

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***For Vendor Project Managers:***

1. Please tell us about this IT contracting project you have selected. (Probes: When / how did this project get started? What is the nature of the services provided?)
  2. What were your client's expectations of you as a service provider in this project? Some examples are: timely delivery of promised output; or adherence to stipulated contract price.
  3. Which of these expectations were extremely challenging to meet? Can you give us an example of an incident during the project that illustrates this?
  4. What were your expectations of your client in this project? Some examples are: expecting clients to give clear specifications; or to be available for meetings when needed; or to give realistic deadlines.
  5. Which of these expectations did your client fail to meet? Can you give us an example of an incident during the project that illustrates this?
- 

***For Client Project Managers:***

1. Please tell us about this IT contracting project you have selected. (Probes: When / how did this project get started? What is the nature of the services provided?)
  2. What were your expectations of your service provider in this project? Some examples are: timely delivery of promised output; or adherence to stipulated contract price.
  3. Which of these expectations were extremely challenging to meet? Can you give us an example of an incident during the project that illustrates this?
  4. What were your service provider's expectations of you as a client in this project? Some examples are: expecting clients to give clear specifications; or to be available for meetings when needed; or to give realistic deadlines.
  5. Which of these expectations did your service provider fail to meet? Can you give us an example of an incident during the project that illustrates this?
-

**b) Study 1: Analysis and Reliability Assessments.**

I employed a grounded theory approach (Miles and Huberman 1994) to code and analyze the qualitative data from the interview transcripts. Specifically, I examined the transcribed notes for themes representing what outsourcing clients and vendors believed were the mutual obligations in the contract. I then discussed, reviewed, and arrived at a final set of six major themes representing client obligations and another six themes representing vendor obligations.

To establish an independent assessment of these themes, two graduate research students who were not involved in the study, independently read the transcripts and coded the data along these twelve themes. The two coders conducted initial coding on one interview transcript, discussed any discrepancies in coding, and developed explicit coding rules to reconcile the discrepancies, before proceeding to code the rest of the transcripts. Final Cohen's Kappa was .86, well above the threshold of .70 (Landis and Koch 1977) for robustness and validity.

**c) Study 1: Results – Clients' Beliefs about Vendor Obligations**

From the interviews, I identified six major themes representing what clients believe are the vendors' obligations in an outsourcing project. These were (1) vendor obligation for accurate project scoping; (2) vendor obligation for clear authority structures; (3) vendor obligation for taking charge; (4) vendor obligation for effective human capital management; (5) vendor

obligation for effective knowledge transfer; and (6) vendor obligation for building effective inter-organizational teams. In the following section, I present sample interview quotes that reflect these six themes, and discuss them in relation to extant research.

**(1) Vendor obligation for accurate project scoping.** Vendor obligation for accurate project scoping is defined as the vendor's obligation to estimate the project scope accurately and to be flexible in handling scope changes. Clients expect their vendors to scope the project accurately. This is important because the project scope typically determines the contract price, and therefore, directly affects the amount of money the client has to pay for the outsourcing services. This is important, since outsourcing is frequently motivated by cost considerations (Altinkemer, et al. 1994, Hirschheim and Lacity 2000). In addition, the accuracy of the project scope estimate can affect the quality of the vendor's services, just as software project performance is affected by the project estimates (Abdel-Hamid and Madnick 1991). For example, in fixed price outsourcing contracts, the vendor's profitability is affected by how accurately the project scoping was done. If the vendor under-estimates the scope of the project, he may try to cover his costs and/or increase his profits by cutting corners, and this will affect the quality of services delivered. One client manager described it this way,

*“When the vendor lacks experience in scoping, he is likely to underestimate the costs involved, and underbid on the project. The*

*vendor ends up losing money on the project, and so does it in a slip-shot manner. Ultimately, we are the ones who suffer.”*

Clients also expect their vendors to be flexible in handling scope changes. If outsourcing vendors exercise very tight project control and levy additional changes for every minor change to the project, this can significantly drive up the costs of outsourcing (Lacity and Hirschheim 1993). This was best summed up by one client manager,

*“A major problem we face is that vendors tend to exercise too tight control over the project scope. Any small change, they will insist on additional charges. The vendor must recognize that there will always be changes in scope during the project.”*

**(2) Vendor obligation for clear authority structures.** Vendor obligation for clear authority structures is defined as the vendor’s obligation to clearly define the authority structures in the project, in terms of the roles and responsibilities of all parties involved. Clear authority structures are important so that clients can maintain control over the project and ensure proper accountability (Ang and Beath 1993). This was illustrated by one client manager’s experience,

*“What we learned is that, in any project, there must be clear roles and responsibilities. A major dispute we had (in an earlier project) was over the roles and responsibilities of the parties. The vendor kept on pushing tasks and responsibilities to us, and we ended up escalating to management.”*

Clear authority structures are especially critical when multiple vendors and/or sub-contractors are involved, since coordinating the roles and responsibilities of the different parties becomes more difficult (Jayatilaka 2002, Lacity and Willcocks 2001). If roles and responsibilities are not clearly defined, there is no clear accountability of who is responsible, and the parties may end up pushing the blame to one another, while problems remain unresolved (Earl 1996). This was what one client manager experienced,

*“When there was a problem, the vendors ended up blaming it on each other. In the end, we were stuck between the two vendors. We had to call a meeting and ensure that the roles are clearly defined.”*

**(3) Vendor obligation for taking charge.** Vendor obligation for taking charge is defined as the vendor’s obligation to complete the job and solve problems independently with minimal client involvement. In an employer-employee relationship, organizational effectiveness is enhanced when employees are willing to go beyond their prescribed roles and responsibilities and engage in extra-role behaviors (Podsakoff and MacKenzie 1997), such as taking charge at work (Morrison and Phelps 1999). In the same manner, in an outsourcing relationship, the clients expect their vendors to go beyond their contractual roles and take charge during the project. Clients therefore expect their vendors to show initiative in solving any arising problems independently. This was best summed up by the comments of a client manager,

*“Vendor management must be actively involved to make decisions and resolve issues. After all, we are paying the vendor to do the work. It doesn’t make sense if they keep coming back to us.”*

From the client’s perspective, the vendors are the technical experts, and so are better positioned to make quick decisions when issues arise. If vendors do not take charge of the situation and make quick decisions, the project may be delayed. This was what this client manager experienced,

*“We came to the stage where we had pages and pages of unresolved issues. The project was slipping, so we had to escalate to the (vendor) CEO, to make sure that the (vendor) managers spent time with us to resolve the issues and make the necessary decisions. Otherwise, the project simply could not go on.”*

**(4) Vendor obligation for effective human capital management.** Vendor obligation for effective human capital management is defined as the vendor’s obligation to assign high quality staff to work on the project, and to minimize staff turnover during the project. One reason motivating clients to outsource is to gain access to technical skills (Grover, et al. 1998). Clients therefore expect vendors to assign high quality staff with the necessary skills to the project. This includes not just technical skills, but also change-management, business knowledge, industry experience, and project management skills. This was succinctly summed up by one client project manager,

*“The vendor must bring in the right people with the right skills. They must have both content knowledge and industry experience, both within industry as well as cross-industry experience. The vendor must also assign a trained experienced manager to oversee the project.”*

Besides assigning the right people for the job, clients also expect their vendors to minimize personnel changes during the project, especially for key project members. Otherwise, clients may find themselves laden with inexperienced staff on the project, while more experienced and capable staff gets moved to other projects (Earl 1996, Lacity and Hirschheim 1993). This was what one client manager experienced,

*“Initially, the vendor had many good people working on our account, but later on, they replaced these with new ones. But the new staff knew nothing about the project. In the end, the vendor’s turnover became our problem. We were very frustrated, as they were learning at our expense.”*

When personnel changes were inevitable, clients expect their vendors to provide sufficient notice, and ensure prompt replacements to minimize disruptions. Otherwise, the quality of the outsourcing service may be affected. This was what one client manager experienced,

*“The vendor was facing very high attrition, and many of the vendor staff resigned half-way during the project. The worst case was when the (vendor) project manager left. This affected the project schedule and quality of work, and the project ended up being delayed. So now we*

*insist that the vendor must have a backup structure in place, in case of staff turnover. We require a 3-month notice period in the event of staff changes, and that the vendor put in a more qualified staff if replacement is needed.”*

**(5) Vendor obligation for effective knowledge transfer.** Vendor obligation for effective knowledge transfer is defined as the vendor’s obligation to exchange information and transfer knowledge to the client. Knowledge sharing has been shown to be significantly related to outsourcing success (Lee 2001). Often, a key motivation behind clients’ outsourcing is to tap on the skills and expertise of vendors (Apte 1990, Lacity and Hirschheim 1993). One client manager succinctly said,

*“The vendor is the subject matter expert, and so must be prepared to educate us on the latest technology for the industry. In the end, we are paying for intangibles like knowledge.”*

Clients expect the vendors to have various procedures in-place to facilitate knowledge transfer during the project. This is important since at the end of the contract, the internal IT staff must be able to take over the systems and keep the IT shop running. Such procedures to facilitate knowledge transfer include project documentation and training programs. For example, according to one client manager,

*“Whenever a new technology is involved, we will make sure that the necessary knowledge is transferred to us. A team is assigned to work*

*together with the vendor, and we make sure they document all the information and conduct training for us. Also, the brown bag lunches the vendor organizes are very useful, for our staff to learn new things. Beyond that, we also get our staff to follow the consultant around and learn by doing it together with him.”*

**(6) Vendor obligation for building effective inter-organizational teams.**

Vendor obligation for building effective inter-organizational teams is defined as the vendor’s obligation to invest time and effort to build and foster a good working relationship among the client and vendor staff working on the project. Outsourcing research has consistently shown the importance of a good client-vendor relationship (Grover, et al. 1996, Kern and Willcocks 2001, McFarlan and Nolan 1995, Willcocks and Kern 1998). Clients therefore expect their vendors to make special efforts to build a cohesive project team and ensure that the team can work amicably together. As explained by one client manager,

*“The vendor staff must be assimilated into our firm, otherwise, it will always be us versus them. They must be seen as a single project team. Social integration is necessary.”*

Vendors can build a strong cohesive team through various formal and informal means. One client manager suggested this,

*“The vendor needs to break the suspicions, by increasing interactions with our people. This usually includes formalized social events, as well as informal activities like bowling, dinner together, and so on. We had*

*this vendor who spent a lot of time and effort on different team-building activities. They interacted freely with our employees, and organized various social events to get to know them better.”*

**d) Study 1: Results – Vendors’ Beliefs about Client Obligations**

Analysis of the interviews similarly revealed six major themes representing what vendors believe are the client’s obligations in an outsourcing project. These were (1) client obligation for clear specifications; (2) client obligation for prompt payment; (3) client obligation for close project monitoring; (4) client obligation for dedicated project staffing; (5) client obligation for project ownership; and (6) client obligation for knowledge sharing. I discuss each of these obligations below.

**(1) Client obligation for clear specifications.** Client obligation for clear specifications is defined as the client’s obligation to understand their own requirements and to be able to provide clear project specifications. The need for clear specifications in systems development is well-recognized, where an important user role is to articulate the business needs and requirements accurately (Ives and Olson 1984), especially when the systems development is outsourced (Phelps 1996). Even for non-development contracts, clear specifications are still critical, as they form the basis for project baselines and service level agreements and other contractual terms. Without clear project specifications, disputes are apt to arise regarding whether a particular service is

within the project scope or subject to additional charges. This was explained by a vendor manager as such,

*“The project scope and specifications must be well-defined. Otherwise, it is hard to know whether a change is within the project scope or not, and this can often lead to disputes.”*

Vendors expect their clients to understand their business requirements well and be able to articulate the project specifications clearly. In reality, however, clients often have difficulty specifying their requirements clearly, since business certainty is rare and it is hard to know the specifications, given the fast rate of both technology and business change (Earl 1996). If clients are not able to explain their requirements clearly or explain what exactly they want, this may lead to changes and rework during the course of the project. This is not only frustrating to the vendor, but it also drives up the vendor’s costs of “producing” the product or service. This was illustrated by the experience of one vendor manager,

*“There was this project where the client had no idea what he wanted. What he requested initially was just a simple database tree search. But after detailed analysis, we realize that what he wants is actually a complex AI database with intelligent search engine. This makes our initial quotation way out!”*

Vendors therefore expect their clients to provide clear project specifications.

**(2) Client obligation for prompt payment.** Client obligation for prompt payment is defined as the client's obligation to make payments promptly and not withhold payments unreasonably. It is common practice for clients to link payments to project milestones, and use such progressive payments as an incentive to ensure schedule compliance from the vendor (Dayanand and Padman 2001). However, sometimes clients can unreasonably withhold payment to protest over other unresolved issues or dissatisfaction with the vendor. This was how one vendor manager described it,

*“Payment is usually not a problem for us. But sometimes, if the client is not happy with us, he will not sign-off on the project deliverables, and this delays the payment process.”*

Such delayed payment can affect the vendor's project finances and profitability (Dayanand and Padman 2001). A vendor manager recounted one such experience,

*“There was this project where we were late in delivering, and because of the delay, we missed the client's budget cycle, and the client ended up not having the money to pay.”*

Vendors therefore expect clients to pay promptly upon completion of the milestone, and not unreasonably withhold payment.

**(3) Client obligation for close project monitoring.** Client obligation for close project monitoring is defined as the client's obligation to provide project oversight by attending project meetings and discussions regularly. IT

outsourcing represents an agency relationship (Jensen and Meckling 1976), and given the goal incongruence between the client and the vendor, it is important that the client has measurement systems in place and carefully monitor the project status, to reduce the risk of moral hazards (Willcocks, et al. 1995).

Project monitoring, when used appropriately, can be of value to both the client and the vendor (Jacobides and Croson 2001). Interestingly, from the interviews, vendors seem to recognize this value too, and expect their clients to be actively involved in project monitoring. This can help parties to promptly identify and resolve issues, and prevent disputes from escalating. This was best explained by one vendor manager,

*“The key to a successful project is to reduce disputes from the start.*

*This requires close monitoring of the contract from day one of the project ... (on this project), the client tracked the project status very closely. Project meetings were held every week to trace the daily activities, and adhoc meetings called when critical issues arose.”*

**(4) Client obligation for dedicated project staffing.** Client obligation for dedicated project staffing is defined as the client’s obligation to deploy adequate human resources for the project. Vendors expect their clients to assign sufficient personnel to work with them during the project. This is important, as client employees are the ones with the business knowledge. The was reflected by the comments of one vendor manager

*“The client people must be involved, since they are the ones who understand their business. They must also be technically knowledgeable.”*

Vendors expect their clients not only to assign employees to the project, but also to ensure that sufficient time is dedicated to the project. Clients often need to make special efforts to balance employees’ operational work demands with their project demands. This also helps to reduce turnover among client personnel, which will similarly disrupt the project progress. According to a vendor manager,

*“The client must be willing to commit people to work on the project. We typically negotiate with the client for employees to give uninterrupted time dedicated to the project. But this is usually difficult, as the (client) employees still have their own jobs to do. This is especially difficult for the best people ... We must also make sure that client staff are not overloaded, else they may just quit their jobs.”*

**(5) Client obligation for project ownership.** Client obligation for project ownership is defined as the client’s obligation to own the project, and to provide strong leadership, support and commitment. Vendors expect their clients to have a strong sense of psychological ownership (Pierce, et al. 2001) of the project, and to treat the outsourcing project as their own. Otherwise, clients may wrongly think that they are outsourcing all their problems, and

leave the vendors to resolve all arising issues on their own. This was best reflected by one vendor manager's comments,

*“The client must own the project. He must be involved and be willing to make decisions, and not just rely on us to decide everything for them.”*

**(6) Client obligation for knowledge sharing.** Client obligation for knowledge sharing is defined as the client's obligation to exchange valuable information and knowledge with the vendor. Just as clients expect to learn from their outsourcing vendors, vendors also value learning from their clients. Vendors need to learn the details of their client's business processes and applications in order to function effectively. This was reflected in one vendor manager's comment,

*“In long term contracts especially, we need to also learn the client's applications.”*

Such learning is also important in helping outsourcing vendors build up their industry expertise. Clients often provide a unique source of industry-specific expertise (DiRomualdo and Gurbaxani 1998). According to one vendor manager,

*“Many times, we also learn from our clients, the way their business runs. This helps us build up our industry expertise.”*

e) **Study 1: Summary**

The qualitative analysis from Study 1 showed that clients and vendors held certain beliefs of their mutual obligations in the outsourcing relationship. Specifically, from the clients' perspective, vendors' obligations included (1) accurate project scoping; (2) clear authority structures; (3) effective human capital management; (4) taking charge; (5) effective knowledge transfer; and (6) building effective inter-organizational teams. On the other hand, vendors believed that their clients' obligations included (1) clear specifications; (2) prompt payment; (3) close project monitoring; (4) dedicated project staffing; (5) project ownership; and (6) knowledge sharing. The overlap between the client and vendor obligations reflects the mutuality of a psychological contract. Although I view the individual obligations as related to each other, my primary constructs of interest are the individual obligations. In the next section, I describe the second phase of my research, which consists of a large-scale field study designed to validate the proposed model.

**Study 2: Assessing the Effects of Psychological Contract Obligations on Success**

Study 2 involved a quantitative field study, using a survey methodology for data collection. In Study 2, I assessed outsourcing clients' and vendors' perceptions of the degree to which each of the identified obligations has been fulfilled, and tested the effect of fulfilling these obligations on outsourcing success. Specifically, I tested the hypotheses that:

*H1: Perceived outsourcing success by the client is positively associated with the extent to which vendor obligations have been fulfilled; and*

*H2: Perceived outsourcing success by the vendor is positively associated with the extent to which client obligations have been fulfilled.*

**a) Study 2: Participants and Data Collection Procedures.**

Similar to Study 1, the field sample was drawn from firms that were members of the ITMA and SITF. I first sent an invitation letter to all members of these two professional societies, together with a cover letter from the two societies' chairmen, inviting them to participate in the study. About a week after the letter was sent, I contacted each member individually by telephone, to invite their participation. Since my primary interest is the outsourcing project, I requested to survey individual managers in their organization who have responsibilities for managing outsourcing projects. Organizations that agreed to participate were asked to furnish us a list of these managers and their contact information. I then contacted each of these nominated managers by telephone, to explain the purpose of the study and invite their participation. Respondents were guaranteed both confidentiality and access to the aggregated survey results. A packet of materials containing an invitation letter, the cover letter from the associations' chairmen, the survey questionnaire, and a self-addressed stamped envelope, were mailed to each of them. Two weeks after the mailing, all non-respondents were contacted by telephone to encourage them to complete and return the questionnaires; when needed, another copy of the questionnaire was

sent either by mail or fax. All returned questionnaires were examined for completeness of information, and respondents who skipped items on the questionnaires were contacted again by telephone to obtain the missing information. A thank-you-letter, together with an executive summary of the analyses of the study, was sent to each respondent.

**b) Study 2: Sample Characteristics**

Altogether, I contacted 180 client organizations and 158 vendor organizations from ITMA and SITF respectively. Out of these, a total of 158 organizations (90 client organizations and 68 vendor organizations) participated. Chi-square analysis showed no significant difference between participating and non-participating organizations in terms of firm size<sup>1</sup> ( $\chi^2=1.16, p=ns$ ) and firm type ( $\chi^2=1.36, p=ns$ ). Most of the client organizations are large for-profit firms from a variety of industries, including banking, retail, health care, and manufacturing. The sample also includes some government agencies. Vendor organizations include hardware and software vendors, as well as firms providing a wide range of IT professional services (outsourcing, telecommunications, consulting, etc.).

A total of 179 client project managers and 191 vendor project managers from these firms participated in the survey (average number of respondents per firm is about 2.0 for client organizations and 2.8 for vendor organizations).

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<sup>1</sup> Chi-square analysis was conducted using firm size, classified as small (<500 employees) versus large ( $\geq 500$  employees), and firm type, classified as multinational corporations versus others.

Respondents have an average of 3-4 years of work experience in their current position (clients: mean 4.2 years, minimum 1.0 year; vendors: mean 3.3 years, minimum 0.8 years), suggesting that the respondents have sufficient experience with IT outsourcing to act as key informants in the survey.

In answering the survey, respondents were asked to select an outsourcing project that is currently underway or has been recently completed. Recency was considered important so that respondents could reliably respond with their perceptions about different aspects of the project. About half of the projects selected by the respondents were for application development and implementation (55%). About half of the contracts (51%) lasted less than one year, and the average duration was 1.4 years. The contract amount represents a wide spectrum of contract size, with 42% of the contracts costing less than S\$5 million, and ranging up to S\$6 billion.

c) **Study 2 Measures**

**Outsourcing success.** I operationalized outsourcing success in terms of the overall satisfaction with the contract as well as the desire to retain the outsourcing partner (Nam, et al. 1996, Saunders, et al. 1997). Satisfaction is a common measure of success in IT outsourcing research (Grover, et al. 1996, Kern and Willcocks 2000, Lee 2001, Lee and Kim 1999, Marcolin 2002, Saunders, et al. 1997), and is used as a proxy for perceived effectiveness of the outsourcing relationship, as it reflects the parties' feelings about whether they have been adequately or inadequately rewarded in the relationship (Anderson

and Narus 1990). Satisfaction is also predictive of future actions, and is closely related to the parties' intention to continue the contractual relationship with the other party, either in the existing contract or in subsequent repurchase. Clients often incur high switching costs when changing outsourcing vendors, due to the need for clients to teach the vendors about the clients' business and systems. For vendors, acquiring new clients is also more costly than retaining existing ones (Mittal and Kamakura 2001, Parthasarathy and Bahattacherjee 1998). Continuance of the contractual relationship has been used as a proxy of success of strategic partnerships (Harrigan 1988), buyer-supplier relationships (Heide and Weiss 1995), and also IT user behaviors (Bhattacharjee 2001). I measured outsourcing success with a single index comprising six items (1=strongly disagree, 7=strongly agree), tapping on satisfaction (adapted from Poppo and Zenger 2002) and intention to continue the outsourcing relationship (adapted from Kristensen, et al. 2000).

**Psychological contract obligations.** As far as I am aware, this study is the first to apply psychological contract theory to IT outsourcing, and there are no existing scales to measure psychological contract obligations in IT outsourcing. I therefore developed scales to measure these obligations using a multi-stage iterative procedure. Based on detailed analysis of the qualitative results from Study 1, an initial set of three to five items was crafted for each obligation. I pilot-tested these scales with three senior project managers from ITMA and SITF, and minor modifications were made based on their feedback. Through the scale development process, considerable effort was made to ensure

that each statement captured the intended meaning of each construct. All obligations were measured on a 5-point scale (1=not fulfilled at all, 5=fulfilled to a very large extent).

**Control variables.** Prior research has shown that outsourcing success can be influenced by characteristics of the project. Specifically, prior work has suggested that applications development projects were categorically different from other services (Poppo and Zenger 1998, Poppo and Zenger 2002), since systems development projects tend to be higher in uncertainty. Short-term contracts have a higher frequency of success than long-term contracts (Lacity and Willcocks 2001). Additionally, large projects tend to be more complex in nature, with multiple parties involved and high uncertainty in requirements (Barthelemy 2001). Therefore, to test the effects of fulfilled obligations on outsourcing success over and above the effects of project characteristics, in the statistical analysis, I controlled for project type (0=others, 1=applications development), project duration (length of the contract in days, with log-normal transformation), and project size (dollar amount of the contract, with log-normal transformation).

#### **d) Study 2 Analyses**

I assessed discriminant validity of the measures (outsourcing success and the obligations) with principal component analysis (using varimax rotation and eigenvalues  $> 1.0$ ). Results produced a 7-factor solution which accounted for 77.6% of the variance for the vendor model, and 76.9% of the variance for

the client model. Four items with improper loadings were dropped and excluded from further analyses. All retained items loaded on their expected factors, with loadings ranging from .52 to .91. Cronbach's alpha for all constructs were acceptable (ranging from .67 to .96). Table 4 shows the retained questionnaire items.

Table 4: *Essay I Questionnaire Items*<sup>a</sup>

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**Client Questionnaire**

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**Perceived Outsourcing Success:**  
 Generally speaking, I am satisfied with this vendor's performance  
 I am satisfied with the kind of work this vendor performed in this contract  
 Overall, I am satisfied with the roles and responsibilities this vendor performed in this contract  
 If needed, we would select this vendor again  
 If asked, we would recommend this vendor to others  
 We would like to retain this vendor for future businesses beyond this contract

**1) Vendor Obligation for Accurate project scoping**  
 Estimates the contract scope accurately (i.e., not underbid or overbid)  
 Accepts scope change without additional charge  
 Builds buffer into contract to accommodate scope changes

**2) Vendor Obligation for Clear authority structures**  
 Defines precisely the roles of each party  
 Defines precisely the responsibilities of each party  
 Lays out clearly what each party is to perform

**3) Vendor Obligation for Taking charge**  
 Works independently (i.e., minimal reliance on you [client]) in getting the job done  
 Completes the job with minimal disruption to your (client's) operations  
 Solves problems with minimal involvement from you (client)

**4) Vendor Obligation for Effective human capital management**  
 Assigns adequate staff dedicated to the project (i.e., few staff changes)  
 Keeps vendor staff turnover low during the project  
 Replaces any leaving vendor staff with someone more qualified or with equivalent expertise

**5) Vendor Obligation for Effective knowledge transfer**  
 Transfers knowledge to your (client) staff  
 Shares best industry practices with you (client).  
 Transfers know-how of the product or service to you (client)  
 Delivers complete and comprehensive documentation (e.g., manuals, product and design specifications)

**6) Vendor Obligation for Building effective inter-organizational teams**  
 Invests time in building a good relationship with you (client)  
 Has a common or joint sense of mission and purpose with you (client)  
 Works as a team with you (client)

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Success items measured on a 7-point scale (1=strongly disagree, 7=strongly agree)  
 Obligation items measured on a 5-point scale (1=not fulfilled at all, 5=fulfilled to a very large extent)

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**Vendor Questionnaire**

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**Perceived Outsourcing Success:**

Generally speaking, I am satisfied with this client

I am satisfied with this client in this contract

Overall, I am satisfied with the roles and responsibilities this client performed in this contract

If needed, we would like to work with this client again

If asked, we would recommend this client to others

We would like to retain this client for future businesses beyond this contract

**1) Client Obligation for Clear specifications**

Understands client's own product or systems requirements clearly

Defines clearly the deliverables required

Defines clearly specifications of product or service

**2) Client Obligation for Prompt payment**

Is prompt in payment

Makes payment on time

Gives necessary approval for payment at predefined milestones

**3) Client Obligation for Close project monitoring**

Attends your (vendor's) presentation of project milestones

Attends key project meetings regularly

Conducts ongoing discussions during project

**4) Client Obligation for Dedicated project staffing**

Assigns adequate staff dedicated to the project (i.e., few staff changes)

Keeps client staff turnover low during the project

Replaces any leaving client staff with someone more qualified or with equivalent expertise

**5) Client Obligation for Knowledge sharing**

Provides necessary information to you (vendor) to do the job

Transfers business know-how to you (vendor)

Transfers knowledge to your (vendor's) staff

**6) Client Obligation for Project ownership**

Responds promptly whenever you (vendor) need information

Provides fast turnaround to your (vendor's) requests

Responds beyond call of duty to urgent requests

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Success items measured on a 7-point scale (1=strongly disagree, 7=strongly agree)

Obligation items measured on a 5-point scale (1=not fulfilled at all, 5=fulfilled to a very large extent)

To test the effects of fulfilled obligations on success, I conducted hierarchical regressions for the vendor model and the client model respectively. I entered control variables (project type, duration and size) in step one and the obligations in step two. I interpreted results by examining the change in F ( $\Delta F$ ) at step two and by assessing individual parameters based on t-values.

e) **Study 2 Results**

Table 5 reports descriptive statistics, correlations, and Cronbach's alpha for the vendor obligations. Table 6 summarizes the hierarchical regression results. Overall, the vendor model explained 51% of the variance in outsourcing success ( $F=19.24$ ,  $p<.001$ ). The set of control variables in step one was marginally significant ( $F=3.35$ ,  $p<.05$ ), and addition of the six vendor obligations was significant ( $\Delta R^2=.46$ ,  $\Delta F=25.76$ ,  $p<.001$ ). In terms of individual paths, five of the six hypothesized relationships were significant. Outsourcing success showed a significant positive relationship with vendor obligations for clear authority structures ( $\beta=.15$ ,  $p<.05$ ), taking charge ( $\beta=.25$ ,  $p<.001$ ), effective human capital management ( $\beta=.13$ ,  $p<.05$ ), effective knowledge transfer ( $\beta=.21$ ,  $p<.01$ ), and building effective inter-organizational teams ( $\beta=.17$ ,  $p<.01$ ). Contrary to expectations, vendor obligation for accurate project scoping was not significantly related to success ( $\beta=.00$ ,  $p=ns$ ).

Table 7 reports descriptive statistics, correlations, and Cronbach's alpha for the client obligations. Table 8 summarizes the hierarchical regression results.

Table 5: Essay 1 Vendor Obligations - Means, Standard Deviations, Scale Reliabilities and Inter-correlations

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
1. Project type <sup>b</sup>	.51	.50	-									
2. Project duration <sup>c</sup>	2.55	.43	.07	-								
3. Project size <sup>d</sup>	5.65	.81	.12	.41**	-							
4. VO for accurate project scoping	2.69	1.02	-.15*	.00	-.17*							
5. VO for clear authority structure	3.43	0.94	-.15	-.04	.00	.22**	(.67)					
6. VO for taking charge	3.08	0.94	-.08	-.17*	-.25**	.37**	.40**	(.88)				
7. VO for effective human capital management	2.90	1.08	-.01	.01	.02	.27**	.38**	.47**	(.70)			
8. VO for effective knowledge transfer	2.84	1.03	-.10	-.15	-.06	.33**	.38**	.52**	.55**	(.88)		
9. VO for building effective inter-organizational teams	3.22	.91	-.09	-.12	.00	.35**	.38**	.44**	.50**	.59**	(.85)	
10. Perceived outsourcing success	4.58	1.36	-.21**	-.12	-.09	.30**	.46**	.56**	.50**	.58**	.54**	(.96)

<sup>a</sup> n=179. Reliability coefficients are in parenthesis along the diagonal.

<sup>b</sup> Coding: 0=non systems development projects, 1=systems development projects

<sup>c</sup> Coding: length of contract in days with log-normal transformation

<sup>d</sup> Coding: dollar amount of contract with log-normal transformation

Success items measured on a 7-point scale (1=strongly disagree, 7=strongly agree); obligation items measured on a 5-point scale (1=not fulfilled at all, 5=fulfilled to a very large extent)

\* p<.05 \*\* p<.01

Table 6: Essay 1 Vendor Obligations - Results of Hierarchical Regression Analysis <sup>a</sup>

Variable	Outsourcing Success	
	Model 1	Model 2
Project type <sup>b</sup>	-.20**	-.13*
Project duration <sup>c</sup>	-.09	-.01
Project size <sup>d</sup>	-.03	.00
VO for accurate project scoping		.00
VO for clear authority structures		.15*
VO for taking charge		.25***
VO for effective human capital management		.13*
VO for effective knowledge transfer		.21**
VO for building effective inter-organizational teams		.17**
F	3.35*	19.24***
$\Delta F$		25.76***
R <sup>2</sup>	.05	.51
$\Delta R^2$		.46
Adjusted R <sup>2</sup>	.04	.48

<sup>a</sup> Model statistics are standardized betas

<sup>b</sup> Coding: 0=others, 1=application development projects

<sup>c</sup> Coding: length of contract in days with log-normal transformation

<sup>d</sup> Coding: dollar amount of contract with log-normal transformation

\* p<.05

\*\* p<.01

\*\*\* p<.001

Table 7: Essay 1 Client Obligations - Means, Standard Deviations, Scale Reliabilities and Inter-correlations<sup>a</sup>

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
1. Project type <sup>b</sup>	.57	.50	-									
2. Project duration <sup>c</sup>	2.47	.42	.07	-								
3. Project size <sup>d</sup>	5.82	.80	.02	.56**	-							
4. CO for clear specifications	3.27	1.07	-.14*	.03	-.01	(.89)						
5. CO for prompt payment	3.10	1.27	-.02	.20**	.20**	.19**	(.90)					
6. CO for close project monitoring	3.72	.89	-.06	.13	.20**	.35**	.30**	(.86)				
7. CO for dedicated project staffing	3.00	1.13	-.13	.00	.02	.26**	.20**	.30**	(.75)			
8. CO for knowledge sharing	3.12	1.11	-.02	.14*	.12	.37**	.21**	.48**	.33**	(.90)		
9. CO for project ownership	3.03	.98	-.19*	.02	.02	.47**	.34**	.53**	.24**	.49**	(.88)	
10. Perceived outsourcing success	5.33	1.24	-.10	-.09	.04	.43**	.33**	.44**	.28**	.37**	.53**	(.94)

<sup>a</sup> n=191. Reliability coefficients are in parenthesis along the diagonal.

<sup>b</sup> Coding: 0=non systems development projects, 1=systems development projects

<sup>c</sup> Coding: length of contract in days with log-normal transformation

<sup>d</sup> Coding: dollar amount of contract with log-normal transformation

Success items measured on a 7-point scale (1=strongly disagree, 7=strongly agree); obligation items measured on a 5-point scale (1=not fulfilled at all, 5=fulfilled to a very large extent)

\*  $p < .05$  \*\*  $p < .01$

Table 8: Essay 1 Client Obligations - Results of Hierarchical Regression Analysis <sup>a</sup>

Variable	Outsourcing Success	
	Model 1	Model 2
Project type <sup>b</sup>	-.09	.01
Project duration <sup>c</sup>	-.16*	-.22**
Project size <sup>d</sup>	.14	.10
CO for clear specifications		.20**
CO for prompt payment		.16**
CO for close project monitoring		.14*
CO for dedicated project staffing		.07
CO for knowledge sharing		.06
CO for project ownership		.27***
<i>F</i>	1.94	13.80***
$\Delta F$		19.17***
<i>R</i> <sup>2</sup>	.03	.41
$\Delta R$ <sup>2</sup>		.38
Adjusted <i>R</i> <sup>2</sup>	.01	.38

<sup>a</sup> Model statistics are standardized betas

<sup>b</sup> Coding: 0=others, 1=application development projects

<sup>c</sup> Coding: length of contract in days with log-normal transformation

<sup>d</sup> Coding: dollar amount of contract with log-normal transformation

\* *p*<.05

\*\* *p*<.01

\*\*\* *p*<.001

Overall, the client model explained 41% of the variance in outsourcing success ( $F=13.80, p<.001$ ). The set of control variables in step one was not significant ( $F=1.94, p=ns$ ), but addition of the six client obligations was significant ( $\Delta R^2=.38, \Delta F=19.17, p<.001$ ). In terms of individual paths, four of the six hypothesized relationships were significant. Outsourcing success showed a significant positive relationship with client obligations for clear specifications ( $\beta=.20, p<.01$ ), prompt payment ( $\beta=.16, p<.01$ ), close project monitoring ( $\beta=.14, p<.05$ ), and project ownership ( $\beta=.27, p<.001$ ). Contrary to expectations, client obligations for dedicated project staffing ( $\beta=.07, p=ns$ ) and knowledge sharing ( $\beta=.06, p=ns$ ) were not significantly related to success.

**f) Study 2 Discussion**

In Study 2, I examined the effect of psychological contract obligations on outsourcing success. The results showed that psychological contract obligations explained a significant amount of the variance in perceived outsourcing success (51% for vendor model, 35% for client model), over and above the effects of the controls (project type, size and duration). In addition, five vendor obligations and four client obligations demonstrated a significant positive relationship to success.

From the client's perspective, IT outsourcing success was significantly related to vendor obligation for clear authority structures and vendor obligation for taking charge. A core motivation behind outsourcing is for clients to be

relieved of the day-to-day administration and management of contractors (Ang and Slaughter 2001). This requires clear authority structures to be in place, so that parties involved have a clear understanding of their roles and responsibilities. It also requires the vendor to show initiative in taking charge during the project, and resolve any arising issues without reverting to the client all the time. Outsourcing success was also significantly related to vendor obligation for effective human capital management and vendor obligation for effective knowledge transfer. This is consistent with an oft-cited motivation behind outsourcing - to gain access to technical skills and expertise (Grover, et al. 1996). For this to take place, vendors must manage their human capital effectively, by ensuring that they assign sufficient employees with the required skills to work on the project and to minimize turnover. It also requires vendors to have policies and procedures in place to ensure effective knowledge sharing with the client. Outsourcing success was also significantly related to vendor obligation for building effective inter-organizational teams. This is consistent with the well-established body of research demonstrating the importance of a partnership approach to outsourcing (Kern and Willcocks 2000, Kern and Willcocks 2001, Kern and Willcocks 2002, Lee and Kim 1999). Surprisingly, vendor obligation for accurate project scoping was not significantly related to success. This may be because vendors usually try to be accommodating and accept changes to project scope without additional charges. This is because the outsourcing market in Singapore is relatively small, and vendors need to remain highly competitive. As a result, even when the initial scoping was not accurate,

vendors tend to absorb the scope changes in order to build a good reputation and gain repeat business.

From the vendor's perspective, outsourcing success was significantly related to client obligation for clear specifications and client obligation for prompt payment. This is consistent with recent work demonstrating the importance of the terms of the exchange (Kern and Willcocks 2000), of which specifications and payment are key essential elements. Outsourcing success was also significantly related to client obligation for close project monitoring and client obligation for project ownership. This reflects the fact that outsourcing involves essentially an agency relationship, and so the client's active involvement during the project in terms of psychological ownership and close monitoring is essential to reduce the risks of moral hazard. Contrary to expectations, client obligation for knowledge sharing and dedicated project staffing were not significantly related to success. One reason could be that for projects such as transaction processing systems, vendors typically possessed sufficient expertise to carry out the work, thereby rendering knowledge sharing less critical. Vendors might have culled their expertise from other sources such as previous contracts. This would also account for the non-significant relationship between client obligation for dedicated project staffing and success. If the vendor possessed sufficient knowledge to carry out the projects, it would be less crucial to have the client's employees dedicated to the project, since client tacit knowledge would be less necessary. Clearly, more work needs to be done to understand the effects of client obligation for dedicated project staffing

and knowledge sharing, and the circumstances under which they might be important for outsourcing success.

## **Overall Discussion and Conclusion**

### **a) Summary of Major Findings**

This paper aims to add to the limited research on post-contract management issues in IT outsourcing. The objective of this study is to examine the psychological contract between outsourcing clients and vendors, as an alternative perspective that uniquely focuses on both parties' perspectives. To that end, I set out to identify the nature of the psychological contract obligations in IT outsourcing, and to determine their effect on outsourcing success.

Results from Study 1 showed the existence of a psychological contract between outsourcing clients and vendors. I identified six vendor obligations: (1) vendor obligation for accurate project scoping; (2) vendor obligation for clear authority structures; (3) vendor obligation for taking charge; (4) vendor obligation for effective human capital management; (5) vendor obligation for effective knowledge transfer; and (6) vendor obligation for building effective inter-organizational teams. Similarly, I identified six client obligations: (1) client obligation for clear specifications; (2) client obligation for prompt payment; (3) client obligation for close project monitoring; (4) client obligation for dedicated project staffing; (5) client obligation for project ownership; and (6) client obligation for knowledge sharing. Multi-item scales were developed to

measure how well each of these obligations were fulfilled. Results of the Study 2 survey showed that fulfilling these obligations explained a significant amount of the variance in outsourcing success, with five vendor obligations and four client obligations demonstrating a significant relationship with success.

**b) Contributions**

Overall, results of this study have both theoretical and practical implications. From a theoretical perspective, this study has contributed to the limited research on vendors' perspectives on outsourcing management. The psychological contract perspective provides a more complete understanding of outsourcing, with its unique focus on the mutual obligations between the parties. Current research, with its primary focus on the client's perspective, ignores the reciprocal nature of outsourcing contracts, and provides only a one-sided view. In addition, this paper introduces a new theoretical perspective to help understand the IT outsourcing relationship, an area which has received relatively less research attention. As far as I am aware, this paper is the first attempt to study the psychological contract between outsourcing clients and vendors. By identifying the nature of these specific obligations and showing their relationship to outsourcing success, the theoretical models developed provide a useful starting place for further refinements of the psychological contract perspective in IT outsourcing. While some of these obligations have been discussed in the literature, this study also highlighted the importance of

other oft-neglected obligations, such as client creditworthiness and vendor taking charge.

From the perspective of practice, several important implications follow. Most importantly, the study identified some of the specific issues that IT clients and vendors should focus on. Through the combination of qualitative and quantitative methods, I have identified the specific obligations from the perspectives of both IT clients and vendors, and demonstrated their effect on outsourcing success. IT vendors and clients should pay particular attention to ensure that these specific obligations are met. Last but not least, the concept of a psychological contract highlights the fact that not all promises are incorporated into the legal contract. As ambiguous promises are more likely to lead to perceived psychological contract breach (Lewis-McClear and Taylor 1997), outsourcing clients and vendors should work towards clarity of the promises, making the obligations as explicit as possible.

**c) Limitations and Directions for Future Research**

Although the study found evidence for the importance of the psychological contract to outsourcing success, caution must be paid to the limitations of the study when interpreting the results. As in all cross-sectional studies, the results obtained do not show causality. The independent variables were measured on the same survey as the dependent variables, and this introduces the potential for common method bias. However, additional

statistical analysis using Harman's test showed that common method bias was not a significant problem in the dataset.

The Study 2 survey asked respondents to assess how well their psychological contract has been fulfilled. This measure was subjective in nature and, hence, open to error. Nonetheless, this is an appropriate way to assess psychological contract fulfilment, which by nature, is a subjective judgment. Additionally, psychological contract research has shown that contractual parties' expectations of each other's mutual obligations are not static, but rather, evolve and change based on circumstances. All these suggest that an ideal empirical design would be to conduct a longitudinal study, by measuring the parties' perceptions of what they were promised at the start of the project, and then their perceptions of what they had received at the end of the project. However, since this is the first attempt to develop and validate a psychological contract model in IT outsourcing, it is critical that I surveyed a large number of outsourcing clients and vendors, in order for the results to be representative. Given the practical difficulties of conducting a longitudinal study of a large number of outsourcing projects, I could only assess obligations at the end of the project, based on recall.

These limitations notwithstanding, this study has provided meaningful insights into the importance of the psychological contract in IT outsourcing. The application of psychological contract theory to IT outsourcing is still relatively new, and more research in this area is needed. Longitudinal studies of a smaller number of outsourcing projects can be carried out to establish

causality effects in the theoretical model. While I have only assessed the impact of the psychological contract obligations on perceived outsourcing success in this study, future research may extend this and assess the impact on objective performance data such as project costs, cycle time, and errors. Researchers can also employ a matched pair design, and survey both the client and vendor project managers on the same project. Such a design will enable more in-depth comparisons of client versus vendor perceptions on the same project. Further research can also explore antecedents to these obligations, the process by which these obligations are formed, and whether they have evolved or changed over time.

# **CHAPTER FOUR**

## **DOES IT OUTSOURCING CREATE VALUE FOR CLIENTS AND VENDORS?**

### **EVIDENCE FROM A LONGITUDINAL INVESTIGATION ON SHORT-TERM MARKET REACTIONS AND LONG-TERM FINANCIAL OPERATING PERFORMANCE**

#### **Introduction**

Since its popularity in the 1990s, IT outsourcing has enjoyed widespread diffusion (Hu, Saunders and Gebelt 1997, Levina and Ross 2003), and the market remains robust today. Estimates are highly optimistic, with the worldwide outsourcing market estimated to reach US\$241 billion in 2004, and US\$282 billion in 2006 (Source: Gartner Dataquest, July 2004).

The proliferation of IT outsourcing reflects an underlying belief that outsourcing creates value. Surprisingly though, there has been little objective evidence on whether IT outsourcing actually creates value for the parties involved (Dibbern, Goles, Hirschheim and Jayatilaka 2004). This essay aims to address these gaps and provide objective empirical evidence of the value effects of IT outsourcing for both clients and vendors. In particular, I investigate the

effect of different outsourced activities on the value created for clients versus vendors.

The essay proceeds as follows. In the next section, I review the literature to develop hypotheses regarding the effects of outsourcing different IT activities on the value created for clients and vendors. This is followed by a description of the event study methodology, and details of my data collection and analysis. I then present results of the analysis, and conclude with discussion of the results.

## **Theoretical Development**

Research on IT outsourcing outcomes has been relatively scarce, with the majority of studies focusing on the outsourcing decision (Dibbern, et al. 2004). The underlying assumption is that, if firms make the right sourcing decision, structure and manage the contract and relationship properly, then this should lead to success. However, while there have been many reports of successful outsourcing (Huber 1993, Zviran, Ahituv and Armoni 2001), there are just as many reports of failed outsourcing attempts (Ang and Toh, 1998, Kern, Willcocks and Heck 2002), with some even escalating into lawsuits between the parties (Bahli and Rivard 2003).

Few studies have actually assessed the value effects of IT outsourcing for firms, looking instead at surrogate measures such as satisfaction (Grover, Cheon and Teng 1996, Lee 2001, Lee and Kim 1999, Saunders, Gebelt and Hu 1997) and/or met expectations (Grover, et al. 1996, Lacity and Willcocks 1998,

Lacity and Willcocks 2000b, Lee, Miranda and Kim 2004). Further, studies that have looked at outsourcing's impact on firm performance have generally yielded mixed results. For example, an early study showed that outsourcing of research and development and services was *negatively* associated with firm operating performance, measured as actual sales and net income (Mosakowski 1991). A more recent study found that outsourcing of services was *positively* associated with respondents' perception of the firm's financial and market performance relative to its competitors (Murray and Kotabe 1999). Yet, another study found *no significant relationship* between outsourcing and overall firm performance as perceived by managers (Gilley and Rasheed 2000). Similarly, while some event studies found that IT outsourcing creates value for the clients in terms of significant positive stock market returns (e.g. Farag and Krishnan 2003, Hayes, Hunton and Reck 2000), a more recent study found significant negative stock market reactions for both clients and vendors (Gewald and Gellrich 2005).

In the sections below, I draw upon extant theory to discuss how IT outsourcing can create value for clients and vendors, and the effect of outsourced activity on the value created.

**a) IT Outsourcing and Value Creation**

Theories of production and transaction cost economies suggest that IT outsourcing should create value for both the client and vendor. For clients, outsourcing creates value because of production costs savings that outsourcing

delivers (Ang and Straub 1998). The market is generally presumed to enjoy certain advantages in terms of production costs (Williamson 1981), due to economies of scale, scope and specialization. Similarly, compared to the internal IT division, external vendors often enjoy economies of scale and scope, especially when providing functions that require large capital investments, such as data centre and communication operations (Apte 1990). Vendors lower their costs by pooling demand across multiple clients and services, and utilizing excess capacity (Aubert, Rivard and Patry 1996). In addition, as vendors specialize in providing IT services as their core competences, they become more cost efficient compared to internal IT departments (Foss 1997, Levina and Ross 2003). Overall, therefore, vendors are able to produce at lower costs compared to the internal IT division. Market competitive pressures would motivate the vendors to share some of these advantages with their clients (Levina and Ross 2003). This suggests that clients could obtain IT services at a lower cost from the external vendor, as long as the vendor faced reasonable competition.

Although IT outsourcing can lead to lower production costs, this must be balanced against the increased transaction costs incurred. Market transactions are associated with higher transaction costs, due to bounded rationality and opportunism (Williamson 1981). Despite attempts to be rational, human behavior can best be described as only limitedly rational. Individuals are bounded in their rationality (Simon 1978), due to cognitive limitations in their ability to fully evaluate all possible decisions and consequences. Bounded

rationality gives rise to incomplete contracting, as parties cannot foresee all contingencies. This results in contractual hazards, because individuals are also assumed to be opportunistic. Opportunism, defined as self-interest seeking with guile, can take various forms. Opportunism can be passive or active, and occur ex ante during relationship initiation in the form of various distortion or deliberate misrepresentation of information, or ex post over the course of the relationship in the form of reneging or violating various explicit or implicit commitments (Jap and Anderson 2003, Wathne and Heide 2000). Firms transacting through the market, therefore, need to incur transaction costs to safeguard against opportunistic behavior. IT outsourcing similarly results in transaction costs, such as the cost of vendor search, contracting, and managing the outsourcing effort (Barthelemy 2001). There are also many risks involved in IT outsourcing (Earl 1996, Kern, et al. 2002b), and these can lead to negative consequences, such as service debasement (reduction in quality of services) and cost escalation (Bahli and Rivard 2003).

While these negative effects can potentially offset the benefits of outsourcing, I believe that, on the average, IT outsourcing should still create value for clients. Research has shown that production costs have a much stronger effect than transaction costs (Ang and Straub 1998), suggesting that the net effect is still likely to be positive for clients. Empirical research provides support for this, showing that in general, clients did achieve the expected costs savings from outsourcing (Lacity and Willcocks 1998). Further, it is reasonable to expect that clients are aware of the risks involved, and have carefully

evaluated these risks and employed necessary risk-mitigating strategies (e.g. Currie 1998, Willcocks et al. 1999) to address these concerns, before they actually enter into the outsourcing contract. In addition, besides costs savings, clients often derive other benefits from the outsourcing, such as enabling the firm to focus on its core competencies (Quinn 1999, Quinn and Hilmer 1994). Taken together, all these suggest that, on the average, IT outsourcing should create value for clients. As such, I hypothesize that:

*H1a: IT outsourcing creates value for clients.*

Similarly, IT outsourcing should create value for the vendors. For vendors, each new contract represents additional revenue, and therefore, increased profits. Vendors can also enjoy economies of scale and scope by spreading their costs over a large number of clients and contracts (Apte 1990, Aubert, et al. 1996). As vendors gain experience at performing the task, they learn how to do it better, and the costs of performing the tasks decline accordingly (Bello, et al. 1997). In addition, vendors can leverage on the knowledge gained from working with one client to develop skills for tackling problems with another client (Kaufmann, Wood and Theyel 2000). Further, with each new contract, the vendor grows in size, and therefore has greater incentives to leverage on economies of scale and scope and invest in various initiatives (such as employee training and development methodology). This helps the vendor to further develop its core competencies (Levina and Ross 2003). This was succinctly summed up as such:

*“(the vendor’s) access to, and control over, a large number and variety of IT projects provided economies of both scale and scope. The large number of projects gave (the vendor) an ability to develop and improve competencies, as well as opportunities to reuse its competencies simultaneously, so that it could increase client satisfaction. Client satisfaction helped (the vendor to) secure additional engagements, which enabled even greater efficiencies in the competencies. In essence, (the vendor) was getting the benefits of specialization in IT services as seen through the core competency lens” (Levina and Ross 2003, p. 347)*

Overall, therefore, IT outsourcing should create value for vendors, through the increase in revenues and decrease in costs. In addition, vendors can also derive other benefits from entering into outsourcing deals with their clients, such as increasing their market share and building their reputation in the industry. Further, the IT industry is relatively small, and vendors often rely heavily on repeat contracts with existing clients. Thus, vendors may also derive benefits from supplementary services rendered or future businesses with these clients. As such, I hypothesize that:

*H1b: IT outsourcing creates value for vendors.*

While I hypothesize that IT outsourcing should create value for both clients and vendors, this does not imply in any way that every individual deal will create value for both parties. It is reasonable to assume that, in most cases, the parties will *not* knowingly enter into deals that do not create value for them.

Rather, clients and vendors enter into an outsourcing deal, each expecting to derive value in the process. However, how the value is eventually distributed between the client and vendor depends on the result of the contract negotiations. A myriad of factors (such as information asymmetry between the parties, the number of players in the market, their relative bargaining power, etc.) can affect how the risks and uncertainties are shared between the client and vendor. This suggests that the actual value realized by the parties is often a *negotiated outcome*, and this may differ from the *ideal outcome* expected. As such, in this thesis, I investigate the value effects in terms of both stock market returns and operating performance. The stock market reactions reflect the market's *perception* of the bottom-line benefits resulting from the outsourcing contract, while the operating performance reflects the *actual value realized* by the parties.

#### **b) Effect of Outsourced Activity on Value Creation**

It is widely accepted that IT comprises a portfolio of activities that vary in their transaction characteristics (Aubert, et al. 1996, Aubert, Rivard and Patry 2004), and consequently, certain activities are more suitable for outsourcing than others. Research has consistently shown that selective outsourcing has a higher success rate compared to total outsourcing (Lacity and Willcocks 1998, Lacity, Willcocks and Feeny 1996), and that outsourcing of different activities leads to differential success (Grover, et al. 1996). For the purposes of this essay, I distinguish between three commonly outsourced activities – software services,

network services and operations services – that vary in the degree of asset specificity and uncertainty involved. The three activities represent different points on the continuum, with software being high in asset specificity and uncertainty, operations low in asset specificity and uncertainty, and network somewhere in the middle.

Transaction costs theory predicts that outsourcing activities with high asset specificity and uncertainty (such as software) is inefficient, due to the high transaction costs associated. However, IT outsourcing research has yielded somewhat mixed results, with some studies finding a significant *negative* relationship between asset specificity and success (Nam, Rajagopalan, Rao and Chaudhury 1996, Poppo and Zenger 1998, Poppo and Zenger 2002), and others a significant *positive* relationship (Wang 2002). While research has focused on the effect of asset specificity and uncertainty on transaction costs, I believe that the more important difference between these IT activities lies in the production costs economies inherent in them. As a result, different outsourced activities lead to differential effects on the value created for the clients versus vendors.

- **Software Outsourcing and Value Creation**

For clients, software outsourcing creates value primarily from the access to specialized skills. Software projects vary greatly in terms of complexity and the skill sets required. Even large firms that have an in-house team of developers may not have the skills required for a particular software project (Wang 2002). As such, it is more cost-effective for clients to outsource

development to an external vendor, and avoid incurring the high costs needed to develop such skills internally. Vendors, on the other hand, usually possess a larger human asset base and a wider range of development experience (Aubert, et al. 2004). This, in turn, is likely to enhance the value delivered by the software, since the functions and quality of software development is highly dependent on the developer's skills and business domain knowledge.

Vendors, on the other hand, are likely to derive less value from software outsourcing. Business processes and requirements are often idiosyncratic to individual clients, and what vendors learn from one client cannot be as easily transferred to other clients. Thus, while learning undoubtedly still occurs, learning tends to be more idiosyncratic for software services. More importantly, the non-routine nature of software projects and the high uncertainty associated with them, make cost estimations extremely difficult. Software projects are often plagued with huge cost overruns, due to difficulties in requirements specifications, design changes, and inaccuracies in software measurement (Ang and Beath 1993, Wang 2002). By outsourcing, vendors typically end up bearing the risks and uncertainty, since market competitive pressures often make it difficult for vendors to incorporate these into the contract price. Further, software projects tend to be relatively shorter in duration, making it harder for vendors to recover any errors in their estimation. Overall, all these make price setting and subsequent cost control highly difficult for vendors, and profits can be easily eroded as a result. Accordingly, I hypothesize that:

*H2: Software outsourcing creates more value for clients than vendors.*

- **Operations Outsourcing and Value Creation**

For clients, the benefits offered by operations outsourcing are based on production costs savings derived from economies of scale. IT operations involve routine and standardized tasks, and so access to skills is not as important. Rather, economies of scale are particularly pertinent, given the high capital investments required. However, large firms are usually able to enjoy comparable economies of scale from their internal IT operations, and so the price differential between external vendors and the internal IT division may not be huge (Lacity and Hirschheim 1993). Clients may also find it hard to take advantage of the potential for process standardization and improvements if they are reluctant to make the required upstream changes or process enhancements (Kavan, Saunders and Nelson 1999). Consequently, clients are likely to derive limited economies of scale and value from operations outsourcing. Nonetheless, given the more routine and commoditized nature of IT operations, clients may still outsource their operations for other reasons, such as to achieve standardization after a merger / acquisition, to enable focus on their core competencies, or simply to achieve competitive parity.

Vendors, on the other hand, are likely to derive more value from operations outsourcing. IT operations tend to be similar across different clients, due to widespread standards for both equipment and operating systems. As such, vendors can easily reap economies of scale by pooling demand across multiple clients, and leveraging on existing hardware investments to serve multiple

clients. In addition, IT operations are technically mature activities that are highly recurrent and standardized in nature. As such, they involve few contingencies and low uncertainty. Operations are also easily measured and monitored, making it easy for vendors to develop baselines over such activities (such as response time, disk space, MIPS) (Aubert, et al. 1996, Aubert, et al. 2004), and to estimate and manage such contracts effectively (Lacity, et al. 1996). Therefore, I hypothesize that:

*H3: Operations outsourcing creates more value for vendors than clients.*

- **Network Outsourcing and Value Creation**

Network outsourcing, on the other hand, lies in the middle of the continuum in terms of asset specificity and uncertainty. Network outsourcing can create value for both clients and vendors, due to the economies of scale and specialization it offers, as well as the moderate uncertainty associated with it.

Clients can derive value from network outsourcing due to economies of scale and specialization. IT network typically requires high capital investments and specialized network skills, especially for design and implementation of complex international networks, that are usually customized to suit the unique infrastructural requirements of individual clients. However, unlike operations outsourcing, clients do not engage in such specialized network design and implementation tasks often, and so they usually lack the requisite skills and scale to carry out such network services internally, or at least, as cost-

effectively as external network providers. Thus, clients can derive value from both economies of scale and specialization for network outsourcing.

Vendors can similarly derive value from network outsourcing due to the economies of scale. Although high capital investments are usually involved, once made, these network equipment can be easily deployed to serve multiple clients. As such, network providers can usually derive significant economies of scale. However, unlike operations outsourcing, where uncertainty is very low due to the highly commoditized routine nature of the activities, network services involve a moderate level of uncertainty, due to the customization required for individual clients. This creates some difficulty in costs estimations and subsequent contract management, which can potentially reduce the value created for the vendors.

As such, for network outsourcing, the value pie is likely to be shared between both the client and vendor. Thus, I hypothesize that:

*H4: Network outsourcing creates value for both clients and vendors.*

## **Methods**

To test the hypotheses, I conducted an event study to assess the value created by IT outsourcing for clients and vendors, and examined both short-term stock market reactions and long-term operating performance. The event study method has been used extensively in management research, and provides a useful and rigorous methodology to assess the value implications of managerial decisions (McWilliams and Siegel 1997). The event study method

has also been used to assess the effects of various IT-related announcements, including IT investments (Dehning, Richardson and Zmud 2003, Hunter 2003, Im, Dow and Grover 2001), e-commerce initiatives (Subramani and Walden 2001), and newly created CIO positions (Chatterjee, Pacini and Sambamurthy 2002). Although there have been event studies on IT outsourcing (e.g. Hayes, et al. 2000), my study extends current work in two important ways; first, I look at the value effects for both clients and vendors (instead of clients only), and second, I assess the value effects in terms of both stock market returns and operating performance (instead of stock market returns only).

**a) Data Collection**

I define the event as a public announcement of an IT outsourcing contract between a client and vendor, in the media. I collected data based on a full text search of the Lexis-Nexis database [using News Wires and General News (Major Papers)], for the period 1989 to 1999. I chose the starting point (1989) to coincide with the Kodak outsourcing case, since this is widely recognized as the first major contract triggering the IT outsourcing trend. The cutoff date was 1999, because the tests concerning operating performance require firm financial data extending three years after the announcement (i.e., 2000-2002) and financial data was available up to 2002 at the time of the study.

I define IT outsourcing to include any contract between a client and a vendor for IT products and/or services and conducted a very broad search, using the search term: “(outsourc!) AND (contract! OR agreement!)”. I

carefully scrutinized all search results to identify all non-duplicate announcements of actual IT outsourcing contracts . As I am interested in the effects of IT outsourcing for both clients and vendors, my unit of observation was a pair of client and vendor firms announcing an outsourcing contract on a given date. As such, I retained only those announcements where stock price and operating performance data were available for both the client and vendor. Using a paired sample enables me to assess the impact for the client and vendor firms for the same set of outsourcing contracts announced. Firms' stock price data were collected from the Center for Research in Security Prices (CRSP), while accounting data were obtained from the COMPUSTAT database. Firms with no match in the CRSP and/or COMPUSTAT databases were deleted from the sample. My final dataset consists of 420 IT outsourcing announcements.

#### **b) Computing Stock Market Returns**

I used standard event study methodology to estimate short-term stock market reactions to the IT outsourcing announcement. Specifically, I estimated a market model for each firm, and then calculated abnormal returns, which are assumed to reflect the stock market's reaction to the arrival of new information (McWilliams and Siegel 1997).

A limitation of the traditional market model is that it assumes the coefficients of the market model are constant over time, and there is homoskedasticity of residuals (i.e. the residuals have mean zero and constant variance). Studies have shown that these assumptions are inappropriate, and

that failure to account for heteroskedasticity may lead to a bias towards detecting event-related effects where none actually exists (Savickas 2003). As such, I estimated the market model using a GARCH (Generalized Autogressive Conditional Heteroskedastic) option, that takes into account the time dependence in the stock return series, and allows for non-linear inter-temporal dependence in the residual series (i.e. residuals are conditionally heteroskedastic) (Corhay and Rad 1996).

In summary, I estimated stock market returns using the market model with GARCH option. I used an estimation period of 255 days. The impact of the event on the shareholder's wealth is measured by testing the significance of the abnormal return ( $AR_{jt}$ ) and the cumulative abnormal return ( $CAR_j$ ). Following McWilliams and Siegel (1997)'s recommendation to use a short event window to minimize the likelihood of confounding events, I used a three-day event window (i.e. the day before the announcement, the day of the announcement, and the day after the announcement). The three-day event window is widely used in other event studies (Carow, Heron and Saxton 2004), and accounts for possible information leaks and possible lags in investors' reactions.

To isolate the effect of the outsourcing announcement from the effects of other events, I also searched for any confounding events that may have an impact on the share price during the event window. For each of the outsourcing announcements, I searched the Lexis-Nexis database using the client's and vendor's names, for any confounding events within the three-day event window

(the day before, the actual day itself, and the day after, the announcement). I then factored out the effects of the confounding events on the abnormal returns. To do so, I regressed the abnormal returns against dummy variables for the confounding events, and then recomputed the abnormal returns as the unstandardized residuals, which are therefore orthogonal in nature (that is, having the effects of confounding events removed).

c) **Computing Long-Term Operating Performance**

I operationalized long-term operating performance as the average change in the median industry-adjusted operating performance over the three-year period after the outsourcing announcement. Averaging performance over time enables us to smooth out any temporal fluctuations in firm performance, and to take into account any time lag before outsourcing benefits are derived. Information on the detailed computation is provided below.

First, I computed the median industry-adjusted operating performance for each client and vendor in the sample. I measure operating performance as the ratio of earnings before interest, taxes, depreciation and amortization (*EBITDA*) to total assets (*TA*) (Allen and Phillips 2000). Information on firms' *EBITDA* and *TA* were obtained from the COMPUSTAT database. I computed the operating performance for each firm in the sample, and then adjusted for the operating performance of the median firm in the same three-digit SIC industry, in order to eliminate any industry-wide effects (Hertzel, Lemmon, Linck and Rees 2002). I then computed the yearly change in operating performance over

the three-year period after the outsourcing announcement. If a firm has entered into more than one contract during the period, I apportioned the firm's change in performance over all the contracts announced by that firm during that period, so as to avoid overstatement of the effect of its change in performance (since my unit of analysis is the contract rather than the firm). Last, I computed the overall performance effect by averaging the change over the four-year period.

#### **d) Coding of Outsourced Activity**

All outsourcing announcements were coded for the nature of the outsourced activity. For reliability, two researchers (myself and a research assistant) independently read and coded each announcement for the type of services provided in the contract. We conducted initial coding on a small subset of announcements, and developed explicit coding rules to reconcile discrepancies, before proceeding to code the rest of the announcements. Final Cohen's kappa was 0.84 percent, well above Landis and Koch (1977)'s threshold of 0.70 for inter-rater reliability. The contracts were classified into three categories: software outsourcing (22%), network outsourcing (17%), and operations outsourcing (61%).

## **Results**

#### **a) IT outsourcing announcements and value creation**

Table 9 Panel A shows the short-term stock market returns ( $CAR_{i,t}$ ) and long-term operating performance for clients and vendors on the whole.

Hypothesis 1a states that IT outsourcing will create value for clients. Results showed only partial support. IT outsourcing announcements were associated with significant positive short-term stock market returns for clients, with cumulative abnormal returns over the three-day event window ( $CAR_{-1,1}$ ) increasing by 0.32% ( $p < .05$ ). However, the effect on client's long-term operating performance was not significant (mean=0.19%,  $p = ns$ ).

Hypothesis 1b states that IT outsourcing will create value for vendors. Consistent with the hypothesis, results showed that IT outsourcing announcements were significantly related with positive short-term stock market returns ( $CAR_{-1,1} = 0.96%$   $p < .01$ ), and long-term operating performance (mean=0.90%,  $p < .01$ ).

Table 9: Essay 2 Stock Market Returns and Changes in Performance around Outsourcing Announcements

	Client		Vendor	
	Stock market returns (CAR <sub>-1,t</sub> )	Operating performance	Stock market returns (CAR <sub>-1,t</sub> )	Operating performance
<b>Panel A: Entire Sample</b>	0.32 <sup>*</sup>	0.19	0.96 <sup>**</sup>	0.90 <sup>**</sup>
<b>Panel B: By Outsourced Activity:</b>				
Software outsourcing	0.75 <sup>*</sup>	1.21 <sup>*</sup>	0.84	0.41
Network outsourcing	0.53	1.16 <sup>t</sup>	0.44	0.73 <sup>t</sup>
Operations outsourcing	0.11	-0.45	1.16 <sup>**</sup>	1.12 <sup>**</sup>

<sup>t</sup>  $p < .10$ ; <sup>\*</sup>  $p < .05$ ; <sup>\*\*</sup>  $p < .01$  (one-tailed test).

**b) Effect of outsourced activity on value creation**

Panel B of Table 9 shows the short-term stock market returns ( $CAR_{i,t}$ ) and long-term operating performance by the outsourced activity.

Hypothesis 2 states that software outsourcing will create more value for clients than vendors. Results showed support for the hypothesis. Software outsourcing announcements were significantly related with both positive stock market returns ( $CAR_{i,t}=0.75\%$ ,  $p<.05$ ) and long-term operating performance (mean=1.21%,  $p<.05$ ) for clients. Further, software outsourcing announcements were not significantly related with either stock market returns ( $CAR_{i,t}=0.84\%$ ,  $p=ns$ ) or long-term operating performance (mean=0.41%,  $p=ns$ ) for vendors.

Hypothesis 3 states that operations outsourcing will create more value for vendors than clients. Results showed support for the hypothesis. Operations outsourcing announcements were not significantly related with either stock market returns ( $CAR_{i,t}=0.11\%$ ,  $p=ns$ ) or long-term operating performance (mean=-0.45%,  $p=ns$ ) for clients. However, operations outsourcing announcements were significantly related with both positive stock market returns ( $CAR_{i,t}=1.16\%$ ,  $p<.01$ ) and long-term operating performance (mean=1.12%,  $p<.01$ ) for vendors.

Hypothesis 4 states that network outsourcing will create value for both clients and vendors. Results showed only weak support for the hypothesis. Network outsourcing announcements were marginally related with long-term operating performance for both clients (mean=1.16%,  $p<.10$ ) and vendors

(mean=0.73%,  $p < .10$ ); but stock market returns were not significant for both clients ( $CAR_{-1,1}=0.53%$ ,  $p=ns$ ) and vendors ( $CAR_{-1,1}=0.44%$ ,  $p=ns$ ).

### c) **Robustness Checks**

To ensure the validity and reliability of the data, I conducted additional robustness checks. Following the recommendations of McWilliams and Siegel (1997), I excluded announcements with confounding events during the three-day event window, instead of partialling out the effects of these confounding events. Sensitivity analysis showed that the results remained qualitatively unchanged with the reduced dataset of announcements without confounding events. Further, I tested the returns using the two-day event window ( $CAR_{-1,0}$ , i.e. the day preceding the announcement and the day of the announcement) recommended by McWilliams and Siegel (1997). Results similarly remained unchanged.

## **Discussion and Conclusion**

The objective of this essay is to assess whether IT outsourcing creates value for clients and vendors, and whether the value created differs between different outsourced activities. To that end, I conducted an event study of IT outsourcing announcements over an eleven-year period (1989-1999), and investigated the effect on value creation in terms of both short-term stock market returns and long-term operating performance. Several interesting

findings emerge from the results. I discuss these findings and their implications below.

a) **Summary of Major Findings**

First, the results showed that, on the whole, IT outsourcing announcements created value for both clients and vendors. For clients, IT outsourcing created value in terms of positive short-term stock market returns. The effect on operating performance, however, was not significant. The finding could be attributable to the suppressor effect of the non-significant value created by operations outsourcing, which accounts for 61% of the entire sample (see Table 9). The non-significant effect on client's operating performance is also consistent with the recent trend of increasing backsourcing. For vendors, IT outsourcing created value in terms of both positive short-term stock market returns and operating performance.

Second, and more importantly, the results showed that the value created for clients and vendors is contingent upon the IT activity being outsourced. Software outsourcing created more value for clients than vendors. This pattern of results shows that clients appear to be better at appropriating the value created from software outsourcing than vendors. Clients are able to appropriate the value for software outsourcing from access to the specialized skills vendors offer. Further, clients may be more willing to make complementary investments together with these software project, and this may unleash even greater long-term performance improvements from software outsourcing. On the other hand,

vendors appear less likely to appropriate value from the outsourcing contract because of the difficulties inherent in scoping and pricing software development contracts accurately, due to the high uncertainty involved (Koh, Ang and Straub 2004).

Operations outsourcing, on the other hand, created more value for vendors than clients. I believe that this pattern of results shows that vendors are better at appropriating the value created since vendors can more accurately estimate the costs of providing IT operations, a more commodity-like service due to its inherent lower uncertainty and asset specificities. On the other hand, our results show that clients may not be able to appropriate the value from operations outsourcing. Clients may be outsourcing their operations for other non-financial reasons, such as to achieve competitive parity or to achieve standardization after a merger / acquisition.

Interestingly, network outsourcing created value for both clients and vendors. Long-term operating performance improved marginally for both parties, suggesting that both parties are able to appropriate value from network outsourcing. Interesting, short-term stock market returns were not significant for both clients and vendors, suggesting that investors do not perceive as high value from network contracts. The pattern of results shows that network outsourcing with inherent features of commodity-like services (e.g., laying of networks and cables), and value-added software services associated with network operations lies in the middle of the continuum in terms of asset specificity and uncertainty.

## **b) Contributions**

This essay contributes to theory in several ways. First, to the best of my knowledge, this essay is the first in the outsourcing literature to conduct longitudinal assessment and present objective empirical evidence of the effect of IT outsourcing for both clients and vendors. This extends prior research by complementing prior research that has focused primarily on the client's perspective, and by demonstrating IT outsourcing impacts beyond perceptual measures (such as satisfaction and met expectations) to objective short term market reactions and long term operating performance.

Second, this essay contributes to our understanding of the contingent effect of IT activity on the value created for clients versus vendors. By drawing on transaction and production costs theories, I build on and extend prior research by focusing on the effect of asset specificity and uncertainty on the value created. The results demonstrate the importance of looking beyond the oft-emphasized effects of transaction attributes on transaction costs, to understand the effects of different sources of production costs economies.

This essay also contributes to practice in several ways. The results show that the value created depends on the nature of the outsourced activity. Specifically, software outsourcing created more value for clients while operations outsourcing created more value for vendors, and the value is split between both parties for network outsourcing. The results appear contrary to conventional wisdom that firms should outsource commoditized activities such

as IT operations and keep software development in-house (Lacity, et al. 1996), and that value-added services such as software outsourcing are more profitable for vendors. This suggests that firms might need a paradigm shift in their thinking, in terms of deciding what IT activities to outsource. Further, firms should revisit the outsourcing decision, especially in the area of contract pricing negotiations.

c) **Limitations and Directions for Future Research**

Although this essay found support for most of the hypotheses, the results were based on an event study of outsourcing announcements during the 1989-1999 period. Despite its many advantages and widespread use, there are also inherent limitations in the event study methodology (McWilliams and Siegel 1997). Nonetheless, I have attempted to minimize these as far as possible in this study, for example, by using a small event window and large sample size. Results from the robustness checks provide further evidence of the reliability of the data, with the pattern of results remaining qualitatively unchanged. Despite these efforts, I would caution that the data tends towards large outsourcing contracts and large companies (since typically only such outsourcing incidents are reported), and as such, the results may not generalize to smaller companies and contracts. In addition, because of the attempt to assess the effects for clients and vendors, I could only include announcements where share price and accounting data were available for both parties; this effectively excludes other

contracts that are contracted with non-public listed clients, e.g., government contracts.

Further, in computing long-term operating performance, I have apportioned the firm's yearly change in performance over all the contracts announced by that firm over the period. This approach reflects an underlying assumption that the firm's ability to create value from any and all contracts rests with its management expertise, and all contracts within the firm will be equally well or poorly executed. While this may not always be the case, and there may be variance within firms in how well they manage and execute different contracts, the nature of my data does not permit me to trace the actual change in operating performance attributable to individual contracts. In addition, although the results show support for most of the hypotheses, not all changes in the long-term operating performance can be attributed to the outsourcing contracts. Future research can gather objective internal firm data on the impact of individual contracts, and assess whether the results still hold true.

These limitations notwithstanding, I feel that this study has provided important objective evidence of the effects of IT outsourcing for both clients and vendors. I encourage more research in this area. Future research can explore the impact on other firm performance metrics, such as cost efficiency metrics, productivity metrics, other profitability metrics, growth metrics, cash management metrics, and market ratios. Researchers can also employ a combination of research methods and data sources. For example, in-depth case studies can look at perceptions of outsourcing consequences over time, and

compare these with objective firm performance data obtained from secondary data sources (such as SEC reports, contract data, internal IT statistics), to explore how perceptual and objective measures may differ. In addition, studies can explore other potential explanatory variables besides the nature of the outsourced activity. For example, research on joint-ventures and alliances has frequently adopted an organizational learning perspective (Zollo, Reuer and Singh 2002), and this can be fruitfully extended to study IT outsourcing. Studies can investigate whether the value created is affected by factors such as firms' absorptive capacity, prior experience with outsourcing in general, prior experience with a particular vendor, knowledge-sharing procedures.

To conclude, this longitudinal study on alternative objective outcomes of outsourcing shows how an event study approach can uncover the complex effects of outsourcing on value creation. My intent is to open discussion on an important topic for future research into outsourcing and other major IT initiatives and also to provide an empirical approach for further study of these issues.

## CHAPTER FIVE

### SUMMARY

The previous two chapters presented details of each of my two essays. In this section, I first provide a summary of the two essays and the key findings. I then summarize contributions of this thesis to both research and practice, and conclude with suggestions for future research.

#### Summary of Thesis and Key Findings

This thesis addresses the broad research question: *How successful is IT outsourcing, from both the client and vendor perspective?* Towards that end, I conducted two separate but related studies that focus on the duality of IT outsourcing.

The first essay studied IT outsourcing management, through a psychological contract lens that focuses on mutual client-vendor obligations. Through a sequential, qualitative-quantitative approach, I identified the nature of these mutual client-vendor obligations, and demonstrated empirically their impact on outsourcing success.

The second essay focused on IT outsourcing outcomes, and provided an objective assessment of the impact of IT outsourcing on firm performance, for both clients and vendors. Using an event-study methodology, I demonstrated the impact of IT outsourcing announcements on both short-term stock market

returns and long-term financial operating performance, and the effect of outsourced activity.

Although the two essays used different theoretical lens and methodology, they both emphasized the duality of IT outsourcing by providing a balanced view incorporating client and vendor perspectives. Essay 1 focused on IT outsourcing management, while Essay 2 focused on IT outsourcing outcomes. Together, the two essays provided an assessment of both subjective (essay one – perceived success in terms of satisfaction and intention to continue the relationship) and objective (essay two – actual stock market returns and changes in operating performance) impacts of IT outsourcing, and the effects of different determinants on outsourcing success.

The key finding from Essay 1 was that fulfillment of client-vendor obligations had a significant positive effect on IT outsourcing success, over and above the effects of project characteristics (project type, duration and size). Through the study, I identified six vendor obligations – (1) accurate project scoping; (2) clear authority structures; (3) taking charge; (4) effective human capital management; (5) effective knowledge transfer; and (6) building effective inter-organizational teams. All, except for accurate project scoping, were significantly related to outsourcing success. Similarly, the study identified six client obligations – (1) clear specifications; (2) prompt payment; (3) close project monitoring; (4) dedicated project staffing; (5) knowledge sharing; and (6) project ownership. Four out of the six client obligations were significantly related to outsourcing success; the relationship for dedicated project staffing

and knowledge sharing, although in the predicted direction, did not reach significance.

The key finding in Essay 2 was that, on the whole, IT outsourcing announcements created value for both clients and vendors. For clients, IT outsourcing created value in terms of positive short-term stock market returns, but the effect on long-term operating performance was not significant. For vendors, IT outsourcing created value in terms of both positive short-term stock market returns and long-term operating performance. Further, the results showed that the value created for clients and vendors is contingent upon the IT activity being outsourced. Software outsourcing created more value for clients than vendors. Operations outsourcing, on the other hand, created more value for vendors than clients. Interestingly, network outsourcing created value for both clients and vendors, with long-term operating performance showing marginal improvements for both parties.

## **Contributions to Theory**

From a research perspective, this thesis contributes to research in several ways. First, this thesis builds on and extends our understanding of IT outsourcing. Second, this thesis also contributes back to the source disciplines from which the theoretical concepts were drawn, specifically, to psychological contract theory, and production and transaction costs theories.

a) **Contributions to IT Outsourcing Research**

This thesis contributes to IT outsourcing research in three ways. First and most importantly, this thesis provides a balanced view incorporating both client and vendor perspectives. This extends prior research that has focused primarily on the client's perspective, to the neglect of the vendors. The psychological contract perspective introduced in Essay 1 provides a more complete understanding of outsourcing management, with its unique focus on the mutual obligations between the parties. Current research, with its primary focus on the client's perspective, ignores the reciprocal nature of outsourcing contracts, and provides only a one-sided view. Similarly, Essay 2 provides a balanced view by demonstrating the impact of IT outsourcing for both clients and vendors. As far as I am aware, this thesis is the first to investigate the value implications for both IT outsourcing clients and vendors.

Second, this thesis contributes to IT outsourcing research by adding to the limited, although growing, literature on outsourcing management. This thesis provides a new theoretical lens to understand a hitherto unidentified set of determinants of success - the psychological contract obligations. This extends prior work on the IT outsourcing relationship, an area which has received relatively less research attention. As far as I am aware, this thesis is the first attempt to study the psychological contract between outsourcing clients and vendors. By identifying the nature of these specific obligations and showing their relationship to outsourcing success, the theoretical models

developed provide a useful starting place for further refinements of the psychological contract perspective in IT outsourcing.

Third, this thesis contributes to IT outsourcing research by adding to the limited studies on outsourcing outcomes. Empirical evidence on outsourcing outcomes has been scant and results often conflicting. This thesis adds to our understanding of IT outsourcing outcomes by providing an objective empirical assessment of how IT outsourcing creates value for the parties involved. As far as I am aware, this thesis is the first to provide objective evidence of both short-term and long-term value effects of IT outsourcing. This extends prior research by demonstrating IT outsourcing impacts beyond perceptual measures to objective accounting measures. Further, this thesis builds on our understanding of the effect of outsourced activity on outsourcing success, by demonstrating differential impacts of outsourced activity on the value created. The results demonstrate the importance of looking beyond the oft-emphasized effects of transaction attributes on transaction costs, to incorporate the effects of production costs.

#### **b) Contributions to Psychological Contract Theory**

This thesis also contributes to psychological contract research. Research on psychological contract has been conducted primarily in the employment context. This thesis extends psychological contract theory by demonstrating its applicability to a novel context – IT outsourcing. Although the psychological contract has typically been conceptualized as an individual construct (Rousseau

1989), this study demonstrates that it can be used to study other forms of inter-organizational relationships, by looking at the views of the different stakeholders involved. This offers potential to apply psychological contract theory to study other forms of inter-organizational relationships.

### c) **Contributions to Production and Transaction Costs Theories**

This thesis also contributes to our understanding of production and transaction costs theories. Although the underlying premise of transaction costs theory is that firms should use the appropriate governance structure to minimize total costs, research has focused primarily on transaction costs, and the effects of transaction attributes (such as asset specificity and uncertainty) on transaction costs. Comparatively, little work has been done on production costs. This study highlights the importance of production costs, and extends prior research by looking at how transaction attributes can affect not just transaction costs, but also sources of production costs economies.

### **Contributions to Practice**

The findings in this thesis also convey several insights and practical implications for both outsourcing clients and vendors. These can be summarized in terms of the implications for the outsourcing decision (antecedents), and managing of the outsourcing process.

a) **Implications for the Outsourcing Decision**

While much research has been done on the outsourcing decision, this thesis highlights the importance of revisiting this area. The results show that the value created depends on the nature of the outsourced activity. Specifically, software outsourcing created more value for clients while operations outsourcing created more value for vendors, and the value is split between both parties for network outsourcing. This suggests that, contrary to conventional wisdom, client firms may need a paradigm shift in their thinking and consider outsourcing higher risk activities like software outsourcing instead, if they want to derive greater value in the long-run. This may be especially so for offshore outsourcing, where the production costs differentials are even more substantial. Further, firms should revisit the outsourcing decision especially in the area of contract pricing negotiations.

Similarly, vendors may need to carefully reconsider the relative profitability of different services. Although conventional wisdom is that software outsourcing is more profitable than traditional operations outsourcing, results from this thesis show the reverse. More work is definitely needed in this area; nonetheless, it would be prudent for vendors to carefully evaluate and demonstrate their value propositions in offering different types of outsourcing services.

**b) Implications for Outsourcing Management**

This thesis also has important implications for both IT clients and vendors on how to manage outsourcing. Essay 1 highlights the importance for clients and vendors to look beyond strict legal terms, to also understand the psychological contract obligations. This thesis contributes to outsourcing management practice by clarifying the nature of these obligations, and highlighting the need for both parties to pay particular attention to ensure that these obligations are met. In addition, the concept of a psychological contract highlights the fact that not all promises are incorporated into the legal contract. Ambiguous promises are more likely to lead to perceived psychological contract breach, so clients and vendors should work towards clarity of the promises, and make the obligations as explicit as possible.

Last but not least, results from this thesis show that IT outsourcing may not always create value for the parties involved. This further highlights the importance of carefully managing the outsourcing arrangement, to minimize the transaction costs that will be incurred, and to maximize the value that may be created. Further, both clients and vendors will benefit from conducting regular post-hoc assessments of actual outsourcing outcomes that have been achieved, to facilitate early identification and resolution of problems.

## Future Research Direction

Although this thesis has made significant contributions to both theory and practice, there is much scope for further research. In the sections below, I discuss some avenues for future research.

### a) Assessing IT Outsourcing Consequences

IT outsourcing impacts can occur at three levels: (1) short-term operational impacts in terms of efficiencies, cost savings, productivity, and service levels; (2) mid-term tactical impacts in terms of performance, control, and risk sharing; and (3) long-term strategic impacts in terms of core competencies and learning competencies (King and Malhotra 2000). In this thesis, I have only assessed the client and vendor managers' perception of IT outsourcing success in Essay 1, and firm performance in terms of short-term stock market reactions and long-term changes in performance in Essay 2. Future research can explore the impact on other consequences at all three levels. For example, future studies can extend Essay 2 by looking at the impact on various firm financial metrics, such as cost efficiency metrics, productivity metrics, other profitability metrics, growth metrics, cash management metrics, and market ratios (Smith, et al. 1998).

In addition, the literature has emphasized the positive consequences of IT outsourcing. Negative consequences can also result, given the many risks involved (Earl 1996, Kern, et al. 2002b). More research is needed to understand, for example, the impact on firms when there is a major renegotiation /

restructuring of the contract, or early termination. Research can also explore how firms should manage such exit strategies to minimize the negative impacts.

In order for cumulative research on outsourcing consequences to occur, there must be good measures of the “outsourcing consequences” construct. Given the different types of impacts that can occur, multiple measures may be required. This should include perceptual as well as objective measures, of both short-term and long-term impacts. The most-widely used measure of IT outsourcing success in prior research has been based only on perceptual assessment of satisfaction and/or realization of expectations. Even then, there is no one single widely-adopted measure, and studies have used a variety of items to measure satisfaction and/or realization of expectations. As a start, future research can work on developing a better measure of perceived IT outsourcing success. Work is needed to assess its psychometric properties, and to validate the measure in multiple varied field settings.

#### **b) Determinants of Outsourcing Success**

The review of the literature reveals that empirical studies of IT outsourcing outcomes have been relatively few, with studies often yielding conflicting results. More work needs to be done to understand the different determinants of outsourcing success, and how they relate to one another. While there have been several excellent reviews of the literature (Dibbern, et al. 2004, Hui and Beath 2002), a meta-analysis would help us to take stock and further

our understanding of the impacts of different determinants on outsourcing outcomes.

Future research can also explore other potential determinants of outsourcing success. IT outsourcing research has been driven primarily by economic and relational exchange theories. Other theoretical perspectives may provide insights into other potential determinants. For example, research in the area of joint-ventures and alliances has frequently adopted an organizational learning perspective (for example, Kale, et al. 2002, Zollo, et al. 2002), and this can be fruitfully extended to study IT outsourcing. Studies can investigate how outsourcing outcomes are affected by factors such as firms' absorptive capacity, prior experience with outsourcing in general, prior experience with a particular vendor, knowledge-sharing procedures, etc.

**c) Research Design and Methodologies**

IT outsourcing research has seen a preponderance of empirical surveys and case studies, with some mathematical / modeling papers (Dibbern, et al. 2004). Future research can explore other research methodologies. For example, more longitudinal case studies can be conducted, to understand the temporal nature of IT outsourcing, and how the management processes and consequences may change over time. Specifically, studies can build on Essay 1 to explore how the psychological contract obligations are formed, and whether / how perceptions of these obligations evolve or change over time. Studies can also leverage on the strengths of different methods and employ a combination of

data sources. For example, in-depth case studies can look at perceptions of outsourcing consequences over time, and compare these with objective firm performance data obtained from secondary data sources (such as SEC reports, contract data, internal IT statistics), to explore how perceptual and objective measures may differ.

**d) Research on Vendor Perspectives**

As pointed out earlier, research to-date has focused primarily on the client perspective, and little exists on the vendor's perspective (Dibbern, et al. 2004, Hui and Beath 2002). Although more recent studies have looked at the vendor's perspective (for example, Ang and Straub 2002, Currie and Seltsikas 2002, Currie and Seltsikas 2001, Michell and Fitzgerald 1997, Swinarski, et al. 2002), this area remains heavily under-researched. While this thesis responds to the call for more research providing a balanced view on both client and vendor perspectives, more work is needed to provide an understanding of the vendor's perspective. Specifically, more research is needed into the antecedents, processes and consequences of IT outsourcing provision by the vendors.

In terms of antecedents, while much work has been done to identify why client firms outsource, there is little understanding on why vendor firms choose to provide (or not to provide) particular types of services, for particular clients. Are certain types of services more profitable than others, and why? Results from Essay 2 suggest that there are differences between operations outsourcing, network outsourcing, and software outsourcing. More work is needed to

explicate the underlying nature of these differences, and the resultant implications for vendors in terms of both offering such services, and managing such contracts. Similarly, future research can explore whether certain categories of clients are more profitable than others. Essay 2, for example, only looked at contracts between public-listed clients and vendors. Government contracts usually comprise a major portion of the large vendors' business. Future extensions can explore whether there are differences between government contracts and private contracts, or between clients from different industry sectors.

In terms of processes, future research can explore how vendors manage the outsourcing process. There has been little research on how vendors develop their business models and value propositions, how they develop their core competences, and how they manage and deliver their services to their clients at a reasonable profit. Studies can look into the types of vendor capabilities needed; these could include, for example, technical competence, business knowledge, project management, relationship management, client development, etc. Studies can investigate which of these capabilities are particularly important, the reasons behind, and how vendors can develop these different capabilities.

In terms of consequences, future research can explore other types of consequences for vendor firms. Besides the direct impact on firm performance evaluated in Essay 2, other potential consequences include: entry into new markets, developing reputation in the industry, gaining market share. Studies

can explore the relative importance of these consequences, and any potential trade-offs between them.

e) **Research at Different Levels of Analysis**

IT outsourcing is essentially an inter-organizational relationship and is, therefore, multilevel in nature; yet, research on IT outsourcing has focused mainly at the level of the individual firms. In any inter-organizational relationship, “individuals are nested within organizations, which are nested within networks of organizations, which are nested within industries and national economies and cultures” (Klein, et al. 2000, p.269). Inter-organizational relationships can, therefore, be studied and explored at any and all levels of analysis. Similarly, future research can study IT outsourcing at these different levels – individual, firm, dyad, network, industry, and national. As a start, future research can move beyond the current focus on the individual firm level, to explore the two adjacent levels – the individual and the dyadic levels.

At the individual level, research can explore the impact of outsourcing on individual employees, both those retained within the client firm, and those transferred to the vendor firm. Research at the individual level has been relatively scarce (for exceptions, see Ang and Slaughter, 2001, Ho, et al. 2003). Future work can build upon these and investigate the impact of outsourcing on the individual’s various work attitudes and behaviors. For example, studies can explore whether outsourcing affects the characteristics of employees’ job – does

it result in de-skilling or does it require employees to acquire new skills? With the increased use of IT outsourcing, employees often have to work with a mixture of both client and vendor staff. Studies can explore the implications of this on role definitions (e.g. does this lead to increased role conflict?) and commitment (e.g. does this lead to dual commitment to both the client and vendor firm?). Further, studies can investigate the impact on different aspects of employee performance, such as in-role behaviors versus extra-role behaviors. Research can also explore whether IT outsourcing affects the nature of employees' psychological contract with the firm (e.g. does it become more transactional in nature?).

At the dyadic level, research can explore the impact of outsourcing on the client-vendor dyadic level. While results from Essay 2 show that IT outsourcing is related to value creation for clients and vendors individually, more work is needed to assess the joint effects on the dyad. Does the value created merely reflect a redistribution of wealth between the two parties, or is value actually created for the dyad? Studies can investigate how this value is distributed between the parties, who appropriates a larger share of the value, and what determines the value appropriated.

Future research can also look beyond single-level analysis to cross-level analysis. Researchers can build on the wealth of current outsourcing research and explore whether research findings at the inter-organizational firm level translate to the individual interpersonal levels. For example, prior work has demonstrated the importance of inter-organizational trust on outsourcing

success. It would be interesting to find out whether the nature of trust at the organizational level (i.e. inter-organizational trust) differs from the individual level (i.e. interpersonal trust) (see Zaheer, et al. 1998). Cross-level analysis can also be conducted to explore how individual-level variables (e.g. interpersonal trust) affect firm-level variables (e.g. firm performance).

**f) Applications to Newer Forms of Outsourcing**

With the changing landscape in IT outsourcing, it would also be interesting to explore how the findings apply to newer forms of outsourcing, such as ASPs, BPOs, and offshore outsourcing contracts. Although many of the issues and managerial problems associated with ASPs are similar to traditional outsourcing, there are subtle differences between the two (Currie and Seltsikas 2001). Similarly, offshore outsourcing usually involves higher complexity because of the need to control the project remotely and to interact cross-culturally (Carmel and Agarwal 2002). Future research can look into identifying the underlying differences between the different types of outsourcing, and how these affect the management processes and outcomes. For example, studies can explore whether the nature and importance of the client-vendor obligations identified in Essay 1 differ in such new outsourcing contracts; and whether the value impacts identified in Essay 2 differ in such new outsourcing contracts.

Further, firms are also experimenting with more innovative outsourcing arrangements, such as technology partnerships, joint ventures, alliances and

equity deals (Hirschheim 1998, Lacity and Willcocks 2001). Research is needed to look into how to manage such new outsourcing arrangements, and to assess how successful these are. Similarly, there are some indications of a growing backsourcing trend (Hirschheim 1998, Lacity and Willcocks 2001). More work is needed to assess the implications of backsourcing; for example, how firms should go about rebuilding the IT skills and capabilities, and how successful such efforts are.

## **Chapter Summary**

In this chapter, I have provided a summary of the thesis. First, I reiterated how the two essays are related by their common focus on the duality of contractual relations in IT outsourcing. Next, I summarized key findings in each of the two essays. Lastly, I highlighted the major contributions this thesis offers, and offered some directions for future research.

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