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VALUATION EFFECTS OF BUSINESS PROCESS OUTSOURCING: MAKING THE CASE FOR SELECTIVE GOVERNANCE

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MAKING THE CASE FOR SELECTIVE GOVERNANCE

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ABSTRACT

Business Process Outsourcing (BPO) has grown in incidence and importance over the past few years. However, beyond some expository studies, academic research on this phenomenon is sparse. Further, studies on IT outsourcing have primarily used a transaction cost economics (TCE) lens, and largely neglected other key theoretical explanations of the outsourcing decision and performance. In this dissertation, we examine how process level variables (process value chain position, relational governance, and process maturity) affect the excess stock return of a company. Drawing on the value chain framework, TCE, the resource based view, and institutional perspectives, we present a research model and propose a number of direct and moderating hypotheses. The three direct hypotheses suggest that BPOs of primary processes, BPOs with a higher level of relational governance, and abstention based BPOs induce stronger positive valuation impact than BPOs of supportive processes, BPOs with a lower level of relational governance, and disintegration based BPOs respectively. Based on TCE's discriminant alignment hypothesis, the two oderating hypotheses suggest that primary BPOs and disintegration based BPOs are likely to bring stronger positive valuation enhancement when aligned with stronger relational governance capabilities.

Using secondary data on 298 BPO announcements from 1998 to 2005, we test the proposed model with multivariate regression, group t tests, and nonparametric analyses. Overall, the results from statistical analyses validate our process based view of outsourcing as an alternative to the dominant functional view

of outsourcing. In contrast to the significant positive excess returns received by primary BPOs, supportive BPOs suffer negative abnormal returns. The negative returns become even more pronounced for those supportive processes outsourced after internal deployment. Although we do not find the predicted performance superiority associated with abstention based BPOs, we confirm that a higher level of relational governance strongly enhances firm valuation. This positive valuation impact of relational governance reaches an even higher level in situations of primary BPOs and disintegration-based BPOs, which are posited to require a greater presence of relational governance.

For researchers, this study provides a novel approach that demonstrates how TCE and other traditionally competing theories can be used in a complementary manner. We illustrate the importance of alignment between process characteristics and relational governance. In addition, we sensitize researchers to the importance of the temporal dimension of processes and the concept of abstention based outsourcing. Future research can add granularity to these concepts and build on the discriminating alignment hypotheses.

Based on the empirical results, we present BPO guidelines that reflect the importance of considering all processes for outsourcing, the critical consideration of relational governance, and the importance of planning governance structures that are aligned with the maturity and nature of the process being outsourced. Keeping in mind the dynamic nature of business process, managers should also be prepared to periodically reassess the alignment between the governance mechanism and process requirements, and make structural adjustments if necessary.

DEDICATION

I dedicate this work to my parents, who have been waiting patiently for the first PhD in my family. This dissertation exists because of the love and support from all my family members.

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TABLE OF CONTENTS

Page

Table of Contents (Continued)

Table of Contents (Continued)

LIST OF TABLES

List of Tables (Continued)

LIST OF FIGURES

CHAPTER ONE
INTRODUCTION

1-1 A BPO Story without Politics

In 2005, the following report on *Marmot Mountain LLC* appeared in the *Technology* section of *CIO Insight* (D'Agostino, 2005). It is a real life interstate (California and Colorado) BPO success story. Below, we quote the story from the original article:

> "In 2001, Marmot Mountain LLC was a privately owned, midsize outdoor apparel wholesaler in Santa Rosa, Calif. As the business grew, orders began to come in from retailers nationwide, often by phone and fax, and processing them became increasingly difficult. "It took hours of data entry, and mistakes were being made," says Alison Smith, the company's director of operations. "We were spending three or four days on data entry, and fulfillment was taking weeks." Despite these difficulties, Marmot was wary when Denver-based CenterStone Technologies offered to take over and reengineer the company's order fulfillment process. "It was our first stab at using technology to help us to manage our business, and at relying on a third party to help us, so loss of control was an issue," Smith says. It took many meetings and much hand-holding, but "we finally got the picture," she adds. CenterStone connected Marmot's supply chain and ERP platforms and created a Web portal that allows retailers to view Marmot's products, check for inventory in real time, and place orders. CenterStone manages the order fulfillment process from its Denver offices and ensures that systems stay running, product descriptions stay current, and orders are accurately filled-within days instead of weeks. Although Smith won't disclose actual figures, she says that Marmot has seen significant savings in supply chain costs thanks to the system. Today, the company-which was acquired by K2 last June-is experiencing 20 percent year-over-year sales growth."

Without crossing national boundaries, BPO seems, at least from the above report, a perfect domestic-business-as-usual case. However, when such an interstate business affair is raised to the global level, few management innovations have attracted as much attention and aroused as many controversies as outsourcing. Its

exposure to the highest level political discourse – the 2004 presidential debate – illuminated the considerable divergence in opinions over the "third (Digital) Industrial Revolution" (Blinder, 2006).

1-2 The Politics and Economics of BPO

The number of media references to outsourcing (plotted in Figure 1.1) best reflects the heat generated by the issue. Public interest in outsourcing spiked during the 2004 election. During the 2004 presidential campaign, both Republicans and Democrats weighed in on (offshore) outsourcing and articulated their conflicting positions. To counter the media campaign against outsourcing, President Bush and his team publicly spelled out the benefits of outsourcing. During his testimony before Congress, the head of President Bush's Council of Economic Advisors described outsourcing as "just a new way of doing international trade," "a plus for the economy in the long run," and "international business as usual" (Brownfeld, 2004). In a White House economic report (Economic Report of the President -- ERP in February, 2004) signed by President Bush, it was stated that "when a good or service is produced more cheaply abroad it makes sense to import than to make or provide it domestically" (Gussert, 2005). Reflecting his pro jobs orientation, the Democratic candidate, John Kerry, stated "Jobs, Jobs, Jobs" as his election manifesto and accused the Bush administration of wanting to export more jobs overseas. The Senate Minority Leader, Tom Daschle, even demanded that the incumbent administration issue an apology to every American worker. Clearly, outsourcing was both hailed and vilified during the 2004 presidential campaign.
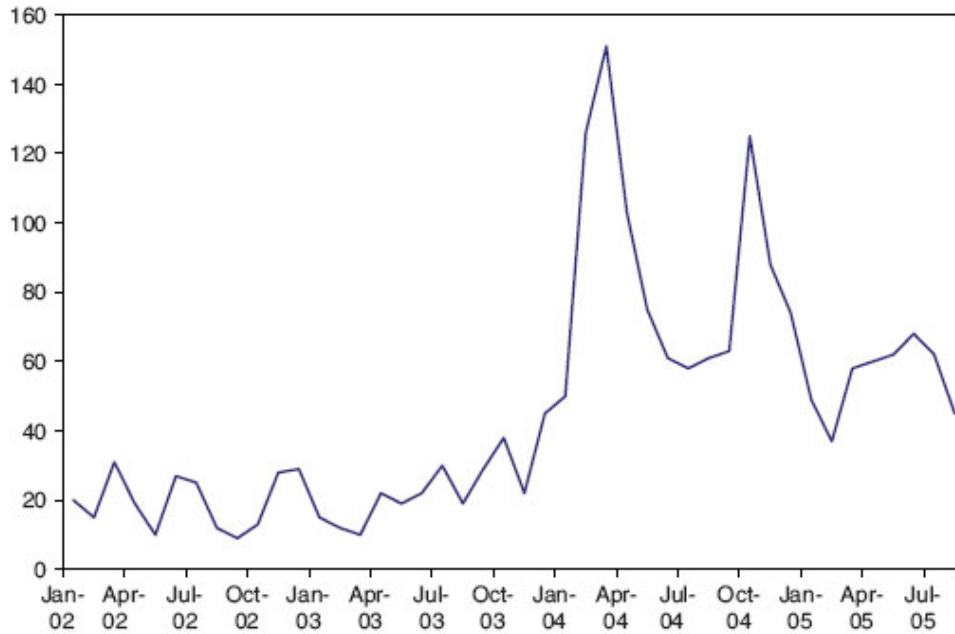
Figure 1.1 Media references to outsourcing -- adapted from Mankiw & Swagel
(2006:1030)

Business executives and consultants, like politicians, have also focused their attention on the geographic location of process owners or executers (Dossani & Kenney, 2003). On the one hand, the former HP CEO, Carly Fiorina, testified before Congress, "there is no job that is America's God-given right anymore" (Rozek, 2004). During the 2004 World Economic Forum, the CEO of the India-based Infosys commented, "everything you can send down a wire is up for grabs" (Schenker, 2004). Forrester Research estimates that 3.3 million white-collar jobs will move overseas by 2015. On the other side of the world, some aggressive Indian BPO vendors, such as Wipro and Tata Consultancy, are expanding full speed with 1400 new hires per month (Hamm & Ante, 2005). On the other hand, an International Data Corporation (IDC) study on current trends in IT services concluded, "the

activities that will migrate offshore are predominantly those that can be viewed as requiring low skill since process and repeatability are key underpinnings of the work. Innovation and deep business expertise will continue to be delivered predominantly onshore" (Drezner, 2004). Echoing this statement, a recent survey of Indian BPO workers by Hill & Associates revealed that more than half of the respondents perceived their jobs as dead end and saw few future growth opportunities. Farrel (2006) reported that the turnover rate among IT staff in the banking industry is between 30% and 40% in some hot BPO cities in India. The resultant high staff turnover rates not only push up costs incurred in training, but also worsen productivity due to the loss of organizational knowledge (McCue, 2005). The theft of $350,000 from Citibank customers via Indian outsourcer MphasiS BFL in 2005 publicized the downside (e.g. security) of offshore outsourcing (Cone, 2005). Not surprisingly, at the top of Gartner's 10 Key Predictions for 2007 is "through 2009, market share for the top 10 IT outsourcers will decline to 40.0 percent (from 43.5 percent now), equaling a revenue shift of $5.4 billion" (Lundquist, 2006).

Despite the massive political backlash to outsourcing, "offshore is a manifestation of an ongoing and long-term economics evolution that will not be greatly impacted by either candidate," a Meta Group analyst said (Frauenheim, 2004). As a Goldman Sachs official explains, outsourcing makes perfect economic sense: "we pay hundreds of thousands of dollars a year to hire a good engineer. You can hire ten engineers for that price in India" (Farnsworth, 2004). Although election debates on outsourcing might have dampened the immediate corporate plans, industry officials in the U.S. are optimistic about future prospects, and predict that the boom will continue after elections. In their recent research work sponsored by

LogicaCMG, Willcocks and Cullen (2005) stated that "outsourcing is not a fad, but a substantial part of corporate and government expenditure, needing top team oversight and management."

1-3 The Emergence of BPO

Outsourcing occurs when a business subcontracts a business function or process to an external supplier, who is responsible for the delivery of the desired goods and services that would have been internally produced (Kakabadse & Kakabadse, 2000). The practice has been common within the U.S. economy for decades, and can be traced back to the Industrial Revolution in the eighteenth century, and possibly earlier. The new wave of outsourcing – Business Process Outsourcing (BPO) -- differs from traditional outsourcing practice in that it affects white-collar high paying jobs, which have, until recently, been immune to the threats of outsourcing. Among these affected white collar professions are software engineers, data processors, phone bankers, radiologists, lawyers, etc. "Any worker whose job does not require daily face to face interaction is now in jeopardy of being replaced by a low-paid, equally skilled worker thousands of miles away," said Paul Craig Roberts, an economist with the Institute for Political Economy (Richman, 2004). Even though the manufacturing sector has been hit the hardest, political reactions to the threat of foreign competition staged by those white collar interest groups are far more fierce and sustained. Of course, the presidential election and media intensified the reactions.

It was the landmark deal between Kodak and IBM that brought about and galvanized the term "outsourcing" and retired the term "subcontracting" (Applegate & Montealegre, 1991). Through the last 15 years, outsourcing has undergone some

rapid evolutions beyond simple reengineering of peripheral processes and the management of technical infrastructure (Gottfredson, Puryear, & Phillips, 2005). As competition is no longer limited to the realm of the enterprise, entire value chains are now starting to act as formidable competing entities (Bendoly, Soni, & Venkataramanan, 2004). According to John Harris, corporate vice president of EDS, "What is outsourceable has now drifted to primary business functions and processes of the enterprise" (Anonymous, 1998). Rather than a method of contracting out, BPO is now increasingly being adopted as a weapon to transform the way of conducting businesses to achieve rapid, sustainable improvement in value chain (VC) level competitive performance (Linder, Cole, & Jacobson, 2002; Linder, 2004). BPO is a special class of outsourcing that deals with business functions and processes that play a more central role in the clients' business than those traditionally outsourced. It now even extends out to encompass certain heart and soul strategic processes (e.g. R&D) that have, up to now, been kept in-house (Engardio & Einhorn, 2005). It is no wonder that some visionaries are predicting the emergence of a new global division of labor.

Although touted as the contemporary mega-trend, BPO is rather an unintended innovation resulting from the marriage of globalization and the establishment of a global telecommunication infrastructure (Internet). Therefore, BPO is fundamentally a socio-technical business innovation that provides new sources of competitive advantage (Click & Duening, 2005). As defined by the sociologist, Anthony Giddens, globalization is the decoupling of space and time. With instantaneous communications, knowledge and culture can be shared around the world simultaneously. Others see it as a major economic phenomenon, which

involves increasing integration of national economic systems via the growing international trade, investment and capital flows. The term also refers to the movement of people and knowledge across international borders. The creation of the World Trade Organization in 1995 extended the judicial powers of the original GATT (General Agreement on Tariffs and Trade) to rule on disputes not only in international trade in goods, but also in services. The law of comparative advantage dictates that the production of goods and services should be executed by those most efficient, maximizing their availability at the lowest price. Free trade and greater competition spurs the reallocation of labor and capital from less to more profitable sectors of the economy. The objective of the WTO and other international institutions is to lower trade barriers, such as tariffs and import quotas, and facilitate free trade, exchange and world prosperity.

If globalization provides the social and economical context for BPO, the establishment of a reliable global telecommunication infrastructure, especially broadband Internet, catalyzed the global geographical optimization of business processes typified by BPO. According to Stan Gibson of *CIO Insight.com*, "Fiber-optic pipelines overbuilt during the dot com boom, and dark after the dot com bust, have been lighted up with the world's data … instant communication between scattered locations … enables Hewlett-Packard, for instance, to set up an accounts payable operation for Procter & Gamble in Bangalore, India, to process invoices from French perfume makers to be paid from British bank accounts" (Gibson, 2006). Started as the communal medium for sharing information among academics, the Internet and the global telecommunication network, aided by the standardization of software applications, are now providing businesses of all sizes real-time

connectivity without the geographic proximity required for certain business processes. The recent experiment of drive-through order taking at McDonald's provides a vivid illustration of the decoupling of time and space. Drive-through order taking is usually handled by an employee on site, who might also be responsible for final packing, payment collection, and other in-store duties. However, this business-as-usual practice is being revolutionized at McDonald's by the outsourcing of the process (drive-through order taking) to remote centralized call centers. According to CEO Jim Skinner, "If you are in L.A. and you hear a person … with a North Dakota accent taking your order, you'll know what we are up to" (Sims, 2005). When these remote call centers are owned and operated by McDonald's, this is known, in BPO terms, as a shared service center. When the operation and administration are (hypothetically) executed by another company and located in India, it is known as offshoring. Amid these two polar modes are on-shoring and near-shoring, denoting varying degrees of geographic proximity.

At the forefront of the wave of the Digital Industrial Revolution, BPO represents the innovative leveraging of the geographically dispersed pools of skilled labor to conduct digitized business processes connected and orchestrated on the platform of modern telecommunication technology (Venkatraman, 2004). Because of the new scale economy in the new information age, the impact of BPO is enormous and far reaching, as never witnessed before. According to a study by IDC, the world wide BPO market will reach $682,000 Million, dominated by the North American region (see Figure 1.2). Preferring their recurring revenue and long-term financial stability, venture capital and private equity firms poured over $94 Million (US) into India-based BPO companies between July and September 2004. The leading

comprehensive BPO providers, former large accounting and consulting firms or IT outsourcing providers, are broadening their offerings to include a variety of business processes. These leading providers, such as IBM, EDS, Accenture, Cap Gemini, etc., usually have a mix of onshore and offshore operations that clients can select from, based on cost, time zones, language and education. According to Frank J. Casale, CEO of the Outsourcing Institute, "BPO wave is for real and it is significant. And we've barely scratched the surface when it comes to realizing the true upside" (Casale, 2005).

Global BPO Spending 2002-2008 ($m)

Source: IDC,Worldwide and U.S. BPO 2004-2008 Forecast, April 2004
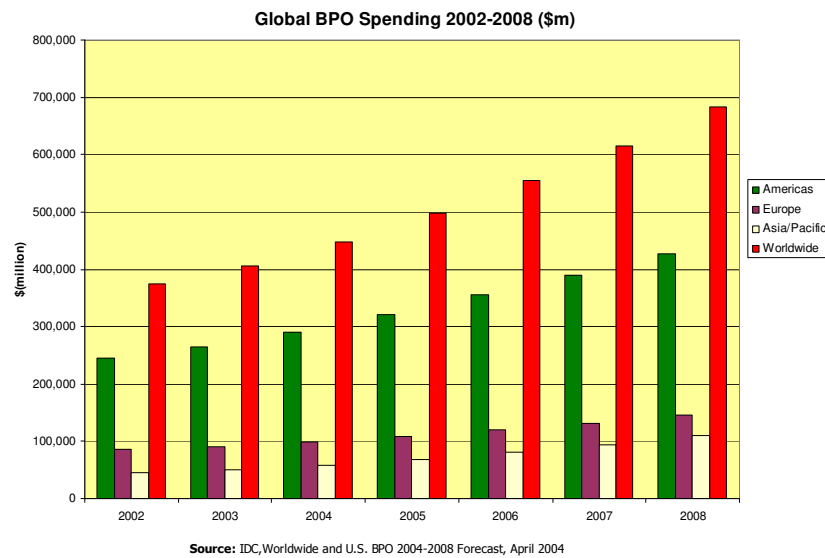
Figure 1.2 BPO market 2004-2008.

1-4 BPO Definition and Classification

Prior to discussing the definition of BPO, it is necessary to understand business process first. Davenport (1993) defines business process as a set of logically related tasks performed to achieve a defined business outcome. Although BPO is simply the movement of business processes from inside the organization to outside service providers, a well conceptualized definition needs to emphasize its socio-technical dual traits. For this reason, we adopt the most popular and well accepted definition offered by Gartner-Dataquest. BPO is "the delegation of one or more IT-intensive business processes to an external provider that in turn owcns, administers and manages the selected process based on defined and measurable performance criteria" (Greene, 2006). A more compact definition offered by Halvey and Melby (2000) is "outsourcing one or more specific business processes together with the IT that supports them." Both definitions reflect not only the IT specific roots, but also the managerial attention necessitated by the transfer.

The variety of business processes involved in BPO are summarized in Gartner's BPO market model, as detailed in Table 1.1. Different from other classification themes (e.g. onshore-offshore), Gartner's BPO market model deemphasizes the geographic proximity and reiterates the modern view of the firm as a global network of business processes coupled with capabilities and connections rather than simply a portfolio of product offerings.

Process Category	Description	Typical Processes
Demand Management Processes	Processes linking an organization with its customers	Customer selection, customer acquisition, customer retention, customer extension
Supply Management Processes	Processes focused on responses to customer demand	Moving products or services, storing products and services, making / delivering products or services, procuring materials
Enterprise Service Processes	Activities necessary for every enterprise, regardless of industry	HR, finance and accounting and regulatory, IT, facility management

Table 1.1 Gartner's BPO market model

Robert H. Brown, a principal analyst covering BPO at Gartner Inc., further distinguishes between intra-enterprise processes and inter-enterprise processes. Intra-enterprise processes are the ones that are walled within the perimeters of the hosting company, like finance, accounting and human resources (HR). Inter-enterprise processes link the owning companies to their suppliers or customers, like supply chain management and customer service. Due to the high level separability, intra-enterprise processes are more commonly outsourced business processes. However, with technology improvements, outsourcing call centers have now been proven to be practical. Companies are increasingly looking to outsource certain inter-enterprise processes (e.g. McDonald's drive-through order taking).

1-5 BPO and ITO

Although many consider BPO a natural extension of Information Technology Outsourcing (ITO) and believe that it will eventually envelop ITO, others believe that BPO and ITO are complementary to each other and will coexist for a long time. The key difference between BPO and ITO, as suggested in the practitioner literature, is that BPO is focused on constantly updating and improving a

designated process with measurable progress based on business results, while ITO is vendor driven and aims to contain and reduce IT expenditure. One disadvantage of ITO is that the operational structure of business processes supported by IT is often frozen or handicapped by the ITO arrangements. Further process improvements involving IT adaptation are often restricted by rigid ITO arrangements. The results of the 2006 Business Process Improvement Survey revealed that 85% of respondents believe that IT is deeply involved with most processes in customer service, finance, logistics/supply/purchasing, HR and sales (Alter, 2006). Evident from the BPO market model offered by Gartner, the contemporary understanding of BPO is deemed to be inclusively ambiguous. This ambiguity is also reflected in the comment by an analyst with Forrester Research - "Depending on how you define (BPO), it can represent the entire economy" (Berkman, 2002).

1-6 Current Status of BPO Research and the Objective of this Study

Despite a worldwide BPO market growing at a double digit projected compound annual growth rate (CAGR), academic research coverage of BPO is a "virtual absence of academic publications on the topic" (Rouse & Corbitt, 2004). Discussions of BPO are limited to the circle of practice and flavored with a strong sales pitch. Information System (IS) researchers often treat BPO as the extension of ITO into the area of back office services (Lacity, Willcocks, & Feeny, 2004). However, this ITO oriented conceptualization tends to emphasize the role of IT, and pays less attention to the broader processes and functions that are outsourced together with those supporting IT operations. The premise of the exponential BPO growth is that much greater knowledge gains can be theoretically availed because of the bundling of IT and business processes (Willcocks, Hindle, Feeny, & Lacity, 2004).

Recognizing its socio-technical nature and drawing on existing research on ITO and business process reengineering (BPR), we attempt in this study to initiate a stream of research on BPO, and aim to attain the following objectives:

1. Broaden the current definition of BPO and assess the stockholders' wealth impact of various BPO deals.

2. Enact a view shift (from vertical to horizontal view) in outsourcing research by evaluating various corporate processes within a widely accepted process framework (Porter's value chain framework).

3. Propose and operationalize a set of process level variables (value chain position, maturity, governance) and advocate the use of firm level performance differential as a measure of process performance (stock market response to a process specific event).

4. Study the alignment between outsourcing governance and process characteristics, and rectify the finding from past ITO research that the usefulness of TCE is limited in "understanding and explaining IT sourcing phenomena" (Lacity & Willcocks, 2000b). TCE was often touted as "perhaps the single most influential theory found in the social sciences" (Carroll & Teece, 1999) and "an empirical success story … research has been broadly corroborative of the predictions of transaction cost economics"(Williamson, 2000).

5. Explore the relationship between the timing of an outsourcing decision (process maturity level) and the outcome, and attract research attention to the research question of "when to outsource."

1-7 Overview of Research Methodology

The unit of analysis of this study is an individual BPO event – a company's announcement of the outsourcing of a business process. The sample of events is gathered through a keyword based search of news wires from 1998 to 2005. We employ the event study methodology popular in finance research to measure the strength of investors' response (daily stock return) to a BPO announcement. Underlying the methodology are three fundamental assumptions: market efficiency, no anticipation of the event, and no confounding events. To ensure only abnormal returns surrounding the BPO event of interest are detected, the event window was established as the day of the BPO announcement. Abnormal stock returns (DV) across the event window are calculated based on the market model, which estimates the association of the specific stock with the overall market portfolio. The values of independent variables of process value chain position, relational governance and process maturity are obtained via content analysis of the announcement text. Multiple regression is then conducted to test the three direct links between the dependent variable (DV) and independent variables (IV). To test moderating effects, we split the whole data set using the respective moderators as the grouping variable and then ran the regression again.

1-8 Contributions of this Study

This dissertation contributes to the BPO research in three major ways. First, we organize the various corporate business processes based on Porter's value chain framework. With this process based view, we are able to evaluate their performance differences across functional boundaries. Through this horizontal arrangement, we intend to theoretically justify the renaming of the practice of outsourcing as BPO.

This horizontal layout also raises the strategic importance of outsourcing when it is applied to primary business processes.

Second, we challenge the research finding that the usefulness of TCE is limited in "understanding and explaining IT sourcing phenomena" (Lacity & Willcocks, 2000b) and contend that the application of TCE in studying outsourcing phenomenon should be anchored to the central discriminant alignment hypothesis, rather than to equate outsourcing with market procurement of certain low specificity functions and processes. Thus, we contend that the focus of outsourcing research should be shifting away from "selective outsourcing" and closing in on "selective governance."

Finally, incorporating the concept of business process lifecycle into outsourcing research, we view the business process being outsourced as a dynamic object exhibiting various levels of maturity. We differentiate between abstention based outsourcing (without previous ownership) and disintegration based outsourcing (involving ownership transferring). By introducing process maturity into outsourcing research, we believe the timing issue in the long run could become a new research direction.

1-9 Dissertation Overview

The rest of this dissertation is organized as follows: Chapter 2 reviews the areas of research that are relevant to our understanding of BPO. The section is composed of business process related literature review (BPR and BPM) and outsourcing (ITO) studies. By reviewing related literature, we intend to draw a holistic picture of the contemporary understanding of BPO, and seek answers to the following questions: What is the role of IT in processes centered business

improvement initiatives? Why BPO and why now? What to outsource and how? At the end of the review, we discuss the limitations of the functional (vertical) view of outsourcing and argue for a process based (horizontal) view of outsourcing.

Chapter 3 draws on the variety of theories to develop a series of hypotheses regarding the performance differential among BPO deals. In particular, we cover the theory of production economics, transaction cost economics, Porter's value chain framework, RBV and Relational View of the firm, and institutional theory. Further, we apply those theories to the context of BPO and derive our specific hypotheses regarding business performance superiority associated with certain business processes and/or managerial governing mechanisms.

Chapter 4 describes the research methodology adopted in this study. First, we detail the event-generation process for the sample of 298 BPO announcements. Second, we demonstrate with example events how to extract daily stock returns and calculate abnormal returns. Third, we describe value assignment for the IVs and control variables in our research model. Finally, we present the statistical analysis approach to validate our research model.

Chapter 5 presents the results of statistical analysis performed on the sample of BPO events, which occurred from 1998 and 2005. We then assess the empirical support offered by our collected dataset to the set of hypotheses proposed in Chapter 3.

Chapter 6 discusses the findings of this study and their implications for both research and practice. Contributing to research, we emphasize the importance of a process-based conceptualization of the outsourcing practice and establish our counterintuitive proposition that primary BPO results in higher return than

supportive BPO. In rectifying the observed limited usefulness of TCE in explaining outsourcing, we aim to shift the application of TCE from object (process) selection to the assignment of a governance mechanism to the outsourced process. Further, we offer the timing of outsourcing relative to the life stage of the outsourced process as a potential research direction. In offering practical recommendations, we give four recommendations that can help managers upgrade their mindsets from the traditional 1.0 to the new process-based 2.0 version of BPO. After discussing the limitations and presenting the directions for future research, we conclude this dissertation with a few remarks that recap the major findings of this study.

CHAPTER TWO
LITERATURE REVIEW

Facing the present dearth of studies on BPO, we interpreted BPO as the combination of action (outsourcing) and object (business processes being outsourced). To comprehend both the action and the object, we need to trace the roots of BPO, namely business process improvement initiatives (BPR, BPM) and IT outsourcing (ITO). We begin by taking stock of the literature on Business Process Reengineering (BPR) and ITO. In the second half of this chapter, we closely examine the important findings in each area and illustrate how they benefit our conceptualization of BPO in several unique ways.

2-1 Business Process and Business Process Reengineering

Although business processes have always been guiding business activities and determining business results, the process movement was only brought to broader corporate awareness in the early 1990s. The movement, spearheaded by BPR, gained wider acceptance and momentum as more and more business leaders recognized the relevance of process. The promises of the process movement, such as order-of-magnitude breakthroughs in multiple performance areas, were certainly appealing, and promoted high expectations for those embracing the new paradigm. Unfortunately, the results delivered by such endeavors did not match the promises and expectations. In this section, we explore the body of literature dealing with the BPR movement.

2.1.1 The Definition and Classification of Business Process

A process is a particular course of actions intended to achieve a result. A process is also an approach for transforming inputs into outputs. It is the way in which all the resources (employees and managers, computer equipment, information and so forth) of an enterprise are expended in a reliable, repeatable and consistent way to accomplish its goals. A process must have predictable and definable inputs, predictable and desired outcomes, a structure (linear and logical sequence) and a set of clearly definable tasks and activities (Zairi, 1997). Table 2.1 summarizes the multiple definitions of business process found in the literature, ranging from BPR, to system analysis and design, and to the latest business process management (BPM).

Definition	Author(s)
One or more agents acting in defined roles to enact partially ordered steps that collectively accomplish the designated goals	(Curtis, Kellner, & Over, 1992)
A series of customer-supplier relationship that produces specific results at specific points in time.	(Scherr, 1993)
A structured set of activities designed to produce a specified output for a particular customer or market.	(Davenport, 1993)
Collection of activities that takes one or more kinds of input and creates an output that is of value to the customer	(Hammer & Champy, 1993)
A lateral or horizontal form that encapsulates the interdependence of tasks, roles, people, departments and functions required to provide a customer with a product or service.	(Earl, 1994)
A complete end-to-end set of activities that together create value for a customer.	(Hammer, 1996)
A set of tasks that connects one set of information elements (source) to another set of information elements (target)	(Basu & Blanning, 2000)
Collection of interrelated work tasks, initiated in response to an event, that achieves a specific result for the customer of the process.	(Sharp & McDermott, 2001)
A sequence of tasks that are performed in series or in parallel by two or more individual or applications to reach a common goal.	(Khan, 2004)

Table 2.1 Definitions of business process

The definition of business process is, to some extent, related to the coordination of activities and dependency management. Thompson (1967) identified three pure forms of dependence, termed as 'pooled', 'sequential' and 'reciprocal' dependence (see Figure 2.1). Pooled dependence occurs when the activities are connected in such a way that their only link is the finished product: each contributes in its own way, and relationships during the production process are not required. Sequential dependence occurs when activities are performed in a series, where the output of one activity is an input to the next. This is a normal linking in industrial organizations (e.g. auto assembly line). In situations of reciprocal dependence, activities become connected in more complex ways; each is no longer only an input to the next, but the next also provides an input to the first, and activities get more tangled in a network of relationships.
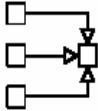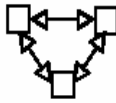
TYPE OF DEPENDENCE	POOLED DEPENDENCE	SEQUENTIAL DEPENDENCE	RECIPROCAL DEPENDENCE
DEFINITION			
TYPE OF COORDINATION	Standardization (predominantly formal)	Planning (formal and social)	Mutual adjustment (predominantly social)

Figure 2.1 Thompson's typology of dependence

Using Thompson's typology of dependency, the multiple process definitions can be mapped to the three types of dependency. The definitions of Sharp and McDermott (2001) and Earl (1994) accommodate all three dependency types, while

Khan's (2004) definition links to only sequential and pooled dependencies. Whereas Scherr's (1993) definition takes care of reciprocal dependence, definitions provided by BPR proponents (Davenport, 1993; Hammer & Champy, 1993; Hammer, 1996) hinge mainly on sequential dependency.

Workflow oriented process conceptualizations (corresponding to sequential dependency and pooled dependency to some extent) have been criticized for their linear portray of complex network relationships, and neglect of human involvement in business process. Alternatively, Keen (1997; 2003) proposed four criteria that qualify any work as process:

1. *Recurrence* means that people carry this work out frequently and in large numbers. Insurance claim processing at Progressive handles 10,000 claims each day (Hammer & Champy, 1993).

2. *Reliability*: the process can be transferred to multiple contexts across companies and even industries. Insurance claim processing is common, at least to the whole insurance industry.

3. *Impact*: Diverse ways of implementation and their differential impact on business performance: customer service, revenues, costs, staff productivity, internal efficiency, etc. In the early 1990s, Progressive had to reinvent its insurance claim processing process in order to compete with other large insurance companies to retain and satisfy the targeted high risk drivers (Hammer & Champy, 1993). The newly redesigned process is able to reduce the inspection cycle time from days to hours. The cost of storing a damaged car or renting a replacement car for one day costs roughly $28, which is

approximately the expected underwriting profits on a six-month policy (Hammer & Champy, 1993).

4. *Coordination* of tasks, people, information, and procedures. Miscoordination leads to errors, delays, inefficiencies, high costs and customer dissatisfaction. For example, during insurance claim processing at Progressive, a phone representative takes the customer's call and informs an adjuster who is working in a mobile van, and is responsible for inspection of the damaged vehicle (Hammer & Champy, 1993).

Keen's definition accommodates those "soft" processes (e.g. management succession, acquisition), which often lack obvious inputs, outputs and flow patterns. Menne-Haritz (2004) noted the differences between decision making processes and production processes in that decision making processes (soft processes) lack a clearly defined final goal, as in the case of production process, and are continuously shaped and directed with each new contribution, and by consensus as to the appropriateness of each added input. Emphasizing the complexity of real world situations, Ould (1995) argues that business processes are best viewed as networks in which a number of roles collaborate and interact to achieve a business goal. Therefore, it is critical to broaden the very narrow process conceptualization and enable it to capture the dynamics of collaborating, managing change, designing, coordinating and organizing (Keen, 2004).

The looseness of the process definition might also reflect the diversity of real world business processes. Thomas Davenport, a thoughtful commentator on business processes, states that "Most companies, even very large and complex ones, can be broken down into 20 major processes" (Davenport, 1993). Many of these

top-level processes can be divided into sub-processes. For instance, product development encompasses project selection, research funding, engineering design and manufacturability evaluation, and market acceptance testing (Davenport, 1993; Keen, 1997). The Process Classification Framework (PCF), developed by the American Productivity and Quality Center (APQC), provides a high-level taxonomy that caters to the needs of both service and manufacturing organizations. As illustrated in Figure 2.2, the PCF encourages businesses to view their activities from a cross-industry process viewpoint instead of a narrow functional viewpoint. The PCF serves as a generic framework of business processes that can be applied to multiple industries and sectors - manufacturing and service, healthcare, government, education and others. The process classification framework contains 13 business processes applicable to almost any business. The first seven are operating processes that companies follow to develop and move products to the market. These processes include understanding markets and customers, designing products and services, and marketing. The last six processes are management and support processes that make it possible for the company to operate effectively. These processes include human resource management, information systems management, and finance and accounting.

Operating processes

1. Understand markets & customers
2. Develop vision & strategy
3. Design products & services
4. Market & sell
5. Produce & deliver products & services
6. Produce & deliver for service organizations
7. Invoice & service customers

Management processes

8. Develop & manage human resources
9. Manage information resources & technology
10. Manage financial & physical resources
11. Manage environmental, health & safety issues
12. Manage external relationships
13. Manage improvement & change

Figure 2.2 Process classification framework developed by the American Productivity and Quality Center

Understanding and classifying the different types of processes is important as business organizations are increasingly being viewed as a seamless web of interconnected processes (Davenport & Short, 1990a). Along three dimensions of entities, objects and activities, Davenport and Short (1990a) provide a comprehensive framework for understanding various business processes, as shown in Table 2.2. It is interesting to note that outsourcing typically turns an intra-enterprise process into an inter-enterprise process (along the dimension of entity). Along the dimension of objects, Porter and Millar (1985) maintain that each value chain activity has two components: an information-processing component and a physical component. Further, they suggest that IT enables businesses to reconfigure

25

their value chains by transforming these two components. The PCF in Figure 2.2 clearly groups business processes along the dimension of "activities."

Dimension	Process types	Typical Examples
Entities	interorganizaitonal	Order from a supplier
	interfunctional	Develop a new product
	interpersonal	Approve a bank loan
Objects	Physical	Manufacturing a product
	Informational	Create a proposal
Activities	operational	Fill an order
	managerial	Develop a budget

Table 2.2 Types of processes

Besides the noted heterogeneity (dependence, scope, structure definitiveness, object physicality) across business processes, a business process itself also has a temporal dimension. A process undergoes a well defined life cycle with distinct states and involves a variety of process stakeholders, as shown in Figure 2.3 (Khan, 2004). Even after actual deployment, valuable and insightful feedback on the efficacy and productivity of the process in operation, and on individual process participants can be captured, and process metrics can be generated and analyzed to optimize the process and/or reallocate resources for better performance in the subsequent new continuous process improvement cycle. Informative process metrics can not only be passively captured and generated on demand at the request of process owners, but a well designed and maintained process can also proactively produce certain alerts that are directed to responsive process owners when certain predetermined conditions are

met, like stalled and tardy incidents, maximal allowed incidents exceeded, agent overloading, etc. These process notifications can then be handled on exceptional bases, and provide intelligence for future process improvements. Thus, we can conclude that a business process itself is dynamic and subject to continuous improvements throughout its life. Outsourcing signifies the change of process ownership and the migration of supporting resources to external process operators. Not surprisingly, the latest IT enabled process improvement initiative succeeding BPR - Business Process Management (BPM) – specifically incorporated outsourcing as one of its tactical elements. In particular, Peter Keen (Keen, 2003) describes BPM as "a broad term for (1) designing and sourcing business process capabilities and (2) exploiting the opportunities of information technology to leverage processes whose efficiency and effectiveness significantly impact competitive, economic and organizational positioning."

Define Roles and Relationships
(by process owners)

Define Process
(by process owners)

Measure
(by business analysts)

Model & Optimize Process
(by business analysts)

Continuous
Process
Improvement Cycle

Develop
(by IT developers)

Use (by all process
participants)

Deploy
(by IT Adminstrators)

Integrate
(by Programmers)

Business Process Lifecycle and process stakeholders
(Adapted from Khan, 2004, pp. 127)
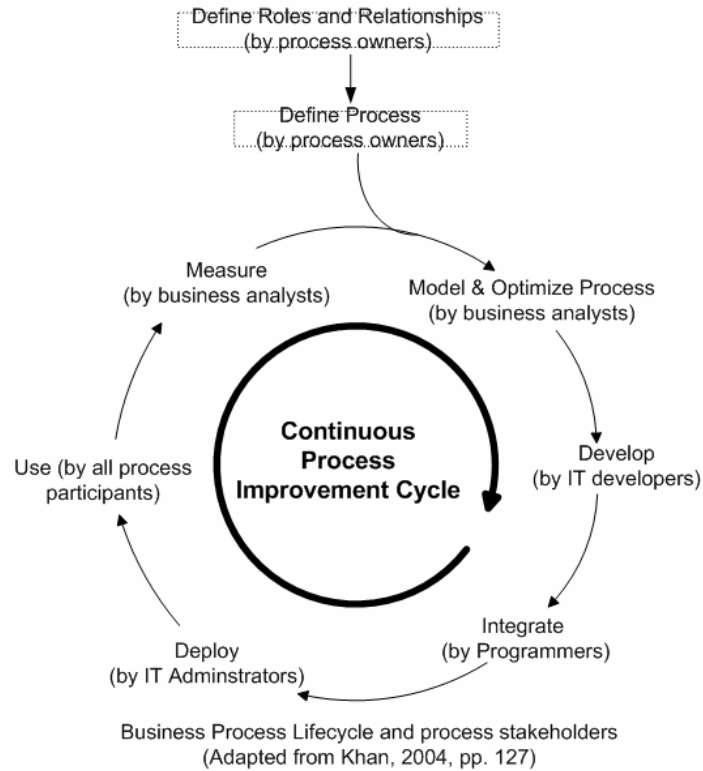
Figure 2.3 Business process lifecycle and process stakeholders

2.1.2. The Rise and Demise of Business Process Reengineering (BPR)

According to Gardner (2001), the performance of a business process is evaluated along three dimensions: 1) Effectiveness: the extent to which the outputs of a process meet or exceed the needs and expectations of its customers. Effectiveness rests primarily with customers, and is synonymous with quality. 2) Efficiency: the extent to which the consumption of internal resources is minimized. 3) Adaptability: the ability of a process to accommodate changing environment conditions.

From the start of the Industrial Revolution, the onus had been on automating and improving production efficiency by segmenting the whole process

into tasks and activities, which are further vertically rationalized. The difference between task and process, as put by Michael Hammer, is the difference between part and whole. A task is a unit of work usually performed by one agent. A process, on the contrary, is a related collection of tasks that jointly create value to a customer (Hammer, 1996). The traditional function enterprise, a product of the Industrial Revolution, had over time become too rigid and bureaucratic to cope with the fast changing business environment in the era of quality movement. As Klein (1993) put it, "the more mature an organization, the more likely it is that its organizational structure, job definitions, procedures, systems and practices are not congruent with its current strategies and business imperatives. Many of these elements date to periods when business conditions were stable, competition local, technology slow-changing and customers unsophisticated." Sharp and McDermott (2001) summarized the downsides of the hierarchical organization structure as the following:

1. The invisibility of the end-to-end process is due to its fragmentation and overemphasis on functions and specialties. The vertical communication channels, or "functional stovepipes", insulate business units and prevent them from sharing knowledge and coordinating.

2. Methods benefit the function or division to the detriment of the overall process. The divisional structure is based on the assumption that if the individual divisions are optimizing their task performance, then the performance of the whole enterprise is also optimized. Actually, divisional optimization is so localized and isolated that it often negates improvements done elsewhere or produces no value for the end customers. Further, the divisional structure gives rise to

compartmentalized narrow-mindedness and can cause politically charged inter-function hostility.

3. As a work item (e.g. customer order, price inquiry) goes through the fragmented process, the signoffs and handoffs between specialized individuals and groups cause delays and errors. For the function to handle processing efficiently, it is common practice to batch similar items together before entering into actual processing. Accompanying the reduced task times are the greatly lengthened lag time, which is estimated to be 2/3 of the total cycle time.

Touted as a direct negation of the principles of functional specialization and incremental improvement (Stoddard & Jarvenpaa, 1995), BPR (for definitions, see Table 2.3) emerges in an economic age where innovation, speed and quality are set to be the new set of arbiters of competitive advantage. By deemphasizing division of labor, BPR recasts the designs of conventional managerial logic into one horizontal structure featuring "complex jobs, simple processes." Organizations believed BPR will sharpen competitive edge, improve productivity, reduce cycle time, enrich job content, reduce hand-offs, and result in better customer satisfaction (Sia & Neo, 1997). Suffering from the rigidity of traditional centralized hierarchies, organizations undertook BPR initiatives to become more responsive to the ever changing business environment of the 1990s, which is characterized by a high level of consumerism and intensifying global competition (Grover, Fiedler, & Teng, 1999).

Definition	Author(s)
A methodical process that uses information technology to radically overhaul business process and thereby attain major business goals.	Alter (1990)
Business process redesign - The analysis and design of work flows and processes within and between organzations.	Davenport and Short (1990a)
Business process redesign involving the reconfiguration of the business using IT as a central level.	Venkatraman (1991)
The critical analysis and radical redesign of existing business processes to achieve breakthrough improvements in performance measures.	Teng, Grover, and Fiedler (1993)
The fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed.	Hammer and Champy (1993)
A complex, top-down driven and planned organizational change task aiming to achieve radical performance improvement in one or several cross-functional, inter- or intra-organizational business processes where IT is deployed to enable the new business process(es).	Barothy, Peterhans, and Bauknecht (1995)
Holistic BPR is a continuum of change initiatives with varying degrees of radicalness supported by IT means, at the heart of which is to deliver superior performance standards through establishing process sustainable capability.	Al-Mashari and Zairi (1999)

Table 2.3 Definitions of BPR (business process reengineering)

As a new approach to analyze organizational processes, BPR is also seen to have evolved from an attempt to explicate the mysterious IT productivity paradox - why huge investments in information technology in the 1980s yielded only marginal (1%) returns (Davenport & Short, 1990b; Benjamin & Levinson, 1993). BPR involves the envisioning of broad cross-functional business processes and other related aspects of the organization with the aid of an IT enabler and /or organizational enabler in order to obtain significant performance improvements (Sarker & Lee, 1998). In essence, it refers to the use of modern IT to radically redesign the business process. The idea is to develop systems built around teams, which are configured to mirror the processes that the business actually executes, rather than the functions which the process often cuts across (Grint, 1994).

In the early days, BPR prophets took an evangelical stance assuming that BPR is automatically good for an organization. Caron (1994), and Hammer and Champy (1993) argue that BPR "cannot be planned meticulously" and organized into precise steps, which can be prescribed as universally applicable in all situations. Instead, the BPR gospel (see the 7 principles of reengineering in Hammer 1990; and the 5 steps offered by Davenport and Short 1990) prescribed that BPR depends on imagination, creativity and "discontinuous thinking", and offered no explicit method for execution. Reflecting on the failure of BPR, Michael Hammer later commented that "A lot of companies fell in love with the term, didn't exactly know what is meant, did some damn thing or another, and when they were unhappy with the result, and they blamed it on re-engineering. Lots of people were using the term without knowing what it meant" (cited in Melymuka, 2002).

Despite the widely publicized success stories of BPR such as Ford and MBL, the reality of large scale BPR projects set in and the high failure rate (approximately 70% of BPR projects) started coming to the forefront (Bashein, Markus, & Riley, 1994). In *Process Edge: Creating Value Where It Counts*, Peter Keen describes the syndrome of the process paradox: companies that experienced a measurable decline while they were making dramatic improvements to their processes. For example, Rank Xerox was forced to reengineer their business processes when their market share plummeted from 90 to nine percent following the entry of Japanese competitors into their marketplace (Hammer & Champy, 1993).

Contributing to this paradox is the popular management literature, which relies more on rhetoric hype than on research, common sense and lessons from the past. Consequently, the popular management literature created more myth than

methodology regarding BPR (Davenport & Stoddard, 1994). Although the proliferation of research articles has been abundant, research findings have provided limited explanatory power concerning the underlying reasons behind BPR failures (Paper & Chang, 2005). We elaborate below on some major common BPR failure causes found in the literature, most of which are scattered around the original precepts of BPR:

#1 *Simplistic Definition and Narrow Scope*

An obstacle to BPR success and a possible source of BPR failure, often overlooked, is the narrow view resulting from the existing definition of BPR (Grant, 1998). BPR is defined as the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed (see more definitions in Table 2.3). Rooted in the mechanistic view of the business process (discussed in the prior section), this BPR definition ignores some important aspects of business organizations, such as organizational structure, people and communication, and failed to view process as loops of collaboration. Davenport, one of the pioneers of the reengineering movement, acknowledged that "the rock that reengineering has foundered on is simple: people … Reengineering treated the people inside companies as if they were just so many bits and bytes, interchangeable parts to be reengineered" (Davenport, 1995). One of the critical success factors mentioned by Hammer is "investing more than you think is necessary on training and change management—the human element" (cited in Melymuka, 2002).

By definition, BPR is about improving linkages between internal processes (McAdam & McCormack, 2001). The narrowly defined scope left the inter-enterprise

processes out of the reengineering picture in the 1990s. Champy (2002) conceded that the "inwardness" stopped first-generation BPR projects at the company gate. Although internal efficiency is an important objective of BPR, reconceptualizing the role of the key business processes of a firm within the larger embedding business network is of greater strategic importance (Short & Venkatraman, 1992). According to Hall et al. (1993), only BPR projects with sufficiently broad scope produced long lasting bottom-line results. With the latest technology revolution and global economic realignment, the past one-company innovation affairs are no longer sufficient to sustain competitiveness in today's business environment, where the entire value chains are now starting to act as formidable competing entities (Bendoly et al., 2004). "The advances of reengineering must be extended to include all stakeholders-not just a company's shareholders, but its managers, employees, customers, suppliers, and partners as well," said Champy (2002). The next hurdle in improving competitive position is supply chain reengineering, the goal of which is seeking global optimum, rather than previous localized BPR optimization (Stephens, Gustin, & Ayers, 1997; Swaminathan, Smith, & Sadeh, 1998).

#2 *Failure to Prioritize Targeted Processes based on Business Impact*

A good example of a BPR success is Ford's accounts payable process reengineering. After reengineering, Ford achieved a 75% reduction in head count and there were no discrepancies between the financial record and the physical record. Material control is simpler and financial information is more accurate (Hammer, 1990). Although operational efficiency was improved significantly, the reengineering project didn't change Ford's basic products or services to its customers (Kallio, Saarinen, Salo, Tinnila, & Vepsalainen, 1999). One of the inhibitors of BPR success

identified by Chan and Choi (1997) is management's picking a process which does not add great value to the situation after reengineering, or a non-bottleneck process which contributes trivially to the overall system throughput. Commenting on the intriguing paradox, Keen (1997) notes that "process movements point in the right direction, but they tend to focus on processes that – however dramatically they are improved, reengineered, transformed, downsized, or streamlined-do not substantially affect the capabilities that most influence a firm's strategic future."

#3 *Old Wine in a New Bottle*

BPR was founded on process thinking which attempts to overcome some the problems raised by the Tayloristic structural specialization. The development of BPR presents the works of Adam Smith, specialization, hierarchy, control and the division of labor as evil. Actually, process engineering can be traced back to Frederick Taylor, who first advocated the systematic study of work procedures (Taylor, 1911). A consistent theme enunciated in BPR literature is that serial processes, with their extreme divisions of labor, multiple delay points, and limited ownership are outdated and ought to be replaced by case-worker-based processes. The universal applicability of certain BPR principles has been seriously challenged in several studies (Buzacott, 1996; Powell, 2000). The options of process design (task consolidation vs. separation, and empowerment vs. decision centralization) are rather contingent on certain parameters, like customers' quality and time sensitivity (Seidmann & Sundararajan, 1997). When the way in which Taylorian process engineering and BPR are applied and the subsequent effects on people are compared, the shortcomings of both approaches are evident in that the human element is ignored in both cases (Blackburn, 1996). Grint (1994) suggests that "it is not such a radical departure from

what has gone before but merely a more persuasive rendering of the arguments for the process set against a backcloth of a need to promote increased business efficiency and cost cutting drives in the face of increased competition." Actually, many principles and process evaluation tools developed within the discipline of Operations Management can be used to compensate for BPR's lack of flow management and to elevate the BPR method to a higher professional rigor (Loch, 1998). After a three year study of BPR projects conducted by some U.S. electronics manufacturers, Majchrzak and Wang (1996), to their surprise, discovered that process-complete departments achieved no faster cycle times than functional departments.

#4 *The Leadership Role of Information Technology*

Both Hammer (1990) and Davenport and Short (1990a) emphasize the central leadership role of IT in BPR. Empirical BPR research, however, offers support for an alternative perspective on the role of IT in BPR -- enabler. Based on an analysis of data collected from 313 corporations, Grover *at al.* (1999) find that the extent of strategic integration of IS in the hosting organization is positively related to the initiation of BPR. After studying 219 reengineering projects, Teng et al. (1998) reveal that although IT competence might facilitate the decision to reengineer, it is not critical in the later stages of BPR. On the other hand, variables pertaining to innovative capacity and the strategy-IS interface show a strong relationship to the success of reengineering projects. They conclude that in order for IS function to contribute to BPR effort, IS professionals need to develop skills in analyzing the organization and interfacing with corporate strategy.

IT can be one of the biggest obstacles if not properly aligned with business objectives (Broadbent & Weill, 1999). Davenport and Stoddard (1994) point out that the most important ongoing IS role is to prevent itself from being an inhibitor or disabler to reengineering. Many early BPR projects are initiated before Internet technology became ubiquitous. IT developers do not have the technology at their disposal for building systems to support BPR initiatives. As such, two thirds of reengineering projects fail primarily due to problems with the computer system used to deploy the newly redesigned processes (James, 1996). In the early 1990s, the dominant system architecture is either a one-tiered mainframe system or a two-tiered client server system. BPR required massive modifications of the database implemented on the server and the code running on each client (Alles, Newman, & Noel, 1998b; a). The capability of IT required by BPR to realize processes' geographic independency (Davenport & Short, 1990b), for example, is impossible to fulfill before the advent of broadband Internet technology. Indeed, the absence of needed IT capabilities and skills often set BPR initiatives back (Stoddard & Jarvenpaa, 1995). As Fan et al. (2003) put it, "IT is both a strategic catalyst and an enabler of BPR, IT is usually a necessary but insufficient factor in achieving business process redesign" (p. 4). Even a pioneer of BPR, Michael Hammer, eventually admits that BPR should be managed as process engineering and not as software implementation (Melymuka, 2002). Summarizing the interaction between process and IT, Dev Mukherjee, vice president of e-business on demand strategy at IBM, notes "You can't do the process transformation unless you do the IT transformation. And you don't really get the full value out of the IT transformation unless you transform your business process alongside them" (cited in Baker, 2003). In his book

X-engineering the Corporation, Champy insists that "BPR never really went away. It went underground. Companies never stopped doing this work. Dell and Cisco have taken it to an extreme—superb BPR heavily enabled by the Internet. Companies need to think about processes not just within their walls but in relation to customers and suppliers. We can do that because of the ubiquity of the Internet. The next frontier for BPR lies in those cross-organizational processes" (Champy, 2002).

From definition to implementation, the main thrust of BPR criticism stresses its extremity and inadequate treatment of the behavioral aspect of process, contrasting its overemphasis on technology. Although BPR sow its own seeds of destruction from inception, it does raise visibility of business process and brewed fundamental process thinking for the emerging Business Process Management (BPM). BPM, absorbing the duly chastised BPR, promises a new management approach that is balanced, holistic, multifaceted and including both social and technical aspects of modern business processes. Because of its close association with BPO, we next look at the new emerging paradigm.

2.1.3 BPM – Rehabilitation of BPR

Nowadays, informal uses of the term BPM are not only common, but often imprecise and incompatible (McGovern, 2004). We present here a set of typical, albeit practice oriented, definitions found in the literature. IDC Analyst defines BPM as "the business transformation or evolution strategy that employs all the advances that have been made in using IT to enhance business efficiency, integrate processes, and manage and present information for greater performance." (cited in Fuhrman, 2005). Smith and Fingar (2003a) define BPM as "a synthesis of process representation and collaboration technologies that removes the obstacles blocking

the execution of management intentions." Khan (2004) defines BPM as "the discipline of modeling, automating, managing and optimizing a business process through its lifecycle to increase profitability." Synthesizing both the strategic and operational expressions, Peter Keen (Keen, 2003) offers a more general and encompassing version, and describes BPM as "a broad term for (1) designing and sourcing business process capabilities and (2) exploiting the opportunities of information technology to leverage processes whose efficiency and effectiveness significantly impact competitive, economic and organizational positioning." Clearly, BPR and BPM share a common recognition of the fact that each organization operates based on a set of definable processes, and on the potential for business people to find ways of improving processes upon defining them (Levi, 2003).

The evolution from BPR to BPM and BPO is illustrated in Table 2.4. While BPR raises the visibility of business process, the e-business boom in the late 1990s assures businesses the technical possibility of digitizing transaction-centric processes. Digitization is the process of converting information from analog format into a digital format, in which information is organized into discrete units of data (called bits and bytes) and can be processed by computers and devices with computing capacity. Business process digitization denotes the transition from conducting business activities in a traditional manner, to conducting them in a digital format (BarNir, Gallaugher, & Auger, 2003). A Business Process Management System (BPMS) is a sophisticated software system for the digitization and management of business processes. Whereas RDBMS (relational database management system) manages data, a BPMS manages executing digitized processes. With the digital representation for business processing via BPMS, processes become now formal

digital models of how information systems can be directly aligned to the objectives of business executives, rather than abstract levers of change, which previously existed only in the minds of reengineering consultants (Smith & Fingar, 2003a). On top of the IT led BPR ambition of digitizing objects manipulated by process, BPM set its target on the digitization of the dynamic business process and the realization of business agility. BPM, with the help of BPMS, essentially frees business processes from their concrete structure castings created by the pre-coded functional applications, and makes processes the central focus of management attention (Smith & Fingar, 2003b).

Time Period	Focus	Method
1970s	Quality	Total Quality Management, Zero Defects, Statistical Process Control
1980s	Lean Manufacturing	Just-In-Time, Zero Inventory, Kanban, Computer Integrated Manufacturing
Early 1990s	Process Improvement	Vendor Managed Inventory, System Outsourcing, Customer Satisfaction, Enterprise Resource Planning, Lean Thinking
Mid- to Late 1990s	Process Reengineering	Business Process Reengineering, Six Sigma
Late 1990s to 2002	Transaction-Centric—Digitization of Tasks and Simple Processes	E-Commerce, E-Business, Collaborative Commerce (B2B), Customer Relationship Management
2003 onward	Services-Centric—Digitization of Cross-Enterprise Processes	End-to-End Supply Chain Enablement, Business Process Outsourcing, Business Process Management

Table 2.4 Historical perspective: Changing process priorities
(Kalakota & Robinson, 2004)

Smith and Fingar (2003b) outline the major differences between BPR and BPM listed in Table 2.5. One signature distinction is the static vs. dynamic view of

business processes underpinning the two waves of process improvement. In a BPR project, "processes were manually reengineered and, through a one-time activity, cast in today's ... packaged, off-the-shelf systems" (Smith and Fingar, 2003: 18). In a BPM initiative, business processes are "made the central focus and basic building block of all automation and business systems" (Smith & Fingar, 2003b). As such, the main design goal of BPM solutions focuses on change, specifically on how to implement changes to *business* processes without requiring companies to have significant technology knowledge.

Factors Compared	BPR	BPM
Level of change	Radical	Total lifecycle
Interpretation of "As is" and "To be"	Old process, Brand new process– Discontinuity	No BPM capability, BPM capability
Starting point	Clean slate	New or existing processes
Frequency of change	one-time change	One-time, periodic, continuous or evolutionary
Time required	Long	Real time
Implementation	Disruptive, Big Bang Conversion	Incremental
Participation	Top-down	Top-down and bottom-up
Number of processes	One major process at a time	Simultaneous, across many processes
Typical scope	Broad, cross functional	Enterprise-wide process management
Horizon	Future	Past, present and future
Risk	High	Low
Primary enabler	Information technology	Process technology
Tools	None	Online
Involvement	Business generalists	Process engineers and all employees
Work	Process	Process and practice
Path to execution	Cultural, structural	Mathematical foundation and process tech. standards

Table 2.5 BPM versus BPR (Smith & Fingar, 2003b)

BPM is still relatively new and is clouded with much confusion about its intent and implementation (Cragg, 2005). Despite the great progress in the theory and practice of BPM in the past five years, deployments have so far been mostly tactical, and applications have been limited to improvements in specific business functions (Fingar, 2005). With maturing discipline and technology, the formal definition of BPM is also likely to evolve and crystallize in the future (McGovern, 2004). As businesses continue relentlessly seeking technological help on reconfiguring operational processes and improving flexibility through outsourcing, BPM and its technological artifact – BPMS -- offer to connect and improve

disjointed end-to-end processes (Kalakota & Robinson, 2004). Envisioning BPM's full potential at the value chain level, Khan (2004) predicts that the use of BPO be at the core of future BPM offerings. After reviewing ITO literature in the next section, we will illustrate the rationale behind the convergence of BPR (BPM) and ITO, and present research opportunities implied by the research in process management and outsourcing.

2-2 Outsourcing

The Dearborn factory built by Henry Ford early last century was a wonder of the new age of the Industrial Revolution. Handled inside this industrial complex on the banks of the Rouge River was every step of a 700-part Model T's production, from rolling steel to making springs and car bodies, and casting engine blocks and cylinder heads (Economist, 2004). This complete vertical model of value creation, however, slipped from vogue in the 1950s and 60s when industry began to adopt outsourcing to handle increasing product and process complexity (Welch & Nayak, 1992). Nowadays, only 37% of the production value, according to the 1998 WTO annual report, is actually created in the United States (Grossman & Helpman, 2005). As the product structure and value creation processes become more complex, the combinations of different ways of performing all the value chain activities grow exponentially, even if the number of ways of performing a single activity is small. As such, the practice of outsourcing divides up the chain complexity and allows each participant to focus on a subset and to explore the best ways the perform the activity (Quinn, 2000).

In a similar vein, computers are invented to mechanize information processing in the same way industrial robots are used to weld car bodies. The logic

underlying manufacturing subcontracting is found to be relevant for understanding the outsourcing of IT enabled services (Susarla, Barua, & Whinston, 2003; Ramachandran & Voleti, 2004). The spread of computers through service industries and corporate administrative functions added another layer of complexity – the task of managing the information systems themselves, and the management of the IT/IS function inside an enterprise (Economist, 2004). Again, the solution to deal with the growing complexity is to externalize some of the existing functions with specialized service providers. Interestingly, the term of outsourcing was formally legitimized by Kodak, which outsourced the bulk of its IT services to IBM in 1989 (Applegate & Montealegre, 1991). Outsourcing at one level may be seen as a rational response to competitive pressures resulting from a dramatic decrease in product life cycles, changes in international competition, and the global economic recession that marked the beginning of the 1990s (Hendry, 1995). Helper (1991) document the increased percentage of outsourced parts in the U.S. automobile industry. Abraham and Taylor (1996) demonstrate a similar trend of rising outsourcing of business services in thirteen U.S. industries. A crucial element of the recent improvement in IT has been a marked reduction in the cost of cross-border service links. IT-facilitated desegregation of services is increasing the economic incentive for globalized specialization (Harris, 2000). Nowadays, firms seem to be outsourcing an ever expanding list of activities, ranging from product design to assembly, from R&D to marketing, distribution and after-sale service (Grossman & Helpman, 2005). Now, outsourcing has taken on a different meaning and refers to the increasing "long-distance" purchase of services abroad, principally, but not necessarily via electronic media such as Internet (Bhagwati, Panagariya, & Srinivasan, 2004). In WTO

terminology, the arm-length transaction of services without the geographic proximity between consumer and producer is called Mode 1 services, which is implicated by the rising trend of BPO.

The body of literature on outsourcing has largely grown out of the MIS field. After briefly discussing the definitions of (IT) outsourcing, we will evaluate and synthesize research findings provided by major empirical ITO studies captured in Table 2.7.

2.2.1 Definitions of Information Technology Outsourcing (ITO)

Many definitions of ITO can be identified in the literature (some variants can be found in Table 2.6). In general, ITO is a phenomenon in which a client (outsourcer) delegates property and/or decision rights over IT assets to an external service provider (vendor) (Loh & Venkatraman, 1992). It is not a new phenomenon; the practice has existed for many years in forms ranging from facility management in the 1960s, to contract programming in the 1970s, and customization management of hardware, system and software application (Lee, Huynh, Kwok, & Pi, 2003). The definition of outsourcing used in studies of the subject is so broad that it refers to virtually any procurement of goods or services by an organization from outside firms (Gilley & Rasheed, 2000). Although not specific to the domain of IS, the term reflects the use of external agents to perform one or more organizational activities, and applies to everything from the use of contract programmers to third party facilities management (Dibbern, Goles, Hirschheim, & Jayatilaka, 2004). As mentioned earlier in the BPR(M) section, outsourcing in essence changes a process from an intra- to an inter-enterprise entity.

The significant contribution by external vendors in the physical and/or human resources associated with the entire or specific components of the IT infrastructure in the user organization.	Loh and Venkatramnan (1992)
The purchase of a good or service that was previously provided internally.	Lacity and Hirschheim (1993)
The contracting of various information systems' sub-functions by user firms to outside information systems vendors.	Chaudhury et al. (1995)
The organizational decision to turn over part or all of an origination's IS functions to external service provider(s) in order for an organization to be able to achieve its goals.	Cheon, Grover, and Teng (1995)
IS outsourcing is the commissioning of part or all the IS activities an organization needs, and/or transferring the associated human and other IS resources, to one or more external IS suppliers.	De Loof (1997)
Business practice in which a company contracts all or part of its information systems operations to one or more outside information service suppliers.	Hu et al. (1997)
The handing over to a third party management of IT/IS assets, resources, and /or activities for required results.	Willcocks and Kern (1998)
Fundamental decision to reject the internalization of an activity.	Gilley and Rasheed (2000)
The transferring certain value contributing activities, processes and/or services to the premises of one's own or an agent primarily to save costs and /or for the principal to increasingly focus on its areas of key competence.	Ramachandran and Voleti (2004)
Purchasing ongoing services from an outside company that a company currently provides, or that most companies normally provide, for themselves.	Linder (2004)

Table 2.6 Definitions of outsourcing and ITO

Most definitions in Table 2.6 reflect a common disintegration-based understanding, which emphasizes the delegation of a previously internally administered process to an external service provider. However, as outsourcing has evolved into a standard management practice, it does not necessarily entail the shift of process ownership. The notion of abstention based outsourcing refers to a firm's decision to acquire the service of a process, which has never been operated in house (Gilley & Rasheed, 2000). The line of demarcation between what is and what is not outsourcing is rather dynamic, and contingent on accepted practices at a certain time (Linder, 2004). A typical example of abstention based outsourcing is e-commerce and m-commerce operations. A company may have never hosted its e-commerce and m-commerce applications before. But when it contracts a professional service

provider to launch such an operation, the decision should be called outsourcing. This is due to the common sense in contemporary understanding that such online operations should be handled in house. Therefore, outsourcing is better conceptualized as a firm's rejection to internalize a process. The conceptualization of outsourcing is gradually expanding, from "buy" toward "not make." If we import the process lifecycle from BPR(M) into outsourcing conceptualization, we can simply interpret abstention based outsourcing as the outsourcing of a process during earlier stages (define, design, modeling). The true difference between disintegration and abstention based outsourcing is the maturity of the process being outsourced (pre- and post-internal deployment stage).

2.2.2 From Outsourcing Decision to Outsourcing Outcome -- Shifting Focus of Outsourcing Research

Gilley and Rasheed (2000) comment that empirical investigations of outsourcing have been limited in number. Most outsourcing studies are primarily theoretical in nature, and rely mostly on anecdotal evidence to support assertions. Our examination of literature seem to confirm their assertion about outsourcing research. A search of top business research journals from 1990 to 2004 yielded a total of 21 studies (listed in Table 2.7), which adopted large scale corporate data collection. The discussion of findings is drawn from these empirical studies:

Theories and constructs	Author(s) and Data	Main Hypothesis or Research questions	Findings
Business governance, business competence, and IT competence	Loh and Venkatraman (1992) Secondary data of 57 firms. Degree of outsourcing was measured by the IT outsourcing expenditure normalized by total asset.	The firm's cost structure will be positively related to the degree of IT outsourcing.	Supported
		The firm's business performance will be negatively related to the degree of outsourcing.	Not supported
		The firm's financial leverage will be positively related to the degree of outsourcing.	Not supported
		The firm's IT cost structure will be positively related to the degree of outsourcing	Supported
		The firm's IT performance will be negatively related to the degree of IT outsourcing	Supported (size and sector are not significant predictors)
Diffusion of innovation	Loh and Venkatraman (1992b) Secondary data of 60 ITO contracts	RQ1: what source of influence best characterizes the diffusion of IT outsourcing?	Internal influences dominate ITO diffusion
		RQ2 : what source of influence best characterizes the diffusion of IT outsourcing before and after the Kodak-IBM contract?	Internal influence dominates in the post-Kodak regime, but not before
RBV and RDT	Teng et al. (1995) Randomly selected industries. Respondents: 188 (of 1000) IS top executives	IS outsourcing decisions are positively related to the perceived discrepancy in the performance of IT resource in term of information quality and the high deprivation group will be more likely to outsource than the equilibrium group, in turn, will be more likely to outsource that the saturated group.	Supported
		IS outsourcing decisions are positively related to the perceived discrepancy in the performance of IT resource in term of IS support quality and the high deprivation group will be more likely to outsource than the equilibrium group, in turn, will be more likely to outsource that the saturated group.	Supported
		IS outsourcing decisions are positively related to the perceived discrepancy in the performance of IT resource in term of IS cost effectiveness and the high deprivation group will be more likely to outsource than the equilibrium group, in turn, will be more likely to outsource that the saturated group.	Not supported

Table 2.7 Major empirical outsourcing studies

Theories and constructs	Author(s) and Data	Main Hypothesis or Research questions	Findings
		IS outsourcing decisions are positively related to the perceived discrepancy in the performance of resource in term of financial performance and the high deprivation group will be more likely to outsource than the equilibrium group, in turn, will be more likely to outsource that the saturated group.	Not supported
		IS outsourcing decisions are related to a firm's particular strategy type: defender, prospector, analyzer, or reactor.	Not supported
		IS outsourcing decisions will differ across three different role of IT: traditional role, evolving role, or integral role.	Supported
Resource dependence and TCT	Grover et al. (1996) Randomly selected industries. Respondents: 188 (of 1000) IS top executives	The degree of outsourcing will be positively related to outsourcing success. 1) The degree of application development and maintenance outsourcing will be positively related to outsourcing success. 2) The degree of system operations outsourcing will be positively related to outsourcing success. 3) The degree of telecommunications management and maintenance outsourcing will be positively related to outsourcing success. 4) The degree of end user support outsourcing will be positively related to outsourcing success. 5) The degree of systems planning and management outsourcing will be positively related to outsourcing success.	Supported Not supported supported support Not supported Not supported
		The association between the degree of outsourcing and outsourcing success is moderated (stronger) by the level of service quality.	Supported
		The association between the degree of outsourcing and outsourcing success is mediated by the quality of partnership between the service provider and the firm.	Generally supported
Institutional Theory; TCT	Ang and Cummings (1997) Survey of 226 banks	The greater the external production cost advantage, the stronger the relationship between institutional influence and IS outsourcing.	Supported only for large banks and peer pressures

Table 2.7 Major empirical outsourcing studies (continued)

Theories and constructs	Author(s) and Data	Main Hypothesis or Research questions	Findings
		The lower the level of slack resources in a bank, the stronger the relationship between institutional influence and IS outsourcing. Conversely, the higher the level of slack resources in a bank, the weaker the relationship between institutional influence and IS outsourcing.	Supported only for peer pressures
		The greater the specificity of IS assets, the weaker the relationship between institutional influence and IS outsourcing.	Supported only for large banks and peer pressures
		The greater the functional complexity, the weaker the relationship between institutional influence and IS outsourcing.	Not supported
		The greater the technological uncertainty, the stronger the relationship between institutional influence and IS outsourcing.	Not supported
		The greater the supplier presence, the stronger the relationship between institutional influence and IS outsourcing.	supported
		Size of the firms will affect significantly the interaction of institutional influence and moderations of IS outsourcing.	mixed
Innovation diffusion	Hu, Saunders and Gebelt (1997) Secondary data of 175 ITO announcements	The decision to outsource IS is influenced by both internal and external sources. The mixed diffusion models should give the best results when used to describe the diffusion process of IS outsourcing.	Supported
		Diffusion models with a flexible inflection point should be at least as accurate as models with a fixed inflection point because there is no theoretical or empirical basis to support the assumption of a fixed inflection the diffusion of IS outsourcing	Not supported
		The internal influence model, i.e., direct personal communications among the members of a social system, dominates IS outsourcing diffusion in the pre-Kodak era, and the mixed influence model dominates IS outsourcing diffusion in the post-Kodak era.	Not supported
TCE, Theory of Production Economics	Ang and Straub (1998) Survey of 243 US bank CIO or high-ranking employees.	The higher the comparative production cost advantage offered through IT outsourcing, the greater is the degree of IT outsourcing.	Supported
		The less the transaction costs involved in hiring outsourcers, the greater is the degree of outsourcing.	Supported
		The less the financial slack, the greater the degree of outsourcing.	Not supported

Table 2.7 Major empirical outsourcing studies (continued)

Theories and constructs	Author(s) and Data	Main Hypothesis or Research questions	Findings
Selective outsourcing contracts.	Lacity and Willcocks (1998) 61 IT outsourcing decisions made by 19 US and 21 UK organizations between 1991 and 1995. Respondents: 145 (business executives, CIOs, outsourcing consultants, vendor account managers).	What are the practices that differentiate success from failure in IT outsourcing?	Selective outsourcing decisions achieved expected cost savings with a higher relative frequency than total outsourcing or insourcing decisions. Senior executives and IT managers who made decisions together achieved expected cost savings with a higher relative frequency than when either group acted alone. Organizations that invited internal and external bids achieved expected cost savings with a higher relative frequency than those that only compared external bids with current IT costs. Short-term, recently signed, and detailed fee-for-service contracts achieved expected cost savings with a higher relative frequency than longterm, older, other types of fee-forservice contracts.
Transaction cost economics, knowledge-based view, agency theory: Asset specificity, language, routines, technological change.	Poppo and Zenger (1998a) Data concerning the performance, governance, and exchange characteristics of internally and externally sourced information services.	Does increases in the specificity of an activity negatively affect the performance of governance through the market, positively affect the performance of governance through firm organization, or will they have similar effects on firm and market governance so that such increases are unrelated to the choice of boundary?	The decision to vertically integrate when information services are firm specific hinges on performance losses that arise or would arise from using market governance, rather than internal governance efficiency increasing with firm specific investments!

Table 2.7 Major empirical outsourcing studies (continued)

Theories and constructs	Author(s) and Data	Main Hypothesis or Research questions	Findings
	Respondents: The senior corporate information services manager or the manager controlling major data processing facilities in operating departments, divisions, or subsidiaries. List of key informants was obtained from Directory of Top Computer Executives. Survey mailed to 3,000 randomly picked names. 181 responses, 152 usable.	Does increased difficulty in measuring the performance of an activity negatively affect the performance of exchanges governed through the market, negatively affect the performance of exchanges governed through firm organization, or will it have similar effects on market and firm performance so that changes in measurement are unrelated to the choice of boundary?	Overall, the results provide strong support for TCE arguments: increasing asset specificity leads to the diminishing effectiveness of market governance.
		C: Does increased technological uncertainty negatively affect market performance or negatively affect firm performance.	The results fail to support KBV arguments. The reason is that when underlying technological change is rapid, routines, language, and other forms of knowledge become rigidities. In addition, the results clearly show that boundary choices do matter!
Transaction cost economics: Technology alliances, innovation, asset specificity, uncertainty, measurement	Robertson And Gatignon (1998) Mail survey of 1,320 randomly selected R&D directors over a broad spectrum of US industries. 264 questionnaires were returned.	The greater the specificity of existing assets, the more likely that the firm will develop technology internally rather than establish a technology alliance.	Supported
		The greater the demand uncertainty, the more likely that the firm will develop technology internally rather than establish a technology alliance.	Support, but not significant
		The greater the technological uncertainty, the more likely that the firm will establish a technology alliance rather than develop the technology internally.	Supported
		The greater the difficulty in measuring an innovation's performance, the more likely that the firm will develop technology internally rather than establish a technology alliance.	Supported
		The greater the firm's level of experience with successful alliances, the more likely that the firm will establish a technology alliance rather than develop the technology internally.	Supported

Table 2.7 Major empirical outsourcing studies (continued)

Theories and constructs	Author(s) and Data	Main Hypothesis or Research questions	Findings
Outsourcing motives	Smith et al. (1998) Keyword (contract, facilities management, outsourcing) search on Business Index and ABI Inform. 29 large-scale companies comprised the sample.	A: Firms that enter into large-scale IS outsourcing arrangements are more cost-conscious (have a greater need to reduce costs) than other firms in their industries.	Supported
		Firms enter into large-scale IS outsourcing arrangements as part of an organization-wide effort to focus on their core competency.	Not supported
		Firms that enter into large-scale IS outsourcing arrangements have a greater need to generate cash than other firms in their industries.	supported
		Firms that outsource IS have lower profitability than other firms in their industries.	No significant support
TCE	Fixler and Siegel (1999) 45 service and 450 manufacturing industries.	Manufacturing industries with high growth in wages should be most active in outsourcing because the attending profit (assumed to be a function of the wage differential) is likely to be quite high.	Supported
		There should be a positive correlation between manufacturing productivity and outsourcing (in industries with a higher labor share).	Supported
		There should be an observable increase in the output of service industries that experience the increased demand implied by the outsourcing hypotheses.	Supported
			Outsourcing has played a major role in the growth of the service sector and the productivity growth differential between manufacturing and services can only be assessed by acknowledging this fact.
Relational view: Partnership quality, outsourcing success.	Lee and Kim (1999) Initial interviews with seven IS professionals, then questionnaires to 36 organizations.	Participation, communication, information sharing, and top management support contribute positively to partnership quality.	Support for all four elements
		Joint action, coordination, and cultural similarity contribute positively to partnership quality.	No support for the three elements
		Age of relationship and mutual dependency contribute positively to partnership quality.	Contradicted for both elements
		There is a positive relationship between partnership quality and outsourcing success.	Supported!

Table 2.7 Major empirical outsourcing studies (continued)

Theories and constructs	Author(s) and Data	Main Hypothesis or Research questions	Findings
Transaction cost economics: Asset specificity, sunk costs, Psychological bias, anagerial decision making.	Roodhooft and Warlop (1999) 165 managers of Belgian hospitals. Half of test population was told that the decision followed in-house production (i.e. sunk costs) the other was told it concerned a new activity.	A: To what extent do sophisticated decision makers consider sunk costs and asset specificity while choosing between internal production and outsourcing of a component of the firm's value chain?	The anticipation of asset-specific investment and the presence of sunk costs reduced the likelihood of outsourcing.
Transaction cost economics: Asset specificity, frequency, uncertainty.	Wildener and Selto (1999) Studying factors influencing in or outsourcing internal auditing (IA). Quantitative and qualitative data from a random sample of 600 publicly traded firms with more than 500 employees (198 responses).	A: Firms internalize IA resources and attributes that require firm-specific investments (e.g. expertise, training, and knowledge) and support the firm's strategy. Conversely, firms outsource IA resources and attributes that are more generally applicable.	Strongly Supported
		Firms that experience high levels of environmental uncertainty will internalize IA. Conversely, firms that experience low levels of environmental uncertainty will outsource IA.	Not Supported
		C: Firms that experience high levels of behavioral uncertainty will internalize IA. Conversely, firms that experience low levels of behavioral uncertainty will outsource IA.	Not Supported
		Firms that use IA services frequently will internalize IA. Conversely, firms that use IA services infrequently will outsource IA.	Supported
			Interaction Between environmental and behavioral uncertainty and asset specificity to affect performance was not found.
Resource-based view:	Gilley and Rasheed (2000)	Peripheral outsourcing intensity has a positive effect on firm performance and core outsourcing intensity has a negative effect on firm performance.	Not supported

Table 2.7 Major empirical outsourcing studies (continued)

Theories and constructs	Author(s) and Data	Main Hypothesis or Research questions	Findings
Core competence, valuable, rare, inimitable, nonsubstitutable resources.	94 independent, non-diversified manufacturing firms with more than 50 employees.	A firm's business level strategy moderates the relationship between outsourcing intensity and performance, such that for a cost leader, any positive effect of outsourcing on performance is strengthened and any negative effect is weakened; and for a differentiator, any positive effect is weakened and any negative effect is strengthened.	Partial support (findings for cost leader support, finding for innovative differentiators is opposite of hypothesis)
	Respondents: Top executive plus one executive selected by the top executive.	Environmental dynamism moderates the relationship between outsourcing intensity and performance such that any positive effect of outsourcing on firm performance is strengthened and any negative effect of outsourcing on performance is weakened as dynamism increases.	Not supported, opposite finding
Relational view: Knowledge-sharing partnership quality, outsourcing success.	Lee (2001) 195 Korean public sector organizations. Respondents: IS managers.	The degree of implicit and explicit knowledge sharing will have a positive effect on outsourcing success.:	Supported
		The association between the degree of implicit and explicit knowledge sharing and outsourcing success is moderated by the level of organizational capability.	Supported
		The association between the degree of implicit and explicit knowledge sharing and outsourcing success is mediated by the quality of the partnership.	Supported
Transaction cost economics: Discriminating alignment, contractual hazards, performance of alternative modes of governance	Leiblein et al. (2003) Report of 176 global integrated circuit manufactures. 714 decisions involving production of semiconductor devices.	Do unobserved attributes underlying firms' vertical integration decisions influence the governance–technological performance relationship?	Governance decisions per se do not significantly influence technological performance.
		Does the fit between firms' vertical governance decisions and relevant transactional attributes highlighted by TCE influence technological performance?	Deviation from the optimal Discriminating alignment may have a detrimental effect on performance.

Table 2.7 Major empirical outsourcing studies (continued)

Theories and constructs	Author(s) and Data	Main Hypothesis or Research questions	Findings
Relational view and transaction cost economics	Poppo and Zenger (2002) Data from IS executives either the senior corporate information services manager or the manager controlling major data-processing facilities in operating departments, divisions, or subsidiaries. List of key informants was obtained from Directory of Top Computer Executives. Survey mailed to 3,000 randomly picked names. 181 responses, 152 usable. Subsequent telephone survey led to a core sample for data of 285.	Increases in exchange hazards encourage more complex contracts.	Supported
		Increases in exchange hazards will lead to more relational governance.	Weak support
		Contractual complexity and relational governance will function as substitutes in explaining exchange performance.	Not supported
		Contractual complexity and relational governance will function as complements in explaining exchange performance.	Supported
Transaction cost economics, resource based view, and an options perspective:	Steensma and Corley (2002) 280 questionnaires of which 123 were usable.	A: There is a positive relationship between the perceived threat of opportunism and the probability that a firm will source technology through acquisition as opposed to licensing.

There is a negative relationship between the perceived threat of commercial failure and the probability that a firm will source technology through acquisition as opposed to licensing. | Transaction cost rational, based on the threat of opportunism, better explains firm boundaries when management stockholdings are low than when they are high. |

Table 2.7 Major empirical outsourcing studies (continued)

Theories and constructs	Author(s) and Data	Main Hypothesis or Research questions	Findings
Testing not which theory is correct, but when each theory applies.	Respondents: Two executives: usually CEO/president and director of R&D/ technology.	C: There is a positive relationship between the perceived opportunity for sustainable advantage and the probability that a firm will source technology with an acquisition as opposed to licensing. D: Low management stockholdings will make the positive relationship in proposition A and the negative relationship in proposition B stronger, whereas high management stockholdings will make the positive relationship in proposition C stronger. E: Risk averseness makes the positive relationship in proposition A and the negative relationship in proposition B stronger, whereas risk-seeking behavior will make the positive relationship in proposition C stronger.	Transaction cost rational, based on the threat of opportunism, better explains firm boundaries when slack resources are high than when they are low Resource-based rationale, based on the opportunity to develop sustainable Competitive advantage, plays a larger role in explaining firm boundaries when a firm has lower levels of recoverable slack and a risk seeking orientation than when a firm has higher slack and risk averseness.
Universalistic, contingency, and configurational perspectives of ITO strategy	Lee et al. (2004) Survey of 311 South Korean firms	Selective outsourcing will be more successful than minimal outsourcing.	Not Supported
		detailed fee-for-service controls will be more successful that buy-in structures or partnerships	Not Supported
		Short term outsourcing relationships will be more successful than medium- or long-term relationships.	Reversed.
		Industry type will moderate the effects of IT outsourcing strategy dimensions on outsourcing success	Partially supported.
		Organization size will moderate the effects of IT outsourcing strategy dimensions on outsourcing success.	Not Supported
		The size of IT function will moderate the effects of IT outsourcing strategy dimensions on outsourcing success.	Partially supported.
		Gestalts (i.e. feasible sets of internally consistent configurations) will outperform nongestalts (i.e. incongruent configurations) in regard to outsourcing success.	Supported
		Independent gestalts will outperform other gestalts in regard to strategic competence.	Not supported
		Arm's length gestalt will outperform other gestalts in regard to cost efficiency.	Supported
		Embedded gestalts will outperform other gestalts in regard to technology catalysis.	Supported

Table 2.7 Major empirical outsourcing studies (continued)

Originally, research on ITO focuses on the sourcing decision itself and tried to identify motivators and inhibitors for outsourcing (Levina & Ross, 2003). As ITO gradually improve its acceptability as a mainstream business practice, researchers have refocused efforts on the explanations of variations in ITO outcomes. This shift of research focus points is best observed in the selection of the dependent variable (DV) in our reviewed ITO empirical studies in Table 2.7. Out of the 21 major ITO studies involving hypothesis testing with corporate data, 11 studies, mostly conducted prior to 1999, use outsourcing decision or degree of outsourcing as the main dependent variable. Appearing largely after 1998 (with the exception of Grover et al., 1996), the remaining 10 studies adopt outsourcing success or performance as the main dependent variable. We next organize and synthesize research findings around the two major dependent variables.

Among the many factors impacting the decision to outsource and / or the degree of outsourcing, the leading reason behind outsourcing is the need to reduce and control IT operating costs (Levina & Ross, 2003). In Loh and Venkatraman (1992), the construct of production cost advantage, specific to the domain of theory of production economics, was operationalized as a firm's cost structure and IT cost structure. Ang and Straub (1998), on the other hand, measure it using managers' subjective assessments of the comparative cost advantage offered by a vendor's solution. Regardless of the nature of measurement, the positive relationship between production cost advantage and the decision and degree of outsourcing has received unanimous empirical support with high statistical significance. In studying pre-event (entering into ITO deal) firm characteristics, Smith et al. (1998) confirm that firms engaged in ITO deals exhibit higher cost-consciousness than their industry peers.

Adding to the documented strong support offered by ITO research, 97% of the respondents to an recent ORI (Offshoring Research Initiative) survey cite cost reduction as the main driver for committing offshore outsourcing (Lewin & Peeters, 2006). Applegate et al. (1996) note how an ITO can bring an entirely different set of dynamics to a firm's view of IT expenses by the conversion of fixed cost into variable expenses.

Despite the parsimonious explanation offered by production economics, outsourcing researchers adopt TCE as the major theoretical lens to examine the outsourcing phenomenon, and treat outsourcing as a vertical firm boundary option. The negative relationship between transaction costs and the degree of outsourcing is generally supported (Ang & Straub, 1998; Roodhooft & Warlop, 1999; Wildener & Selto, 1999; Hancox & Hackney, 2000). The derived relationships between the set of antecedents of transaction cost and the degree of outsourcing, however, received mixed support from empirical investigations. Asset specificity, particularly in human forms (e.g. tacit knowledge), is found in most studies to have a negative impact on the degree of outsourcing (Ang & Cummings, 1997; Poppo & Zenger, 1998b; Roodhooft & Warlop, 1999; Wildener & Selto, 1999). Another major TCE construct - uncertainty, be it environmental or behavioral, is not found to have the suggested negative impact on the outsourcing decision (Ang & Cummings, 1997; Poppo & Zenger, 1998b; Wildener & Selto, 1999). When TCE and TPE are applied in the same study (Ang & Straub, 1998), production cost advantage demonstrates a dominant causal effect on the degree of outsourcing over transaction cost disadvantage. Frustrated with the limited usefulness of TCT in "understanding and

explaining IT sourcing phenomena," Lacity and Willcocks (2000b) openly call for the application of alternative theories to further ITO research.

Other theories brought to bear on the ITO investigation include institutional theory (Ang & Cummings, 1997), Resource Dependence Theory (Teng et al., 1995), and the diffusion of innovation (Loh & Venkatraman, 1992b; Hu et al., 1997). Viewing ITO as a way to gain access to critical resources possessed by external owners, Teng et al. (1995) posit and confirm that ITO decision is positively related to the perceived resource gap between the internal IT group and external vendors. Institutional factors, representing regulatory forces and peer competitive pressures from an organization's environment, are found to drive the adoption of outsourcing either as an action of conformance or just an imitative behavior (Loh & Venkatraman, 1992; Hu et al., 1997; Ang & Straub, 1998; Smith et al., 1998). In light of the strong explanation power of neoclassical economics and the current mainstream status gained by outsourcing, we feel that further research on outsourcing motivation might not be as relevant and valuable as research efforts dedicated to the explanation of outsourcing performance. Next, we review recent ITO studies with outsourcing performance as the dependent variable.

The major thrust of the literature on ITO performance hinges on various aspects of the client-vendor relationship management (Levina & Ross, 2003). From reported research findings, we are informed that both relational and contractual aspects of the client-vendor relationship are of equal importance, and need to be developed to ensure satisfactory performance of any ITO deal (Willcocks & Kern, 1998; Willcocks & Lacity, 2000; Poppo & Zenger, 2002). In early research work on outsourcing relationship and outsourcing success (Grover et al., 1996), partnership is

conceived as a mediator between the degree of outsourcing and outsourcing success. Later, Lee and Kim (1999) posit a direct link between partnership quality and outsourcing success. Both hypothesized roles of partnership have been corroborated with empirical testing. Focusing on one specific aspect of relational governance, Lee (2001) suggest that the degree of implicit and explicit knowledge sharing in the client-vendor dyad contributes significantly to the success of outsourcing arrangements. Short-term, detailed fee-for-service contracts, representative of a formal contractual governance mechanism, are also found to have achieved expected cost savings in a survey of IS practitioners conduced in both the U.S. and U.K. (Lacity & Willcocks, 1998). In a more recent study by Lee et al. (2004), the originally proposed performance superiority of fee-for-service controls over buy-in structures and partnership is not supported by the data collected from 311 South Korean firms. In a unique study designed to explore the relationship between the two governance mechanisms, Poppo and Zenger (2002) suggest that contractual complexity and relational governance function as complements rather than substitutes in explaining exchange performance. In general, the observed paucity of research on outsourcing relationship governance has impeded the understanding of outsourcing success.

The ultimate dependent variable of outsourcing research is outsourcing success, which has mostly operationalized as a perceptual measure. Grover et al. (1996) use the degree of achieving strategic economic and technological benefits of outsourcing as the measure of outsourcing success. Their three dimension operationalization is also adopted in the study by Lee et al. (2004). Lee and Kim (1999) supplement this measure with items pertinent to user's satisfaction. Through factor analysis, Gilley and Rasheed (2000) reveal a three factor structure of subjective

firm performance: financial performance (3 items of ROA, ROS and overall performance), innovation performance (3 items of R&D outlays, process innovation and product innovation), and stakeholder welfare (4 items of employment growth/stability, employee morale, customer relationships and supplier relationships). Drawing on the strategic management literature dealing with alliance and partnership, Poppo and Zenger (1998a; 2002) develop a three item scale to capture respondent's satisfaction with exchange performance regarding cost, quality and responsiveness. Besides the subjective and perceptual nature of all these measures, none of them incorporates the most vital element of the institutional environment – shareholders, who grant the firm the needed financial resources. A rare exception to this dominance of perceptual outcome measures is the study by Hayes et al. (2000). However, they use stock abnormal return as DV to investigate possible size and industry effect, without attending to process or event level explanatory factors.

2-3 BPR + ITO $\Rightarrow$ BPO

BPR and ITO were officially ushered into the corporate management field by some high profile events in early 1990s, an era that was marred by the frustrating productivity paradox. The emergence of BPO marks a notable merging point between the parallel evolution paths followed by the two high profile management practices. While BPR, as an intra-firm endeavor, rarely considers replacing internal process owners with external providers, outsourcing, as an inter-firm undertaking, has been trapped in the functional "silo" and utilized as a vertical rationalization tool. Drawing on two bodies of research work related to BPR(M) and ITO, we show how

the **complementary relationship** between the two practices benefit our research and identify several research opportunities.

First, evident from the classification scheme in Gartner's BPO market model, practitioners have taken a process oriented approach. To conduct BPO research, we likewise need a process based perspective which outsourcing research, ITO in particular, apparently lacks. The dominant functional thinking in outsourcing research is manifested in the IT service stack model in Figure 2.4, which vertically stacks up layers of IT services provided by an IT department within a firm. From the stack model, it is difficult to contextualize these contained processes to a corporate setting and link them to their contribution to overall firm performance BPR. To overcome this limitation, we need to "reengineer" outsourcing research in the same way BPR was intended to reengineer a typical firm. As the initial step, we can make use of the process formworks in BPR(M) to horizontally rearrange those vertically stacked processes and prepare for a potential paradigm shift in outsourcing thinking.
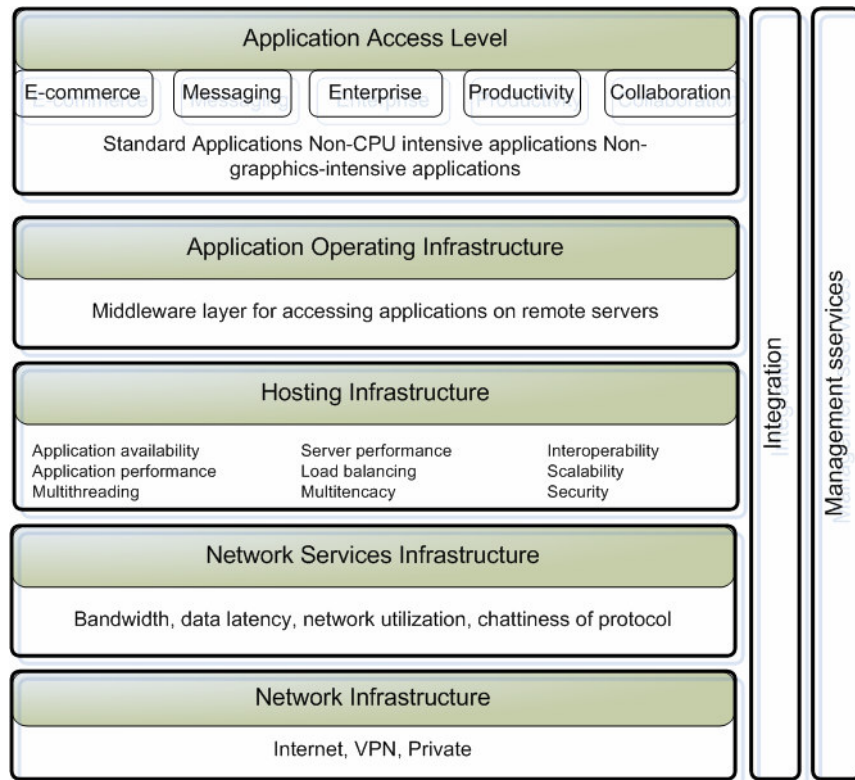
Figure 2.4 IT service stack model
(Kern, Lacity, & Willcocks, 2002)

Second, although some outsourcing researchers acknowledge the existence of abstention based outsourcing (Gilley & Rasheed, 2000), they have not purposefully sought to integrate it into the exiting research on the more popular disintegration based outsourcing. From the standpoint of process lifecycle, abstention based outsourcing can be simply interpreted as delegation of process ownership in the early phases of the focal process before actual in house deployment. Traditional disintegration based outsourcing, on the other hand, is just the transfer of ownership after in house deployment, operation, and possible rounds of continuous improvement. In the latest discussions of strategic outsourcing, Linder (2004) demonstrated how startup firms, such as TiVo, relied on outsourcing of certain

critical value chain activities (manufacturing) to launch new products and ramp up capacity to meet increasing customer demand. Thus, we speculate that the adoption of process maturity (life stages) might expand outsourcing research into outsourcing engaged by entrepreneurs and / or start-up companies, who take outsourcing as a viable strategic option in the design of their value chains. By adopting the process life cycle in BPM, we can potentially not only expand the definition of outsourcing to accommodate abstention based outsourcing, but also contribute to the study of outsourcing a new research question of "when to outsource."

Third, we are deeply troubled by the limitation of TCE in "understanding and explaining IT sourcing phenomena" (Lacity & Willcocks, 2000). In answering the questions of "why to outsource," ITO researchers have confirmed that the leading factor affecting outsourcing decision is product cost advantage. In explaining ITO decision outcome, production cost advantage exhibits overwhelming dominance over transaction cost related factors (Ang & Straub, 1998). Clearly, there is a need to deliberate over the applicability of TCE in outsourcing research and what alternative theoretical perspectives should be brought in. While the outsourcing decision is affected by both productive capability and governance capability related factors, TCE centers primarily on the governance (control, firm boundary) side. However, we do observe a paucity of existing research on outsourcing relationship governance. Without much empirical evidence for its governance role, it is premature to terminate such a "single most influential theory found in the social sciences" (Carroll & Teece, 1999) in outsourcing research. On the other hand, researchers have already recommended that the resource-based view and institutional theory be applied to the decision making process of outsourcing (Cooke, Shen, & McBride,

2005). As the academic and practitioner literature continues to emphasize the existence of many critical capabilities outside firm boundaries (Burdon & Bhalla, 2005), we believe that it is beneficial to explore some of these alternative theories (RBV and Institutional Theory) to complement TCE.

Finally, the adoption of outsourcing performance as the principal DV is likely to extend BPO research. As noted in previous section, current measures of outsourcing outcome are predominantly at the firm level, and subjective assessments offered by internal members of the outsourcing firm. Objective measures offered by external stakeholders at the process level are preferred if we are to improve our understanding of performance variability across processes. Only with a thorough understanding of determinants of outsourcing performance at the process level can practitioners properly differentiate and attend to each individual process when faced with sourcing decisions on a portfolio of business processes.

In the next chapter, we will endeavor to answer these research calls by developing the research model at the process level.

CHAPTER THREE
THEORIES AND RESEARCH MODEL DEVELOPMENT

Outsourcing isn't what it used to be. Starting out as an alternative way of conducting non-core functions, BPO has evolved into one of the most significant management trends in the global economy today, and is now featured on the strategic agenda of most businesses (Ernst&Young, 2004). Outsourcing has gone beyond offloading commodity processes and is now increasingly reaching into the more sensible and visible supply chain processes (Leiblein, Reuer, & Dalsace, 2002). As such, the arrangement nowadays requires a much more comprehensive and collaborative level of relationship management, and resembles business partnership (Ernst&Young, 2004; Karabinos, 2004). In past research, outsourcing has been viewed and treated as a facilitator of vertical rationalization. In this study, however, we subscribe to a process based view, and conceptualize BPO as a facilitator of global specialization.

In general, the practical definition of BPO fails to include the newly recognized abstention based outsourcing. To overcome this deficiency, we elect to define BPO as the decision to externalize one or more specific business processes together with the IT that supports them. With this new definition, we intend to change the definition of BPO, from a managerial action of transferring ownership, to a managerial decision to reject internalization. This updated definition expands the current conceptualization of outsourcing from the narrow "buy" option to a broad set of "not make" options.

As Gartner's BPO market model implies, BPO research requires a process based perspective. To enact a process based evaluation of BPO, we need a process framework that allows us to position business processes horizontally in a cross-functional manner. Another purpose of this framework is to establish direct links between a process and its value adding potential and contribution to competitive advantage. Porter's value chain (VC) framework is purported to disaggregate a firm into a set of discrete but strategically related activities. It also allows businesses to systematically examine the sources of competitive advantage. Therefore, it suits our research needs and can serve as a vehicle which takes outsourcing research to a new direction (from vertical to horizontal). Our research attention to this end will be focused on a process's value chain position as a predictor of business impact.

Another process property we include in our investigation is process maturity. The concept of process lifecycle in the BPM literature informed us about this temporal dimension of business processes. It feeds into our conceptualization of abstention based outsourcing, and refers to the important research question of "when to outsource." A process can be outsourced at any stage throughout its life. Disintegration based outsourcing takes place after the focal process was implemented internally. Abstention based outsourcing occurs before actual implementation and doesn't necessitate shift of control. The latter implies a way that a firm intentionally reaches into external resources, rather than cultivate them internally. In light of the latest discussion of strategic outsourcing engaged by startups during their value chain design, we seek to place on the agenda of outsourcing research the new topic of outsourcing timing.

The only managerial mechanism we incorporate in our study is relational governance. Poppo and Zenger (2002) discover that contractual arrangement and relational governance function as complements rather than substitutes in explaining exchange performance. This interests us in that the degree of relational governance could vary depending on certain attributes of the focal exchange. TCE is designed to align transactions and governance according to levels of asset specificity, uncertainty and transaction frequency. To align managerial mechanism with process characteristics, we resort to TCE's central "discriminant alignment" logic, and propose a contingent approach that matches different processes with different governance structures.

The apparent lack of process level measures forces us to use firm level performance differential as the outcome variable in our study. We choose stock abnormal return in response to a BPO announcement as the main dependent variable. It represents stockholders' approval (or disapproval) of a firm's BPO decision. It is superior to the majority of perceptual measures because it represents assessment by an efficient and rational third party (capital markets) rather than the managers from inside.

It is clear from the above discussion that our adoption of business process as the unit of analysis allows the convergence of business value assessment, outsourcing timing, outsourcing outcome, and managerial intervention on a single target of interest. In the space below, we will first lay down the theoretical groundwork, and then proceed to elaborate on the research model and the hypotheses built in the model.

3-1 Theoretical Perspectives

In this section, we discuss an array of economics and strategic management theories, in which our BPO research is grounded.

3.1.1 MM Theory – the Free Cash Flow Approach to Equity Evaluation

The dependent variable in this study is the change of shareholder wealth caused by a firm's decision to outsource. Compared to the dominant subjective measures of outsourcing outcome in the literature, stock market reaction to a BPO announcement allows us to focus on the level of the individual outsourcing deal, and assess the objective economic impact of the decision. Among many equity valuation models, we subscribe to the free cash flow approach in explaining stock price change caused by the BPO decision related to a specific process. According to the famous MM (Modigliani & Miller, 1958) theory, the intrinsic value of the equity in a firm is the present value (PV) of the stream of net cash flows (NCF) to shareholders that can be produced by the firm's existing assets, plus future investments (Bodie, Kane, & Marcus, 1996). Relevant to BPO decisions, the abnormal return incurred by a specific BPO announcement is jointly determined by the magnitude of the perceived changes in future profit stream and the duration of such changes in the stream of net cash flows. The greater the positive cash flow increments and the longer the sustained duration is, the higher positive abnormal return will be. Although stock price is a firm level financial measure, the change of stock price in reaction to the specific BPO announcement is a measure of business value change at the process level. In other words, the process level dependent variable is the differential of firm level financial measure relative to the occurrence of an individual BPO announcement.

3.1.2 Theory of Production Economics (TPE)

In neoclassical economics, a business is treated as a production function with profit maximization as the sole objective (Williamson, 1981). The theory of production posits that the production function describes the technology available to the producer, and dictates the maximal outputs, into which the process can transform fixed quantities of various input factors (Hitt & Brynjolfsson, 1996). As an implied attribute of this production function, marginal productivity, governed by the law of diminished returns, sets the price of input factors equal to their respective marginal products (MP: the change in output that results from a small change in an input factor holding the levels of all other inputs constant). In the situation of perfect competition, a (Paretian) producer can only take prices from both output and factor markets. To attain a profit, a producer simply has to alter its existing production function to achieve higher technical efficiency. To attain a profit, a producer simply has to alter its existing production function to achieve higher technical efficiency. Therefore, from the standpoint of TPE, a BPO decision is simply the result of a comparative efficiency assessment of the internal production function and those of the external providers.

3.1.3 Transaction Cost Theory

"transactions, which differ in their attributes, are aligned with governance structures, which differ in their costs and competence, in a discriminating-mainly, transaction cost economizing way" (Williamson, 1995)

Although neoclassical theory of production has largely ignored the internal workings of the firm by treating it as a production function, transaction cost economics (TCE) traces the existence of firms and the structure of the firm to the

efficiency of organizing transactions (Hart, 1989). Residing on the interplay between bounded rationality and opportunism, transaction cost theory centers on "transactions and the costs that attend completing transactions by one institutional mode rather than another" (Williamson, 1975). Bounded rationality refers to the fact that people have limited memories and cognitive power. No matter how knowledgeable they might be, decision makers can not consider all the possible alternative courses of action and foresee all possible eventualities. Opportunism is defined by Williamson (1985) as "self-interest seeking with guile." It includes such behaviors as lying and cheating, as well as more subtle forms of deceit, such as violating contractual agreements. The fundamental "discriminating alignment" hypothesis of TCE, as laid out by Williamson (1995), states that transactions should be governed in such a way as to minimize the costs incurred in carrying them out – transaction costs. Transactions costs, described by Williamson (1996), as the '(comparative) costs of maladaptation', include both direct costs of managing relationships and the possible opportunity costs of making inferior governance decisions. Two principal attributes of transactions, as antecedents of transaction costs, are asset specificity and uncertainty. Asset specificity refers to the degree to which the assets supporting a transaction can be redeployed to "alternative uses by alternative users without sacrifice of productive value" (Williamson, 1991). Uncertainty refers to "parametric changes" in exogenous forces (environment) compounded by behavioral unpredictability of transacting parties stemming from limited cognitive competence and opportunistic motives (Auster, 1994).

The core tenets of TCE can then be stated by specifying the relationships between its key constructs: asset specificity, uncertainty, transaction costs and

governance mechanisms. As asset specificity increases, the transaction costs associated with market governance increase, and hybrids and hierarchies become preferred modes of governance over markets. When asset specificity is present to a nontrivial degree, uncertainty raises the transaction costs associated with market governance, which render hybrids and hierarchies preferable to markets. Governance modes aligned with transaction characteristics should exhibit performance advantages over other misaligned modes. In other words, when both asset specificity and uncertainty are high, hierarchies and hybrids should display better performance over markets.

Outsourcing, traditionally viewed as vertical disintegration, attended by a high-powered pay-for-performance incentive, typically represents a shift in the locus of governance of the focal process and has been traditionally regarded as the migration from internal bureaucratic control to market regulations. TCE had its earliest and most common applications focused on vertical boundary (integration) decisions (Rindfleisch & Heide, 1997). In its original framework, TCE poses the governance problem as a dichotomous choice between market exchange and hierarchical bureaucracy. Acknowledging the existence of hybrid governance forms -- alliances and networks, TCE has some important implications for outsourcing research beyond the rigid polarity of market vs. hierarchy. Because outsourcing used to be viewed as a market based transaction, the governance of such transactional relationships has relied heavily on contractual arrangements. However, early efforts to govern outsourcing through more complete and detailed contracts do not lead to satisfactory results (Lee & Kim, 2005). As outsourcing is increasingly used in business processes of significant strategic importance, relational governance,

corresponding the hybrid governance forms, is emerging as complements to contractual arrangements. In particular, relational arrangements, in forms of partnership and alliance, are emerging as alternative structures to the more popular transactional contracts manifesting the arm's length market governance (Kakabadse & Kakabadse, 2002).

We expect TCE's central "discriminant alignment" logic to operate in a firm's choice of outsourcing relationship arrangements relative to process characteristics. Specifically, we argue that the degree of relational governance should be tailored to match a process' value chain position and maturity level. Further, we predict that BPO arrangements with optimal alignment between process properties and governance should exhibit performance improvements over those misaligned arrangements.

3.1.4 Porter's Value Chain Framework

To systematically examine the sources of competitive advantage, Porter (1985) introduced and popularized the concept of value chain (VC), which disaggregates a firm into a set of many discrete but strategically related activities. A firm's VC is inevitably embedded in a more broad business ecosystem, or value grid (Iansiti & Levien, 2004) - a larger stream of activities termed by Porter as a value system. The VC is a framework that helps to analyze specific activities through which firms can create value and competitive advantage. Porter (1986) divides value activities into primary and support activities. Primary activities are those involved in the physical creation, delivery, sale of the product, or service, as well as after the sale assistance. Primary activities are further clustered into upstream and downstream activities. Support activities support the primary activities and each other by

providing needed resources. Porter's value chain framework is illustrated in Figure 3.1.
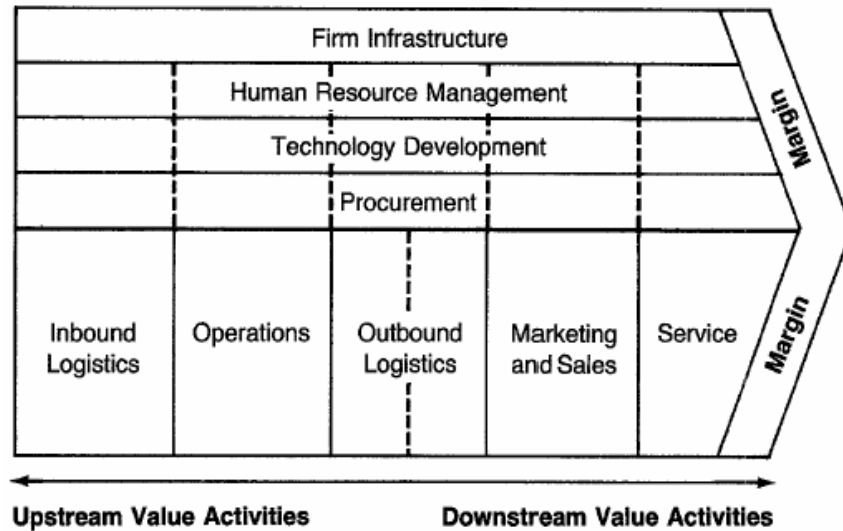
Figure 3.1 Porter's value chain

With VC as the backdrop, Porter contends that executives can identify opportunities for cost leadership or product differentiation within the specific activities, or in areas where two or more activities intersect. By identifying and implementing improvements across all the firm's activities, leading organizations can achieve and maintain competitive advantage. The central theme of Porter's VC framework is that the essence of strategy hinges on establishing difference, and preserving the established difference. To outperform rivals, a firm must deliberately choose to perform a different set of activities (business processes) or perform the same activities differently to establish a difference and preserve it (Porter, 1996). To achieve and maintain a competitive advantage, a firm must deliver greater value to

customers, create comparable value at a lower cost, or do both simultaneously (Porter, 1996). Low cost positioning results from performing particular activities more efficiently. The causal link between outsourcing and low cost positioning is obvious in our discussion of TPE.

Differentiation arises from both the selection of activities to perform and how they are performed (Porter, 1996). In vertical relationships (primary activities along the value chain), supplying units are likely to be more differentiated from the procuring units if they don't belong to the same firm (Gulati, Lawrence, & Puranam, 2005). By shifting the process ownership to external vendors, outsourcing reduces the pressure toward conformity faced by original internal owners, who are limited in their pursuit of differentiation. Because units within a firm tend to share a common culture, business system and HR policy, there are limits on the extent to which they can become differentiated from each other within a common hosting corporate environment (Gulati et al., 2005). By entering an outsourcing relationship, both buyer consuming units and vendor supplying units become more organizationally differentiated and more technically specialized than they otherwise would be in the same firm. Differentiation, as defined by Lawrence and Lorsch (1967) is "a state of segmentation of the organizational system into subsystems, each of which tends to develop particular attributes in relation to the requirements posed by its relevant external environment." By definition, a more differentiated firm is able to adapt successfully to hyper-dynamic competitive conditions.

Central to any strategic value chain configuration is the tradeoff between internally undertaking, or outsourcing certain value adding activities or conversion processes (Fjeldstad & Haanes, 2001). Managing a "swamp" of processes, executives

need to assess the business impact of each process in terms of its value added and management attention consumed. Porter's VC framework can serve as a reference framework for us to horizontally position business processes, which used to be stacked and rationalized vertically. In addition, the framework enables us to assess a business process's contribution to overall competitive advantage. We learned from past BPR failures that assessment of business impact is an important prerequisite for reengineering success. We believe that such differentiation and assessment are critical prerequisites for the formulation of sourcing arrangements.

3.1.5 The Resource based View (RBV) and Relational View (RV) of the Firm

The resource based view (RBV) of the firm explains, from an inward looking perspective, why firms obtain competitive advantage and are able to retain it. Deviating from the perfect competition of TPE, RBV is based on two underlying assertions, as developed in the strategic management field (Rumelt, 1984; Wernerfelt, 1984; Conner, 1991): (1) that resources are heterogeneously distributed across firms (resource heterogeneity); and (2) that these resource heterogeneities may be long lasting (resource immobility). The resource based theory prescribes that heterogeneous resources are the main driver of firm performance (Barney, 1991). Valuable resources contribute to competitive advantage because they enhance the ability of a firm to create superior customer value and/or have lower costs. Rare resources are those few competitors have. Durable resources maintain their value over time and are not highly vulnerable to obsolescence or depreciation. Finally, competitors can not easily and readily duplicate resources that are inimitable. The central tenet of RBV is when a firm's resources possess all four attributes (valuable, rare, imperfectly imitable, and non-substitutable), they can offer a sustainable

competitive advantage (Barney, 1991). The contribution of RBV is that it contradicts the external emphasis of the environmental model of strategy and develops a new conceptualization of a firm's competitive advantage. According to Wade and Hulland (2004), resources are "assets and capabilities that are available and useful in detecting and responding to market opportunities or threat" and assets are "anything tangible or intangible the firm can use in its processes for creating, producing, and/or offering its products 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." Barney (1991) further suggests that a firm's capability to create value is primarily based on its unique sets of intangible, knowledge based resources.

Because an organization's absorptive capacity is constrained by its exiting knowledge (Cohen & Levinthal, 1990), a firm's reliance on internal development of new capabilities, as suggested by RBV, can be limited by path dependencies, and suffer core rigidities (Leonardbarton, 1992; Levinthal & March, 1993). With growing specialization and resource constraints, businesses are increasingly seeking to benefit from alliances and networks to which they contribute and from which they gain access to diverse and complementary resources. Pioneered by Jeffery Dyer, the term of relational rent (Dyer & Singh, 1998) is coined to bear on competitive advantage in addition to the classical Ricardian rent (rents accruable to an individual competitor by beating the competition). Relational rents represent supra-normal returns to a group of firms in a network, which are not attainable by any individual member firm alone. The central thesis of the relational view of competitive advantage is that a network of firms can develop idiosyncratic interfirm linkages (relationships) that lead to sustained competitive advantage. Collaborating firms can generate relational rents

through investment in dedicated assets, knowledge sharing routines, and trust building. It is noteworthy that these three factors contributing to relational rents are mutually enhancing and facilitating. The relational-view of competitive advantage extends the RBV rationale to the inter-firm level. The RBV of alliance formation suggests that firms use alliances and partnerships to attain optimal resources configuration. Alliance management, often seen as a higher order resource, (Lambe, Spekman, & Hunt, 2002) is itself a source of competitive advantage (Ireland, Hitt, & Vaidyanath, 2002).

According to Grover, Teng, and Cheon (1998), outsourcing is a strategic decision, which can be leveraged to fill gaps in a client firm's resources and capabilities. Dyer (2000) argues that a vital core competency that businesses need to develop is the ability to design their supply chains, knowing what to do in house, what to outsource to supplier partners, and what to outsource to arms-length suppliers. From the resource based perspective, we can view BPO as a modern way to foster global specialization. By specialization, we mean the achievement of the perfect match between a process and the owner with the best resources to operate it. From the relational perspective, we can also interpret BPO as a way to generate relational rents across firm boundaries. We speculate both perspectives have a bearing on the under-researched abstention based outsourcing. When a process is outsourced during its early life stages, the BPO decision not only entails production cost assessment, but also necessitates knowledge sharing around a process of low maturity between the outsourcer and outsourcee.

3.1.6 Institutional Theory

According to Philip Selznick, "... 'to institutionalize' is to infuse with value beyond the technical requirements of the task at hand." (Selznick, 1957). Although many variants exist, institutional theory has long been deployed to explicate the isomorphism of organizational fields and the establishment of institutional norms (Kondra & Hinings, 1998) and to deal with the issue of why many organizational structures and procedures can exist without obvious productive value (Meyer & Rowan, 1977; Scott, 2001). Scott and Meyer (1983) state that organizational environments are "... characterized by the elaboration of rules and requirements which individual organization must conform if they are to receive support and legitimacy." Institutions consist of cognitive, normative and regulative structures, and activities that provide stability and meaning to social behavior (Scott, 2001). Institutions represent a social order or pattern that attained a certain state of resilience so that deviations from the order or pattern are counteracted in a regulated fashion by repetitively activated and socially constructed controls - rewards and sanctions (Jepperson, 1991). Conformity to such institutionalized norms is facilitated through coercive (constraining), mimetic (cloning) and normative (learning) mechanisms (DiMaggio & Powell, 1983). As a result, "organizations were seen to be more than production systems; they were social and cultural systems" (Scott, 2001). Thus, values and beliefs external to the "system" play a significant role in determining the managerial behaviors of the affected organization (Kondra & Hinings, 1998).

Institutional theory depicts a process whereby the symbolic value of some management fads (Quality Circle, TQM, and BPR, etc.) ultimately supplants their

technical (efficiency) value (DiMaggio & Powell, 1983). Certain management practices gain institutional value over time because they become the accepted ways of doing things. Adoption of such institutionalized practices may provide an organization with little technical benefit, but can confer legitimacy on the organization (Westphal, Gulati, & Shortell, 1997). As a result, managers tend to create the appearance of rationality by using or appearing to pursue certain popular management techniques that are generally perceived by organizational stakeholders to be rational ways of managing (Meyer & Rowan, 1977). If managers fail to impress stakeholders with their (seeming) pursuit of such institutionalized management practices, stakeholders will be disappointed and tend to withdraw their support from the firm, thus decreasing the likelihood of the firm's survival and success (Meyer & Rowan, 1977; Abrahamson, 1996).

Although it is difficult to assess whether BPO has attained the institution status at the current stage, the size of its market and the magnitude of its publicity received jointly warrant the institutionalist's lens for BPO investigation. In this study, we adopt stockholders' response (stock abnormal return) as the main outcome measure. To a certain extent, executives might pursue certain management practices (including BPO, partnership and alliance, etc.) just to impress certain stakeholders, including stockholders.

The main thrusts and relevance to BPO research of the above discussed theories are summed up in Table 3.1. Although the precepts of these theories remain the same as in previous studies, their orientation and utilization in this study are quite different from their previous application and warrant notice and clarification.

Theory	Main thrusts	Relevance to this Study
Transaction cost Theory (economic)	1. Assumption of bounded rationality and opportunism 2. Transaction costs include both ex ante costs incurred in searching, creating, and negotiating the (often incomplete) contract and ex post monitoring and enforcing the contract. 3. Certain transaction attributes (asset specificity, uncertainty, infrequency) give rise to transaction costs. 4. Different governance structures (market, hierarchy, and hybrids) should be aligned with exchanges characteristics (asset specificity, uncertainty, and frequency) to mitigate transaction costs.	1. Make-or-buy decision is about choosing the right governance structure for the outsourced process. 2. Between the extreme modes of market and firm, there exist many multiple hybrid governance forms (partnership and alliances, equity based joint venture). Thus, outsourcing should not be equated with arm length exchange regulated by market -- buy. 3. Selective outsourcing of those activities of low specificity. Reliance on detailed contract to curb hazards. 4. Selective governing suggests that governance structure be tailored to exchange characteristics
Theory of Production economics (economic)	1. The Production function that convert input factors into output product. dictates productivity. 2. Economic efficiency is composed of two components: technical efficiency, which is defined as capacity to produce maximum possible output from a given set of inputs and technology; allocative efficiency, which is defined as the ability to equate marginal value products with marginal costs (Heshmati, 2003).	1. Vendor can achieve cost advantage because of economies of scale, scope, and specialization. 2. Outsourcing changes the cost structure of the targeted process (break-even point, fixed assets to variable expenses) 3. Evaluating outsourcing option by Soliciting bids from both external vendors and internal IT department
Value Chain Framework (strategic)	1. Disaggregation of an enterprise into a set of many discrete but strategically related activities. 2. The set of value activities can be further divided into primary and support activities. 3. Competitive advantage hinges on the deliberate choice the set of activities to perform and /or how selected activities are performed differently to deliver a unique value proposition	1. BPO market models are all based on Porter's VC framework. 2. Horizontal view of outsourcing and process based arrangement of processes in a cross-functional way 3. Economic Value Added potential determines the outcome of outsourcing.

Table 3.1 Summary of theories

Theory	Main thrusts	Relevance to this Study
RBV and Relational View (strategic)	1. Assumption of resources heterogeneity. 2. Abnormal rents can be earned from resources to the extent that they are: Valuable Rare Imperfectly Imitable Non-Substitutable 3. Critical resources may extend beyond a firm's boundaries, and firms that combine resources in unique ways with alliance partners may earn a relational rent and realize a competitive advantage over competing firms	1. Outsourcing is a strategic decision, which can be used to fill gaps in the firm's resources and capabilities. 2. Outsourcing is a way to establish inter-firm linkage, which combines complementary resources from both buyer and vendor organizations in unique ways to generate high order capabilities. 3. Management of alliance is itself a high-order resource, which combines lower order resources distributed across member firms to attain relational rents that no single members can make alone. 4. Partnership and alliance are learning and cooperation tools that helps to generate relational rents
Institutional Theory (social)	1. Institutions consist of cognitive, normative, and regulative structures and activities that provide stability and meaning to social behavior 2. Conformity to such institutionalized norms is facilitated through coercive (constraining), mimetic (cloning), and normative (learning) mechanisms 3. The adoption of institutionalalized management practices confers legitimacy on the organization	1. Stockholders are a very important element in a public firm's institutional environment. They can deny and withdraw financial support if they requirements are not fulfilled. 2. Managers pursue outsourcing in response to peer and stockholder pressures. 3. Rhetorical pursuit of popular management practices (i.e. partnership and alliance) just to gain legitimacy and satisfy institutional requirements.

Table 3.1 Summary of theories (Continued)

The essence of our proposed process based view of outsourcing is that firms engage in BPO in pursuit of superior productive capabilities, and transaction costs impose only a "tax" on the gain incurred from the outsourcing arrangement (Jacobides & Hitt, 2005). While the theory of production economics (TPE) explains the comparative advantage associated with "spinning-off" (disintegration based) outsourcing, RBV and the relational view of the firm highlight the absolute advantage achieved in "weaving-in" (abstention based) outsourcing. TCE in this study is used to suggest the best "tax policy" that outsourcing vendors and clients can "negotiate" in order to lower the "tax" effect of transaction costs. Institutional theory implies that stockholders represent an important external institutional force, because they can approve or disapprove a firm's BPO decision by selling or purchasing its shares of stock. The change in stock price, according to the established MM equity valuation model, indicates the perceived impact of the BPO decision on the future financial health of the decision maker. Porter's value chain framework provides us the tool to arrange and screen business across functional boundaries. More explicitly, we consider the primary determinants of the outsourcing decision and outcome to be related to productive capability (resources) and value generating potential: access to process knowledge not currently possessed or substitution of currently possessed for better capabilities of external vendors. Governance capabilities are secondary in the explanation of outsourcing decision. However, the proper alignment of governance mechanisms with exchange attributes (process value chain position and maturity) is critical in minimizing possible transaction costs that tax the anticipated gain. Our unique theoretical positioning can be observed in the research model depicted in Figure 3.2. As we shall cover in

greater detail in the following section, the direct relationships are mainly supported by resource related arguments, while the moderating relationships are backed by TCE logic.
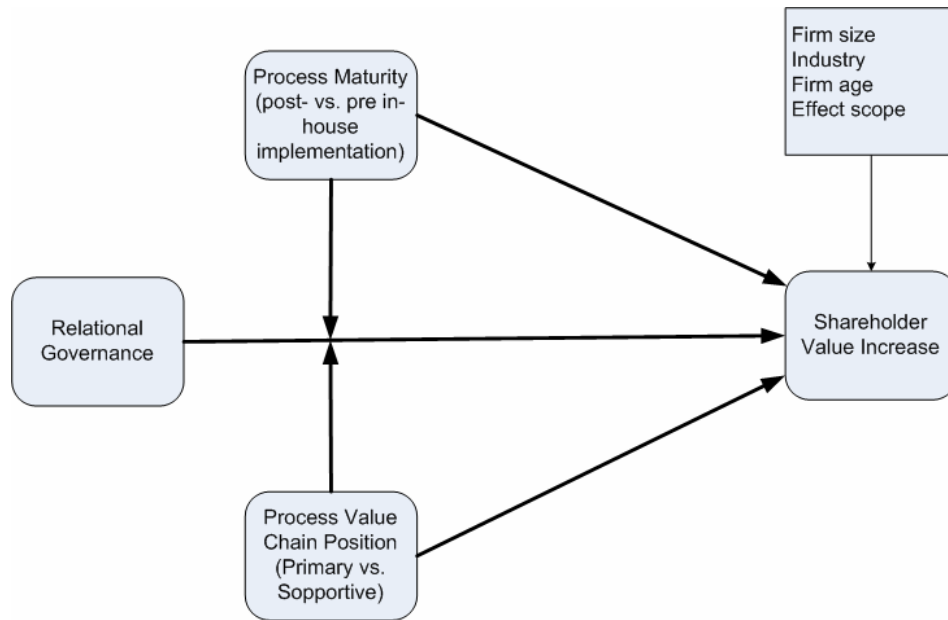
Figure 3.2 Research model

3-2 Hypothesis Development and Research Model

The classical outsourcing paradigm, as Pittman (2003) puts it, is "I (the vendor) will perform the same services you previously performed, at the same or a higher level of delivery, for the same or a lower price." According to the neoclassical theory of the firm, the firm is a collection of feasible production plans, supervised by a manager who buys inputs and sells outputs in spot markets (Hart, 1989). BPO technically enables a firm to benchmark its own business processes against those

similar offered by the external service providers based on efficiency and/or effectiveness measures. According to Porter (1996), the ever growing popularity of outsourcing reflects the "the growing recognition that it is difficult to perform all activities as productively as specialists." The announcement of a BPO deal, as suggested by the theory of production economics, is the recognition of the superiority of the external provider's business processes based on rational assessment of internal and external production functions. The productivity differential is often attributed to economies of scale (same process for many clients), scope (many processes for one client) and learning curve (knowledge accumulated from previous projects and clients) (Alexander & Young, 1996; Bryce & Useem, 1998). When a business process is outsourced, it instantly converts fixed assets into variable expenses, and often entails cash payment through the sale of these assets from the vendor to the user organization. The reduced asset base (often coupled with payroll reduction) in turn boosts a firm's financial position measured in return on assets. A less discussed benefit of BPO is the elimination of lag time, which consumes 80% of the total time to complete a typical business process (Ultimus-Inc., 2004). Lag time is the wasted time tasks spend waiting to be processed, and adds no value to the whole. Fulfilling the unrealized benefits offered by BPR, BPO reduces these internal handoffs and frictions by inter-organizational interfacing tightly bonded by service level agreements.

Obvious in the above reasoning, disintegration based outsourcing is often credited with the enhancement of comparative advantage associated with the shift of process ownership from in house employees to external vendors. When critical resources vital for competitive advantage are possessed by external owners,

abstention based outsourcing enables a firm, often young and resource constrained, to quickly establish its value chain system. Based on arguments of RBV and the relational view of the firm, we can view outsourcing as an effective way of bringing in outside productive capabilities, in contrast with the conventional conceptualization of sending internal assets out. The central tenet of our process based view of BPO is that BPO, as a process improvement initiative, is primarily driven by specialization, which dictates the appropriation of superior productive capabilities for each individual segment of the value chain.

Institutional theory, on the other hand, argues that BPO could be just another passing management fad in the lengthy chronology of management techniques. Though many management practices were once glorified by trendsetters (Abrahamson, 1996), all but the most recent have lost their attractiveness, and been replaced by newer practices at the forefront of management progress. If BPO is deemed as a means for managers to gain legitimacy and/or improve reputation, its adoptions are more likely to be caused by external bandwagon effects and have little to do with actual technical rationality. Indeed, prior outsourcing research (Loh & Venkatraman, 1992b; Ang & Cummings, 1997) demonstrated the impact of external influence -- the "Kodak Effect" and peer pressure -- on the diffusion of ITO. Already, Michael Porter of Harvard Business School is warning that outsourcing is in danger of becoming a fad (Skapinker, 2005). Unlike the BPR, outsourcing has outlived the typical five-year life span of a typical management fad. Until replaced by another newer one, BPO is a trend that is likely to continue and strengthen. Even if BPO is deemed to be another fad, managers can still embrace such a popular

practice to impress investors and boost stockholders' confidence in continuing their financial support.

In regard to gains in both productive efficiency and institutional legitimacy, we expect a BPO decision will benefit an outsourcing firm and thus propose the following general hypothesis about BPO:

H1. *BPOs will have a valuation enhancing impact.*

3.2.1 The Value Chain Position of Business Processes

Research has indicated that outsourcing in the past two decades has impacted more on firms' supporting processes than the primary supply chain processes (Lonsdale & Cox, 2000). A 1998 Pricewaterhouse Coopers study confirm that among the most frequently-outsourced business processes are salaries and tax calculation, building administration and insurance claim management (Dun & Bradstreet, 2000). However, the practice of outsourcing is being revolutionized with the advent of BPO, and the domain of outsourced processes has expanded into the areas of primary business processes with significant strategic importance (Karabinos, 2004).

Porter (1986) divides value chain activities into primary and support activities. Primary activities are those involved in the physical creation, delivery, sale of the product or service, as well as after sale assistance. Support activities support the primary activities and each other by providing needed resources. The American Productivity and Quality Center developed the Process Classification Framework (PCF), in Figure 2.2, by augmenting Porter's VC model to accommodate service organizations. Emerging as the most recent incarnation of Porter's framework, Gartner's BPO market model follows Porter's classification scheme by recasting the original activities into different process names. While support activities in VC are

mapped into enterprise support processes in Gartner's model, the primary activities in Porter's framework are divided into supply management and demand management processes in the BPO market model.

The VC framework and the subsequent PCF and BPO market model highlight the commonsensical heterogeneity in business impact associated with the variety of business processes a firm operates (Keen, 1997). We postulate that BPO of primary processes (supply management and demand management processes) will likely have a greater business impact than BPO of support processes (enterprise support processes). We base our postulation on the following arguments: first, because of their direct involvement in the creation and delivery of customer value, Porter (1985) emphasized that each category of primary business processes (primary activities) is vital to competitive advantage. In other words, primary business process serves as both necessary and sufficient conditions for a firm's identification to customers and investors with its strategic positioning. However inseparable, support processes are only necessary conditions because of their feeding into primary business processes (Cooper, Lambert, & Pagh, 1997). Second, BPO implemented on primary business processes determines the degree of vertical integration, which in turn influences vertical specialization, competitive scope (vertical scope) and the supply chain structure of the outsourcing firm (Porter, 1986; Håkansson & Snehota, 1995). The resource based and relational view (RV) of competitive advantage provide further support to the stronger business impact attributed to BPOs in the domain of primary processes due to the potential of reaping relational rents through exploitation of idiosyncratic inter-firm linkages (vertical linkages, as Porter originally described). The generation of relational rents is enabled by knowledge sharing, trust

building, and investment in specialized assets, which jointly penetrate the corporate silos across supply chain (Cooper et al., 1997; Dyer, 2000). Most importantly, exploration and nurturing of vertical linkages lead to co-specialization and the development of higher order capabilities that distinctively combine lower-order resources distributed across partnering firms (Lambe et al., 2002). Knowledge associated with supporting process, on the other hand, is inherently generic and can be leveraged across firms and even industries (Stone & Scholl, 2003), and thus can hardly qualify for any sources of sustainable competitive advantage. Finally, investors seek maximal returns on their investments and decide on their grant of financial resources based on the value creating potential of actions taken by managers. Primary processes, despite their ownership, serve the same end customers and constitute the chain level production function. BPO in the domain of primary processes is more likely to improve chain level production efficiency and effectiveness because the co-specialization cultivates the creation of new knowledge applicable to the whole value chain. Outsourcing of supporting processes mainly results in resource savings and has relatively little, instant direct impact on the grand inter-firm production function

BPR has been largely criticized for its application being limited to the domain of enterprise support processes of low business impact (Smith & Fingar, 2003b). Bearing this important lesson in mind, we see Porter's VC framework, disguised in the latest BPO market model, which holds great potential in helping researchers to differentiate various enterprise processes. Here, we initially attempt to use the intrinsic differences in business impact at the process level to predict a BPO decision's impact on a firm valuation. In general, BPO of primary processes causes

instant and greater positive enhancements to a firm's future net profit streams, which in turn translate into greater increments in the net present value of the outsourcing firm. Because the superior productive capabilities accessed by the outsourcing firm in the area of support processes can only effectuate ultimate value creation through feeding primary business processes, BPO of support processes by and large produces only delayed and weak enhancements to a firm's future profit streams.

To enhance the clarity of our arguments, we introduce some notation. For example, Firm i is contemplating whether or not to outsource one process – p. The efficiency of p for Firm i is ε_{ip}, and the bureaucratic cost of integrating p is β_{ip}. Similarly, the productivity of p for Vendor j is ε_{jp}, and the transaction cost for Firm i acquiring p from Vendor j is TC_{ijp}.

In the TCE framework, the vertical integration decision depends on the outcome of the comparison of whether $\varepsilon_{jp} - TC_{ijp} > \varepsilon_{ip} - \beta_{ip}$. It is equivalent to $\varepsilon_{jp} - \varepsilon_{ip} > TC_{ijp} - \beta_{ip}$ (Jacobides & Hitt, 2005). The right hand side (RHS) of ($TC_{ijp} - \beta_{ip}$) serves as the lower bound for the left hand side (LHS) of ($\varepsilon_{jp} - \varepsilon_{ip}$). If p is a supporting process, its low specificity implies very low expected value of the RHS. The outsourcing decision of p does not require a very significant positive **LHS**. If p is a primary process, its inherent high process specificity leads to a very high expected value of the RHS, which in turn drives up the LHS. The LHS is the confirmed productive capability differential (at the time of the BPO announcement) between an outsourcer and outsourcee, the magnitude of which influence the perceived cash-flow impact of the focal BPO decision.

The historical treatment of these parameters in TCE is that the LHS is constant. As Mayer and Salomon (2006) argue, holding transaction attributes constant, firms will outsource transactions when their internally possessed technical capabilities are weak ($\varepsilon_{jp} \gg \varepsilon_{ip}$). If p is a primary process, the Vendor j and Firm i are jointly creating values for the same downstream customers. By the (vertical) specialization (division of labor) logic, initial productivity gain ($\varepsilon_{jp} - \varepsilon_{ip}$) from outsourcing p can cause Firm i to specialize in other adjacent (primary) process areas. If the established vertical linkage between the supplier and the firm is appropriately nurtured and exploited, high-order relational rents can further be generated out of the idiosyncratic relationship. Indeed, formal discussions of co-specialization in the literature are hinged on primary processes: co-development in R&D, co-manufacturing in production, co-promotion and co-marketing in marketing (Santoro & McGill, 2005). The multiple productivity gains in primary processes jointly cause the chain level productivity to increase. In addition, the presence of an implicit third party (common customers) tends to align both the vendor and the outsourcing firm in a cooperative way, and reduces the probability of high TC_{ijp}. As such, in the case of primary processes, the LHS should not be assumed to be the only productivity gain item included in comparison of supportive processes. Due to the (vendor-firm-common customer) trilateral governance, TC_{ijp} should not be casually assumed to be significantly high either. As Jacobides and Hitt (2005) argue, transaction costs can be interpreted as a tax that might seriously influence, but does not by itself determine the need to outsource. Instead, productive capability differences are found to be responsible for a significant part of the integration decision (Jacobides & Hitt, 2005).

A clarification should be made about core competence and the outsourcing of primary business processes. The definition of core competence offered by Dosi and Teece (1998) is "…a firm's distinctive competence needs to be understood as a reflection of distinctive organizational capabilities … the capabilities of an enterprise to organize, manage, coordinate, or govern sets of activities … better than other firms" (pp. 284). It is clear from this definition that primary processes themselves don't constitute a firm's core competence. Rather, they are more likely to be the artifacts that manifest a firm's core competence. As the title of this dissertation suggests, we recognize that outsourcing represents the change of process governance structure from internal hierarchical control to an array of alternative forms of governance. In our opinion, BPO arrangement does not mean "hollowing out" core competences. On the contrary, it depicts, as argued later in this study, a firm's distinctive capabilities to organize, manage, coordinate or govern processes better than other firms. The booming BPO trend will inevitably lead to a more interconnected economy. In an interconnected environment, firms' chances to gain and sustain competitive advantage will rely less on traditional RBV conditions (sole possession of core competencies), but depend more on their relational management capabilities – how to form and cultivate valuable interactive relationships with partners (Lavie, 2006).

Assessing business impact by value chain position, we present the following hypothesis about BPO announcements concerning primary and supporting business process:

> H2. *BPO of primary business processes will have a stronger valuation enhancing impact than that of support processes.*

3.2.2 Relational Governance - More than Mitigating Exchange Hazards

The general proposition of TCE for outsourcing relationship management is that managers should align governance mechanisms to match exchange hazards, in particular, those that exhibit high asset specificity, low performance verifiability, and uncertainty (Williamson, 1991). To mitigate exchange hazards, managers might need to craft complex contracts that define remedies for foreseeable contingencies, or specify procedures to resolve unforeseeable disputes (Poppo & Zenger, 2002). To reiterate the desirability of explicit contractual safeguards in TCE logic, Williamson (1996) argues that "because commercial relations are invariably calculative, the concept of calculated risk should be used to describe commercial transactions." Arguing for the social embeddedness of economic transactions (Granovetter, 1985), many scholars contend that the governance of interorganizational exchanges involves more than formal contracts, and tout relational governance as a substitute for contractual arrangement. For relationally governed exchanges, the enforcement of obligations and expectations occur through social processes that promote norms of flexibility, solidarity and information exchange. Because all contracts are unavoidably incomplete, relational governance is also seen to complement the incompleteness of contractual structure (Poppo & Zenger, 2002).

Answering sociological criticisms, TCE advocates admit the existence of hybrid governance structures between the polar modes of market and hierarchy. Contrasting arm's- length market transaction's reliance on price signal, certain quasi-integration mechanisms, like partnership and alliance, often rely on relational governance and are viewed as vehicles to access or absorb the capabilities of other firms (Kale, Dyer, & Singh, 2002). Gulati (1995) defines alliance as independently

initiated interfirm links that involve exchange, sharing or co-development. From the governance perspective, interorganizational alliance and partnership represent a hybrid governance structure that lies between the two extremes of market and hierarchy, when "the transaction costs associated with an exchange are intermediate and not high enough to justify vertical integration..." (Gulati, 1995). An advantage of interfirm alliance and partnership over arms-length market contracting is that it can mitigate contracting hazards and thus lower risks associated with interorganizational exchanges, especially in situations of high uncertainty, and investments in specialized assets. As a theory focused on the exigencies of transaction, TCE generally assumes an exogenously-asserted production function, and rules out the possibility that new alliance structures might spur technological changes and induce production function improvement (Ahmadjian & Lincoln, 2001). The resource or relation based perspectives, if less rigorous logically, seem better equipped to explicate the value creating feature of partnership and alliance. According to RBV and the Relational View of the firm, the interfirm alliances, a hybrid structure in TCE parlance, are superior not because they economize on frictional transaction costs (e.g. thwarting opportunism and averting contracting risks); rather cooperative relationships are driven by the logic of strategic resource needs and social resource opportunities, and, in and of themselves, generate rents through "relational advantage" (Eisenhardt & Schoonhoven, 1996).

According to RBV and RV, alliances and partnership are preferred "when the critical inputs required to pursue the opportunity are owned by different parties and when these inputs are inseparable from the other assets of the owner firms" (Ramanathan, Seth, & Thomas, 1997). In such situations, alliances facilitate the

accessing of knowledge and other resources for which arm's-length contracting may be hazardous (Kogut, 1988). In an empirical study of semiconductor firms, Eisenhardt and Schoonhoven (1996) find that alliances are more likely to be formed when both firms are in need of resources or when they possess valuable resources to share. The relational view attributes the smooth functioning of alliances and generation of relational rents to investment in dedicated assets, knowledge sharing routines, and trust building (Dyer & Singh, 1998).

Institutionalists, on the other hand, argue that alliances and partnership among firms are just institutional structures. According to Giddens (1979), those institutional structures are standardized modes of behavior that play a vital role in the constitution and reproduction of social systems. Organizations are under influences or pressures that arise from central regulatory authorities, from peer organizations, and from within the organization itself (Zucker, 1987). Under certain circumstances, these institutional isomorphic forces can render organizations to be directed by elements that are externally viewed as "legitimate." In this regard, alliance and partnership may confer upon the pursuant an aura of external legitimacy (Miner, Amburgey, & Stearns, 1990).

With the development of the value chain framework, Porter (1985) suggests that complementarities might arise between successive stages of the industry chain. From the perspective of RBV, Wernerfelt (1984) emphasizes the role of inputs as a source of competitive advantage, and argued that a buyer can benefit from long-established links allowing effective communication with suppliers. The recent development of the Relational View of the firm has changed the search for competitive advantage from a distributive game among value chain segments to the

pursuit of excellence with uniquely configured and coordinated value chain. As a process improvement initiative, we view BPO as an effective way for organizations to establish interfirm ties or links, which further provide participants the access to superior productive capabilities. When these interfirm linkages are managed relationally, the resultant partnership and alliances further improve the joint production function underlying the connected processes. Even if the production function underlying the outsourced process is treated constant in TCE, the relational governance associated with partnership or alliance will serve as an alternative mechanism, either substituting or complementing formal contractual governance.

Because of the benefits of mitigation against risk, generation of relational rent, and enhanced legitimacy, we expect the adoption of relational governance in a BPO arrangement could boost investors' confidence about a firm's value generating potential, as well as its conformance and adherence to well publicized successful management procedures. Consequently, we propose the following hypothesis about the adoption of relational governance of BPO relationship:

H3. *BPOs with a higher level of relational governance will have a stronger valuation enhancing impact than BPOs with a lower level of relational governance.*

3.2.3 Process Maturity -- a Matter of Outsourcing Timing

Earlier in this chapter, we updated the definition of outsourcing from the narrow "buy" to all "non-make" options of acquiring needed services. The inclusion of abstention based outsourcing also adds to our conceptualization of outsourcing a new temporal dimension. In this study, we use the deployment stage in process lifecycle as a reference point to examine the timing of outsourcing. We utilize disintegration based BPO to denote outsourcing of an already internally deployed

process. Outsourcing of a process prior to internal deployment is referred to as abstention based BPO. The major difference between the two types of BPO is the maturity level of the outsourced process.

The benefit of disintegration based BPO can be best described as "cheaper price," which is merely a result of resource substitution. In other words, a firm can still keep running and delivering goods and services to customers without disintegration based BPO. When a process is outsourced at late life stages, the BPO decision often entails liquidation of fixed assets, and layoff or transfer of employees. As such, the reversion from the fixed asset to variable expense based approach often results in financial losses, demoralized workforce, disruptions in operations, and negative media exposure. Existing stockholders might choose to sell the stock if they anticipate the company's near term earnings will be negatively affected by related financial charges and media reports.

The level of process maturity indicates not only the closeness of a process to being perfect, but also the resource gap between the outsourcing firm and external service providers. When a firm decides to outsource a less mature process prior to internal deployment, it faces a substantially large resource gap to fill. By embarking on abstention based BPO, a firm gets "instant service availability" and access to critical resources that reside outside the firm. Without abstention based BPO, a firm must wait for internally cultivated processes to mature. Further, abstention based BPO does not involve any upfront investments in fixed assets. The pay-as-you-go approach neither enlarges the asset base nor lengthens payroll. Potential investors might buy in if they interpret the BPO decision as an indictor of a firm's efficiency and effectiveness in expending scarce financial resources.

The benefits of BPO, especially production cost advantage, are seen to be largely stemming from the vendor's economy of scale. By applying the same process to multiple buyers, vendors are able to drive down the average cost of producing one product or one service instance. For the vendor, disintegration based BPO simultaneously drives up both fixed cost (due to asset transfer) and production volume. Abstention based BPO mainly drives up production volume and does not entail significant increases in total fixed cost. Therefore, for the same process, abstention based BPO can yield better production advantage on the vendor side.

According to Freeman (1984), there are five main groups of stakeholders for a business organization: the government, shareholders, customers, employees and society at large. Each institutional force has its own interests. Among all institutional groups, there will be some with converging interests and others with conflicting interests. Shareholders are likely to favor both abstention and disintegration based outsourcing because of the associated valuation enhancements. However, disintegration based BPOs are more likely to receive unfavorable reactions from other institutional forces: employees and society at large. In the case of abstention based BPO, there are no employees affected by the BPO decision and subsequently less or no resistance from employees and the community. Consequently, the net institutional effect is likely to be more positive for abstention based BPO than disintegration based outsourcing.

The maturity level of an outsourced process implies the existence and size of the resource gap between the outsourcing firm and the external service provider. The size of the resource gap filled by BPO in turn determines the size of the effect of a

BPO deal on firm valuation. By relating process maturity to outsourcing success, we provide the following hypothesis on abstention and disintegration based BPOs:

> H4: *Abstention based BPOs will have a stronger valuation enhancing impact than disintegration based BPOs.*

3.2.4 The Interplay between Governance and Process Attributes

Critical to the strategic objective of profit maximization is the appropriate choice of corporate governance mechanism for inter-organizational relationships within the value chain (Rasheed & Geiger, 2001). One important contingency illuminated by TCE is the governance structure put in place by two transacting parties. The logic of TCE suggests that performance is enhanced when there is congruence between governance structure and transactional attributes in a way that minimizes the negative impact of exchange hazards. In its original framework, TCE poses the governance problem as a dichotomous choice between market exchange and hierarchical organization. Constrained by this framework, outsourcing in the past has been largely equated to market contracting. The current version of TCE explicitly recognizes that features of hierarchy can be achieved without complete ownership. Because of those identified hybrid governance structures, we can no longer treat outsourcing as the sole correspondence of market. As the extent of relational governance increases in a BPO relationship, the position of governance structure moves toward the hierarchy mode along the market-hierarchy continuum.

Because outsourcing is now increasingly reaching into the more sensible and visible supply chain processes (Leiblein et al., 2002), the arrangement nowadays requires much more collaboration in relationship management (Karabinos, 2004). In particular, relational arrangements, in forms of partnership and alliance, are emerging

as alternative arrangements to the more popular transactional contracts, which manifest the arm's-length market governance (Kakabadse & Kakabadse, 2002). Hence, the increasing diversity of outsourcing arrangement allows us to relate outsourcing performance heterogeneity to the congruence between governance structure and transaction attributes.

Due to the economies of specialization available in the market place, applications of TCE generally assume that the market provides a more efficient mechanism for exchange than does hierarchy (Leiblein & Miller, 2003). However, in certain situations the transaction costs associated with the market mechanism may rise substantially and surpass the efficiencies offered by the market. Thus TCE focuses on aligning certain exchange attributes with the market, hierarchy and the variety of hybrid forms of governance in order to minimize associated transaction costs. Transaction costs include both the direct costs of managing exchange relationships, and opportunity costs of choosing inferior governance structures (Rindfleisch & Heide, 1997).

The central logic of TCE's discriminating alignment, as described by Williamson (1991), is "transactions, which differ in their attributes, are aligned with governance structures, which differ in their cost and competence, so as to effect a transaction cost economizing result." This logic prescribes that complex governance structures are meant for complex transactions, to which exchange hazards accrue. On the other hand, simple governance structures suffice for simple transactions, for which even identity might not matter. When a simple mode of governance is applied to manage a complex transaction, the incompetence of the simple structure is likely to cause contractual breakdown. When a simple transaction is governed by a

complex governance structure, the over-competence of the structure would incur extra costs without any substantial gain.

The possibility of observing more integrated (complex and relational) forms of governance depends on the underlying transaction attributes. The more relational the governance structure is, the higher is the degree of relationship-dedicated assets and uncertainty. Among the many transactional properties acting as proxies for transaction cost, asset specificity is argued to be of the most importance. Asset specificity refers to the transferability of assets supporting a given transaction to another different transaction. Operational measures of asset specificity in empirical TCE literature include spatial (site) proximity, idiosyncratic investments (human capital), product complexity, and inter-firm co-specialization. As much of TCE's explanatory power turns on asset specificity (Williamson, 2005), our discussion of BPO governance hinges mainly on the specificity of the outsourced process – the opposite of process commonality.

According to Williamson (2000), governance is a means by which to induce order and adaptation, and to realize mutual gain. The relational mechanisms (partnerships and alliances), used to deter opportunism in TCE logic, are seen as learning devices in the relational view (RV) of the firm. Inter-firm partnerships and alliances can address the inefficiencies associated with market based transactions and hierarchies by incorporating new knowledge into existing organizations. The opportunity to form partnerships and alliances increases learning and development of new capabilities, which lead to the creation of relational rents specific to the cooperation mechanism. Pertinent to BPO governance, the applicability of the more

integrated forms of governance depends on the whether the process and surrounding situation afford the buying firm relational rents.

We see the inherent specificity difference between primary business processes and those supporting processes feeding into the primary processes. Most supporting processes are generic across firm and even industry boundaries, and therefore exhibit very low process specificity. Primary processes, on the other hand, are most likely process, firm specific and therefore indicative of high specificity. The relatively higher specificity of primary BPO, according to TCE, requires a more sophisticated governance structure as compared to a pure contractual arrangement to mitigate exchange hazards. With an outsourcing arrangement, a buyer can hardly obtain any resources with the potential to contribute to competitive advantage, unless there are specifically customized structures and routines in place to promote joint knowledge generating and sharing. In cases of primary BPO, the presence or absence of relational governance structures has a strong bearing on not only exchange hazards mitigation, but also the generation of relational rents among partnering organizations.

Prior research has already found that firms having less experience with a process are more likely to externalize it than firms with greater experience (Leiblein & Miller, 2003). For abstention based BPO, the large resource gap implied by the low process maturity level means the buyer has little knowledge about the process. The disadvantageous bargaining position handicaps the buyer's capability to program the process, and limits control options to only an outcome based control mechanism (Eisenhardt, 1985). As Turner and Makaija (2006) argue, the incompleteness of process related knowledge will make the use of outcome controls effective. The

process knowledge asymmetry thus reduces the benefits any relational governance structures can potentially deliver to the buyer. Also in the situation of abstention based BPO, there is little investment from the buyer side into the process. The "fee for service" model makes arms-length market arrangements more suitable. Therefore, the asset specificity of the BPO exchange in the buyer's evaluation is very low. Subsequently, legal enforcement of contract terms alone is sufficient to ensure the delivery of the desired service. For substitution based outsourcing, the buying organization has adequate knowledge to program the process and therefore can apply either behavioral and/or performance based control mechanisms pending on outcome measurability (Eisenhardt, 1985). In addition, the asset specificity of disintegration based BPO is, at least initially, very high on the buyer side due to the transfer of previous hired employees and owned assets. The vendor is also motivated to enter into partnership with the buyer in order to leverage the buyer's process knowledge for future expansion. Relational governance in such cases can complement the contractual enforcement in that the buyer knows more about how the process will be administered. The relatively higher asset specificity associated with disintegration based BPO also requires hybrid governance structures with greater relational elements

The "discriminating alignment" hypothesis of TCE suggests that governance modes aligned with transaction characteristics should exhibit performance advantages over other misaligned modes (David & Han, 2004). Factoring this assertion into BPO relationship management, we argue that a strong presence of relational governance is preferred in cases of BPO of primary business processes and BPO with prior internal operation. From the resource based and relational

perspectives, stronger presence of relational governance in situations of primary BPO and disintegration based BPO also facilitates knowledge sharing and accessing complementary resources, which are vital for creating common benefits. We base the following hypotheses regarding the alignment between process characteristics and relational governance on the "discriminant alignment" logic of TCE:

H5. *Primary BPO aligned with a higher level of relational governance will lead to greater valuation enhancement than with a lower level of relational governance.*

H6. *Disintegration based BPO aligned with a higher level of relational governance will lead to greater valuation enhancement than with a lower level of relational governance.*

All the proposed hypotheses are summarized in Table 3.2:

H1	BPOs will have a valuation enhancing impact.
H2	BPO of primary business processes will have a stronger valuation enhancing impact than that of support processes.
H3	BPOs with a higher level of relational governance will have a stronger valuation enhancing impact than BPOs with a lower level of relational governance.
H4	Abstention based BPOs will have a stronger valuation enhancing impact than disintegration based BPOs.
H5	Primary BPO aligned with a higher level of relational governance will lead to greater valuation enhancement than with a lower level of relational governance.
H6	Disintegration based BPO aligned with a higher level of relational governance will lead to greater valuation enhancement than with a lower level of relational governance.

Table 3.2 Summary of hypothesis

CHAPTER FOUR
RESEARCH METHODOLOGY

This chapter discusses the research methodology used to test and validate the proposed research model built in the last chapter. The chapter is composed of two major sections: 1) data source, variable measurement and power analysis, and 2) the planned approaches for data analysis associated with each of the six hypotheses. In the first section, we will describe the event-generating process and detail the value assignment criteria for the three IVs and other control variables. Most importantly, we will elaborate on the computation of the risk justified stock return, which serves as the DV in our research model. In the second section, we will present the methods of statistical analysis and test statistics employed to test each of the six hypotheses embedded in our research model.

Introduced by Fama, Fisher, Jensen and Rol (1969), the event study method is a powerful tool that helps researchers produce insightful evidence on how stock prices respond to information. The majority of its applications focus on the effect of an event on the stock price(s) of a particular security or a class of securities (common equity). McWilliams and Siegel (1997) provide a review of event studies in management research, and highlight three critical underlying assumptions. The first assumption is the efficient market hypothesis that provides the basis for the application of event study. Market efficiency implies that stock prices incorporate all relevant information available to traders, and markets adjust instantaneously to any newly released relevant information. Second, the event study methodology assumes

the event of interest was not anticipated by the market. The third assumption is that there are no other confounding events that affect the event of interest.

McWilliams and Siegel (1997) recommend several key research design and implementation issues that warrant proper inferences. They include sufficiently large sample size, normal distribution of abnormal returns, and a sufficiently short event window. The most recent event study identified in management research is Uhlenbruck, Hitt and Semadeni (2006). Their event of interest is acquisition announcements involving Internet firms. Their sample size is 798 and the event window length is one day (day 0). They also standardized abnormal returns and reported non-parametric results. Using Uhlenbruck et al. (2006) as a benchmark study, we below detail the implementation of our study following the procedures offered by MacKinlay (1997).

4-1 Data Source and the Sample of Events

The objective of this study is to investigate stock price reaction to a BPO announcement. To accomplish this objective, we follow the procedures of the event study methodology, and first construct a sample of events (BPO announcements). The events are restricted to those made by public companies listed on one of the three stock markets (NYSE, NASDAQ and AMEX) during the period of 1998-2005. Such a restriction is necessitated by data availability from the Center for Research in Security Prices at University of Chicago (CRSP) databases. To discover such BPO announcements, we perform a comprehensive month by month search of two leading news sources, PR Newswire and Business Wire, in Lexis-Nexis for the period from 1998-2005.

The initial step in conducting an event study is to define the event of interest (MacKinlay, 1997). Practically, we define a BPO event as the decision of a publicly traded company (listed on NYSE, NASDAQ and AMEX) to involve an external provider in the provision of needed services. Such an event definition allows researchers to include abstention based outsourcing into investigation, which has been overlooked in existing outsourcing research. We create a list of key words used to identify a BPO announcement by analyzing the content of 15 highly publicized outsourcing announcements. The main key words identified are "outsourc*," "agreement," "arrangement" and "contract." Other auxiliary key verbs in BPO announcements identified are "announce," "purchase," "sign" and "award." Each monthly search usually produces around 80 to 300 news items after deletion of those cross-listed news items (on both PR Newswire and Business Wire). Next, we examine each item to confirm the existence of the outsourcing company and the outsourced process. If the outsourcing party is not a (or part of a) publicly traded company, we discard the BPO announcement. To control for confounding events during the event window (McWilliams & Siegel, 1997), we endeavor to eliminate any firms from the sample if other events financially relevant to them were found on the same day (we adopt a one day window) when they released the BPO announcement. The types of confounding events we include in our screening are earning announcements, executive turnover, launching a new product line, recalling defective products, a large investment decision, merger and acquisitions, and legal actions taken by important stakeholders (competitors, customers, etc.). After the above screening procedures, 3 to 10 items (per month) on average survive. At the end of the lengthy searching and screening, we finally arrive at a sample of 298 BPO events.

To track the exact event date for each BPO announcement in the final sample, we use the firm's name and the outsourced process as keywords to search the news wires again for one year prior to the current date. In several cases, we did locate the outsourcing companies' announcement of their intention or the signing of a letter of intention to outsource before the strike of the final deal. In such cases, we update the event date with the earliest discovered date, after repeating the procedure for checking confounding events.

Three sample BPO announcements are listed in Table 4.1. Evident from our earlier definition of BPO, qualifying an event as BPO must adhere to standards related to both the action (outsource) and the object (business process). The above keyword based search can only adequately address the action related requirements of BPO qualification. In all three cases, we can detect clear indications of the outsourcing action by public companies – the usage of "outsourcing" or "outsource." To enforce the object (process) related requirements, we again resort to Gartner's BPO model for practical guidance. Each sample BPO can be easily sorted into one process (HR for International Paper and K-Mart, and contract manufacturing for Arris) category in the BPO model. The two stage searching and qualifying process together with screening criteria applied in each step are illustrated in the flow chart in Figure 4.1. Accompanying each step in the flow chart is the survival of each sample event attesting to the rigor of the selection process.

REF	BPO Announcement Text
ARRS20011023	**PR Newswire** **October** 23, 2001, Tuesday **SECTION:** FINANCIAL NEWS **HEADLINE:** ARRIS and Solectron Expand **Manufacturing Partnership** **DATELINE:** DULUTH, Ga. and MILPITAS, Calif., Oct. 23 ARRIS (Nasdaq: ARRS), and Solectron Corporation (NYSE: SLR), the world's leading provider of electronics manufacturing and supply-chain management services, today announced the expansion of their manufacturing relationship. In alignment with ARRIS's expanded outsourcing strategy, the company has decided to **outsource** most of its current in-house manufacturing to Solectron. This will allow ARRIS to achieve significant cost savings and balance sheet improvements while maintaining a high level of service for its customers. Under the agreement, Solectron will provide a full range of supply-chain services, including design for manufacturability, manufacturing, test, and complete systems assembly for ARRIS's Network Technologies Product Set. As soon as the transition to Solectron is complete, ARRIS will close its manufacturing facilities in El Paso, Texas, and Juarez, Mexico. "We are very pleased to expand our manufacturing relationship with Solectron, leveraging the excellent **partnership** that has been developed over the past four years with Arris Interactive, LLC for the Cornerstone(R) family of product," said Bob Stanzione, CEO and President of ARRIS. "We are confident that Solectron will provide us with a cost-effective solution and flexibility going forward," stated Bob Stanzione, CEO and President of ARRIS." "We are excited to further extend our strategic relationship with ARRIS who is a key industry **partner**," said Mitch Schoch, Solectron Vice President of Account Management, Americas. "This **partnership** strengthens our leadership position in providing superior end-to-end solutions for our customers and we are pleased to expand our service offering to meet ARRIS's evolving needs."
KM20010906	**HEADLINE:** TALX Corporation Simplifies W-2 Reissue and Correction for 650,000 Kmart Employees; Several New Features Unveiled Enhancing W-2 eXpress for All TALX Clients **DATELINE:** ST. LOUIS, Sept. 6, 2001 TALX Corporation (NASDAQ:TALX), a leading application service provider (ASP) for HR, benefits and payroll employee services announced today that Kmart (NYSE:KM), the nation's second largest discount retailer, has signed a contract for W-2 eXpress(SM), including W-2 reissue and W-2 correction services. This expands Kmart's working relationship with TALX, which began in the fall of 2000 when it became a client of The Work Number(R) automated employment and income verification service. W-2 eXpress allows employers to **outsource** W-2 statement processing, including the printing and distribution of original statements, statement reissue requests and simplifies W-2 statement corrections. Automating the W-2 process alleviates the burdensome and time-consuming task of manual responses and provides enhanced round-the-clock services to employees. It also eliminates the need to hire and train temporary staff to handle employee requests during the income tax preparation season. "Our strategic vision is to provide our clients with complementary services that automate HR, benefits and payroll processes and empower employees to process tasks through self service," said Bill Canfield, CEO and president of TALX. "The Work Number database continues to grow with employee payroll data from hundreds of organizations that contract our services. And, we are seeing a growing trend among many of our existing clients, like Kmart, to take advantage of multiple TALX services."

Table 4.1 Sample BPO announcements

REF	BPO Announcement Text
IP20011018	**HEADLINE: Exult** Signs $600 Million HR Outsourcing Agreement with **International Paper** **DATELINE:** IRVINE, Calif., Oct. 18, 2001 **Exult,** Inc. (NASDAQ:EXLT), the leading provider of integrated services designed to manage human resources functions for large, multinational corporations, today announced that it has signed a ten-year HR process management contract with **International Paper** (NYSE:IP). **Exult** will apply its business process expertise to refine the transactional and administrative systems used in delivering HR services to approximately 70,000 **International Paper** U.S. employees covered under the scope of the contract. **Exult's** Service Delivery Model(SM) is designed to streamline HR processes, reduce costs and improve service to employees through self-service and increased efficiencies. Under the terms of the agreement, **Exult** will assume responsibility for managing key core administrative HR services for **International Paper,** including payroll, benefits administration, service delivery (human resources call center management), HR information services and systems support. **Exult** will also assume responsibility for various third-party providers related to these processes. The transaction is expected to generate revenues to **Exult** of approximately $600 million over the life of the contract. The agreement will result in significant annual cost savings to International Paper for the administrative functions to be directly managed by Exult. "This agreement supports International Paper's focus on finding innovative ways to introduce business efficiencies, thus allowing us to better focus on strategic HR business issues," said Jerry Carter, senior vice president, Human Resources for International Paper. "IP has made a significant investment in building and successfully transforming our HR service delivery platform. Partnering with Exult allows us to continue improving the HR services available to our employees, while providing flexibility required in today's dynamic business environment." "We are very pleased to provide International Paper with a comprehensive HR process management solution that can extend its excellence in the provision of HR services, while supporting the company's strategic business objectives," said Exult's chairman and CEO, Jim Madden. "We look forward to working with International Paper to **develop an expansive, mutually beneficial business partnership**." "Exult has established itself as a focused HR BPO provider, and in the past two years has validated its model by signing several contracts with global corporations," said Allie Young, chief analyst Gartner

Table 4.1 Sample BPO announcements (continued)

Explanation	Chart	Illustration with Sample Announcements

Mode: Automatic
Main Key Words: 'outsourc*', 'contract', 'agreement', 'arrangement'
Auxiliary Key Words: 'announce',' sign', 'today',' purchase'
Objective: locate the event population

Month by Month Key word based Search of Lexis-Nexis Online Newswire from 1998 to 2005

IP20011018: 'outsourcing' and 'contract'
ARRS20011023: 'outsource' and 'agreement'
KM20010906: 'contract' and 'outsource'

Abandon this announcement and Pick next Announcement

Purpose: to ensure availability of stock data

Is the outsourcing firms a pulic company listed on NYSE, or AMEX, or NASDAQ?
— NO → Dump this announcement
YES

IP20011018: International Paper listed on NYSE
ARRS20011023: ARRIS listed on NASDAQ
KM20010906: KMART listed on NYSE

Purpose: to ensure the capture of the process characteristics

Does the announcement contain specific information about the outsourced process and function that enable researcher to easily fit it into BPO market model?
— NO → Dump this announcement
YES

IP20011018: HR key core administrative processes
ARRS20011023: in-house manufacturing
KM20010906: HR - W2 statement processing

Purpose: pinpoint the exact event date in case of news leakage

Use outsourcing firm name and process info as key words search the database again for the 2-yr period

IP20011018: None
ARRS20011023: None
KM20010906: None

Any earlier announcements of the same content?
NO
YES

Update the event date with the earliest date a

Purpose: to to filter out any significant noises that could potentially bear negatively on the integrity of the study. Significant other announcements include but not limited to are earnings announcement, change of important executive and board members, product recall, law suit.

Use the outsourcing company name as key word and search the database on the event date for all announcements related to the firm

Any confounding significant event on the same date?
— YES → Dump this announcement
NO

IP20011018: None
ARRS20011023: None
KM20010906: None

Purpose: storage for later stock return extraction from CRSP

Enter the event into the BPO announcement database

Figure 4.1 Event generation flowchart

113

4-2 Variable Measurement

Stock market reaction indicates the extent to which investors adjust their belief about a firm's value due to new events. If we can confirm that the BPO announcement is the only firm specific stimulus on the event day, we can accurately assess the impact of BPO and process specific characteristics on firm valuation. In this section, we detail the measurement of the DV and IVs in the research model (summarized in Table 4.2).

Variable	Description	Measurement	Data Source
DV - Impact of BPO on shareholders' value	The stock price's change in response to the respective BPO announcement	SAR_0- standardized abnormal Return in event study	CRSP
IV1 – process value chain position	The position of a process along a firm's value chain (primary or support)	**Primary** (value=1) – supply management and demand management in Gartner's BPO Market Model. **Supportive** (value 0) –enterprise support processes in Gartner's BPO Market Model.	The text of the wire of an BPO announcement
IV2 – level of relational governance	enforcement of obligations and expectations occur through social processes that promote norms of flexibility, solidarity, and information exchange	**High**(value=1) if key words like 'partnership', or 'partner', or 'alliance' are found in the announcement **Low** (value=0) none of the above keywords is found.	The text of the wire of an BPO announcement
IV3 –process maturity	The life stage of the outsourced process at the time of BPO	**Abstention** based outsourcing (value=0) : pre internal implementation; **Disintegration** based outsourcing (value=1) : post internal implementation;	The text of the wire of an BPO announcement
CV1 – firm size	The size of a firm	LOG(The number of total **employees)**	COMPUSTAT
CV2 – firm age	The age of a firm	LOG(Years since the founding of the firm)	Annual Report
CV3 - industry	The industry in which a firm operates	The first two digits of an firms **SIC** code	COMPUSTAT
CV4 – scope	The impact scope of the respective BPO announcement	**Subsidiary** (value=1) – if the BPO decision only affects a division or child firm of the stock **Whole firm** (value=0) the BPO decision affects a whole firm represented by the stock	The text of the wire of an BPO announcement

Table 4.2 Variable description and measurement

4.2.1 The Dependent Variable –Stock Market Reaction to a BPO Announcement

In event study methodology (Campbell, Lo, & MacKinlay, 1997), stock market response to an event is computed as the abnormal return (AR) assigned to a firm's stock. The timeline of our event study is shown in Figure 4.2. Initially, we plan to compute the abnormal returns over the three day event window, namely day -1, day 0, and day +1. Based on the (ARs) dataset obtained, we then decide on whether to expand the planned 1-day window.
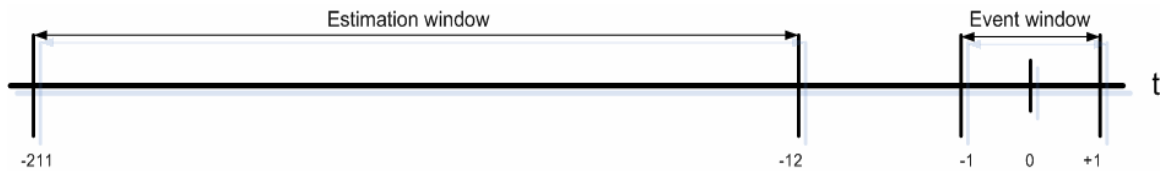
Figure 4.2 Event study timeline

We extract the daily stock returns R_{it} (return of ith stock on day t) and market returns R_{mt} from the CRSP database. For the purpose of illustration, Table 4.3 stores a portion of the raw return data for the International Paper announcement.

115

t	Calendar Date	Intl Paper Return	Market Return
−211	20001211	0.016892	0.011947
−210	20001212	−0.00166	−0.01088
−209	20001213	0.009983	−0.01152
−208	20001214	−0.00494	−0.01693
−207	20001215	−0.00993	−0.01781
−206	20001218	0.011706	0.005275
...	...	...	...
−16	20010926	0.002097	−0.00611
−15	20010927	0.011958	0.010646
−14	20010928	0.029247	0.022758
−13	20011001	−0.01722	−0.0044
−12	20011002	0.008178	0.011629
−11	20011003	0.006373	0.022398
−10	20011004	−0.00662	−0.00022
−9	20011005	0.046074	0.000453
−8	20011008	−0.03047	−0.00777
−7	20011009	0.008857	−0.00479
−6	20011010	0.042481	0.023187
−5	20011011	0.037761	0.017355
−4	20011012	−0.00785	−0.0054
−3	20011015	−0.00528	−0.00072
−2	20011016	−0.00265	0.007818
−1	20011017	−0.03404	−0.01948
0	20011018	−0.0017	−0.0071
1	20011019	−0.0102	0.004958

Table 4.3 Data for IP20011018

We adopt an estimation window of 200 days (-210th day to -11th day, 0 day as the event day) to estimate the association of the focal stock and the market as expressed in equation (1):

$$r_{it} = \alpha_i + \beta_i r_{mt} + \varepsilon_{it} \tag{1}$$

$$a_{IP} = 0.001725385$$

$$\beta_{IP} = 0.875777321$$

116

where r_{it} represents the daily stock returns to firm i on day t, r_{mt} denotes the corresponding daily returns of the market; α_i and β_i are firm specific parameters representing stock i's association with the overall market. ε_{it} represents the daily residual.

Next, we use the estimates (α_i and β_i) obtained from this market model to predict (normal) return for stock i across the event window, as expressed in equation (2):

$$AR_{it} = r_{it} - (\alpha_i + \beta_i r_{mt}) \tag{2}$$

$$AR_{t=-1} = -0.01871$$

$$AR_{t=0} = 0.00285$$

$$AR_{t=1} = -0.01627$$

The daily excess returns, as denoted by AR_{it}, reflect the daily unanticipated movements in the stock price for the outsourcing firm on day t. The variance of these ARs is calculated using the formula in equation (3):

$$\sigma^2_{(AR_{i0})} = \sigma^2_{\varepsilon_{it}} + \frac{1}{L_1}\left[1 + \frac{(R_{mt} - \mu_{R_m})^2}{\sum_{t=1}^{L_1}(R_{mt} - \mu_{R_m})^2}\right] \tag{3}$$

$$\sigma^2_{IP(AR_{i0})} = 0.000348$$

where μ_{Rm} is the mean market return during the estimation period with L_1 days, and $\sigma^2_{\varepsilon_{it}}$ is the variance of the residuals ε_{it} during the estimation period. When the estimation window L_1 becomes large, the second term approaches 0 as the sampling errors of parameters vanishes (MacKinlay, 1997). Because of the very long 200-day

estimation window in this study, we ignore the second term in calculating the variance. In the case of International Paper BPO, we have the variance of 0.000348.

As we note earlier, the most critical design issue in an event study is the width of the event window, which concerns the signal / noise ratio in detecting capital markets' reaction to a BPO event. After calculating abnormal returns, we performed a post-hoc correlation analysis to see if the chosen one day window can sufficiently capture the stock markets' response. For the whole sample, the correlation between day 0 ARs (AR_0) and day +1 ARs (AR_1) is marginally significant at the $p = 0.09$ level. Next, we split the whole sample by the value chain position. The correlation between AR_0 and AR_1 is significant at $p = 0.02$ level for primary processes, while AR_0 and AR_1 are not significantly correlated ($p = 0.3$) for supportive processes. The two contrasting significance levels seem to imply that valuation effect spills over to the time period after the announcement for primary BPOs, whereas for supportive BPOs, the valuation impact is sufficiently digested by the market within the day of the announcement. In addition, the abnormal returns on day 0 and -1 are not correlated significantly for the whole sample as well as the split samples. Consequently, we interpret this insignificance as an indicator of no pre-event information leakage. By choosing a one day window, we are able to maintain an untainted and unbiased measure (one day response) of valuation effect for all processes.

We use the standardized abnormal return on the event day, SAR_{i0}, as the primary DV for this study. For the International Paper event, we standardize the day 0 AR and get SAR_0 of 0.153, which is essentially a Z score. By adopting a one day event window, we subscribe to the market efficiency hypothesis, which states that

stock prices fully reflect available information, and any lag in the response of prices to new information is short lived (Fama, 1998). The post hoc correlation analysis reaffirms that the one-day event window is adequate to capture the market's signal.

4.2.2 The Independent Variables

There are three major categorical IVs in our research model: *value chain position* (IV1 = 1 for primary processes and 0 for supporting processes), *relational governance* (IV2 = 1 for high level of relational governance and 0 for low level) and *process maturity* (IV3 = 0 for pre-implementation / low maturity and 1 for post-implementation / high maturity).

Because Porter's VC framework was originated in a manufacturing oriented environment, we extend its applicability by incorporating Gartner's BPO market model to address the complexity of modern organizations. In uniting the two models, we map the process categories of supply management and demand management processes in Gartner's BPO market model into the primary category in Porter's value chain model. Because of their similarity in internal containment, and indirect contribution to value creation, we treat enterprise service processes as the supportive class in the VC framework.

The coding of relational governance for a BPO announcement is determined based on the content analysis of the corresponding BPO news wire. Partnership and alliance represent distinct hybrid governance forms in TCE and exhibit high levels of information sharing, trust and cooperation. These three dimensions typify and characterize relational governance (Poppo & Zenger, 2002). In examining signs of relational governance within the BPO wire text, we use keywords like "partnership," "partner," "win-win" and "alliance." To accurately capture relationship

characterization, we limit our examination to the section of the new wire in which executives from either side of the deal offered comments on the newly established BPO relationship. When one or more of the above keywords are identified within the statements by BPO decision makers, we mark a stronger presence of relational governance, and assign the value of 1 to IV2. Otherwise, we assign value of 0 to IV2.

Compared to Poppo and Zenger (2002)'s operationalization, this key word based filter is inevitably "liberal" in detecting the degree of relational governance. With the set of 109 announcements that survived the liberal filter, we use the three items in Poppo and Zenger's operationalization as a conservative filter to further examine them. The three items they used to operationalize relational governance are 1) the buyer has an extremely collaborative relationship with the vendor, 2) both parties share long- and short-term goals and plans, and 3) the buyer can rely on the vendor to keep promises. Whenever an announcement loads on one of the three items, we identify it as an announcement of relational governance with conservative interpretation. With this conservative filter, we are able to get a total of 49 announcements indicative of relational governance with conservative interpretation.

Table 4.4 presents three such BPO announcements. Using abnormal return as the criterion, we compare the group means of the set of "conservative" announcements and the remaining set of "liberal" announcements. There was no discernable difference in mean abnormal returns between the two sets. Therefore, we are reasonably confident that our key word based filter is comparable to Poppo and Zenger's operationalization in capturing the content of relational governance revealed in a public BPO announcement.

BPO Events	Our Conservative Interpretation
Feb. 17, 1998--ADP Brokerage Services Group (ADP BSG), announced that it has successfully completed the conversion of Legg Mason Wood Walker, Inc. (LMWW to its BPS service bureau environment. … "The success of the conversion further validates the reasons we chose ADP," explained Timothy C. Scheve, senior vice president, of Legg Mason Wood Walker, Inc., "The ADP team provided comprehensive planning, technical support, and training, before, during and after the conversion. This facilitated a very **smooth transition** to our new front- and back-office services. And, when the market's volatility increased during the final week prior to the conversion, ADP's systems were timely and effective -- **giving us confidence for the billion** share days that lie ahead. In addition, by outsourcing to ADP our brokerage processing systems will be Year 2000 compliant," Mr. Scheve added. "We are very proud to have Legg Mason join the roster of ADP clients. The entire Legg Mason **team is an extraordinary partner.** They truly understood the strategic mission and key issues of a conversion and worked very closely with ADP to build and execute a solid plan," stated Marianne Brown, senior vice president of Service Delivery at ADP Brokerage Services. "**Considerable planning and detailed procedures are necessary to successfully execute a conversion**. A conversion is a large project and when both **teams are dedicated to a common goal, t**he result is a very smooth transition. From day one, the Legg Mason team e**xemplified that spirit of partnership and we all look forward to our long-term relationship."**	1. The vendor understands buyer's strategic mission. 2. Teams from both sides share a common goal. 3. The buyer showed confidence in vendor's service
April 6, 1998, Monday ALLTEL (Nyse: AT) announced today the signing of a five-year outsourcing agreement with Evergreen Bancorp. … "Our technology plans called for a suite of core applications that were not only Year 2000-compliant, but offered flexible and feature-rich functions," said Anthony Koenig, executive vice president of Evergreen. "The HORIZON system couples a cost-effective system with the options we need to continue our growth in the next millennium." "The HORIZON Banking System is a relational database software system designed for IBM AS/400 technology," said Gary Norcross, general manager of ALLTEL's Community Bank group."Its comprehensive set of integrated financial applications is adaptable to any financial environment and substantially reduces operating costs. N**ew products can be developed simply and quickly without complicated reprogramming, giving the institution a competitive edge in the marketplace.** Its ease of operation minimizes employee-training time and increases productivity." "We continually enhance the system to accommodate market, technological and regulatory changes and we provide full installation and training services," continued Norcross. "Evergreen has chosen to use on-site ALLTEL resources to deliver the HORIZON system and to maximize the cost effectiveness of this solution. We are confident that the **partnership** between Evergreen and ALLTEL will continue past the Year 2000. We will work to help the bank accomplish the **strategic goals** it has set."	1. The vendor expressed its intent to help the buyer in accomplishing its strategic goals. 2. The new process will give buyer organization a competitive edge in marketplace.

Table 4.4 Sample BPO announcements with conservative interpretation

BPO Events	Our Conservative Interpretation
ATELINE: CHANDLER, Ariz., Jan. 16, 2002 Amkor Technology, Inc. (Nasdaq - AMKR) today announced an agreement under which **Agilent** Technologies, Inc. will outsource its printer ASIC (application specific integrated circuit) assembly requirements to Amkor. **Agilent** is an industry leader in the development and manufacture of highly integrated chips used in high-volume desktop printer applications. Amkor will provide **Agilent** with a broad range of semiconductor package technology, using both leadframe and laminate (ball grid array) package platforms. In addition Amkor will support **Agilent** with multi-site supply assurance and comply with a vendor-managed inventory program. **Agilent** has transferred assembly assets to Amkor, where they are being integrated throughout Amkor's operational base, including the newest locations in China, Taiwan and Japan. "Our al**liance with Agilent is part** of Amkor's ongoing effort to reshape the semiconductor manufacturing environment," said Gary Waterhouse, Amkor's senior vice president of business development. "This agreement provides Agilent with several key benefits, including a cost-effective manufacturing environment, increased operational flexibility, and improved supply chain management. Incorporating Amkor early in Agilent's design process will allow us to **concurrently develop packa**ging technology for new semiconductor products, thus enhancing overall time to market." "Amkor and Agilent have wor**ked together for several year**s," said Tan Bian Ee, vice president and general manager of worldwide manufacturing for Agilent's Semiconductor Products Group. "This agreement broadens that relationship and allows us to control our inventory needs. Our affiliation now extends from design to warehousing."	1. Concurrent development is indicative of a collaborative relationship. 2. The buyer and vendor already have a history of cooperation. 3. Major benefits for the buyer organization.

Table 4.4 Sample BPO announcements with conservative interpretation (continued)

We code the level of process maturity based on the life stage of the outsourced process – whether or not the process was deployed internally at the time of BPO. The indicators of existing process ownership include: closure of existing facilities and liquidation of fixed assets, layoff of existing employees or reemployment by the service provider, transfer of assets from the outsourcing firm to the provider, transitioning or migration of existing systems, and cost savings. When one of the above indicators is identified within the text of the BPO wire, we assign a value of 1 to IV3 (process maturity) to represent a high level of maturity and disintegration based outsourcing. Otherwise, we assign a value of 0 to IV3.

4.2.3 Control Variables

To account for possible size, history and industry effects, we control for firm size, firm age and industry consistent with existing outsourcing and alliance research (Hayes et al., 2000; Kale et al., 2002; Gulati & Higgins, 2003; Sanders & Boivie, 2004; Oh, 2005). We use the number of employees as the indicator of firm size, and the first two digits of SIC code to denote an industry, which is then assigned a dummy variable (1 for belonging to an industry, and 0 for otherwise). Because some BPO decisions affect only a division or subsidiary of the parent firm, we also control for the impact scope, which takes two values, either whole (0 - a whole firm) or partial (1 - only subsidiary or division), relative to the entity represented by the tracking stock. We calculate a firm's age as the difference between the current year (at the time of the BPO announcement) and the year in which the firm was founded. As usual, we decide to use the natural logs of age and size in actual statistical analysis.

Value assignments for IVs, DV, and CVs related to the three sample BPO events are summarized in Table 4.5.

Sample Announcement	Value Assignment
IP20011018	IV1 = 0 (HR supportive process); IV2 = 1 (the usage of 'partnering', 'mutual beneficial business partnership') IV3 = 1 (Exult will assume responsibility) CV1 = 83,000 employees CV2 = 60 Yrs CV3 = paper mills (SIC code = 26) CV4 = 0 (whole firm)
ARRS20011023	IV1 = 1 (operations: manufacturing - primary process); IV2 = 1 (the usage of 'partner', 'partnership') IV3 = 1 (Arris will close its existing processes) CV1 = 728 employees CV2 = 8 Yrs CV3 = telecommunication (SIC code = 36**) CV4 = 0 (whole firm)
KM20010906	IV1 = 0 (HR: payroll and benefits - supportive process); IV2 = 0 (no existence of keywords denoting relational partnership) IV3 = 0 (new automated process) CV1 = 158,000 employees CV2 = 102 Yrs CV3 = department store (SIC code = 53**) CV4 = 0 (whole firm)

Table 4.5 Value assignment for IVs and CVs

4-3 Power Analysis

The main goal of power analysis is to allow researchers to decide the sample size needed to enable accurate and reliable statistical judgments, and assure that the selected statistical test is able to detect effects of a given size in a particular situation. In this section, we address the likelihood of rejecting the null hypothesis for a specified level of abnormal return (or group mean AR difference) associated with a (or two) sample(s) of BPO events. Because event study does not afford researchers much freedom in deciding sample size, we use the attained sample size and effect sizes to calculate post hoc statistical powers of the corresponding parametric tests (t tests).

Table 4.6 displays the calculated powers for each of the 6 hypothesis tests (one sample or two sample t tests). From the table, we can see that three (H2, H3

and H6) out of the six tests possess adequate power (close to or above 0.8) to detect the hypothesized effects. With the very low power of 10.7%, we do not expect the data set will confirm the positive valuation effect suggested by H1. At this stage, we can only state that the probabilities of confirming H4 and H5 are reasonably above 50%. In the context of event study (fixed sample size), some improvements might be possible if additional control variables are introduced to decrease the error variance.

Hypothesis	Effect Size	Our Sample Size	Power (α=10%)
1	0.0023	298	10.7%
2	0.227	148(150)	75%
3	0.2998	107(191)	78%
4	0.0978	148(150)	57%
5	0.298	55(93)	58%
6	0.485	46(102)	82%

Table 4.6 Power analysis results

4-4 Data Analysis

Hypothesis testing in event study typically entails aggregating individual stock ARs into portfolio abnormal return. Related to this abnormal return aggregation is the aggregation of individual variances. Both aggregations rest on the assumption that all the individual events (BPO announcements) are independent of each other, and observe the same normal distribution.

To test hypothesis 1, we calculate the Z statistics for the portfolio of the N = 298 events by the formula expressed in equation (4):

$$Z = \sqrt{N} * \frac{1}{N} \sum_{i=1}^{N} \frac{AR_{i0}}{\sqrt{\sigma^2_{(AR_{i0})}}} = \frac{\sum_{i=1}^{N} SAR_{i0}}{\sqrt{N}} \quad (4)$$

The (one tailed) critical value is 1.29 for p = 0.1 and 1.64 for p = 0.05.

To test H2, H3 and H4, we run multiple regressions between DV and the set of IVs and control variables (CVs) in a hierarchical fashion to isolate the effect of our proposed IVs from the effect of the set of industry and firm specific CVs. The first regression can be expressed in equation (5), which represents the baseline model. We then enter the three main IVs as the second block of predictors, shown in equation 6. The change in overall R^2 between the baseline and the full model can be used to assess the overall support offered by the data set for our research model.

$$DV = \alpha + \beta_1 CV_1 + \beta_2 CV_2 + \beta_3 CV_3 + \beta_4 CV_4 \varepsilon \quad (5)$$

$$DV = \alpha + \beta_4 IV_1 + \beta_5 IV_2 + \beta_6 IV_3 + \beta_1' CV_1 + \beta_2' CV_2 + \beta_3' CV_3 + \beta_4' CV_4 + \varepsilon \quad (6)$$

The sign and significance of the three regression coefficients (β_4 to β_6) will determine the support offered by the data to the three hypotheses, respectively.

To test the moderation hypothesis H5, we run similar hierarchical regressions (expressed in equation 7 and 8) on two split samples with IV1 as the grouping variable.

$$DV = \alpha + \beta_1 CV_1 + \beta_2 CV_2 + \beta_3 CV_3 + \beta_4 CV_4 \varepsilon \quad (7)$$

$$DV = \alpha + \beta_5 IV_2 + \beta_6 IV_3 + \beta_1' CV_1 + \beta_2' CV_2 + \beta_3' CV_3 + \beta_4' CV_4 + \varepsilon \quad (8)$$

The detection of moderation effect is based on the differences between the changes in R^2 and two β_5 s (one set for IV1 = 0 and one set for IV1 = 1). Testing H6

will follow exactly the same procedure, except that IV3 will be the grouping variable for splitting the data file, and IV1 will replace IV3 in the regression equation.

Because multiple regressions can only reveal effect size and relationship strength, we additionally adopt group t tests to compare the means of SAR_0 across groups. For the computation of the t statistics, we use the procedure described in Sabherwal & Sabherwal (2005). With group t tests, we can see the signs of the group means, which can test the hypothesized positive (or negative) impact.

The above parametric test statistics employed in most event studies tend to be quite sensitive to outliers. Outliers distort the distribution of data points and may render interpretation of regression results problematic. Many researchers choose to ignore them completely or remove them from the sample. However, outliers in abnormal returns represent extreme market reactions and exhibit a high level of return "abnormality." Considering the special nature (exploitation of abnormality) of event studies, McWilliams & Siegel (1997) suggest that an alternative control for outliers is for researchers to report nonparametric statistics. Fortunately, the three dichotomous IVs allow us to conduct nonparametric tests (Rank test) of SAR rankings by using the focal IVs as grouping variables. Because there is no group comparison in testing H1, we adopt a sign test instead of Rank test. Any significant discrepancies between the parametric and nonparametric analyses would suggest that the dataset seriously violates certain assumptions underlying multiple regression (e.g. normality, independence of residuals, etc.), and that the results are possibly driven by a few outliers. We elect to complement parametric analysis with nonparametric analysis to enhance the robustness of our findings, based on which we offer implications for research and practice in Chapter 6.

CHAPTER FIVE
STUDY RESULTS

In this chapter, we present the major results assessed from the collected dataset. First, we provide descriptive statistics about the events, the dependent variable, the independent variables and the control variables. Second, we present results from both parametric and nonparametric hypothesis tests. At the end of this chapter, we assess and summarize the overall support offered by the data for the research model.

5-1 Descriptive Statistics

Figure 5.1 displays the breakdown of events by time. In general, the frequencies indicate the booming trend of BPO documented in the opening section of Chapter 1. The years 2004 and 2005 observed a slowdown. Table 5.1 breaks down the sample by industry (first two digits of SIC code). Our sample covers both service (e.g. banking, software) and manufacturing sectors (e.g. oil exploration and refinery, automobile). We include a set of industry dummies (0/1) in the latter regression analyses as control variables to rule out any industry related explanations for outsourcing outcome. To isolate their effect from the three principal predictors, we enter them into the regression analysis as a separate block before the addition of the three IVs as a second block.
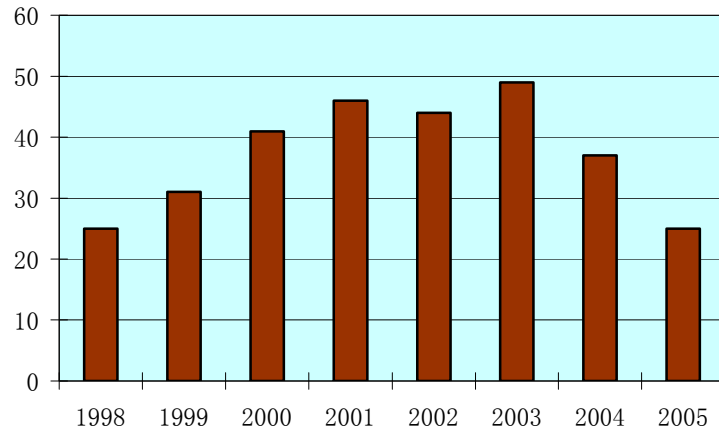
Figure 5.1 Distribution of BPO events by time

Industry (first two digits of SIC code)	# of Events
13	6
15	1
20	9
22	1
23	4
25	1
26	1
27	6
28	13
29	1
30	2
31	2
32	2
33	2
34	2
35	18
36	28
37	4
38	10
39	2
42	3
44	1
45	2
46	1
47	1

Table 5.1 Breakdown of events by industry

Industry (first two digits of SIC code)	# of Events
48	19
49	10
50	9
51	3
52	1
53	1
54	5
55	1
56	5
57	6
59	8
60	27
61	3
62	5
63	13
64	1
65	1
67	11
72	1
73	34
75	2
78	2
79	2
80	3
87	3
Total	**298**

Table 5.1 Breakdown of events by industry (continued)

Table 5.2 presents a breakdown of the BPO events by process type following Gartner's BPO market model. As reported there, about half of the sample (49%) is for primary business processes, including supply management and demand management processes. Enterprise service processes account for the rest of the sample (51%).

Process Type	1998	1999	2000	2001	2002	2003	2004	2005	Total
Supply Management Processes	8	11	12	16	12	19	12	6	96(32%)
Demand Management Processes	3	2	12	7	14	6	6	1	51 (17%)
Enterprise Service Processes	14	18	17	23	18	24	19	18	151(51%)

Table 5.2 Distribution of events by year and process type

For the BPO announcing firms included in our sample, the number of employees, used as a proxy for firm size, ranges from 10 to 639,000, with a mean of 27,000 and median of 5,230. Our sample also provides broad coverage in terms of firm age, ranging from 2 to 185 years, with a mean of 44 and a median of 67. Among the 298 events, 70 of them were implemented at the subsidiary or division level. Notably, firm size (natural log), age (natural log) and impact scope (firm or subsidiary) are all used as control variables in our regression analysis. Table 5.3 also provides percentile ranges for the two control variables.

Variable	Mean	Std. Dev.	Minimum	1st Quartile	Median	3rd Quartile	Maximum
Size (thousand employees)	27	61	0.01	0.96	5.23	25.64	639
Age	44	43	2	13	28	67	185

Table 5.3 Descriptive statistics – firm size and age

Table 5.4 provides the descriptive statistics for the main DV of our study, including the mean, standard deviation, median and quartile ranges. On average, a

firm that enters a BPO arrangement experiences only a marginal 0.23% gain in market valuation on the day of announcement. Reflecting the considerable variation in AR and SAR across sample events, the values are roughly divided evenly above and below the 0% return. Because of the considerable variation in $VAR(AR_0)$, we use SAR_0 to smooth out stock specific volatility that might distort subsequent interpretations.

Variable	Mean	Std. Dev.	Minimum	1st Quartile	Median	3rd Quartile	Maximum
AR_0 (Abnormal Return on Day 0)	0.23%	4.4%	-17.1%	-1.5%	-0.18%	1.4%	31.8%
$VAR (AR_0)$	0.0028	0.0176	0.0000507	0.00028	0.00064	0.00179	0.297
SAR_0 (standardized AR_0)	0.0295	1.0433	-3.26	-0.5732	-0.0614	0.4616	6.57

Table 5.4 Descriptive statistics – stock abnormal returns

From Table 5.5, we can observe that among the 298 BPOs, 147 are dealing with primary business processes. A strong presence of relational governance (IV2 = 1) can be found in the news wires of 107 BPO announcements. About half of the sample BPOs are disintegration based with clear indicators of prior process ownership.

Variable	Value 1 (0)	# of occurrences.	Value 2 (1)	# of occurrences
Value chain Position	Supporting processes	151	Primary Processes	147
Relational governance	Low	191	High	107
Process Maturity	Low (abstention based)	150	High (disintegration based)	148

Table 5.5 Descriptive statistics – VC position, relational governance and process maturity

Figure 5.2 provides group means of AR_0 by the two natural process attributes - value chain position and process maturity, as well as the two-way combinations of the two dichotomous variables. It is interesting to note that for supportive processes, disintegration based BPOs yields a negative and lower mean AR than abstention based BPOs. Without the involvement of the managerial process attribute of relational governance, the maximal (cell) mean difference is 1.51%. However, when the managerial process attribute is factored in, the maximum mean difference is tripled to 4.5% (3.2% +1.29%), as displayed in Figure 5.3.
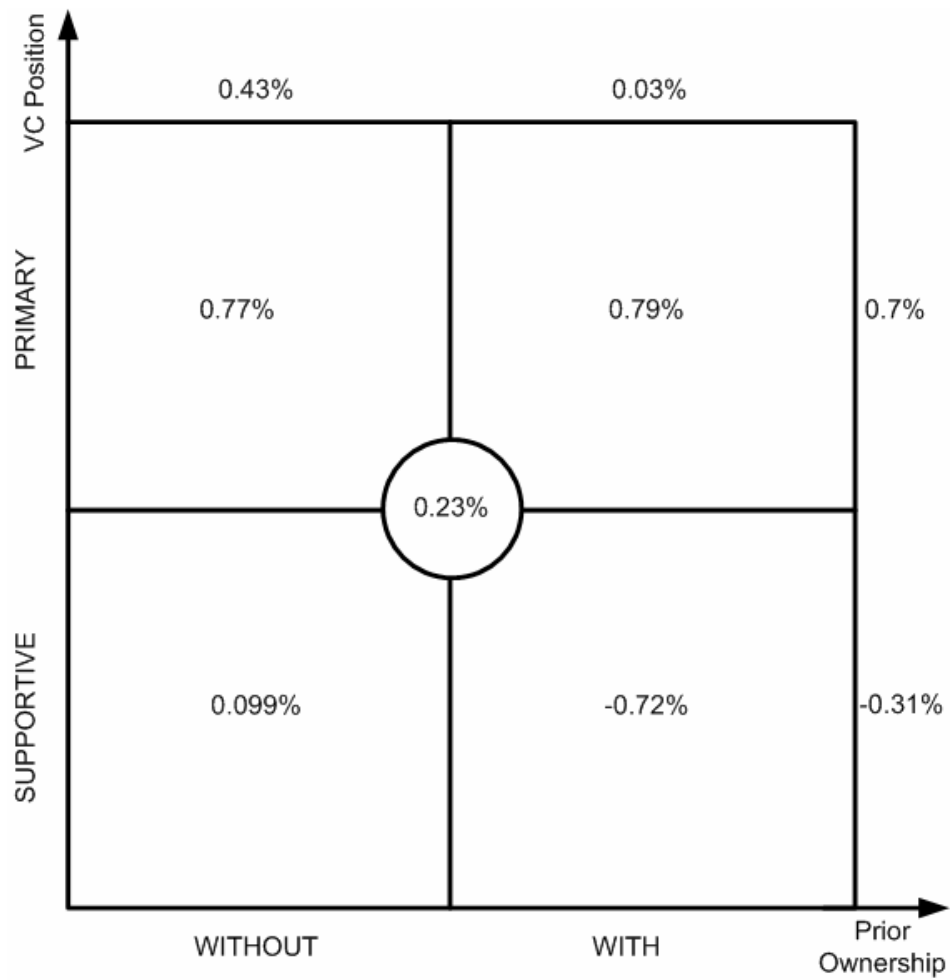
Figure 5.2 Descriptive statistics – MAR (Mean Abnormal Return) by value chain position and process maturity
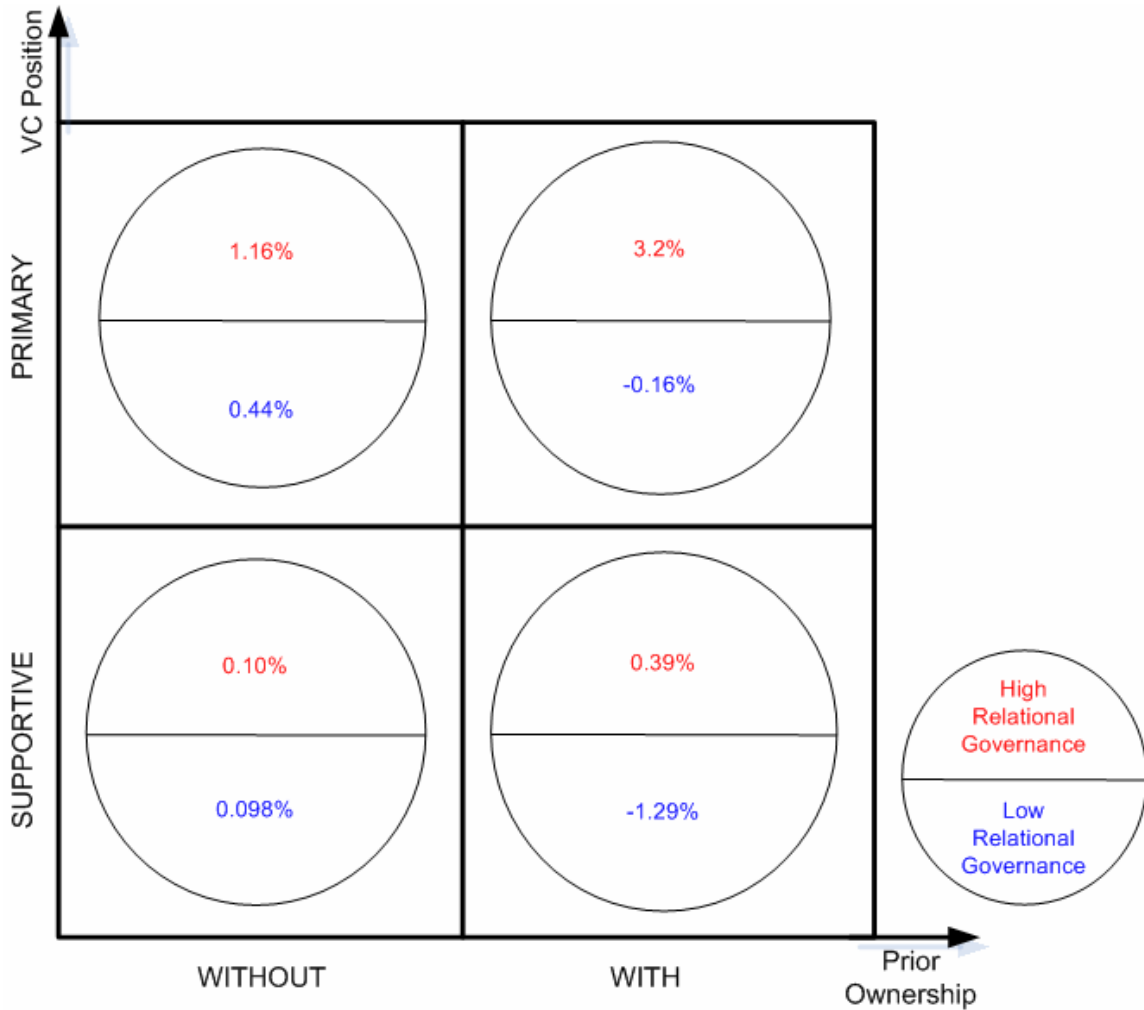
Figure 5.3 Descriptive statistics – MAR (Mean Abnormal Return) by value chain
position, process maturity and relational governance

5-2. Data Screening

In event studies, researchers frequently use the estimated abnormal returns
for the sample firms as the dependent variable, and firm specific variables as
explanatory variables. Although multiple regression is a useful tool for understanding
the relationships between the DV and a set of IVs, it relies on certain assumptions

about the variables involved in the analysis. In this section, we seek to verify whether our collected dataset satisfies the three critical assumptions underlying multiple regression analysis: normality, homoscedasticity and absence of multicollinearity.

5.2.1 Normality

Tabachnick & Fidell (2001) prescribed that "screening continuous variables for normality is an important early step in almost every multivariate analysis" (pp. 73). Variables with non-normal distribution, either highly skewed, kurtotic, or with substantial outliers, can distort relationships and significance. According to them, in a large sample, a variable with statistically significant skewness and kurtosis often does not deviate enough from normality to make a substantive difference in the analysis. They further recommend that if the sample is large, visual examination of the normal probability plot is necessary and helpful to assess the variable's actual deviation from the normal distribution. Judging from the normal P-P plot in Figure 5.4, we do not see extreme departures from the diagonal, and therefore conclude that $SCAR_0$ roughly follows a normal distribution.
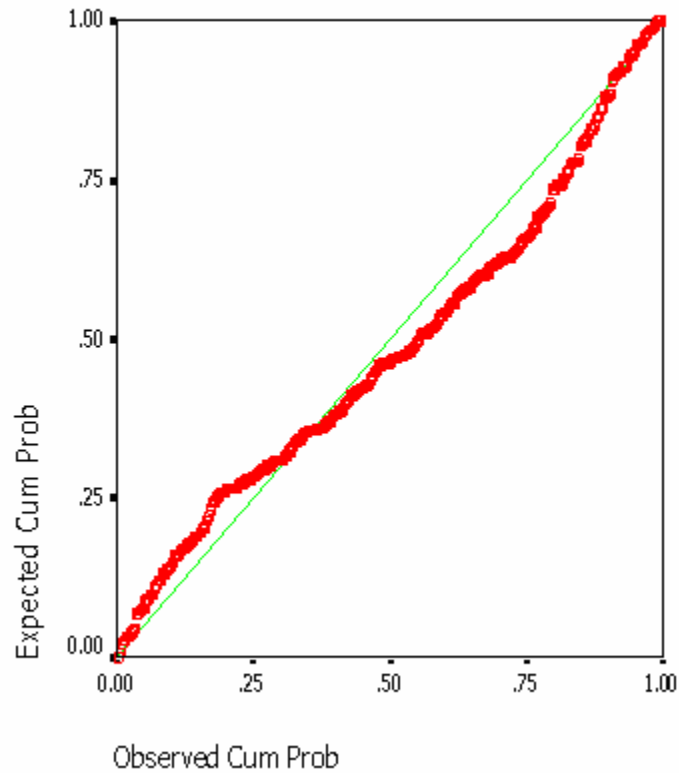
Figure 5.4 Normality plots for DV-SAR$_0$

5.2.2 Homoscedasticity

Homoscedasticity means that the variance of errors is the same across all levels of the IV. According to Tabachnick and Fidell (2001), slight heteroscedasticity has little effect on significance tests, and only marked heteroscedasticity can seriously distort study findings and possibly invalidate the analysis. To detect possible heteroscedasticity, we again visually examine the plot of the standardized residuals derived from the regression of the DV on three major IVs of our study. Not seeing

any apparent changes in the spread of plotted points (residuals against predicted value) in Figure 5.5, we are confident that the error variance is constant.
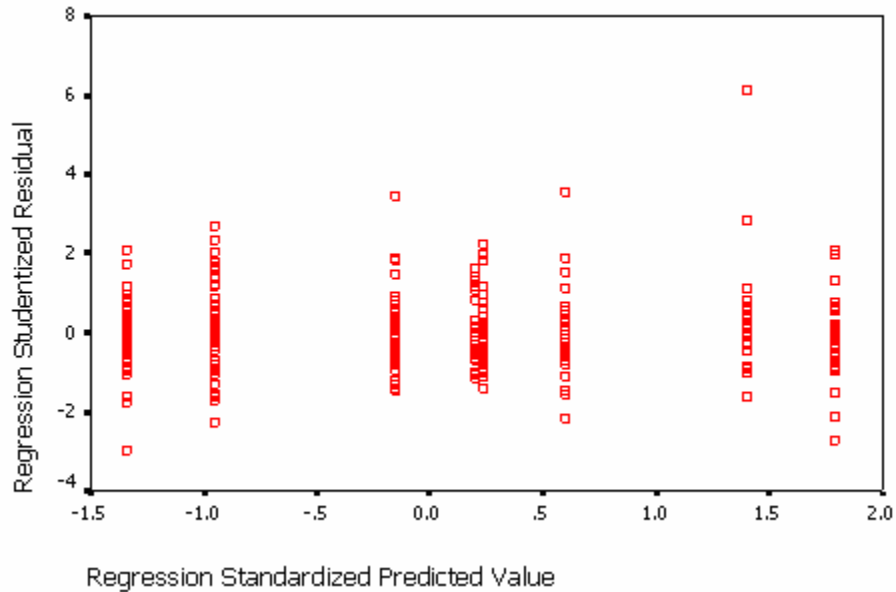
Figure 5.5 Plot for standardized regression residuals

5.2.3 Multicollinearity

Multicollinearity is the intercorrelation of IVs. High multicollinearity makes assessment of the unique explanatory role of each IV difficult due to variance suppression or inflation. After inspecting the correlation matrix in Table 5.6, we find none of the correlation coefficients for the three pairs of IVs is greater than 0.7, which is a reasonable criterion for evaluation of bivariate correlation. A coefficient of 0.7 translates to $R^2 = 0.49$, meaning less than half of the variability in one IV is explained by another IV. To assess multivariate multicollinearity, one uses tolerance,

which is $1-R^2$ for the regression of the correspondent IV on all other IVs. As a rule of thumb, a tolerance of less than 0.2 indicates possible existence of multicollinearity. Judging from the tolerance results displayed Table 5.7, we conclude that the dataset exhibits no multicollinearity.

	Process Maturity	Relational Governance	Value chain position	$SCAR_0$
Process Maturity	1	-0.1*	0.007	-0.047
Relational Governance	-0.1*	1	0.026	0.138**
Value chain position	0.007	0.026	1	0.109*
$SCAR_0$	-0.047	0.138**	0.109*	1

Table 5.6 Pearson correlation matrix

Independent Variable	Tolerance	VIF (variance inflation factor)
Value Chain Position	0.999	1.001
Relational Governance	0.989	1.011
Process Maturity	0.990	1.01

Table 5.7 Multivariate collinearity diagnostics

After the above screening procedures, we are confident that multiple regression will be effective in testing the hypotheses proposed in Chapter 3.

5-3. Hypothesis Testing

The first hypothesis (H1) anticipates a greater positive market value impact of BPO. To facilitate hypothesis testing of H1, we aggregate the individual abnormal returns on day 0 to calculate the Z value. The Z test statistic is 0.197, which is not significant at any conventional levels. The nonparametric sign test yields a p value of 0.44 for the hypothesis (the median is positive). Consequently, we find no support for the positive impact on firm valuation suggested by H1.

To test H2, H3, and H4, we conduct multiple regressions in a hierarchical manner. In the first regression equation, we include only control variables as predictors in the baseline model. After the baseline model is run, we then add the three major IVs (VC position, maturity and relational governance) in a block and expand the baseline model into a full model with all predictors. As recorded in Table 5.8, the change in R^2 (2.6%) when the hypothesized effects (H2, H3, and H4) are included is significant at the $p = 0.10$ level. This proves that the three IVs as a whole in our research model explain a small, but statistically significant portion of the variance of DV (SAR_0). The significant change in R^2 validates our proposed research model, which is the difference between the baseline and the full model.

Variables Included		Baseline Model with CVs only	Full Model with all Variables
	CV1 – Size	0.063	0.088
	CV2IND13†	0.079	0.099
	CV2IND15	-.040	-.040
	CV2IND20	-.105	-.099
	CV2IND22	-.049	-.050
	CV2IND23	-.013	-.008
	CV2IND25	-.001	-.006
	CV2IND26	-.007	-.009
	CV2IND27	-.087	-.083
	CV2IND28	-.087	-.098
	CV2IND29	-.019	-.003
	CV2IND30	-.012	-.023
	CV2IND31	-.017	-.017
	CV2IND32	-.126**	-.103*
	CV2IND33	-.021	-.026
	CV2IND34	0.059	0.058
	CV2IND35	-.026	-.052
	CV2IND36	-.055	-.077
	CV2IND37	-.054	-.054
	CV2IND38	-.073	-.076
	CV2IND39	-.109*	-.099
	CV2IND42	-.004	0.020
Control Variables	CV2IND44	0.020	0.033
	CV2IND45	-.092	-.093
	CV2IND46	-.041	-.041
	CV2IND47	-.046	-.041
	CV2IND48	-.099	-.095
	CV2IND49	-.092	-.062
	CV2IND50	-.074	-.041
	CV2IND51	-.025	-.032
	CV2IND52	0.006	-.012
	CV2IND53	-.032	-.019
	CV2IND54	0.066	0.079
	CV2IND55	-.009	-.010
	CV2IND56	-.033	-.031
	CV2IND57	-.081	-.079
	CV2IND59	-.043	-.049
	CV2IND60	-.054	-.023
	CV2IND61	0.043	0.043
	CV2IND62	-.056	-.043
	CV2IND63	-.075	-.044
	CV2IND64	-.040	-.028
	CV2IND65	-.020	-.005
	CV2IND67	0.057	0.065
	CV2IND72	-.075	-.078
	CV2IND75	-.020	-.009
	CV2IND78	-.016	-.020
	CV2IND79	0.082	0.071

Table 5.8 Results of regression analyses -- H2, H3, and H4

Variables Included		Baseline Model with CVs only	Full Model with all Variables
	CV2IND80	0.005	0.014
	CV2IND87	0.042	0.026
	CV3 - Age	-0.066	-0.065
	CV4-Scope	-0.115*	-0.118*
IV1- Value chain position			**0.149****
IV2- relational governance			**0.110***
IV3- Process maturity			0.016
ΔR^2		13.9%	**2.6%***
ΔF		0.745	2.461*

Standardized regression coefficients are presented;
* 0.10 significance level ** 0.05 significance level   *** 0.01 significance level
† CV2IND13 – dummy (1, 0) variable representing industry SIC 13** for the control variable CV2 (industry)

Table 5.8 Results of regression analyses -- H2, H3, and H4 (continued)

Next, we examine the individual regression coefficients associated with the three IVs in the full model. The coefficients for both IV1 (value chain position) and IV2 (relational governance) are significant at $p = 0.05$ and $p = 0.10$ levels respectively, indicating significant support for H2 and H3. The sign of the coefficient for IV3 (process maturity) is not as proposed in H4, and the strength (0.016 with $p > 0.10$) is not significant. Therefore, we find no support for H4.

Table 5.9 displays the results from group t tests for H2, H3, and H4. From the results, we observe no discrepancies. The positive valuation effects suggested by H2, H3, and H4 are all supported by the signs of corresponding mean SCARs. Further, the Levene's tests for equality of variances confirm that variances of SCAR are even across groups.

	IV = 0	IV = 1	t (p-value)	Levene's Test for Equality of Variances – F (p-value)
VC	-0.083	0.14	1.885 (0.06)	0.441 (0.507)
RG	-0.078	0.22	2.398 (0.02)	1.545 (0.215)
MAT	0.078	-0.019	0.808 (0.42)	0.363 (0.547)

Table 5.9 Results of group t tests -- H2, H3, and H4

The above cross-sectional regression is a variance extraction based approach in measuring performance differences. Brush and Bromiley (1997) criticized the use of variance and alleged that it gives weight to observations that are far from the mean. The treatment of outliers by many researchers is to simply delete them (McWilliams & Siegel, 1997). Other researchers run regressions before and after the deletion of outliers, and check for any changes in significance level of the test statistics (see Hayes et al., 2000; Sabherwal & Sabherwal, 2005). Despite the increased robustness, the elimination of outlying observations from the sample is a rather drastic approach and might cause the neglect of important stock market signals. Because of the relatively large sample size of our study, we didn't identify any significant influential outliers using Cook's distance. The maximum Cook's distance assessed from the dataset is 0.29, far below the suggested threshold of 1.00. Nevertheless, we turn to nonparametric analysis to corroborate results attained from regression analysis. Table 5.10 provides the results from the nonparametric analyses.

	Mean ranks		Wilcoxon W	Z score(Rank Test)	Asymp. Sig.
IV1-VC Position	139.77 (n=151, IV1=0)	159.36 (n=147, IV1=1)	20965	-1.963	**0.05**
IV2-relational governance	141.8 (n=191, IV2=0)	164.52 (n=107, IV2=1)	26947	-2.253	**0.024**
IV3-process maturity	156.08 (n=150, IV3=0)	142.83 (n=148, IV3=1)	21139	-1.327	0.184

Table 5.10 Results of nonparametric tests -- H2, H3 and H4

From Tables 5.8 and 5.10, we observe no discrepancies regarding the empirical support for H2 and H3. For H4, the nonparametric test did show higher performance mean ranks associated with the abstention based BPO group to some extent. Although the difference is not significant, its directionality and the p value of 0.184 nonetheless offer researchers some encouraging prospects in exploring the timing of BPO. Following this lead, we further split the sample by the values of IV1 (value chain position). Non-parametric tests reveal that for the sub-sample of supportive BPOs (IV1=0), H4 receives strong support (p = 0.056).

To test H5, we first split the whole sample into two sub-samples based on the value of the grouping variable (IV1). By withdrawing the moderator from the regression equation, we repeat the hierarchical regression on both datasets. Table 5.11 shows the results from regressions performed at the two value levels of value chain position. When IV1=0, the change in R^2 with the addition of IV2 and IV3 is not significant. The regression coefficient for IV2 in the full model is not significant. At the level of IV1=1, we see exactly the opposite – both the R^2 change and

regression coefficient for IV2 are significant. The significant increase in the strength of relationship (as indicated by regression coefficients) between IV2 and DV offers support for H5.

		IV1 = 0 (support processes)		IV1 = 1 (primary processes)	
Variables Included		**Baseline Model**	**Full Model**	**Baseline Model**	**Full Model**
Control Variables	CV1 – Size	0.226**	0.216**	-.022	0.008
	CV2IND13	-.075	-.074	0.287***	0.288***
	CV2IND15	Constant for this sub-sample		-.079	-.091
	CV2IND20	-.137*	-.136	-.098	-.157
	CV2IND22	NA‡		-.071	-.077
	CV2IND23	-.071	-.058	-.004	0.019
	CV2IND25	NA		-.027	-.035
	CV2IND26	0.000	0.009	NA	
	CV2IND27	-.086	-.094	-.093	-.106
	CV2IND28	-.048	-.052	-.154	-.156
	CV2IND29	.026	-.035	NA	
	CV2IND30	NA		-.021	-.016
	CV2IND31	-.013	-.027	0.008	0.030
	CV2IND32	-.147*	-.148*	NA	
	CV2IND33	NA		-.085	-.094
	CV2IND34	0.155**	0.162**	-.013	-.030
	CV2IND35	0.076	0.087	-.071	-.112
	CV2IND36	0.120	0.140	-.157	-.214*
	CV2IND37	-.106	-.117	-.059	-.058
	CV2IND38	-.170**	-.166**	-.048	-.055
	CV2IND39	-.170**	-.160**	-.062	-.066
	CV2IND42	0.011	0.009	NA	
	CV2IND44	0.040	0.050		
	CV2IND45	-.056	-.069	-.078	-.111
	CV2IND46	NA		-.066	-.043
	CV2IND47	-.039	-.050	NA	
	CV2IND48	-.051	-.047	-.075	-.087
	CV2IND49	-.094	-.110	-.091	-.082
	CV2IND50	0.003	0.021	-.163*	-.172**
	CV2IND51	0.115	0.102	-.117	-.102
	CV2IND52	NA		0.004	-.005
	CV2IND53	-.028	-.039	NA	
	CV2IND54	0.181**	0.161**	-.099	-.090
	CV2IND55	0.008	0.017	NA	
	CV2IND56	-.028	-.016	-.030	-.026
	CV2IND57	-.179**	-.194**	-.020	-.005
	CV2IND59	-.006	-.083	-.019	-.017
	CV2IND60	NA		0.013	0.005
	CV2IND61	-.060	-.070	0.127	0.125
	CV2IND62	0.010	0.021	NA	
	CV2IND63	-.033	-.027	-.048	-.069
	CV2IND64	-.049	-.039	NA	
	CV2IND65	0.010	-.003		
	CV2IND67	0.158*	0.147*	-.012	-.027

Table 5.11 Results of regression analyses -- H5

	IV1 = 0 (support processes)		IV1 = 1 (primary processes)	
Variables Included	Baseline Model	Full Model	Baseline Model	Full Model
CV2IND72	NA		-.111	-.092
CV2IND73	0.055	0.048	NA	
CV2IND75	0.007	0.005		
CV2IND78	NA		-.029	-.026
CV2IND79	NA		0.137	0.141*
CV2IND80	0.037	0.031	NA	
CV2IND87	NA		0.062	0.065
CV3 - Age	-.190**	-.179*	-.022	0.149
CV4-Scope	-.016	-.127	-.139	-.089
IV 2- rel. gov.		0.002		0.156*
IV3 – maturity		-.124		0.181*
ΔR²	0.373*	0.009	0.263	0.033*
ΔF	1.513*	0.803	0.953	2.471*

‡ Not Applicable, the variable is deleted from analysis, because it is constant in the split file

Table 5.11 Results of regression analyses -- H5 (continued)

As Table 5.12 illustrates, the group mean difference changes from insignificant (p = 0.102) for the sub-sample of low relational governance to significant (p = 0.096) for the sub-sample of high relational governance. However, we should caution here that the magnitude of change in p value is rather subtle (0.006). This might be because we are not able to parse out the effect of another IV – mean abnormal return (MAR) -- in group t tests, as well as the effects of other CVs. At the minimum, we are assured that the positive valuation impact elevated the group mean to a much higher level (0.3307) for the primary BPOs (VC = 1).

	IV2 = 0 RG	IV2 = 1 RG	t (p-value)	Levene's Test for Equality of Variances – F (p-value)
IV1 = 0 (VC)	-0.1837	0.1063	1.653 (0.102)	0.017 (0.897)
IV1 = 1 (VC)	0.0332	0.3307	1.676 (0.096)	2.299 (0.132)

Table 5.12 Results of group t tests-- H5

Table 5.13 shows the results from the nonparametric moderation analysis. They are in agreement with the results of the parametric analyses in Table 5.11 and 5.12.

	Mean ranks		Wilcoxon W	Z score(Rank Test)	Asymp. Sig.
IV1 = 0 (supporting processes)					
IV2 (RG)	71.68 (n=98, IV2=0)	82.69 (n=52, IV2=1)	7025	-1.477	0.140
IV1 = 1 (primary processes)					
IV2 (RG)	69.67 (n=93, IV2=0)	82.67 (n=55, IV2=1)	6479	-1.784	**0.074***

Table 5.13 Results of nonparametric tests -- H5

To test H6, we again split the whole sample into two sub-samples based on the value of the grouping variable (IV3 – process maturity). By withdrawing the moderator (IV3) from the regression equation, we then repeat the hierarchical regression on both datasets. Table 5.14 reveals the results from regressions performed at two IV3 value levels. When IV3 = 0, the change in R^2 with the addition of IV2 and IV3 is not significant. The regression coefficient for IV2 in the full model is not significant. At the level of IV3=1, we see exactly the opposite – both the R^2

change and regression coefficient for IV2 are significant (at 0.001 level). The significant increase in the strength of relationship (as indicated by regression coefficients) between IV2 and DV offers support for H6. Not surprisingly, process maturity negatively moderates the relationship between relational governance and outcome.

		IV3=0 (abstention based outsourcing)		IV3=1 (disintegration based outsourcing)	
	Variables Included	**Baseline Model**	**Full Model**	**Baseline Model**	**Full Model**
Control Variables	CV1 – Size	0.091	0.106	-.015	0.011
	CV2IND13	-.130	-.124	0.292***	0.340***
	CV2IND15	NA‡		-.065	-.057
	CV2IND20	-.059	-.054	-.117	-.100
	CV2IND22			-.068	-.054
	CV2IND23	0.057	0.054	-.098	-.057
	CV2IND25	NA		0.012	0.018
	CV2IND26			0.008	0.018
	CV2IND27	-.149	-.148	-.021	0.006
	CV2IND28	-.127	-.130	-.057	-.034
	CV2IND29	-.026	-.021	NA	
	CV2IND30	-.025	-.029		
	CV2IND31	-.047	-.045		
	CV2IND32	-.075	-.070	-.171**	-.122
	CV2IND33	NA		-.018	-.005
	CV2IND34			0.097	0.105
	CV2IND35	-.146	-.152	0.066	0.053
	CV2IND36	-.074	-.076	NA	
	CV2IND37	-.057	-.056	-.044	-.039
	CV2IND38	-.144	-.141	-.023	-.014
	CV2IND39	NA		-.153*	-.104
	CV2IND42	-.006	0.003	-.024	0.029
	CV2IND44	NA		0.042	0.090
	CV2IND45	-.110	-.104	-.096	-.120
	CV2IND46	-.055	-.057	NA	
	CV2IND47	-.061	-.058		
	CV2IND48	-.100	-.106	-.092	-.013
	CV2IND49	-.098	-.086	-.061	-.045
	CV2IND50	-.001	0.005	-.076	0.030
	CV2IND51	-.050	-.051	NA	
	CV2IND52	-.011	-.018		
	CV2IND53	-.066	-.061		
	CV2IND54	0.074	0.079		
	CV2IND55	NA		0.006	0.012
	CV2IND56	-.027	-.032	-.020	0.032
	CV2IND57	-.167*	-.165*	0.049	0.051
	CV2IND59	-.070	-.069	-.060	-.051

Table 5.14 Results of regression analyses -- H6

Variables Included	IV3=0 (abstention based outsourcing)		IV3=1 (disintegration based outsourcing)	
	Baseline Model	Full Model	Baseline Model	Full Model
CV2IND60	-.045	-.031	-.045	0.049
CV2IND61	0.041	0.044	NA	
CV2IND62	0.007	0.000	-.067	-.041
CV2IND63	-.090	-.076	-.052	0.007
CV2IND64	NA		-.040	0.006
CV2IND65	-.050	-.043	NA	
CV2IND67	0.146	0.153	-.049	-.026
CV2IND72	-.114	-.118	NA	
CV2IND73	NA		0.010	0.064
CV2IND75	0.016	0.017	-.054	-.006
CV2IND78	-.059	-.060	0.012	0.025
CV2IND79	0.111	0.108	NA	
CV2IND80	-.079	-.073	0.106	0.110
CV2IND87	0.059	0.053	NA	
CV3 - Age	-.020	-.021	-.059	-.065
CV4-Scope	-.142	-.151	-.103	-.060
IV1-VC Position		0.048		0.252**
IV2 – Rel. Gov.		0.023		0.201**
ΔR^2	0.216	0.002	0.27	0.067***
ΔF	0.681	0.107	1.024	5.389***

‡ Not Applicable, the variable is deleted from analysis, because it is constant in the split file

Table 5.14 Results of regression analyses -- H6 (continued)

Table 5.15 presents group t test statistics for the sample split by the IV of process maturity. We observe that group mean differences across groups (high and low levels of RG) change from nonsignificant (p = 0.472) to significant (p = 0.025). Thus, H5 receives strong support from group t tests.

	IV2 = 0 RG	IV2 = 1 RG	t (p-value)	Levene's Test for Equality of Variances – F (p-value)
	0.0278	0.1514	0.721 (0.472)	0.000 (0.996)
IV3 = 1 (MAT)	-0.1705	0.3148	2.289 (0.025)	3.057 (0.082)

Table 5.15 Results of group t tests -- H6

Table 5.16 shows the results from the nonparametric moderation analysis. Not surprisingly, they too support H6.

	Mean ranks		Wilcoxon W	Z score(Rank Test)	Asymp. Sig.
	IV3 = 0 (abstention based outsourcing)				
IV2-relational governance	72.72 (n=89, IV2=0)	79.56 (n=61, IV2=1)	6472	-0.947	0.344
	IV3 = 1 (disintegration based outsourcing)				
IV2-relational governance	69.56 (n=102, IV2=0)	85.46 (n=46, IV2=1)	7095	-2.088	**0.037**

Table 5.16 Results of nonparametric tests --H6

5-4. Summary of Test Results

Our event sample consists of a total of 298 BPO announcements for the years 1998-2005. Following the recommendations by McWilliams & Siegel (1997), we accompany each parametric test with a corroborating nonparametric test. This decision was motivated by our desire to ensure that a few possible outliers (common in event studies) are not driving the reported findings. The multiple comparative analyses (multiple regression, group t test, and non-parametric tests) offer qualitatively the same support for the corresponding hypotheses. To assess the explanatory power of our proposed research model, we run regressions in a hierarchical manner with all control variables in the baseline model before the addition of the set of IVs. The change in R^2 and the associated F-statistics empirically validate the proposed research model.

The test results for the individual hypotheses in our model are summarized in Table 5.17. In the aggregate, capital markets appear to be indifferent to BPO announcements. In other words, the chance for a BPO decision to get a positive response from the stock market is about the same as the chance to get a negative one. Consequently, we find no support for H1.

H2, H3, and H4 are related to possible heterogeneous distribution patterns of SAR_0 out of this seemingly homogenous sample. Value chain position (IV1), relational governance (IV2) and process maturity (IV3) are posited to predict outsourcing outcome. From the analyses of both performance and performance ranking, we observe strong support for H2 and H3. However, only nonparametric testing on the sub-sample of supportive BPOs offers support for H4.

Hypothesis		Support
H1: $\Sigma SCAR > 0$	BPOs will have a valuation enhancing impact.	No
H2: IV1→DV	BPO of primary business processes will have a stronger valuation enhancing impact than those of support processes.	Yes, Significant
H3: IV2→DV	BPO with a higher level of relational governance will have a stronger valuation enhancing impact than BPO without intent of relational governance.	Yes, Significant
H4: IV3→DV	Abstention based BPO will have a stronger valuation enhancing impact than disintegration based BPO.	No.
H5: IV1 IV2→DV	Primary BPO aligned with a higher level of relational governance will lead to greater valuation enhancement than with a lower level of relational governance.	Yes, Significant
H6: IV3 IV2→DV	Disintegration based BPO aligned with a higher level of relational governance will lead to greater valuation enhancement than with a lower level of relational governance.	Yes, Significant

Table 5.17 Summary of hypothesis testing results

H5 predicts that in situations of primary BPO, a high level of relational governance (IV2) is likely to receive much stronger positive response from stock markets. For the sub-dataset with IV1 valued at 1 (primary), IV2 (relational governance) regresses significantly positive on the DV. For the sub-dataset with IV1 valued at 0 (supporting processes), IV2 (relational governance) regresses nonsignificantly positive on the DV. The significant change in relationship strength confirms the posited moderation effect of IV1, and offers support for H5.

H6 predicts that in situations of disintegration based BPO, a high level of relational governance (IV2) is likely to receive much stronger positive response from stock markets. For the sub-dataset with IV3 valued at 1 (with prior process ownership), IV2 (relational governance) regresses significantly positive on the DV. For the sub-dataset with IV1 valued at 0 (without internal ownership), IV2 (relational governance) regresses nonsignificantly positive on the DV. The significant change in relationship strength confirms the posited moderation effect of IV3, and offers support for H6.

CHAPTER SIX
DISCUSSION

This study is designed to examine the effect of process related factors on firm valuation change caused by BPO announcements. Drawing on an array of theories in economics and strategic management, we develop our research model, which encompasses six hypotheses. Using a variety of secondary data on 298 BPO announcements from 1998 to 2005, we test the proposed research model. In this chapter, we discuss our key findings, and implications for research and practice, and follow it up with a discussion of limitations and future research directions.

6-1 Findings

The premise of this study is that, in an efficient capital market, investors will quickly recognize the cash flow consequences of a publicly released BPO decision. According to the MM (Modigliani and Miller, 1958) theory, the equity value of a firm is the present value (PV) of the stream of net cash flows to shareholders that can be produced by the firm. If a BPO decision is perceived to lead to additional cash flows, the stock price reaction to the announcement should be favorable. Our results and findings, in which stock abnormal returns serve as a performance metric, are summarized in Table 6.1.

Findings	Statistical Results (in raw returns)
Overall, BPO announcements did not get favorable reactions from markets.	Mean Abnormal Return (MAR) of only +0.23 % for the whole sample. 54% of the sample had negative returns.
BPO of primary business processes received positive abnormal returns, while BPO of supportive business processes received negative abnormal returns. There is a significant performance difference between the two groups.	0.7% MAR for primary BPOs and -0.31% for supportive BPOs. The 1.01% return difference is statistically significant (p value of 0.09).
BPOs with higher level of relational governance received positive abnormal returns, BPOs with low level of relational governance negative abnormal returns. There is a significant performance difference between the two groups.	1.11% MAR for BPOs with higher level of relational governance and -0.3% for BPOs with low level of relational governance. The 1.41% difference is statistically significant (p value of 0.04).
Both abstention and disintegration based BPOs received positive abnormal returns.	0.43% MAR for abstention based BPO and 0.03% for disintegration based BPO. The 0.4% difference is statistically insignificant.
Primary BPOs with higher level of relational governance received significant higher positive returns than primary BPOs with lower level of relational governance.	1.9% MAR for primary BPO with higher level of relational governance and 0.1% for lower level of relational governance. The 1.8% difference is statistically significant (p value of 0.033)
Supportive BPOs with higher level of relational governance received positive abnormal returns, while supportive BPOs with lower level of relational governance received negative abnormal returns. There is no significant performance difference between the two groups.	0.25% MAR for supportive BPOs with higher level of relational governance and -0.59% for supportive BPOs with lower level of relational governance. The 0.84% difference is not statistically significant (p value of 0.14).
Disintegration based BPOs with higher level of relational governance received significant higher positive returns than disintegration based BPOs with lower level of relational governance.	1.67% MAR for disintegration based BPOs with higher level of relational governance and -0.7% for disintegration based BPOS with lower level of relational governance. The 2.37% difference is statistically significant (p value of 0.005)
Both abstention based BPOs with higher level of relational governance and abstention based BPOs with lower level of relational governance received positive abnormal returns. There is no significant performance difference between the two groups.	0.7% MAR for supportive BPOs with higher level of relational governance and 0.2% for supportive BPOs with lower level of relational governance. The 0.5% difference is not statistically significant (p value of 0.48).

Table 6.1 Summary of the results and research findings

Despite the overall indifferent reaction from capital markets, we can, nevertheless, identify several subsets of BPOs favored by investors. These favored subsets include BPOs of primary business processes, BPOs with higher levels of relational governance, primary BPOs with higher levels of relational governance, and

156

disintegration based BPO with higher levels of relational governance. The last two subsets represent the preferred alignments between governance structure and process characteristics. We draw the following implications for research and practice mainly upon these favored BPO subsets.

6-2 Implications for Research

Figure 6.1 depicts the common understanding of outsourcing in research, and applications of TCE in particular. In the dominant vertical (functional) view of outsourcing, governance is polarized to the opposing make-buy modes, and outsourcing is treated as the equivalent of the "buy" mode. As such, outsourcing is only appropriate for peripheral transactional processes as prescribed by the transactional logic of TCE. With this common understanding as the backdrop, we now discuss how this dissertation enriches the outsourcing literature and contributes specifically to BPO research.
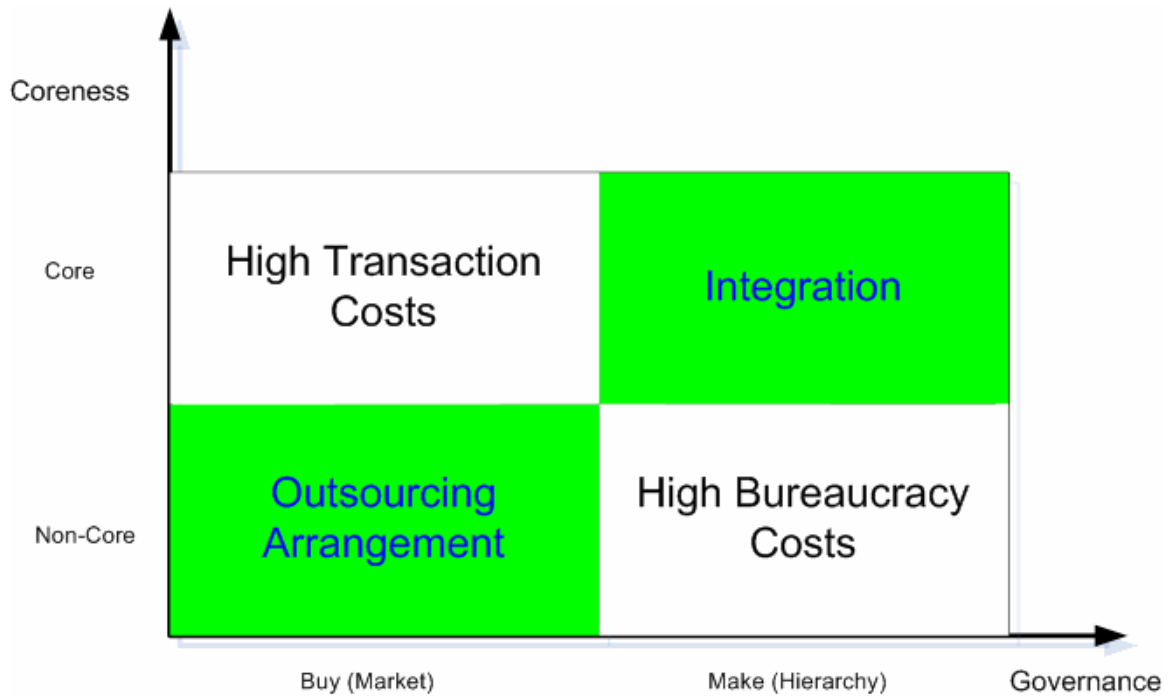
Figure 6.1 Common understanding of outsourcing in research

While the outsourcing literature has paid abundant attention to the governance aspect of outsourcing, the aspect related to productive capabilities has been scarcely studied. Consequently, the resource based view (RBV) and relational view (RV) of the firm, with the exception of Roy and Aubert (2002), have not been extensively utilized in outsourcing research. Because TCE primarily concerns transaction characteristics, its discriminant alignment logic typically holds firm capabilities constant (Mayer & Salomon, 2006). Therefore, our study is an early effort to address this imbalance and to recognize the role played by firm capability heterogeneity in influencing outsourcing performance. The results suggest that, at least in our particular setting (TCE moderating RBV implicated relationship),

differences in productive capabilities (resources) and governance capabilities jointly determine the BPO outcome.

According to RBV and RV, the ability to leverage distinctive internal and external competences relative to environmental situations ultimately affects the performance of the business (Peppard, Lambert, & Edwards, 2000). Grover at al. (1998) suggest that outsourcing can be used to fill gaps in the firm's resources and capabilities. Using RBV logic, Mayer and Salomon (2006) argue that a firm should use market forms of governance to gain access to the needed skills and capabilities that it lacks. It would be difficult, time consuming and costly to develop those needed capabilities from scratch. Linder (2004) notes that the emerging practice of transformational outsourcing is purported to bring new capabilities to the outsourcing firm. Thus, the essence of our process based view is that outsourcing is the (re)alignment of business processes with better or the best available resources, and that resources bearing new distinctive capabilities can be found in a BPO provider.

By relaxing TCE's assumption of constant productive capabilities, we show that TCE and RBV perspectives theoretically complement each other rather than compete with each other. Based on the resource based arguments, we hypothesize the relationships between the value chain position, relational governance, maturity of an outsourced process, and BPO performance. In the meantime, we follow TCE's central logic and propose in the same research model two moderating relationships exerted by process attributes on the link between relational governance and performance. We expect the unification of TCE and RBV(RV) to lead to an alternative paradigm of outsourcing: productive capability justifies outsourcing, while

governance capabilities ensure outsourcing success. In addition to TCE's approach of holding firm capability constant, researchers could hold transaction attributes constant, and investigate how capability endowments impact a firm's decision to outsource (Mayer & Salomon, 2006). Future research could also explore how outsourcing is used not only as a core competence enhancer but also as a tool to attain dynamic resource reconfiguration in order to prevent core competences from becoming core rigidities.

Because TCE originally had its applications anchored to the dichotomy between market and hierarchy, it tends to overstate the desirability of integration and of explicit contractual safeguards to protect against exchange hazards (Poppo & Zenger, 2002). Not surprisingly, outsourcing relationship management in the literature has largely concentrated on the use of formal explicit contractual safeguards to mitigate exchange hazards.

Because outsourcing involves a semi-permanent relationship with a provider, it can be best characterized as being half way between the "make" and "buy" modes, and represents a "leasing" mode (Samaddar & Kadiyala, 2006). The relational view of competitive advantage recognizes that many firms engage in collaborative relationships, and relational governance (alliance) may be a viable alternative to integration when there is a high risk of market failure (Dyer & Singh, 1998; Geyskens, Steenkamp, & Kumar, 2006). The prominence that relational governance modes gained over the past two decades has motivated TCE scholars to incorporate them into TCE's explanatory framework (Geyskens et al., 2006). As displayed in Figure 6.2, we capitalize on the "move to the middle" and expand the single "buy" mode into a spectrum of modes that vary in the level of relational governance.

Because of the "middle" position occupied by the outsourcing mode, outsourcing should no longer be used only to offload peripheral processes governed by contractual safeguards. It can also be a viable option for processes of strategic importance when a higher level of relational governance is in effect. Our research aims to neither reinforce the well accepted "non-core – contracting out" hypothesis nor refute it, but instead to introduce a contingency into the consideration of governance structure for BPO. As illustrated in Figure 6.2, our contingency approach, manifesting TCE's discriminant alignment logic, calls for selective governing, which depends on the nature of the process outsourced – low level of relational governance for supportive BPO and higher level of relational governance for primary BPO.
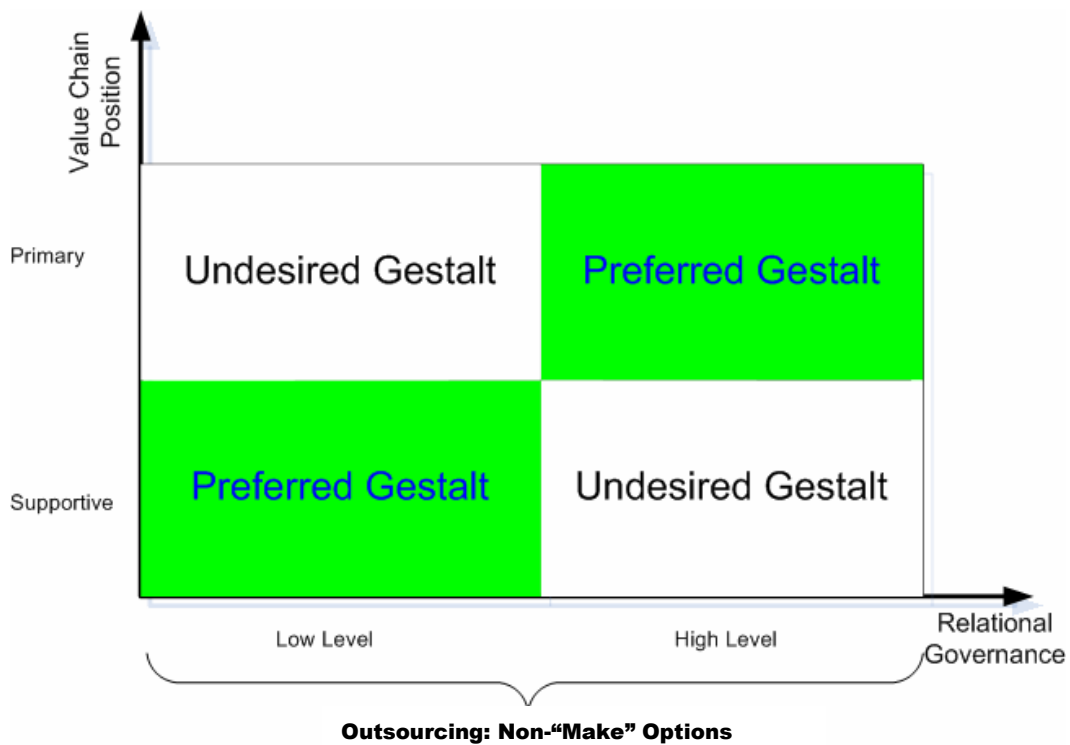

Figure 6.2 The alignment between value chain position and relational governance

The contingency approach envisioned above could not have been empirically tested and validated if processes are all vertically stacked and confined within functional boundaries. Constrained by these functional "silos," outsourcing research in the past rarely stepped outside the functional "traps". For the first time, we introduce Porter's value chain framework into outsourcing research. As a reference framework, it provides a universal way for the arrangement of business processes and facilitates a holistic corporate view of outsourcing. Therefore, Porter's value chain framework enables us to "reengineer" outsourcing research in a cross-functional way for the same purpose that BPR intended. Most importantly, the process-based classification allows us to objectively assess the strategic importance of each individual process in a cross-sectional way, regardless of whether it is core for one particular company and non-core for another. Additionally, the contingency approach to some extent addresses the overlooked interplay between individual elements of outsourcing strategies, as pointed out by Lee et al. (2004). At the minimum, we compare the performance of the congruent gestalts suggested by TCE with those of "misfit" patterns, and establish the predictive validity of the congruent patterns between relational governance and process attributes (process VC position and maturity). With these results, we foresee a shift in the focus of TCE's application in outsourcing research from "selective outsourcing" to "selective governance."

Unfortunately, hypothesis testing related to process maturity did not indicate significant differences in performance between abstention based and substitution based BPOs for all the processes. A tentative explanation is that the transfer of process ownership is only a proxy for process maturity. Knowing the announced

transfer of ownership, we still cannot specify how long the firm has owned the process after the initial internal deployment. We conjecture that the length of internal ownership is indicative of how much value is still left (after depreciation). On the empirical level, however, abstention based supportive BPOs seem to outperform disintegration based supportive BPOs (MAR of +0.1% for abstention based supportive BPO and -0.72% for disintegration based supportive BPO). The performance difference is statistically significant (p = 0.056) with only non-parametric testing. This performance superiority associated with abstention based supportive BPO raises a third element for the conventional proposition of outsourcing - contract out as many peripheral processes as possible. We tentatively offer an expanded proposition - contract out as many peripheral processes as possible and as early as possible. Although this timing related proposition was only partly substantiated, we hope that this dissertation will stimulate further work on the research question of "when to outsource".

Figure 6.3 portrays the discriminant alignment between process maturity and the level of relational governance. In justifying the alignment pattern, we rely on the asset specificity – transaction costs relationship in TCE, and incorporated perspectives from control theory and RBV. In the context of outsourcing, process maturity, bearing a dimension of time, seem to play a vital role in explicating governance structure choices. Even though we identify temporal specificity as one form of asset specificity in TCE discussions (Williamson, 1991), there has not been a counterpart of process maturity in the explanative framework of TCE. At this stage, we can only speculate that further developments of process maturity in BPO research might cause TCE to expand along the temporal dimension.
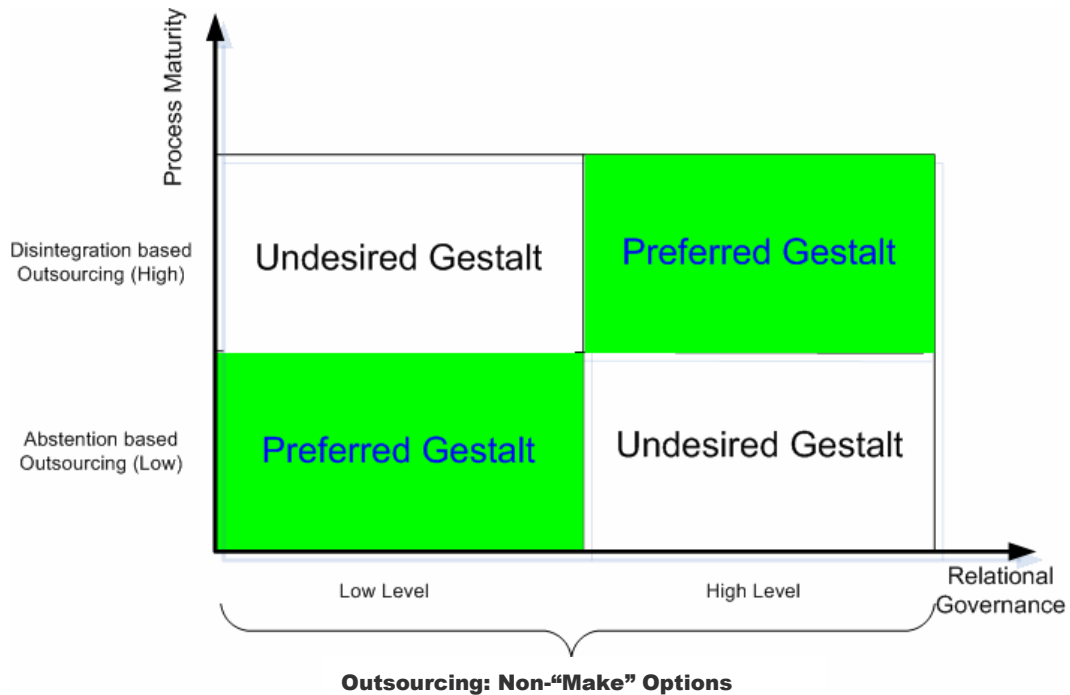
Figure 6.3 The alignment between process maturity position and relational governance

Finally, the popular practical definition by Gartner-Dataquest treats BPO as the unilateral delegation of business processes to an external provider that owns, administers and manages the selected process. This emphasis on process ownership transfer and vendor's responsibility in process operations somehow fails to recognize the early life stages of a business process (define, design, simulation). Related to this post-implementation orientation is the fact that abstention based outsourcing has largely remained under-researched. Our study reflects a changed perspective of BPO from an action of offloading to a decision to externalize a business process, and highlights the dynamic nature of a business process. With the new definition, the application of BPO can be extended to early life stages of a business process before

in-house implementation. The newly updated definition is more complete in that it covers both abstention and disintegration based outsourcing.

6-3 Implications for Practice

One of the central questions for firms to answer is why and how some business arrangements succeed while others fail (Claro, Hagelaar, & Omta, 2003). In this study, we explore several process level factors that affect BPO success and failure. Because we use stock returns as the performance variable, we now propose recommendations for business executives aiming to improve the odds of maximizing shareholders' wealth via BPO arrangements.

Because many of the current outsourcing practices originated in the 1990s, they are categorically labeled as Outsourcing 1.0 launched by the landmark Kodak-IBM deal. The major characteristics of Outsourcing 1.0, offered by Casale (2007), are summarized in Table 6.2. Practically, the following recommendations based on our research findings can help managers upgrade their mindsets from version 1.0 to version 2.0 in dealing with BPO.

Category	Outsourcing 1.0
Time	1990s, triggered by the Kodak landmark ITO deal in 1989
Who is Outsourcing	Big companies seeking a turnaround
Order Size	Price tags in the hundreds of millions, if not billions, of dollars.
Perception of Outsourcing	Anomaly, no one in the company had any related experiences whatsoever
Ownership Transfer	Disintegration based: Often transition of many hundreds of people
Relationship Management	Criticality of relationship management often NOT fully recognized, few firms allocated sufficient resources to direct the relationship with the provider, outsourcing being treated mostly as an event the ended at contract signing
Success Rate	Low, many early deals struggled, failed, and had to be restructured

Table 6.2 Summary of Outsourcing 1.0

Recommendation #1: Outsourcing success is not automatic; you need to manage it.

In Outsourcing 1.0, outsourcing is viewed by senior management as spending as little managerial energy as possible, and is treated as an event that ended at the contract signing. In general, managers cannot change the physical (VC position) or temporal nature (maturity) of the processes to be outsourced. However, this should not discourage them from managing each of the outsourced processes attentively. The maximum group-mean difference by the VC position and maturity is about only 1.5% in terms of excess return. However, when we factor the managerial lever in the group mean calculation, the maximum group-mean difference triples to about 4.5%. This implies that much of the valuation enhancement is determined by the managerial mechanisms applied. We can fairly state that it is relationship management that matters the most and is valued the most. Our results endorse the first principle of Outsourcing 2.0: relationship management is crucial.

Recommendation #2: Outsourcing is not an anomaly, but a strategic weapon.

In the Outsourcing 1.0 doctrine, outsourcing is only appropriate for the transaction intensive, peripheral functions of an enterprise (Mani, Barua, & Whinston, 2006). The most significant benefit registered with Outsourcing 1.0 is cost reduction. The fact that about half of the BPOs in the sample deal with primary processes indicates that BPO is increasingly being used for strategic purposes. Therefore, we contend that any process can be a candidate for BPO, and BPO is appropriate for any enterprise processes critical to organizational level performance. Strategic outsourcing involves outsourcing business processes that critically affect an organization's competitiveness. On average, the 147 primary BPOs in our sample achieve a statistically significant 1% improvement in firm valuation over the 151 supportive BPOs. This high average abnormal return associated with primary BPOs should be very encouraging for business executives contemplating the adoption of strategic outsourcing. A unique advantage of BPO over other options at executives' disposal is that BPO can "deliver transformational results reliably and at speed" (Linder 2004). The essence of capability outsourcing is that *every process* in the value chain can and should be evaluated as a candidate for outsourcing (Gottfredson et al., 2005). This leads to the second principle of Outsourcing 2.0: outsourcing should not be solely justified by low prices. Best value is the ultimate objective.

Recommendation #3: You don't have to own in order to outsource.

Conventional outsourcing is when the buyer transfers the primary responsibility for executing and managing a business process to an external vendor (Mani et al., 2006). However, only half of our sample BPOs are post-implementation and substitution based. The other half are abstention based and conducted in early

life stages of the focal business process. This even distribution should motivate managers to scan BPO vendors regularly in order to obtain new capabilities and acquire the service of newly developed processes by vendors. The observed performance parity between these "spinning-off" and "weaving-in" BPOs again illustrates that investors focus more on "getting the job done" and are less concerned about "who is doing it". BPO means acquiring services of a process from an outside provider regardless of whether the buyer currently provides for itself. The negative mean abnormal return of -0.72% for disintegration based supportive BPOs suggests that managers should use outsourcing as early as possible to avoid internal deployment of supportive processes. Institutionally speaking, disintegration based BPOs are more likely to receive unfavorable reactions from some major stakeholder groups: employees and society at large. An important benefit of abstention based BPO is that few existing employees are affected by the BPO decision. As argued above, the net institutional effect is likely to be more positive for abstention based BPO than disintegration based outsourcing. In this regard, the in house process ownership does play an important role in the BPO decision making process. Stuck between internal and external stakeholders, executives must take into consideration both financial and non financial factors, and opt for outsourcing at early life stages whenever they deem it feasible and valuable. Thus, we add a 2.0 element – *as early as possible* -- to the old 1.0 mantra- *outsourcing as many peripheral processes as possible.*

Recommendation #4: One size doesn't fit all. Tailor governance to process.

Unlike the mega-infrastructural outsourcing deals in the 1.0 era, the size of average BPO deals tends to be much smaller than their predecessors (Casale, 2007). A plummeting contract size increases the number of vendors and processes being

managed, and introduces complexity. According to Mani et al. (2006), relationship management is arguably the most important and, ironically, the most ignored aspect of BPO governance. In most cases surveyed, they found that enterprises fail to tailor their BPO governance model to the nature of the processes being outsourced. With increasing attention paid to BPO, it is imperative that organizations recognize the importance of the congruence between the management approach and the requirements of the outsourced process.

Relational governance incorporates a large social component and cannot be easily enforced legally (Geyskens et al., 2006). Instead of contractual terms, relational governance modes are sustained by non-juridical mechanisms such as trust building, goal sharing, mutual dependence, and procedural fairness. From the MARs (mean abnormal return) in Table 6.3, we observe that relational governance is most effective in cases of primary BPO and disintegration based BPO (highest positive MARs). The level of relational governance did not seem to make a considerable difference in the situation of abstention based BPO. Despite the nature of the process, a low level of relational governance results in very low and even negative returns (0.25%, 0.1%, -0.6%, and -0.7%). This is reminiscent of the "move to the middle" trend we discussed earlier – outsourcing is never a pure "buy" option, and represents a "leasing" option between spot market and integration. Managers should bear in mind that a moderate level of relational governance is always required, no matter what process is outsourced and how young the process is. To control management overhead, businesses should prevent overinvestment in relational governance mechanisms if a process is outsourced before internal deployment. To reap the expected benefits from BPO arrangement, executives must also avoid

underinvestment in relational governance mechanisms for primary BPO or BPO involving asset transfer. In both cases, market contracting alone is not enough to safeguard against opportunistic behavior, and to foster common rents generation.

Process Nature	Relational Governance	Performance (MAR)
Primary	High	1.9%
Mature (late life stages)	High	1.67%
Young (early life stages)	High	0.69%
Young (early life stages)	Low	0.25%
Supportive	High	0.24%
Primary	Low	0.1%
Supportive	Low	-0.6%
Mature (late life stages)	Low	-0.7%

Table 6.3 Performance of the process – governance alignment patterns

The congruent patterns we identify in our study also provide managers a benchmark against which they can check their existing outsourcing arrangements for further fine-tuning and adjustment. If Porter's VC framework provides an enterprise with an "X-ray" machine to scan its currently owned processes, the congruent alignment patterns we observe equip managers with a microscope to examine existing BPO arrangements to identify any deviations from the optimal form of governance dictated by process attributes. If any misfits are identified, managers must reform their current governance structures and match the processes with required congruent governance structures. As Mani et al. (2006) recommend, enterprises need to periodically reassess the alignment between process requirements

and governance mechanisms, and ensure that the optimal governance capabilities are in place.

6-4 Limitations

Although our study finds evidence for the importance of the process level factors for outsourcing success, it is important to identify the boundary conditions of this study. We note below some limitations within which our findings need to be interpreted.

This study assesses the stock market's reaction to BPO announcements, which restricts our analyses to publicly held firms in the post-IPO period (at least 215 days after IPO). This selection bias raises questions about the representativeness of our collected sample. We could not examine how private firms, especially young firms and startups, can manage and benefit from BPO. Although this limitation applies to all event studies, it especially restricts our attempt to investigate the impact of process maturity on valuation. Moreover, the dichotomous measurement further reduced the informativeness of process maturity, which should ideally be measured as a continuous variable. Consequently, the results of this study may not be completely generalizable to firms unlisted on stock markets, especially those entrepreneurial businesses.

The measure of the dependent variable (SAR_0) focuses on market perceptions of performance. Firms have private information, to which external investors may not have access. In such a case, the market perceptions reflect only the publicly available information and not the inside information. Additionally, our measures of the independent variables are derived from content analysis of publicly available information. Therefore, research findings inferred from publicly released

information might be limited by the possible information asymmetry between public investors and internal decision makers. The institutional logic could further complicate this asymmetry if managers intentionally exploit it and only release institutionally conforming statements.

Although one of the three IVs, relational governance, is bilateral in nature, we obtain the data from only one party of the BPO relationship, the buying organization, in most cases. As a result, the results are inevitably biased towards the demand side of the BPO equation. This bias is further compounded by the method (content analysis of media release) we use to measure the level of relational governance. Ross and Beath (2005) note that outsourcing succeeds only if the vendor, as well as the client, achieves expected benefits and finds the "sweet spot." Thus, we recognize that further research on BPO relationship management should aim at analysis of both the provider's and the buyer's perceptions about the relationship, and collect primary data. Even if researchers continue seeking to understand and advise the buyer side of BPO, research that specifically addresses issues related to the supply or vendor side is needed in order to comprehend the BPO phenomenon in its entirety.

We use asset (human and physical) transfer as a proxy for process maturity, and measure it as a dichotomous variable. As long as the maturity-performance relationship is linear, the dichotomous value assignment does not pose a serious threat to our hypothesis testing. However, we should note that the dichotomy is only warranted under the assumption that process maturity is linearly related to performance. Past research in the areas of the product and corporate life cycles indicate a curvilinear relationship between performance and the age of either the

product or the corporation. If process age (maturity) indeed has a nonlinear relationship with performance, our measurement lacks the richness to detect any curvilinear association. Therefore, we envision that an attractive opportunity for future research would be to refine the measurement of process maturity. The recently proposed process maturity framework (Hammer, 2007) seems extremely helpful in this respect.

Last but not least, our study is cross-sectional in nature. As a result, we cannot adequately address the issue of causality among the variables. Neither can we rule out alternative causal inferences. Further, initial positive stock market reactions to certain BPOs may not always translate into subsequent positive performance in terms of accounting measures such as ROI or market share. An interesting avenue for future research would be to examine whether the subsequent performance of a BPO is consistent with the capital market's assessment. Any inconsistencies, if confirmed, would pose serious challenges for the assumption of market efficiency underlying all event studies.

6-5 Conclusion

The earliest listed definition for outsourcing can be found in the 1993 edition of the Free On-line Dictionary of Computing, which defined it as "paying another company to provide services which a company might otherwise have employed its own staff to perform" (Tropper, 2004). However, the current edition of Merriam-Webster's online dictionary defines it as "the practice of subcontracting manufacturing work to outside and especially foreign or non-union companies." For the last two decades, manufacturing value chains have increasingly been extending across country borders (Kenney & Florida, 2004). At the forefront of the next wave

of globalization, the emerging BPO practice is about to transform services in a similar fashion.

Today, the world is witnessing a new division of labor and desegregation of services across country borders. Taking a value chain perspective, we conceptualize BPO as representing a spatial optimization or reorganization of the resources serving a business process (Dossani & Kenney, 2004). By focusing on process level factors, we tackle this global macroeconomic phenomenon with a micro-analytic approach, and seek to help both researchers and practitioners evolve from the vertical (functional) mindset during the early days of outsourcing (Outsourcing 1.0) to the horizontal (process based) 2.0 version.

Traditionally (in the 1.0 era), organizations have viewed outsourcing as an option that allows them to offload non-core peripheral activities and focus on their core competencies. These firms have insisted that their core business processes must be developed and kept in house. As global competition intensifies, the speed and agility of a firm's response become integral to competitiveness. As such, enterprises are increasingly outsourcing strategic business processes in an effort to achieve value maximizing (re)configuration of capabilities. About half of the BPO events in our study deal with primary business processes. The significantly positive abnormal returns enjoyed by the primary BPOs provide a endorsement for strategic outsourcing. Regarding non-core peripheral processes, we encourage business organizations to outsource as many and as early as possible. As Gottfredson & Phillips (2005) argue, it is no longer a company's ownership of capabilities, but rather its ability to leverage those critical capabilities, residing either inside or outside of the

firm, that contribute the most to competitive advantage. The characteristics of Outsourcing 2.0 (as compared to Outsourcing 1.0) are summarized in Table 6.4.

Category	Outsourcing 1.0	Outsourcing 2.0
Time	1990s, triggered by the Kodak landmark ITO deal in 1989	After the burst of the dotcom bubble; triggered by the offshoring of software development
Who is Outsourcing	Big companies seeking a turnaround	Big and small companies
Order Size	Price tags in the hundreds of millions, if not billions, of dollars.	Small
Perception of Outsourcing	Anomaly, no one in the company had any related experiences whatsoever	Normal management practice Better viewed as a process of continual strategic analysis
Ownership Transfer	Disintegration based: Often transition of many hundreds of people	Process has an age; vendors can get involved at any stage in a process's life;
Relationship Management	Criticality of relationship management often NOT fully recognized, few firms allocated sufficient resources to direct the relationship with the provider, outsourcing being treated mostly as an event the ended at contract signing	Relation management is vital to outsourcing success; Governance needs to be tailored to the nature of the outsourced process
Success Rate	Low, many early deals struggled, failed, and had to be restructured	To be evaluated

Table 6.4 Comparison of Outsourcing 1.0 and 2.0

Outsourcing research has come a long way since the triggering Kodak-IBM event. Originally the outsourcing literature concentrated on the binary outsourcing decision (make or buy) and remained largely descriptive in nature. The recent emphasis on relational governance of outsourcing arrangement was a marked departure from the traditional conceptualization of outsourcing as market based procurement opposing the mode of internal production (Sambamurthy & Zmud,

2000). In this study, we go one step further and focus on the interplay between relationship management and the nature of the process being outsourced. The results reveal that deviations (misaligned gestalts) from the optimal discriminating alignment of TCE have detrimental effects on BPO performance. For organizations to generate value from their BPO arrangement, they must design the focal governance and relationships that fit the processes they are handling. In general, firms outsourcing processes of low strategic impact do not have to manage the BPO relationship as rigorously and relationally as they manage processes of high strategic importance.

The most important contribution of this study is its fostering the migration of outsourcing research from the "selective outsourcing" doctrine to the new doctrine of "selective governing." Given the rapidly rising amount (12% in 2005 and projected 20% in 2008) of most large firms' cost base with outsourcing vendors, BPO is part of any future business strategy and demands serious managerial attention. Extant research has confirmed that outsourcing disappoints when executives view it as an easy way to step aside from attentive relationship management. Instead of non-governance, outsourcing still demands managing, but with different skill sets (Willcocks & Cullen, 2005). From a practical standpoint, managers following the guidelines of "selective governing" can avoid absorption of their managerial energy in the management of supportive BPOs. In the meantime, managers should prepare themselves to invest their managerial energy heavily into the relationship management of primary BPOs.

Finally, this study contributes to the emerging research on BPO with an expanded definition of BPO and an important research question of "when to outsource." As this temporal dimension of outsourcing attracts more attention,

researcher and practitioners will eventually come to more fully realize the dynamic nature of the business process. We sincerely hope that our efforts open up a potentially fruitful area of research with important implications for both research and practice. BPO reflects the confluence of the powerful forces of technology and globalization. Given its complexity and dynamics, we believe this topic is likely to continue to be relevant and important for the foreseeable future.

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