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## Managing Flexibility in Outsourcing<sup>1</sup>

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### **Abstract**

*In recent years, outsourcing has gained considerable management attention. However, the benefits of outsourcing are not without concessions. One major risk is losing the flexibility to change the extent, nature, or scope of the outsourced business services, and such flexibility is strategically imperative in today's dynamic business environment. This paper seeks to clarify the multi-dimensional notion of flexibility in outsourcing by examining robustness, modifiability, new capability, and ease of exit. Adapting from Evans (1991), we also develop a framework to classify existing practices in managing outsourcing flexibility. We go beyond contractual provision to surface a portfolio of pre-emptive, protective, exploitive, and corrective maneuvers. These strategic maneuvers map well to traditional notions in coordination theory, both in advanced structuring through loose coupling and dependency diversification, and in dynamic adjustment through proactive sensing and reactive adapting. We put forward a set of propositions hypothesizing the relationships between the various strategic maneuvers and the different dimensions of outsourcing flexibility, and discuss the moderating impact of such maneuvers on outsourcing success. We hope the greater conceptual clarity will not only contribute to the effectiveness of outsourcing management but also spawn a new research agenda on outsourcing flexibility.*

**Key words:** flexibility, outsourcing, coordination theory, outsourcing success

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## Introduction

Outsourcing has gained considerable management attention since the 1980s. Traditionally, many non-core, information technology (IT) activities, such as desktop support, call centers, network operations, and application development have been relegated to external service vendors (see Cross, 1995; Clark et al., 1995; Lee et al., 2003). Recent years have seen burgeoning business process outsourcing (BPO), which involves farming out non-core yet mission-critical business processes such as finance and accounting, human resources, and customer support to third-party service providers, often in offshore locations (Linder, 2004). IT largely enables the provision of such services, through web-based interfaces, extensive application support with commercial package software, such as SAP, and reliable network connections. With the promise of reduced cost, improved time to delivery, process streamlining, and strategic repositioning, many organizations have jumped onto the outsourcing bandwagon (Ang and Cummings, 1997). British Petroleum's outsourcing of finance and accounting to Accenture, for example, helped to speed up its post-merger integration of Amoco and Arco. Forecasts by the Gartner Group project strong growth in worldwide outsourcing spending. The IT outsourcing market continues to rise and is expected to hit \$260 billion in 2009. Similarly, the current BPO market is estimated to climb from \$111.3 billion in 2004 to \$172 billion in 2009, growing at a per-annum rate of close to 10%.

However, the benefits of outsourcing are not without concessions. One major issue is the loss of flexibility, the ability to change the extent, nature, or scope of the business services that outsourcing delivers. Such flexibility in an outsourcing relationship is crucial to respond to uncertainty or to changing needs or requirements outside the provisions of the original outsourcing agreement. This is particularly pertinent in today's competitive and dynamic environment, as flexibility is increasingly becoming a strategic imperative for business survival (Suarez et al., 1995).

Traditionally, outsourcing flexibility is managed primarily through careful contracting, as management is often advised to craft short-term, airtight contracts to control for anticipated changes (Lacity, Willcocks, and Feeny, 1995; Fitzgerald and Willcocks, 1994; Saunder et al., 1997). Much of the literature dealing with flexibility in outsourcing arrangements emphasizes careful upfront contractual provisions. Harris et al. (1998) refer to the notion of contractual flexibility, the extent to which a contract contains bilateral adjustment mechanisms that allow ongoing adaptation to changing circumstances. Such a contract is typically characterized by variable pricing, short contract duration, modular contract structure,<sup>2</sup> a renegotiation or arbitration clause, premature termination conditions, and innovation incentives (see Table 1). Successfully negotiating more comprehensive flexibility provisions in such contracts should enhance outsourcing flexibility (Harrigan and Newman, 1990; Michell and Fitzgerald, 1997; Harris et al., 1998).

However, given the static nature of contracts, there are limitations to using them as the sole means to achieve flexibility. This is partly due to the problem of incomplete contracting (Richmond et al., 1992), the inability to anticipate all changing conditions due to bounded rationality. In a constantly evolving environment, the cost of creating contracts with complete contingencies is prohibitively high, if not impossible. Consulting

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<sup>2</sup> Dividing major contract terms into separate components such that changes in one part will not affect the others, and demand less time and effort for ongoing adjustments.

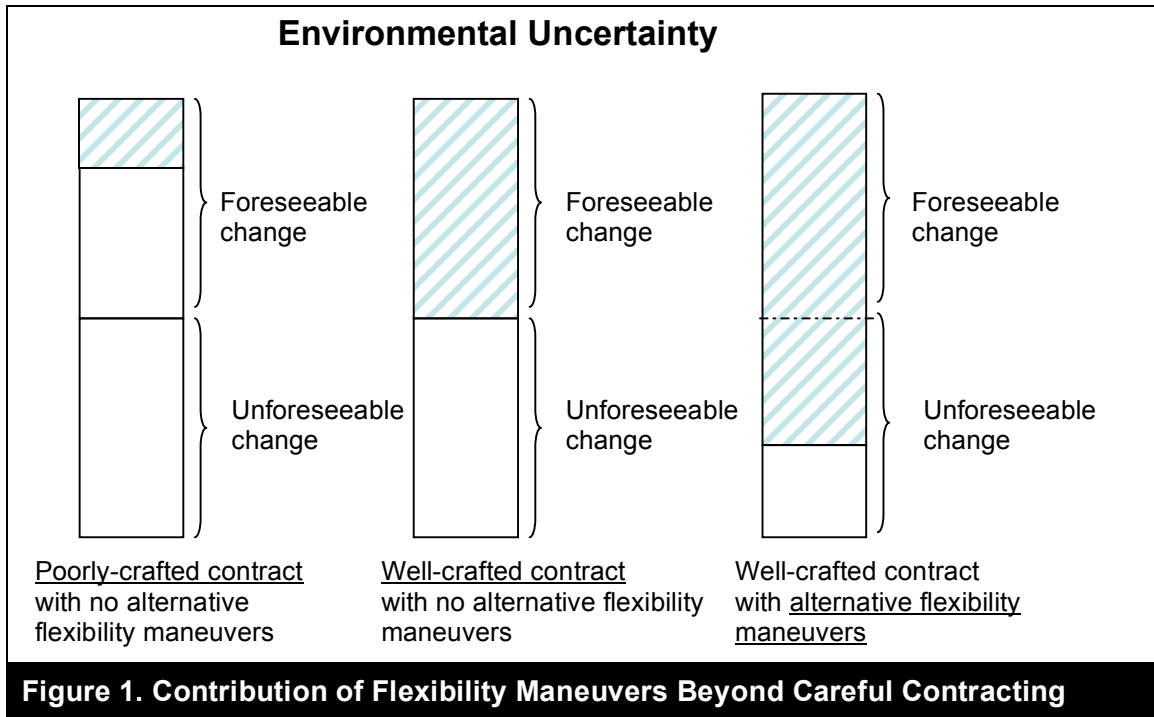
<b>Table 1. Flexible Contractual Provision in Outsourcing</b>		
<b>Contractual provision</b>	<b>Clause</b>	<b>Description</b>
Adjustment mechanisms	Pricing	Original contract price may be changed through (de)escalation mechanism (benchmarking, indexing, open pricing, etc.).
	Renegotiation	Renegotiation clause enables some aspects of the contract to be changed during the life of the contract.
	Contract duration	The parties may opt for a short or long contract. Shorter contracts are more flexible.
	Early termination	A clause permitting premature termination of the contract, usually triggered by prescribed situations.
	Dispute resolution	In case of dispute, parties may resort to arbitration or litigation. Arbitration is more flexible.
	Incentive contracting	Links vendor payment to performance of the organization; is conducive to flexibility.
Modular contract structure	Separated contract terms	Modular contract comprises a constellation of components (SLAs, strategic objective statements, continuous improvement mechanisms) affixed to a standard set of "master terms and conditions."

**Note:** Adapted from Harris et al. 1998

reports have typically shown that contract drafting and negotiations take up considerable portions of the time and effort invested in outsourcing. Even then, their effectiveness is questionable, as the terms and conditions of a typical 5-to-10-year outsourcing contract often cannot respond to a dynamic business environment. As Barthelemy (2001) and Lacity and Willcocks (2001) show, many outsourcing arrangements have to be renegotiated because they cannot accommodate environmental uncertainty. Kern and Willcocks (2000) estimate that one in eight outsourcing deals is prematurely terminated. Other scholars have also blamed rigid contracts as a primary reason that many outsourcing efforts fail (Lacity and Hirschheim, 1993; Peisch, 1995; Lacity and Willcocks, 1998). A well-crafted contract can only address the foreseeable flexibility required at the point of contracting but not the unanticipated business dynamism that emerges subsequently (see Figure 1).

The issue is even more crucial in the context of BPOs, as such arrangements carry a great deal more complexity and uncertainty. These business processes are often critical and tightly coupled with other organizational processes. Their complexity arises from the simultaneous outsourcing of technological, workflow, and human resources. Idiosyncrasies in business processes also demand that a firm carefully balance a customized process to meet specific organizational needs against a standardized delivery process that, due to scale issues, makes vendors more efficient. In some cases, outsourcing services offshore introduces greater management and coordination risks, due to geographical dispersion and cultural differences. Managing outsourcing successfully in today's dynamic environment can thus be daunting (Feeny et al., 2003).

This paper investigates alternative strategies to managing outsourcing flexibility beyond traditional contracting. Besides comprehensive flexibility provisions in contracts, are there other mechanisms that organizations can deploy to enhance outsourcing flexibility? If so, how do they contribute to different dimensions of flexibility?



In the following sections, we clarify the multi-dimensional notion of flexibility in outsourcing. We then introduce the conceptual framework proposed by Evans (1991), and elaborate on it in light of coordination theory (March and Simon, 1958; Gosain et al., 2004) to surface a portfolio of strategic maneuvers to manage outsourcing flexibility. We also map managerial practices from the outsourcing literature onto the conceptual framework in order to hypothesize about the relationships between these strategic maneuvers and flexibility. Finally, we discuss how outsourcing flexibility moderates the negative relationship between environmental uncertainty and outsourcing success before concluding with implications for theory and practice. We hope that greater conceptual clarity will not only contribute to more effective outsourcing management, but also spawn a new research agenda on outsourcing flexibility.

## Flexibility Overview

Flexibility is a key management concept, and has been extensively studied in different academic disciplines, such as strategic management (Sanchez, 1995; Volberda, 1996; Zaheer and Zaheer, 1997), manufacturing (Sethi and Sethi, 1990; Upton, 1994), and information systems (Avison et al., 1995; Eardley et al., 1997). Table 2 summarizes the key literature in these domains. Specifically, we rely on the synthesis of flexibility literature<sup>3</sup> by Bahrami and Evans (2004) who have distilled these proliferated notions of flexibility into three key dimensions – robustness, modifiability, and new capability. We believe these dimensions are equally fitting in the outsourcing context. Given the inter-organizational context of outsourcing, we have also included a fourth dimension, ease of exit, to account for the inflexibility of being locked into a relationship

<sup>3</sup> Bahrami and Evans's (2004) review is broad and covers disciplines such as military strategy, economics, manufacturing and operations management, strategic management, finance, information systems, and organizational science.

<b>Table 2. Conceptualizations of Flexibility in Multiple Domains</b>			
<b>Flexibility dimensions</b>	<b>Information Systems</b>	<b>Manufacturing</b>	<b>Strategic Management</b>
<b>Robustness</b>	<ul style="list-style-type: none"> <li>• System robustness (Rosenhead et al. 1986)</li> <li>• Infrastructure flexibility (Duncan 1995; Byrd and Turner 2000; Weill et al. 2002)</li> <li>• Open system (Allen and Boynton 1991; Chau and Tam 1997)</li> </ul>	<ul style="list-style-type: none"> <li>• Equipment flexibility (Parker and Wirth 1999)</li> <li>• Material flexibility (Jordan and Graves 1995; Carlsson 1989)</li> <li>• Volume flexibility (Jack and Raturi 2002)</li> <li>• Delivery flexibility (Sethi and Sethi 1990)</li> <li>• Program flexibility (Upton 1994)</li> </ul>	<ul style="list-style-type: none"> <li>• Operational flexibility (DeGroote 1994; Tushman and Anderson 1986)</li> </ul>
<b>Modifiability</b>	<ul style="list-style-type: none"> <li>• Technology flexibility (Brown and Hagel 2003; Prager 1996)</li> <li>• Software reusability (Nidumolu and Knotts 1998)</li> </ul>	<ul style="list-style-type: none"> <li>• Mixed flexibility (Jack and Raturi 2002; Suarez et al. 1995)</li> <li>• Rerouting flexibility (Upton 1994)</li> <li>• Changeover flexibility (Koste and Malhotra 1999)</li> <li>• Process flexibility (Graves and Tomlin 2003)</li> </ul>	<ul style="list-style-type: none"> <li>• Tactical flexibility (Carlsson 1989)</li> <li>• Resource flexibility (Sanchez 1995; Gargiulo and Benassi 2000)</li> </ul>
<b>New capability</b>	<ul style="list-style-type: none"> <li>• Software development flexibility (Nelson and Coopride 2001)</li> </ul>	<ul style="list-style-type: none"> <li>• New product development flexibility (Gupta and Goyal 1989; Sieger et al. 2000)</li> </ul>	<ul style="list-style-type: none"> <li>• Strategic agility/flexibility (Volberda 1996, Worren et al. 2002; Eppink 1978)</li> <li>• Dynamic capability (Teece et al., 1997)</li> </ul>
<b>Ease of exit</b>	<ul style="list-style-type: none"> <li>• Inter-organizational system flexibility (Venkatraman 1994; Clark et al. 1995; Harrison 1994)</li> </ul>	<ul style="list-style-type: none"> <li>• Market flexibility (Gerwin 1993, Sethi and Sethi 1990)</li> <li>• Partnering flexibility (Gosain et al. 2004)</li> </ul>	<ul style="list-style-type: none"> <li>• Partnership adaptability (Venkatraman and Henderson 1998; Zaheer and Zaheer 1997)</li> <li>• Exit flexibility (Ybarra and Wiersema 1999; Harrigan and Newman 1990)</li> </ul>

Bahrami and Evans (2004) note that to be truly flexible, an organization needs to embrace different dimensions of flexibility simultaneously—they term it “super-flexibility” (p. 19). The first dimension of flexibility is **robustness**, the ability to endure variations and perturbations, withstand pressure, or tolerate external changes. This relates to situations in which an organization (with its organic and physical components) has the built-in capacity to address uncertainty for varying levels of demand, product mix, and resource availability (Carlsson, 1989). As managers foresee changes, they can consciously build flexible mechanisms into the organization to address them, such as flexible manufacturing systems with a wide range of parameters or pre-programmed operations that accommodate daily fluctuations in production (Sethi and Sethi, 1990).

The second dimension of flexibility is **modifiability**, the ability of an organization to make modifications (e.g., to adjust existing product attributes or alter service composition) to cope with less foreseeable events when they occur. In contrast to robustness, modification requires incremental but essential changes to the existing organization, such as altering existing business rules without major setup efforts (Jordan and Graves, 1995).

The third dimension of flexibility, according to Bahrami and Evans (2004), addresses radical changes in the business environment that deviate substantially from projections. **New capability** is the ability to innovate in response to dramatic changes or novel situations. Such a “competence-destroying” discontinuity (Tushman and Anderson, 1986) may stem from competitors’ actions, changing consumer preferences, technological innovations, or new regulations and laws. Responding to such discontinuity involves radically transforming the existing organization to redefine a posture in the light of new imperatives, or to proactively create a new state of affairs (Sambamurthy et al., 2003; Venkatraman and Henderson, 1998), such as when a firm engages in developing new products when existing knowledge is no longer relevant.

Although Bahrami and Evans (2004) discuss their conceptualization in the context of organizational flexibility, we believe the three dimensions of flexibility also apply in an outsourcing relationship. Outsourcing is an arrangement between firms where one supplies a set of business services to the other. Elements of such an arrangement include the business process – with its architectural design, established business rules and resource deployment (human, technical, organizational)—as well as the related formal and informal governance structures supporting the relationship. Inflexibility in the business services delivered through outsourcing can arise from both rigid processes (e.g., strict adherence to pre-defined procedures as a business process is designed and managed by the vendor) and rigid governance structures (e.g., a 10-year contract without provision for pricing or service level amendments).

To cope with the dynamic environment, an outsourcing relationship should be capable of change or adaptation. Outsourcing flexibility is thus about the ability of an outsourcing relationship to change the extent, nature, or scope of business services delivered (adapted from definitions in prior literature, e.g., Sanchez, 1995; Carlsson, 1989; and Volberda, 1998). Often, it requires managing new and additional service requests beyond the initial contractual baseline, which could mean changes to the processes (e.g., alteration of business rules and addition of new functionality), the governance structures (e.g., contract renegotiation and vendor replacement), or some combination of these elements. As Lacity and Willcocks (2001) point out, three triggers often require adjustment or renegotiation in outsourcing: exceeding projected volume on existing services; changing the nature or composition of baseline services; and demanding

entirely new services. An outsourcing arrangement needs to build in sufficient capacity to tolerate, absorb, or endure transactional variation, without significant modification or re-deployment of resources. As organizational needs change, requests for changes in service composition make an existing outsourcing arrangement susceptible to modification. When a new set of business conditions arises altogether, an outsourcing arrangement should also be able to provide a new service capability. For example, midway through its outsourcing deal with EDS, the U.K. Inland Revenue was pressured by Parliament to implement a self-assessment tax scheme. It was the largest single tax reform of U.K. tax administration, and required an entirely new set of supporting functions from EDS (Lacity and Willcocks, 2001).

Conceptualizing flexibility as robustness, modifiability, and new capability thus helps us clarify the different dimensions of flexibility in outsourcing. However, these notions relate to an existing relationship with an outsourcing vendor, which in itself could emerge as a flexibility issue (e.g., the possibility of being locked in). Changing the extent, nature, and scope of the outsourced business services may sometimes require the service provision to be transferred to other vendors or to be brought in-house, especially if such changes cannot be accommodated by the existing vendor. Hence, we include a fourth dimension of outsourcing flexibility to account for its inter-organizational context: **ease of exit**. This is the ability of an outsourcing relationship to allow transfer of services to other vendors or to be brought in house (Venkatraman and Henderson, 1998; Ybarra and Wiersema, 2003). Gosain et al. (2004) term this ease of exit “partnering flexibility.” It differs from response to a volume spike, service feature alteration, or new functionality, as it requires assessing new vendors and re-building a new outsourcing relationship, and even re-establishing in-house capability.

We believe that combining the four dimensions provides a holistic view of flexibility in outsourcing. Ideally, organizations want to manage an outsourcing arrangement to achieve high degrees of robustness, modifiability, readiness for new capability, and ease of exit. Depending on the situational business dynamism, managers need to enact and use different dimensions of flexibility. Table 3 summarizes these dimensions of outsourcing flexibility.

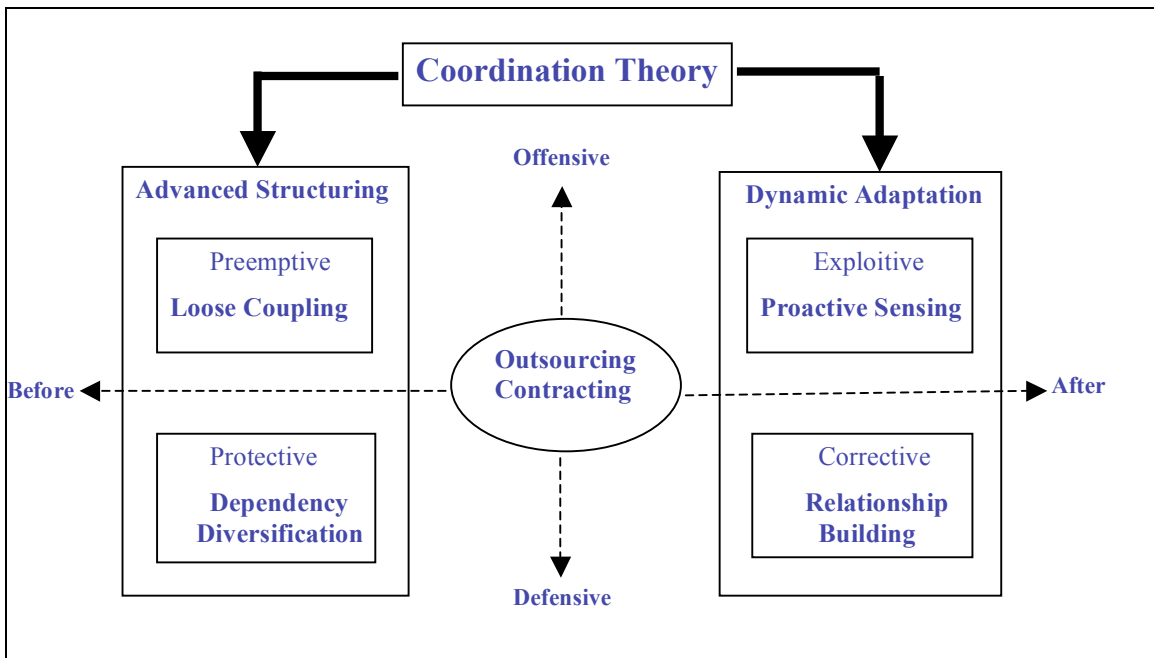
## **Maneuvering for Flexibility: A Conceptual Framework**

In his field research on high-technology firms, Evans (1991) develops a conceptual framework encapsulating the strategic maneuvers to achieve flexibility. He proposes an archetypal framework based on the temporal and intentional orientations. The maneuvers can vary in “time,” as ex ante or ex post options. This suggests that flexibility can be planned and managed in advance, or it can be adjusted after a contract is sealed (Carlsson, 1989). The maneuvers can differ in their “intent,” or the degree to which organizations take an offensive or defensive stance toward flexibility (i.e., proactively creating and seizing an initiative, or defensively guarding against predatory moves). Offensive maneuvers attempt to control changes in the environment to gain competitive advantage, while defensive maneuvers strive to minimize the impacts of those changes. Such attempts to manage flexibility have also been described as active or passive (Eppink, 1978; Volberda, 1998).

The conjunction of these two distinct yet interwoven orientations produces four archetypal maneuvers, which Evans (1991) categorizes as “pre-emptive,” “protective,” “exploitive,” and “corrective” (see Figure 2).



<b>Table 3. Dimensions of Flexibility in Outsourcing</b>		
<b>Flexibility Dimension</b>	<b>Meaning in outsourcing</b>	<b>Description</b>
Robustness	Variability of service capacity	The ability of an outsourcing relationship to allow operational changes exceeding projected capacity on existing service delivery, i.e., service volume fluctuation, variations in standard user requests, urgent or special case processing, and exception handling
Modifiability	Alternation of service attributes	The ability of an outsourcing relationship to allow alternation of attributes of its existing services in addressing changing business requirements, e.g., new configuration setup, alternation of processing workflow or business rules, new reporting requirements, and reference data updates.
New capability	Addition of innovative capability	The ability of an outsourcing relationship to allow the addition of entirely new services to address radical changes or shifts in business paradigms, e.g., new government regulations, technological revamps, functional breakthroughs, and process innovations.
Ease of exit	Switch to another vendor or in-sourcing	The ability of an outsourcing relationship to allow transfer of services to other vendors, or to be brought in-house, e.g., premature termination, vendor instability, or pricing disagreement or dispute.



**Figure 2. Theoretical Foundation Behind Flexibility Maneuvers**

Organizations can equip themselves with the dexterity required for pre-emptive maneuvers before the nature of the contingency is known, consciously creating a range of options before they are needed (Rosenhead et al., 1986). Organizations can also use redundancy mechanisms, such as insurance or resource buffers, as a protective

measure to guard against a potentially damaging situation and to allow a strategy to remain viable in spite of changes in the environment. Ex post managerial capability to exploit or capitalize on unexpected opportunities through constant scanning of the business horizon, and the ability to recover from infliction and ameliorate the impacts of accidents and mistakes are also critical to flexibility.

The framework is probably more empirically driven, as Evans himself (1991, p.76) acknowledges, but the insights are consistent with the theoretical arguments in coordination theory (March and Simon, 1958; Gosain et al., 2004). Outsourcing can be seen as a complex coordination problem, requiring the management of an aggregation of diverse activities, resources, and systems (Malone and Crowston, 1994). In such situations of interdependence, concerted actions come about through coordination. Organizations seek to consciously lay out prescribed activities by planning in advance, but meanwhile, they supplement these with spontaneous ongoing adjustment to cope with unforeseen scenarios (Beekun and Glick, 2001). Coordination may thus be based on *advanced structuring*, or coordination by plan, and *dynamic adjustment*, or coordination by feedback.

Advanced structuring can involve either reducing task interdependence through loose coupling, or mitigating resource dependency by diversifying resource allocations (March and Simon, 1958). *Loose coupling* reduces the need to coordinate information exchange and flow in a dyadic relationship, while *dependency diversification* generates alternative options to mitigate overdependence on critical resources. Dynamic adjustment is achieved by enhancing feedback in a changing environment through sensing and adapting (Sambamurthy et al., 2003). It can be seen as a two-pole strategy. In *sensing capability*, through feedback, quick learning, and constant environmental scanning—IT-supported or otherwise—organizations become more informed and forward-looking, and have more time to adapt. In *adaptive capability*, organizations emphasize proactive sensing less but seek ways to quickly react to or recover from shocks. As we will discuss later, in outsourcing, the ability to build strong relationships with vendors is central to quick adaptation.

Conceptually, the notions of advanced structuring and dynamic adjustment in coordination theory align with the temporal orientation of Evans' flexibility maneuvers, corresponding to the difference between ex ante and ex post. In addition, the different emphases on sensing and adapting map onto the offensive–defensive differentiation of “intent” in Evans' framework (Alexander, 1995). This integration of coordination theory and Evans' framework forms the basis of our research model, with coordination concepts (loose coupling, dependency diversification, proactive sensing, and reactive adapting) forming the key themes for pre-emptive, protective, exploitive, and corrective maneuvers, respectively (see Figure 2).

## **Strategic Maneuvers for Flexibility**

### ***Loose Coupling as a Pre-Emptive Maneuver***

Loose coupling is a dialectical concept that emphasizes the simultaneous existence of rationality and indeterminacy in a system (Orton and Weick, 1990). Loose coupling implies elements that are linked (coupled) to preserve some degree of determinacy. At the same time, these elements are subject to spontaneous change, leading to some

degree of independence (looseness). Loose coupling reduces interdependencies, allowing task components to more easily deal with change. It also makes it easier for them to disentangle and recombine into new configurations. Creating flexibility involves structuring information and interface linkages to loosely couple interacting components (Gosain et al., 2004; Beekun and Glick, 2001). A review of management practices with strong theoretical foundations and empirical research in the outsourcing literature reveals three strategic maneuvers that manifest such characteristics: minimizing customization, enhancing process maturity, and leveraging vendors' interoperability.

### **Minimizing Customization**

The need to customize arises when there are non-trivial incompatibilities between a vendor's offerings and an organization's idiosyncrasies. Some organizations have to customize their vendors' generic processes to fulfill their needs and differentiate themselves (Quinn and Hilmer, 1994; Zaheer and Venkatraman, 1995), resulting in complex exchanges of information with vendors. Minimizing customization is important in structuring the outsourcing relationships, as limited customization reduces the extent to which market exchange is personalized, and limits the scope for moral hazard, shrinking, and opportunistic behavior (Williamson, 1985). Adhering to generic vendor offerings allows for effective management of interdependencies, making the infrastructure more capable of supporting change.

Heavy customization makes it difficult to use vendors' generic capability, which is perhaps ironically the reason why many processes are outsourced in the first place (Light, 2001). It also hinders an organization's ability to leverage vendors' production cost advantages or common resources (Levina and Ross, 2003; Ybarra and Wiersema, 1999). The customization issue is particularly pertinent considering the vendors' general reluctance to accede to individual organizational change requests. Lacity and Willcocks (2001) highlight the outsourcing deal between British Aerospace (BAe) and Computer Science Corporation (CSC), in which CSC was contractually prevented from standardizing data centers and computing platforms to cater to the idiosyncratic service requirements of each division of BAe. This customization hampered BAe's ability to respond quickly to external changes, as each new service request was subject to excessive charges and delay.

### **Enhancing Process Maturity**

Process maturity refers to the extent to which embedded knowledge in managing, operating, and controlling a process has been captured or made explicit (Harter et al., 2000). Reflecting the progressive notions of the capability maturity model in software development (Paulk et al., 1993), McCormack and Johnson (2001) propose a process maturity model representing a continuum of increasing maturity, from being "anecdotal," "planned and tracked," "defined and measured," "standardized and automated," to "continuously improved." This model helps to assess how well management consciously surfaces, rationalizes, and routinizes embedded knowledge in processes before outsourcing them. The better the embedded knowledge of the processes is captured, either through documentation or automated routines, the easier it is to transfer such knowledge to other parties, and the faster a process can be modified or reconfigured to respond to external changes. The best candidates for outsourcing are the processes at the top of the maturity spectrum, as they are understood well enough to be standardized, automated, or digitized to easily "plug and play" with other processes, or connect to external partners (Tas and Sunder, 2004).

### **Leveraging Vendor Interoperability**

Interoperability represents the ability of IT infrastructure to match and adjust to multiple operating needs (Chung et al., 2003). In outsourcing, the extent of interoperability is primarily achieved in a vendor's IT infrastructure, through high modularity, connectivity, and compatibility (Byrd and Turner, 2000; Gosain et al., 2004). High interoperability is often enabled by advanced integration technologies or adoption of industry standards, such as relational databases and object-oriented technology, that minimizes component interdependence, maximizes functional reusability, and enhances changeability (Humphrey, 1989; Levina and Ross, 2003). Interoperable architectures create information structures that are the "glue" holding together loosely coupled parts of independent components. Open system architectures, such as PC-based plug-and-play platforms, Common Object Request Broker Architecture (CORBA), web services (e.g., .NET), and extendable markup language, implement a suite of interface standards to make software, hardware, and communications systems more compatible (Chau and Tam, 1997). Such technologies are inherently "future proof," enabling vendors to build, modify, or apply IT quickly and appropriately in response to change (Prager, 1996; Gabrani et al., 2003). Carefully selecting vendors with IT platforms based on modular and scalable design and common compatibility and connectivity standards for high interoperability should help to enhance outsourcing flexibility.

### ***Dependency Diversification as a Protective Maneuver***

While the above maneuvers are pre-emptive in facilitating future coordination in the outsourcing relationship, more can be planned in advance as defensive maneuvers to guard against potentially damaging consequences from unexpected variations. One strategy is to avoid becoming overly dependent on other organizations (Alexander, 1995), or to minimize dependency by maintaining alternative sources for services (Thompson, 1967). This strategy is a form of contingency planning and seeks to limit the damage caused by unforeseen events by affording a choice of options that may be called upon when necessary (Eardley et al., 1997). By the same token, Eppink (1978) invokes the concept of "organizational slack" to buffer an organization from environmental discontinuities. To this end, outsourcing organizations may diversify their dependency on vendors by developing both external and internal alternatives, i.e., practicing multiple sourcing and retaining in-house competence.

### **Practicing Multiple Sourcing**

Organizations that provide scarce and critical resources acquire power in an exchange relationship (Pfeffer and Salancik, 1978). As outsourced IT and business processes are critical to most businesses, this is especially true of an outsourcing relationship (Kern and Willcocks, 2000). When an organization relies too much on an outsourcing vendor, it is likely to be locked into that relationship, giving the vendor little motivation to accommodate unanticipated changes. Outsourcing to a single vendor may thus create overdependence, limiting an organization's choices in adverse situations (Currie and Willcocks, 1998; Saunders et al., 1997). Engaging multiple outsourcing vendors avoids depending too much on any single vendor.

### **Retaining In-House Competence**

Gainey and Klass (2003) note that outsourcing can create significant flexibility pitfalls if

internal technical skills are not maintained. Such buffers, or slack resources, may not be cost efficient, but make perfect sense if dependency on a vendor needs to be mitigated. Typically, the buffer consists of a team of in-house staff performing similar tasks, helping an organization keep abreast of process knowledge and stay on top of changing technology. The in-house competence is also important as back-up to cope with unpredictable variations or to bring operations in-house if the vendor cannot accommodate changes (Lacity et al., 1995). To balance cost benefits and business agility, P&G continued to retain 10–15 “break-and-fix” IT people in its outsourcing deal with HP.

### ***Proactive Sensing as an Exploitive Maneuver***

Both pre-emptive and protective maneuvers to achieve flexibility require advanced planning prior to outsourcing. Exploitive maneuvers, in contrast, are activated ex post, and seek to help management learn as much as possible from diverse information sources to make the best of an outsourcing arrangement. The proactive sensing approach in dealing with change (Haeckel, 1999; Alexander, 1995) is consistent with notions such as “alertness to opportunity” or “proactive learning” (Sambamurthy et al., 2003; Miller, 1983). In searching for meaningful signals, managers systematically look for early indications of new ideas, capabilities, or trends through environmental scanning and regular communications with outsourcing vendors. Timely sensing allows organizations to capitalize on such knowledge and adjust to changes quickly. Ideally, managers might anticipate or even instigate change, rather than merely react to it. They can nurture continuous innovation in outsourcing by exerting market pressure, or scanning the competitive landscape of outsourcing vendors (e.g., benchmarking) to strengthen their negotiating power. Organizations may also attempt to redefine market uncertainty by championing and partnering with outsourcing vendors to develop new service capabilities or technical advancements (Eardley et al., 1997).

### ***Reactive Adaptation as a Corrective Maneuver***

Enhancing reactive adaptation capacity in an outsourcing relationship is yet another means of ex post dynamic adjustment. Central to such quick adaptation is the ability to build relationships with vendors such that they are willing to align with organizations whatever the dynamic changes are. Such relationships involve frequent communication between organizational partners, development of shared goals, and cultivation of mutual respect (Gittell, 2002; Gupta and Goyal, 1989). Grover et al. (1996) highlight notions such as “relationship-specific assets” or “voluntary transactions,” i.e., organization and vendor mutually and sequentially demonstrate their trustworthiness as the relationship evolves (Blau, 1964; Emerson, 1962). A strong partnership is an important vehicle for nourishing flexibility when the need to respond to unexpected changes arises.

In light of coordination theory, Evan’s (1991) conceptual framework thus provides a basis to consolidate the different maneuvers identified in the literature for managing outsourcing flexibility. Extending the framework, we argue that the different maneuvers contribute differently to the various dimensions of outsourcing flexibility: robustness, modifiability, new capability, and ease of exit. We elaborate on this proposition in the following sections.

## Development of Research Propositions

### ***Pre-Emptive (Loose Coupling) Maneuvers and Outsourcing Flexibility***

Coordination theory suggests that loose coupling allows interdependencies between and within organizations to be managed more effectively in supporting change (March and Simon, 1958; Gosain et al., 2004). For minimizing customization, this argument is analogous to encouraging “plain vanilla” adoption of package software (e.g., ERP, CRM), to reduce potential problems in future maintenance and upgrades (Holland et al., 1999). Adhering to a vendor’s standard offerings enables an organization to leverage the vendor’s economies of scale, as well as its scope for scalability and adaptability, thus enhancing robustness. Minimal customization also simplifies the modification effort in an outsourcing relationship. The vendor just needs to make necessary modifications based on its existing technical platform, without having to understand and keep track of an organization’s unique requirements and specific past customization. Substantive customization also creates a dependent relationship, allowing the vendor to hold the organization “economic hostage” in future negotiations (Williamson, 1985). The ability of an organization to exit the outsourcing relationship, as a result, decreases because premature termination under such a situation becomes economically undesirable due to high switching costs (Ybarra and Wiersema, 1999).

*Proposition 1a: Lower customization is positively associated with an organization’s outsourcing flexibility in terms of robustness.*

*Proposition 1b: Lower customization is positively associated with an organization’s outsourcing flexibility in terms of modifiability.*

*Proposition 1c: Lower customization is positively associated with an organization’s outsourcing flexibility in terms of ease of exit.*

Similarly, high process maturity facilitates the management of flexibility in an outsourcing relationship. A mature process with established practices and parameterized variance tends to be more robust to external disturbances, as the clarity of operational rules makes it easy to adjust while remaining optimal. A well-understood process is also easier to modify because the vendor can learn about process routines with less difficulty. The 1997 outsourcing deal between DuPont–CSC and Andersen Consulting (AC) is a case in point (Lacity and Willcocks, 2001). Prior to outsourcing, DuPont’s IT department consciously engaged in continuous improvement, significantly enhancing process maturity through re-engineering, value-added refocusing, and eliminating redundancy. The considerable process rationalization, standardization, and consolidation not only enabled more competitive negotiation, but also paid off in speedier handling of service and change requests that DuPont later enjoyed. In addition, greater process maturity also facilitates knowledge exchange with outsourcing vendors, making it easier for a process to be readily disconnected from an existing relationship and reconnected to a new one. In India, IT processes with CMM (Capability Maturity Model) Level 5 certification are becoming so common in the software outsourcing business that they are already showing sign of commoditization (Davenport, 2005).

*Proposition 2a: Higher process maturity is positively associated with an organization’s outsourcing flexibility in terms of robustness.*

*Proposition 2b: Higher process maturity is positively associated with an organization's outsourcing flexibility in terms of modifiability.*

*Proposition 2c: Higher process maturity is positively associated with an organization's outsourcing flexibility in terms of ease of exit.*

In the same vein, a highly interoperable vendor infrastructure enhances the ability of an outsourcing relationship to allow operational changes exceeding projected capacity through its ready scalability, wide compatibility, and standard connectivity among applications. Modifiability also improves. Change requests on existing applications may be handled more quickly and easily, facilitated through the reusable and modular architecture. Likewise, the effect of interoperability on ease of exit is expected to be positive. Structured data connectivity and system compatibility reduce coordination costs in exchanging information between partners (Chung et al., 2003). Vendors can be changed more readily as interface linkages are re-established across various delivery platforms (Alexander, 1995). An interoperable infrastructure, based on common technical standards, thus improves an organization's exit flexibility. Open EDI systems or XML-based data interchanges, for example, facilitate coordination by reducing specificity in outsourcing partners and broadening the pool of available vendors (Gosain et al., 2004; Sanchez, 1995).

*Proposition 3a: High vendor interoperability is positively associated with an organization's outsourcing flexibility in terms of robustness.*

*Proposition 3b: High vendor interoperability is positively associated with an organization's outsourcing flexibility in terms of modifiability.*

*Proposition 3c: High vendor interoperability is positively associated with an organization's outsourcing flexibility in terms of ease of exit.*

Although the pre-emptive maneuvers of minimizing customization, enhancing process maturity, and leveraging vendor interoperability improve outsourcing flexibility in terms of robustness, modifiability, and ease of exit, we argue that such maneuvers do not contribute to creating new capabilities. Arising from radical or "competence-destroying" discontinuous changes, new capabilities are not simply service-line extensions, geographic expansions, or technological improvements in the course of existing business (Govindarajan and Trimbel, 2005); they depart significantly from the existing paradigm. Actions and knowledge accumulated through current processes are likely to be irrelevant, and loose coupling only enables adaptation within the context of the current system. To develop new capabilities, a different form of strategic maneuver is needed.

### ***Protective (Dependency Diversification) Maneuvers and Outsourcing Flexibility***

Although contracting with multiple outsourcing vendors reduces dependency and creates competition among vendors, this mechanism is not without disadvantage. Gains from enhanced bargaining power in an outsourcing relationship may be offset by coordination costs and communication problems arising from managing a network of vendors. The primary risk is the difficulty in managing the work and relationships with several suppliers (Lacity et al., 1995). Cross (1995) examines this difficulty in the implementation of a

“framework agreement” among suppliers in the outsourcing experience of British Petroleum. A related problem is the diffusion of accountability and responsibility, particularly if the sub-processes are highly interdependent (Loh and Venkatraman, 1992; Huang et al., 2004).

Given the high costs typically associated with multiple sourcing, we argue that such maneuvers are typically tapped not for routine operational issues (e.g., transaction fluctuation), but only to provide fallback if there is a need to exit an outsourcing arrangement. Resources spread across multiple vendors are generally passive, that is, they are not available to one another. Such maneuvers are often advocated by organizations to minimize switching costs, or as “exit strategies” (Emerson, 1962; Currie and Willcocks, 1998; Lacity and Willcocks, 2001). For example, British Petroleum allocated its upstream and downstream accounting processes to SEMA, Syncordia, and SAIC, respectively. JP Morgan signed a seven-year US\$2.1 billion contract with four major suppliers. Competitive knowledge across multiple vendors enhanced both British Petroleum’s and JP Morgan’s bargaining positions, and they avoided becoming dependent upon a single supplier, having the alternatives to exit if necessary. Therefore, we argue that multiple-sourcing maneuvers are not intended to augment outsourcing flexibility in terms of robustness, modifiability, or new capability generation, given the substantial coordination required. Rather, their primary focus is to gain ease of exit when the need arises.

*Proposition 4: Multiple sourcing is positively associated with an organization’s outsourcing flexibility in terms of ease of exit.*

Similar arguments apply to retaining in-house competence as a protective flexibility maneuver. Given the high cost of redundancy, many organizations do not deploy purely idle or slack resources (e.g., maintaining a dedicated hot site to back up a data center). One cost-efficient practice is to segment a process into two logical sections, leaving a team of in-house staff to perform one section while outsourcing the other. This arrangement enables organizations to retain and continuously build process expertise (Lacity and Willcocks, 2001). Important systems knowledge and IT competence do not simply disappear when organizations switch vendors, or when vendors go bust. A large bank in Singapore outsourced the non-sensitive part of its network maintenance to IBM while keeping the sensitive network service in-house. Apart from security concerns, the main reason for segmenting the process was to preserve internal competence to prepare for unpredicted variations, and even back-sourcing in case of vendor non-performance. Such resources are not idle (e.g., staff normally have other responsibilities), they remain passive unless absolutely needed. They are activated as a last resort. Therefore, they are considered as contingency measures for ease of exit, but do not contribute to robustness, modifiability, or new capability generation.

*Proposition 5: Retaining in-house competence is positively associated with an organization’s outsourcing flexibility in terms of ease of exit.*

### **Exploitive (Proactive Sensing) Maneuvers and Outsourcing Flexibility**

Exploitive maneuvers aim to develop an organization’s ability to sense market uncertainty in a rapidly changing environment. Proactive sensing in outsourcing management is maintaining vigilance by constantly scanning the environment (e.g., the landscape of outsourcing vendors’ market and potential leverage on novel technology) to anticipate the



need to create or generate new capabilities. This requires strong managerial initiatives to acquire external knowledge, the boldness to adopt best practices, and a willingness to experiment with new ideas (Cohen and Levinthal, 1990; Teece et al., 1997).

Unlike retaining in-house competence, the strategic and external orientations of proactive sensing maneuvers focus on information feedback outside routine operation, and hence, they are not expected to affect robustness or modifiability. Organizations constantly scan, assimilate, and leverage business intelligence to innovate, keep abreast with dynamics in vendors' markets (e.g., new and alternative vendors, new possibilities in offshoring or opportunities for collaborative development), and quickly improvise and reconfigure their operations to create new capabilities before others do. An organization's ability to anticipate and respond to radical change would thus depend on its management's proactive sensing capability. Such forward-looking knowledge (e.g., familiarity with a vendor's market, benchmarking of best practices) also keeps management vigilant about the performance of outsourcing vendors. The heightened awareness of alternative opportunities and management's openness to assimilate new market practices will enhance the ease of exit in an outsourcing relationship.

*Proposition 6a: Proactive sensing is positively associated with an organization's outsourcing flexibility in terms of new capability.*

*Proposition 6b: Proactive sensing is positively associated with an organization's outsourcing flexibility in terms of ease of exit.*

### **Corrective (Reactive Adaptation) Maneuvers and Outsourcing Flexibility**

Since outsourcing involves repeated inter-organizational exchanges, a sound relationship between an organization and its vendor is an important factor in an organization's ability to adapt (Poppo and Zenger, 2002). The argument is consistent with literature in inter-organizational relationships indicating that a strong partnership has a positive impact on an organization's ability to adjust to changing environmental demands or unintended problems (Gargiulo and Benassi, 2000; Ybarra and Wiersema, 1999). Rooted in social exchange theory (Blau, 1964), such a relationship functions as a lubricant, facilitating "on-the-fly" adaptation. A strong partnership with shared goals and mutual trust induces the vendor to accommodate requests to cope with transactional fluctuations, to modify existing operations, and to collaboratively create new capabilities spurred by radical changes. The additional "give-and-take" efforts are seen by the vendor as investments for longer term pay-offs as the partnership strengthens and reinforces itself over time.

While partnership contributes to outsourcing flexibility in the traditional view of social capital, the embedded mutual obligations of a cohesive partnership can also become a liability, hindering an organization's ability to pursue new opportunities outside the relationship (Portes and Sensenbrenner, 1993). The expectation of continuity that accompanies partnership tends to minimize parties' motivation or preparation to exit an outsourcing relationship (Gupta and Goyal, 1989; Kern and Blois, 2002). Thus, we argue that strong partnership, as a corrective maneuver, enhances outsourcing flexibility in terms of robustness, modifiability, and new capability, but inhibits ease of exit.

*Proposition 7a: Strong partnership is positively associated with an organization's outsourcing flexibility in terms of robustness*

<b>Table 4. Strategic Maneuvers and Dimensions of Outsourcing Flexibility</b>				
	<b>Robustness</b>	<b>Modifiability</b>	<b>New capability</b>	<b>Ease of exit</b>
Minimize customization	(+) <ul style="list-style-type: none"> <li>• Standard process allows organization to leverage vendor's economy of scale/scope</li> <li>• Standard process reduces opportunistic vendor behavior to hold organization ransom for process specificity</li> </ul>	(+) <ul style="list-style-type: none"> <li>• Standard process reduces the need for knowledge exchange in modification</li> <li>• Standard process reduces opportunistic vendor behavior to hold organization ransom for process specificity</li> </ul>	N/A <ul style="list-style-type: none"> <li>• Standard process is irrelevant to new innovation or out-of-the-box thinking in "competence-destroying" discontinuity</li> </ul>	(+) <ul style="list-style-type: none"> <li>• Standard process reduces switching costs and speeds up transition process</li> <li>• Standard process reduces opportunistic vendor behavior to hold organization ransom for process specificity</li> </ul>
Enhance process maturity	(+) <ul style="list-style-type: none"> <li>• Paramaterized process enables easy scalability</li> <li>• Well-defined process facilitates routine adjustment and knowledge transfer</li> </ul>	(+) <ul style="list-style-type: none"> <li>• Well-documented and codified routines simplify knowledge exchange between parties</li> <li>• Process rationalization, standardization and consolidation facilitate modification of service delivery</li> </ul>	N/A <ul style="list-style-type: none"> <li>• Accumulated routines impose knowledge inertia on process change</li> <li>• Knowledge about matured process is irrelevant to new innovation or out-of-the-box thinking in "competence-destroying" discontinuity</li> </ul>	(+) <ul style="list-style-type: none"> <li>• Well defined process interface enables loose coupling with vendor operation</li> <li>• Ease of knowledge transfer enables nimble "unplug and replug" in case of unfavorable development</li> </ul>
Leverage vendor inter-operability	(+) <ul style="list-style-type: none"> <li>• Common platform and interface reduce interdependence and coordination costs</li> <li>• Wider compatibility and connectivity enable process scability and adaptability</li> </ul>	(+) <ul style="list-style-type: none"> <li>• Common platform and interface simplify knowledge exchange between parties</li> <li>• Reusable and modular architecture allows localized reconfiguration and facilitates functional add-ons</li> </ul>	N/A <ul style="list-style-type: none"> <li>• Vendor interoperability is irrelevant to new innovation or out-of-the-box thinking in "competence-destroying" discontinuity</li> </ul>	(+) <ul style="list-style-type: none"> <li>• Common platform and interface reduces specificity in outsourcing partners and broaden the pool of available vendors.</li> </ul>

Practice multiple sourcing	<b>N/A</b> <ul style="list-style-type: none"> <li>Resources across multiple vendors are passive and not available to one another for operational fluctuations, due to high coordination costs</li> </ul>	<b>N/A</b> <ul style="list-style-type: none"> <li>Resources across multiple vendors are passive and not available to one another for service modifications, due to high coordination costs</li> </ul>	<b>N/A</b> <ul style="list-style-type: none"> <li>Resources across multiple vendors are passive and not available to one another for “competence- destroying” innovation or creation of new capabilities, due to high coordination costs</li> </ul>	<b>(+)</b> <ul style="list-style-type: none"> <li>Multiple sourcing mitigates resource dependency on single vendor and reduces lock-in hazard</li> <li>Competitive knowledge from multiple sourcing augments organization bargaining power</li> </ul>
Retain in-house competency	<b>N/A</b> <ul style="list-style-type: none"> <li>Given the high cost of dedicated redundancy, in-house competence is a passive resource for operational fluctuations. It is triggered only in extreme situation of exiting outsourcing</li> </ul>	<b>N/A</b> <ul style="list-style-type: none"> <li>Given the high cost of dedicated redundancy, in-house competence is a passive resource for service modifications. It is triggered only in extreme situation of exiting outsourcing</li> </ul>	<b>N/A</b> <ul style="list-style-type: none"> <li>Given the high cost of dedicated redundancy, in-house competence is a passive resource for “competence- destroying” innovation or creation of new capabilities. It is triggered only in extreme situation of exiting outsourcing</li> </ul>	<b>(+)</b> <ul style="list-style-type: none"> <li>In-house competency builds up buffer mechanism to reduce dependency, hence easing exit in case of non-performance by vendors</li> </ul>
Promote proactive sensing	<b>N/A</b> <ul style="list-style-type: none"> <li>The strategic and external orientations focus on information feedback outside routine operation; hence, are not expected to contribute to operational fluctuations</li> </ul>	<b>N/A</b> <ul style="list-style-type: none"> <li>The strategic and external orientations focus on information feedback outside routine operation; hence, are not expected to contribute to service modifications</li> </ul>	<b>(+)</b> <ul style="list-style-type: none"> <li>Proactive sensing develops organization alertness to new opportunities and innovative technologies</li> <li>Strategic, external, and open mindset is conducive to experimentation with new ideas</li> </ul>	<b>(+)</b> <ul style="list-style-type: none"> <li>Proactive sensing keeps management vigilant on performance of outsourcing vendor</li> <li>Proactive sensing enables familiarity with vendor’s market and awareness of alternative opportunities, strengthening readiness to exit.</li> </ul>
Foster partnership quality	<b>(+)</b> <ul style="list-style-type: none"> <li>Willingness to accommodate operational fluctuations or transactional variations based on shared goals and mutual trust</li> </ul>	<b>(+)</b> <ul style="list-style-type: none"> <li>Willingness to accommodate requests for modifications based on shared goals and mutual trust</li> </ul>	<b>(+)</b> <ul style="list-style-type: none"> <li>Willingness to accommodate requests for new capability based on shared goals and mutual trust</li> </ul>	<b>(-)</b> <ul style="list-style-type: none"> <li>Relational investment leads to expectation of business continuity, reducing incentives to exit</li> <li>Social embeddness increases switching cost and inhibits the parties from exiting</li> </ul>

*Proposition 7b: Strong partnership is positively associated with an organization's outsourcing flexibility in terms of modifiability.*

*Proposition 7c: Strong partnership is positively associated with an organization's outsourcing flexibility in terms of new capability.*

*Proposition 7d: Strong partnership is negatively associated with an organization's outsourcing flexibility in terms of ease of exit.*

Table 4 summarizes the series of our research propositions about the various strategic maneuvers and the different dimensions of outsourcing flexibility.

### ***Outsourcing Flexibility and Outsourcing Success***

The above propositions highlight the different ways to achieve flexibility in outsourcing. However, the impact of outsourcing flexibility on outsourcing success remains ambiguous. Few formal outsourcing studies have empirically investigated their relationship (Clark et al., 1995; Lacity and Willcocks, 2001). Indeed, the notion of flexibility is often indiscriminately seen as a "good thing" in the outsourcing literature (Avison et al., 1995; McFarlan and Nolan, 1995). Other studies simply include flexibility as one of a few dimensions (e.g., as responsiveness) to measure outsourcing success, typically defined as an organization's satisfaction with benefits gained from outsourcing (e.g., Lee and Kim, 1999; Grover et al., 1996).

There have also been other related studies that explored the hypothesized negative relationship between the level of environmental uncertainty and the outcome of outsourcing (i.e., less successful outsourcing in volatile environments). However, the findings are inconclusive (Dibbern et al., 2004). Wang (2002), following transaction cost theory, finds a negative relationship between uncertainty and outsourcing success, but Poppo and Zenger (1998) contradict this.

We would argue that a more complete view of the relationship between environmental uncertainty and outsourcing success should consider the moderating impacts of the flexibility attained through the strategic maneuvers that management puts in place. Outsourcing success is less probable in a dynamic environment of high uncertainty, as organizations have to constantly renegotiate with vendors to cope with the rapid and unpredictable changes. The outsourcing flexibility achieved through the various strategic maneuvers thus takes on special significance to avail alternative options or to buffer against unfavorable situations.

These maneuvers are not free, however; they always involve additional costs, in unnecessary complexity, excessive coordination, or idle resources. Instituting them can thus be justified only when there is a strong need to manage risk and uncertainty. In times of low turbulence, when demand and technology are relatively static, the premium on outsourcing flexibility may be small. Uncertainty could have been foreseen and built into the outsourcing contracts. Strategic maneuvers to achieve flexibility may therefore be unnecessary, excessive, or even counterproductive because their costs outweigh their benefits, eroding the economics of successful outsourcing. Thus, we would argue that

*Proposition 8: Outsourcing flexibility moderates the negative relationship between environmental uncertainty and outsourcing success, such that it enhances outsourcing*

*success in times of high environmental uncertainty and erodes outsourcing success in times of low environmental uncertainty.*

## **Conclusions and Future Research**

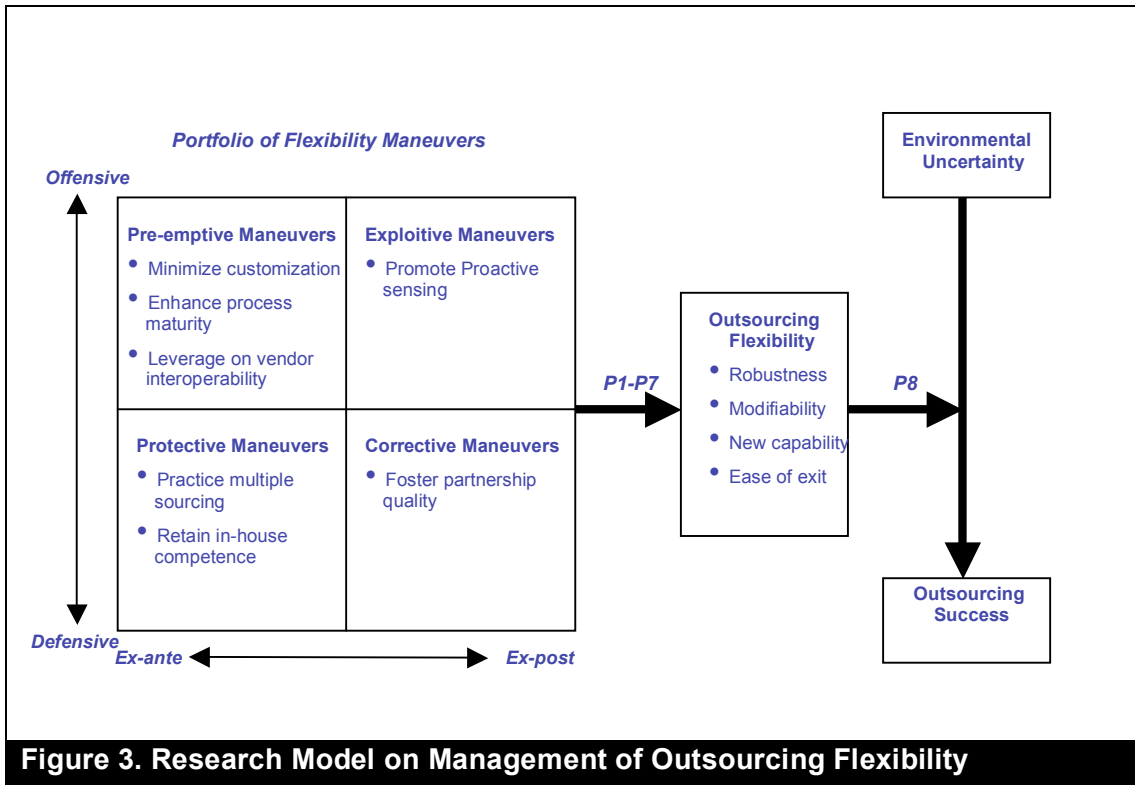
This paper extends existing outsourcing research along three main avenues. First, integrating the various concepts of flexibility across multiple disciplines advances our understanding of the dimensions of flexibility in outsourcing—that is, flexibility as robustness, modifiability, new capability, and ease of exit. Second, recognizing that contracts cannot adequately manage outsourcing flexibility by themselves, the paper demonstrates how Evans' (1991) archetypes of strategic maneuvers can be usefully employed to frame the management of flexibility in an outsourcing relationship. By minimizing customization, enhancing process maturity, and leveraging vendor interoperability, organizations can consciously put in place pre-emptive maneuvers to reduce tight coupling when responding to dynamic changes. Simultaneously, protective maneuvers, such as sourcing from multiple vendors or retaining in-house competence, can be planned up-front to back up outsourcing operations in extreme situations. An organization is also not without options once an outsourcing contract is sealed. Exploitive maneuvers can be instituted through proactive sensing to enhance management alertness to take advantage of emerging changes and opportunities. Flexibility can also be attained by strengthening an organization's ability to adapt reactively, through a closer partnership with outsourcing vendors.

Last but not least, we strive to populate this framework by consciously surfacing maneuvers of flexibility management that have strong theoretical foundations and empirical research in the outsourcing literature. We elaborate the characteristics of these maneuvers, and put forth propositions about their relationships to different dimensions of outsourcing flexibility. We also highlight that these strategic maneuvers are costly, and suggest a positive moderating impact on outsourcing success only in high environmental uncertainty.

As shown in Figure 3, the strategic maneuver framework thus provides a holistic view of managing flexibility in outsourcing, enabling organizations to consider a portfolio of maneuvers that best meets their needs.

Managers should consider the level of environmental uncertainty and clarify the dimensions of flexibility they seek in an outsourcing relationship, as various maneuvers contribute to each dimension differently. Minimizing customization and enhancing process maturity, for example, are irrelevant to "out-of-the-box" thinking to develop new capabilities in outsourcing. Similarly, while partnership quality enhances outsourcing flexibility in terms of robustness, modifiability, and new capability, the social embeddedness of a tight partnership diminishes an organization's ease of exit.

We hope to set the stage for research on managing flexibility in outsourcing. In addition to empirically validating the various research propositions, future research may also explore the archetypes of strategic maneuvers as a portfolio, depending on some pertinent contingencies. For example, contrasting the portfolio of maneuvers in outsourcing between stable and dynamic business environments may tease out the relative deployment of contractual provision, and the portfolio of pre-emptive, protective, exploitive, and corrective maneuvers. Typically, in high-tech industries, the fast pace of



change may place a premium on exploitive maneuvers to proactively leverage emerging opportunities; in stable industries, contractual provision or pre-emptive maneuvers are fundamental to lay out or prepare for possible, and often predictable, alternatives. Similarly, one would expect the portfolio of maneuvers to differ across business processes with different degrees of structure (e.g., comparing different types of IT outsourcing, or contrasting payroll outsourcing and financial advisory outsourcing).

Future research may also pursue the relationships among the strategic maneuvers to achieve outsourcing flexibility. Although the hallmark of a flexible response is the juxtaposition of several parallel actions, Evans (1991) also points out that ex ante strategic postures (pre-emptive and protective maneuvers) must be in place for reactive or responsive (exploitive and corrective) maneuvers to be successful. This suggests that advanced structuring also affects the execution of ex post adjustments. Organizations have limited capacity to adapt to changes after the fact, as earlier decisions can constrain organizational discretion later. The structure of exploitive maneuvers, which the outsourcing literature has largely overlooked, also deserves greater research attention. Such proactive sensing to exploit uncertainty seems to synergize well with protective maneuvers, as it could leverage common resources that build both in-house competence and industry knowledge derived from multi-sourcing practices.

Finally, clarifying the various maneuvers allows us to see the value of IT to facilitate flexibility management in outsourcing. Consistent with Boynton (1993), Quinn and Baily (1994), and Kogut and Kulatilaka (1994), we believe that IT establishes an inter-organizational business infrastructure that shapes a firm's capacity to launch and deliver various outsourced services. IT can enable external scanning, proactive sensing, seamless communication in relationship building, and capturing or digitizing work routines to enhance process maturity. Yet, as a delivery infrastructure, it has to be

sufficiently flexible itself, that is, scalable, modular, and interoperable. Current research in flexible IT infrastructure, such as service-oriented architecture (e.g., Brown and Hagel, 2003) and agile software development (e.g., Larmen, 2003), should lend important perspectives to managing flexibility in outsourcing.

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