

# **A Model of Contingent Governance Choice and Performance in Business Process Outsourcing: The Effects of Relational and Process Uncertainty**

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## **Abstract**

Business process outsourcing (BPO) is rapidly emerging as an imperative for competitive success in modern organizations. This study characterizes contractual coordination, or the mutual exchange of rights, and procedural coordination, or the relational norms and processes that facilitate mutual exchange of information, as two fundamental elements of governance of BPO relationships, and posits that the choice of these elements is contingent on the type of uncertainty encountered in the BPO task environment. In particular, we focus on relational uncertainty (or uncertainty perceived by the user firm about its relationship with the service provider) and process uncertainty (or uncertainty in execution and management of the outsourced process across organizational boundaries). We draw on transaction cost economics and theories of inter-firm coordination to posit that the extent of contractual coordination in the BPO relationship is determined by relational uncertainty while the extent of procedural coordination is determined by process uncertainty. Further, while performance of the BPO relationship is explained by the complementary relationship between contractual and procedural coordination function, it is also significantly influenced by the alignment between contractual coordination and relational uncertainty and procedural coordination and process uncertainty. Our analysis of survey data on 137 active BPO relationships provides strong support for our hypotheses. The contingency approach to governance of BPO relationships helps reconcile the economic conceptualization of governance of outsourcing relationships as a nexus of contracts and the organizational perspective of governance as a complex work system by applying each perspective in a discriminating fashion based on the effects of relational and process uncertainty. An understanding of the contingent effects of uncertainty will help managers negotiate varying outsourcing task environments and effectively leverage BPO to improve firm competitiveness.

## **1. Introduction**

Business Process Outsourcing (BPO) refers to the transfer of the optimization and management of one or more information-intensive business processes to an external provider who, in turn, owns and administers the selected process(es) based on defined and measurable performance criteria. Often, this involves outsourcing the infrastructure supporting the business process, including the technological infrastructure. Companies have long outsourced transactional, strategically peripheral processes to improve efficiency at reduced costs of ownership. However, more recently, rapid advances in technology, the increasingly information intensive nature of products and services, and the emergence of the global economy have led to an increase in the strategic importance and knowledge intensiveness of the nature of processes outsourced (Linder 2004). Over the past decade, BPO has matured from being a cost-saving tool for transaction-intensive, peripheral business processes to being a flexible and powerful strategy for business transformation (Linder 2004). Firms like Apple and Kodak have leveraged BPO to reduce costs, increase speed-to-market, and seize momentum from incumbent leaders, while firms like UPS and 7-Eleven have used it as a strategy for market dominance (Gottfredson et al. 2005).

As the basis of competitive advantage shifts from ownership to control of strategic capabilities (Gottfredson et al. 2005) and firms increasingly align themselves with the network organizational form (Miles and Snow 1994), the governance of the underlying BPO relationship assumes critical importance in the creation and transfer of strategic value to the user firm. Prior research on the governance of outsourcing relationships has been primarily influenced by Transaction Cost Economics (TCE), which defines the governance solution as the contractual structure used by participant firms to formalize the relationship (Leiblein et al. 2002; Gulati and Singh 1998; Pisano et al. 1988). The neo-classical contract proposed by TCE “(1) contemplates unanticipated disturbances for which adaptation is needed, (2) provides a tolerance zone within which misalignments will be absorbed, (3) requires information disclosure and substantiation if adaptation is proposed, and (4) provides for arbitration in the event voluntary agreement fails” (Williamson 1991). Therefore, contractual coordination involves cooperative adaptation through the ex ante specification of contingent obligations and responsibilities that the user firm and the service provider mutually agree to (Williamson 1991).

However, as the decline of the vertically integrated business model evolves into sophisticated outsourcing forms such as BPO and “capability sourcing”<sup>1</sup> (Gottfredson et al. 2005), we suggest that the conceptualization of the outsourcing governance solution too must make the shift from a nexus of contracts to a complex work system. This view is consistent with emerging research (Gulati et al. 2005; Heath and Staudenmayer 2000) which suggests that effective collaboration between firms requires alignment of both *interests* and *actions* between them. While the contract attempts to align incentives and interests in the relationship, it might prove insufficient in aligning the actions of participant firms. The contract masks how hierarchical controls that address opportunism concerns of relational uncertainty are enacted to provide an “administrative architecture within which the partnership proceeds” (Gulati and Singh 1998). Procedural coordination (Sobrero and Schrader 1998) asks how the contract is actually used in the BPO relationship, and refers to the relational norms and processes that facilitate information exchange between the user firm and the service provider to promote both a shared understanding of the task environment and mutual adjustment required for aligning actions.

This study draws on theories of inter-firm coordination to integrate these perspectives and posit that contractual and procedural coordination perform complementary roles in the governance of BPO relationships and that their systemic fit impacts BPO performance. Further, we examine the distinctive origins of contractual and procedural coordination in BPO relationships. Consistent with the logic of TCE, we posit that uncertainty in the BPO relationship is a significant predictor of contractual coordination. TCE focuses on uncertainty in the inter-firm relationship and develops governance choice as a transaction cost minimizing, discriminating alignment with such relational uncertainty. The greater the uncertainty perceived by the user firm about its relationship with the service provider and allied appropriation concerns, the greater are the contractual safeguards employed to mitigate potential efficiency and performance losses (Joskow 1988; Heide 1994).

However, the design of procedural coordination mechanisms requires insights into uncertainty in execution and management of the outsourced business process across organizational boundaries, which is different from relational uncertainty. Such process uncertainty refers to the rate of information change in the outsourced process, and relates to whether the outsourced process is well understood, how process tasks will be allocated between participant firms, and the extent to which mutual adjustment in behavior is required during process management and execution (Gulati and Singh 1998). Process or task uncertainty is an important variable in the study of intra-organizational coordination mechanisms (March and Simon 1958; Thompson 1967). Organization scholars (Galbraith 1973) argue that task uncertainty increases the amount of information processed during task execution, and that alternative organization structures are a variation in the capacity of the organization to process such uncertainty. We extend this view to the inter-firm context to posit that uncertainty in the outsourced business process is a significant predictor of the information needs of participant firms (Mani et al. 2005) and the extent of procedural coordination in the BPO relationship. We argue that BPO performance is influenced not only by complementarities between contractual and procedural coordination but also by the degree of alignment between relational uncertainty and contractual coordination, and process uncertainty and procedural coordination.

In order to better understand the differences between these constructs, consider the example of a leading automobile manufacturer that while retaining the responsibility for design and concept outsourced the R&D and production of its

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<sup>1</sup> Capability sourcing emphasizes that every activity in the value chain is a potential candidate for externalization. This new view of how to organize business functions sees each firm as a function-based company, a provider of a set of knowledge- and information-intensive functions alone that drive competitive advantage in its industry (Gottfredson et al. 2005).

emerging product line to improve innovation and speed to market. The firm chose a service provider who was currently building other four wheel drives for the firm and was responsible for the R&D on a similar product line in the firm. Therefore, given prior cooperative association and allied mutual trust, the uncertainty perceived by the user firm about its relationship with the service provider was relatively low. However, given the high interdependencies and strategic importance of the outsourced process, the rate of information change and consequent uncertainty in the management and execution of the outsourced process across organizational boundaries was high. Given limited appropriation concerns and control requirements, the role of contractual coordination in this BPO relationship was largely restricted to providing a structural framework for cooperation. Procedural coordination was central to mitigating process uncertainty and enacting the cooperative framework of the contract to enhance BPO performance. The provider's employees spent several weeks collaborating with the user firm to learn about its processes. Technology and quality links were established between the two firms who met frequently to discuss their mutual needs and progress. High levels of commitment and joint action between the participant firms were integral to developing a shared understanding of the needs and objectives of the task environment. The performance of the BPO relationship was influenced by the complementary relationship between contractual and procedural coordination as well as the interactions between relational uncertainty and contractual coordination and between process uncertainty and procedural coordination.

Survey data on 137 active BPO relationships provides strong support for our hypotheses. The study responds to the call (Alborz et al. 2003; Williamson 2000) to develop conceptual apparatus that helps us gain a deeper understanding of complex governance issues in new outsourcing paradigms. The results emphasize that theoretical explanations for governance choice and performance in modern outsourcing relationships are likely to be complex, requiring integration of relevant economic and organizational perspectives. In analyzing the impact of the complementarity between contractual and procedural coordination on performance, the study also complements the rich literature on governance of outsourcing relationships which has primarily focused on exchange hazards and issues of contractual coordination.

Further, empirical support in the literature for the relationship between uncertainty and governance form is not definitive (Mahony 1992). While TCE predicts that an increase in uncertainty engenders an increase in hierarchical control, organizational research (Feldman 2000; Huber 1991) suggests that greater levels of uncertainty require relatively more flexibility and adaptation (Feldman 2000; Huber 1991) and therefore, less hierarchical control. This implies that as the BPO relationship evolves over time, flexibility in the outsourcing arrangement allows adjustment in interactions in response to uncertainty (Alborz et al. 2003; Pearce 2002). Our findings emphasize that the predictions of each perspective is contingent on the type of uncertainty encountered and that the alignment between the type of uncertainty and the governance form predicted by each research paradigm positively impacts exchange performance.

## **2. Theory and Hypotheses Development**

Underlying this study are the fundamental questions of the nature of governance choice in BPO and the relative importance of alternative bases for such choice. We draw on TCE and organizational theories of inter-firm coordination to develop our hypotheses, which are based on two key arguments. First, although both relational and process uncertainties are concomitant with bounded rationality, each engenders different sets of governance problems that are addressed by contractual and procedural coordination with varying degrees of effectiveness. Further, contractual and procedural coordination support interactions between the user firm and the service provider in distinct, complementary ways that impact performance of the BPO relationship.

### **2.1 Contractual Coordination**

Contractual coordination refers to the mutual exchange of rights between the user firm and the service provider in the BPO relationship (Sobrero and Schrader 1998). The contract seeks to align incentives and interests between both firms, and represents ex ante promises or obligations to perform particular actions in the future (Poppo and Zenger 2002). The study of contractual coordination is largely guided by TCE which posits that the user firm's objective is to design a contract that minimizes transaction costs and is aligned with the exchange hazards in the relationship. The resulting contract characterizes the governance structure of the relationship. Various elements of contractual control include command structures, authority systems, predetermined incentive systems, as well as operating and dispute resolution procedures (Stinchcombe 1985).

TCE primarily focuses on exchange hazards that stem from uncertainty perceived by the user firm about its relationship with the service provider. The user firm's concern about its ability to capture a fair share of relational rents encourages the design of complex contractual safeguards. TCE posits that as relational uncertainty increases, so must contractual safeguards or the level

of hierarchical control. In hazardous exchange settings, contractual safeguards enhance exchange performance (Masten 1993, 1996; Poppo and Zenger 2002) and allow for efficient decision making since they make the information exchange process between partners “more predictable and allow joint decisions to be made more by rules than by exception” (Gulati and Singh 1998). As firms gain mutual experience and concerns of appropriation are progressively weakened, the need for costly contracts that aim to mitigate the domain of opportunistic behavior through controls, rewards and penalties is also reduced (Santoro and McGill 2005). We hypothesize:

*Hypothesis 1a: The greater the level of uncertainty in the BPO relationship, the greater is the level of contractual coordination in the BPO relationship.*

## **2.2 Procedural Coordination**

Although contractual coordination facilitates incentive alignment and mitigates the risk of relational uncertainty and concomitant opportunism, it might be insufficient to achieve coordinated adaptation of the user firm and the service provider since “autonomous parties read and react to signals differently, even though their purpose is to achieve a timely and compatible combined response” (Williamson 1991). Therefore, while contractual coordination responds to the intent (or lack of) to collaborate, it does not address the enactment of such intent. This distinction between cooperative intent and cooperative action is evidenced in organizational studies (Gulati 2005; Heath and Staudenmayer 2000) which indicate that “cooperation problems are rooted in motivation, whereas coordination problems arise due to the cognitive limitations of individuals that deny them comprehensive knowledge of how others will behave in situations of interdependence, and how they are interdependent with others” (Gulati 2005). Procedural coordination in BPO relationships refers to the information exchange norms and processes that address such cognitive limitations of participant firms to promote a shared understanding of the task environment and mutual adjustment in behavior. This is especially important in the case of strategic BPO where information exchange and adaptation is required on an ongoing basis to effectively cope with dynamic task environments.

Organizational theories rooted in the structural contingency framework (March and Simon 1958; Thompson 1967; Galbraith 1973) suggest that the nature of information exchange amongst organizational actors is contingent on task uncertainty. We extrapolate this theoretical perspective to the BPO context to posit that procedural coordination between the user firm and the service provider is contingent on the level of uncertainty in the outsourced process. Task allocation and coordination is transacted and renegotiated frequently in uncertain task environments. Also, contingent situations that arise on account of uncertainty must be solved using judgment and experience rather than rules or computational routines and necessitate a wider scope of information sharing (Perrow 1967). Therefore, an increase in process uncertainty increases the levels of procedural coordination in BPO. To illustrate, consider the example of a wireless service provider that has outsourced two business processes – development of sophisticated 3G infrastructure elements and technology support for one of its relatively mature product lines. The former requires timely communication of process requirements, coordination of process tasks and joint decision making on an ongoing basis to adapt to the volatile nature of customer requirements in the wireless industry. Technology support, on the other hand, is relatively mature, has well defined boundaries, and requires lower levels of information exchange for effective functioning. Therefore, we posit:

*Hypothesis 1b: The greater the level of uncertainty in the outsourced business process, the greater is the level of procedural coordination in the BPO relationship.*

## **2.3 Contractual Coordination and Procedural Coordination as Complements**

The findings of prior research on inter-firm coordination suggest that the contractual specification of relational expectations and allied penalties and/ or rewards limits the short-run gain from opportunism, reduces the provider’s incentive to renege, and increases the value of the ongoing relationship (Baker et al. 1994). Therefore, contracts might potentially enhance the gains of long-run cooperation (Poppo and Zenger 2002) and encourage information exchange and joint action required for procedural coordination. Further, as the strategic importance of BPO increases, contracts might transition from being a control mechanism to providing a structural framework for coordination between the user firm and the service provider, thereby facilitating the design and development of apposite procedural coordination mechanisms.

Procedural coordination might also well promote contractual coordination. As mutual trust and commitment develop between the user firm and the service provider, the patterns of information exchange embedded in procedural coordination might become formalized over time in the BPO contract. Also, procedural coordination reveals information about provider behavior that can be used to enhance the contractual specification of a contingent structure for cooperation. Finally, mutual trust and commitment, promoted by procedural coordination, foster continuance and bilateralism that are necessary complements to the adaptive limits of contracts (Poppo and Zenger 2002). On account of this complementarity between contractual and procedural coordination, the combined use of these elements in governance of the BPO relationship will generate higher

exchange performance than the lone use of either element. Hence,

*Hypothesis 2: Contractual coordination and procedural coordination will function as complements in explaining the performance of the BPO relationship.*

## **2.4 Contingent Effects of Relational and Process Uncertainty**

We contend that although contractual and procedural coordination function as complements in explaining BPO performance, there are distinct limitations to the use of each in governance of the BPO relationship. Problems of relational uncertainty are problems of conflict of interest, and are rooted in the intent to cooperate and therefore, are effectively addressed by incentive alignment through formal contracts (Gulati 2005). On the other hand, procedural coordination, while significantly influenced by the level of process uncertainty, might prove ineffective in addressing uncertainty perceived by the user firm about its relationship with the service provider.

The information exchange norms and processes embedded in procedural coordination draw on critical organizational resources, including managerial attention, leadership and IT spend. Their design and implementation involve costly negotiations that are exacerbated by opportunism (Conner and Prahalad 1996). Further, spurred by continuity of association, repetitive cycles of information exchange and feedback lead to the development of shared values, trust and commitment in the relationship (Santoro and McGill 2005). In the absence of contractual coordination, the domain of opportunism is widened (Koh et al. 2004; Poppo and Zenger 2002) and the potential for continuity of association, as perceived by both firms, is significantly reduced (Baker et al. 1994). Therefore, the relationship is frequently short-term and arm's length. This is especially true if uncertainty in the outsourced business process is significantly low and the process can be transferred to the service provider with relative ease. In such case, not only is procedural coordination expensive as it renders the amortization of fixed costs of information exchange norms and processes more difficult (Dyer and Singh 1998; Gulati 2005). It is also inefficient since participant firms have little time and intent to learn about each other's behavior and develop a shared ideology. Therefore, in the absence of contractual coordination, firms have little incentive to invest in costly procedural coordination mechanisms. The bounds of opportunism are increased, thereby, adversely impacting BPO performance. Therefore, we hypothesize:

*Hypothesis 3a: For a given level of uncertainty in the BPO relationship, the greater the levels of relational uncertainty, the more significant is the role of contractual coordination in explaining the performance of the BPO relationship.*

When process uncertainty is dominant, the assumption is that although the intent to cooperate might exist, the enactment of such cooperation requires managerial attention. In such case, contractual coordination, while significantly influenced by the level of relational uncertainty, might prove ineffective in coordinating actions between the user firm and service provider.

In cases where uncertainty in the outsourced process is high, the cognitive demand associated with early contingency planning is large and renders contract design and development significantly costly. Further, assuming that the user firm has the resources and intent to develop costly contracts, it is disadvantaged by significantly higher levels of bounded rationality than TCE assumes (Mayer and Argyres 2004). Process uncertainty circumscribes the ability of the user firm to ex ante anticipate and contractually specify needs and contingencies in execution and management of the outsourced process, resulting in frequent negotiation of specified contractual responsibilities. The ensuing repetitive cycles of impact assessment, bargaining, and reconciliation between the user firm and the service provider result in "excess haggling costs that are not recouped later in the form of dispute prevention or resolution" (Mayer and Argyres 2004). Frequent renegotiation also introduces the potential need for variety in coordination efforts required to transfer value from the outsourced task environment back to the user firm, thereby increasing process execution costs. Finally, repetitive cycles of bargaining and negotiation might inhibit the development of mutual trust and therefore, preclude efficient information sharing.

Therefore, we expect that when process uncertainty in the BPO relationship is high, procedural coordination will be the dominant form of governance. In other words,

*Hypothesis 3b: For a given level of uncertainty in the BPO relationship, the greater the levels of process uncertainty, the more significant is the role of procedural coordination in explaining the performance of the BPO relationship.*

## **3. Empirical Analysis**

### **3.1 Operationalization**

The operationalization scheme for all constructs is stated below. The reliability estimates for the indicators, as measured by Cronbach's alpha, ranged from 0.73 to 0.93, indicating high levels of internal consistency.

## **Performance**

Prior research in a multitude of disciplines (Beamish 1985; Killing 1983; Dutta and Reichelstein 2003) suggests that objective measures of performance such as profitability and costs may not capture the complex goals of many inter-firm relationships relative to perceptual measures such as goal achievement or overall satisfaction with the relationship. This is particularly true in the case of BPO. BPO is characterized by a range of business objectives ranging from reduced costs to innovation to speed to market and a single objective measure of performance, such as operational efficiency, may be inadequate. Therefore, we use service satisfaction as the key performance metric. This is consistent with prior research on organization and strategy (Saxton 1997; Poppo and Zenger 1998). Satisfaction is an important issue in working partnerships like BPO since it is a proxy for perceived effectiveness (Poppo and Zenger 2002; Barber and Venkatraman 1986). Researchers have emphasized that in high involvement decisions such as BPO, consumers process information to maximize expected satisfaction (Assael 1981; Engel and Blackwell 1982). Satisfaction is also a significant determinant of future actions, including repeat business, positive word-of-mouth, and loyalty (Barber and Venkatraman 1986; Gladstein 1984).

Sureshchandar et al. (2002) argue that customer satisfaction should be developed along the same factors as service quality. We adapt their conceptualization of customer satisfaction to identify four elements of satisfaction – reliability, responsiveness, responsibility, and systematization. Reliability refers to the ability to perform the promised service dependably and accurately. Responsiveness reflects willingness to help the customer and provide prompt service. Responsibility reflects provider accountability. Finally, systematization refers to the processes, procedures, systems and technology that make a service a seamless one. 14 items were used to measure these aspects of satisfaction along a seven-point scale.

## **Process Uncertainty**

We use analyzability, variety and interdependence of the outsourced process as indicators of process uncertainty (Barua et al. 2005). An analyzable process comprises events that are “hard, measurable and determinant” (Daft and Weick 1984). When a process is analyzable, outcomes are well-understood, and the process administrators follow an objective, computational procedure to resolve problems. Our notion of process variety is consistent with the early conceptualization of content variety - variability in the inputs or outputs of a process (Perrow 1967; Thompson 1967) as well as the more recent concept of sequential variety - diversity of work processes that an organization uses to transform inputs into outputs (Pentland 2003). Interdependence of the outsourced process impacts the ability of the process to be outsourced as a coherent task that can be analyzed, modified, and enhanced, independent of its influence on other organizational processes. A total of 8 items was used to measure these elements of process uncertainty along a seven point scale.

## **Relational Uncertainty**

The asymmetry in bargaining power between the participant firms, as perceived by the user firm, was used to measure the level of relational uncertainty (Casciaro and Piskorski 2005). This is consistent with prior research which suggests that opportunism risks are “the risks associated with a lack of bargaining power or the loss of bargaining power directly resulting from the execution of a relationship, that is, a difference between ex ante and ex post bargaining power.” (Clemons et al. 1993). 2 items were used to measure relational uncertainty along a seven point scale.

## **Contractual Coordination**

The extent of contractual coordination was measured by the degree to which all of the scope of BPO activities and deliverables, tasks and how they will be performed, specific investments in manpower and technology required to execute the outsourcing program, and ways and means to measure or judge performance are completely specified in the contract. 4 items were used to measure contractual coordination along a seven point scale.

We used IS resources of the firm as an identifying instrument for contractual coordination. This is consistent with prior research (Poppo and Zenger 2002) which suggests that firms with greater IS resources are more likely to develop and rely on complex custom contracts as a coordination mechanism. A total of 6 items along a seven point scale were used to measure the technological sophistication of organizational systems that was used as proxy for IS resources. To further validate this measure, we examined the extent of advisory and legal support used by the firm in contract design, negotiation and execution, and found a significant correlation between the two items ( $\rho = 0.55$ ).

## **Procedural Coordination**

The extent of procedural coordination in the BPO relationship was measured by the levels of commitment (Gardner and Cooper 1988), extent of joint action (Robicheaux and El-Ansary 1976; Bensaou and Venkatraman 1995), and collaborative nature of performance metrics (Linder 2003). We adapted the indicators from prior empirical studies. 9 questions along a seven point scale were used to measure procedural coordination.

We used mutual trust as an identifying instrument in the equation predicting procedural coordination. Mutual trust promotes the expectation of continuity of association which is a necessary prelude to organizational investment in procedural coordination mechanisms (Gulati 2005; Dyer and Singh 1998). Prior cooperative association in the BPO relationship was used as a proxy for mutual trust (Gulati 1995). Kale et al. (2000) points out two firms with prior alliances are likely to trust each other more than other firms with whom they have had no alliances.

### **Controls**

We control for the impact of firm size and environmental dynamism on the extent of contractual and procedural coordination as well as BPO performance. Large firms often have “superior financial and human resource endowments” (Leiblein et al. 2002) that enable them to invest in superior capabilities that are required to create and transfer value back to the user firm. Firm size is also seen as an indicator of market power (Wu 2006; Ono and Stango 2005), which positively impacts firm incentives and abilities to adapt to a dynamic environment. Therefore, we suggest that firm will positively impact choice of contractual and procedural coordination mechanisms as well as the impact of such choice on BPO performance.

We expect that environmental dynamism negatively impacts performance by triggering the need to continually negotiate relational parameters (Poppo and Zenger 2002), increasing the costs of coordination, and resulting in misalignment with the environment during periods of negotiation (Williamson 1991). Given that dynamism significantly increases transaction costs of contracting, we expect that it will negatively impact levels of contractual coordination. However, the impact of dynamism on procedural coordination is less clear. While extensive information change might discourage procedural coordination, research suggests that relational process are particularly effective in coping with extensive technological uncertainty (Poppo and Zenger 2002). Therefore, we expect that dynamism will positively impact the use of procedural coordination mechanisms.

### **3.2 Data**

A structured questionnaire was developed based on comprehensive reviews of academic and practitioner oriented literature and initial interviews with 20 BPO experts<sup>2</sup>. Consequent to these exploratory interviews, we developed a structured questionnaire that was pre-tested with a total of 30 medium to large organizations, market research firms, and academicians. The instrument was tested for clarity of content, scope and purpose (or content validity). A seven point Likert scale was used for most questions; however, some questions involved binary choices. The pre-test was instrumental in enhancing our understanding of respondents’ perceptions of questions, clarifying instructions and other pertinent communication, and improving definition and measurement of constructs.

Our sample, which comprised small, medium, and large U.S. organizations, was representative of a range of outsourcing objectives. We received a total of 145 responses. After accounting for missing data, the dataset comprised 137 valid responses. Respondents to the questionnaire belonged to executive management of participating firms, with functional responsibility of a bulk of the respondents belonging to the “Chairman/CEO/President”, and “Director-level Management” categories. The respondents were offered the option to complete any of: a print survey, telephone survey, or an online questionnaire; however, almost all responses were received through the online questionnaire. All respondents were assured that their responses would remain confidential and that results would be reported only in aggregate, thereby addressing privacy concerns and minimizing potential bias in self-reported data.

Respondent characteristics are outlined in the appendix to the document.

### **3.3 Data Analysis**

Given that both contractual and procedural coordination are endogenously determined, our hypotheses require that we test a system of equations simultaneously. First, we must test whether relational uncertainty and procedural coordination predict contractual coordination in BPO. Second, we must simultaneously test whether process uncertainty and contractual coordination predict procedural coordination in BPO. Finally, we must test the impact of these drivers and the interactions between them on performance of the BPO relationship.

The independent specification of drivers of contractual and procedural coordination would result in significantly biased estimates. Therefore, we model the levels of contractual and procedural coordination in the BPO relationship using a

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<sup>2</sup> The subject experts comprised directors of strategic outsourcing practices in Fortune 100 firms (in financial services, healthcare, retail, and high-tech), outsourcing advisory consultants, leading Indian offshore vendors, and academicians.

two-stage least squares approach (Davidson and McFetridge 1984; Greene 1997). The first stage involves producing instrumented values of endogenous variables – in this case, contractual and procedural coordination. This instrumented value is essentially the predicted value of the endogenous variable generated by its regression on all exogenous variables. In the second-stage, the equation is estimated with instrumented values replacing all endogenous explanatory variables, thereby generating consistent coefficient estimates.

Using this system of equations, we can test for the performance impacts of complementarity between contractual and procedural coordination, alignment between relational uncertainty and contractual coordination, and between process uncertainty and procedural coordination. Here, since our performance measure is service satisfaction, which does not include the costs of generating performance, our prediction is net of costs (Poppo and Zenger 2002), increases in contractual and procedural coordination increases BPO performance.

Support for complementarity exists if contractual coordination positively affects procedural coordination and procedural coordination positively affects contractual coordination. Further, we assess the performance impact of complementarity by specifying an interaction term between contractual coordination and procedural coordination in the regression model of exchange performance. This specification allows us to test whether the marginal effects of procedural coordination (or contractual coordination) increase as contractual coordination (or procedural coordination) increases. We also specify interactions between relational uncertainty and contractual coordination, and between process uncertainty and procedural coordination in the regression model of BPO performance.

## 4. Results

### 4.1 Determinants of Contractual and Procedural Coordination

Table 1 presents the results of our estimation. Model 1 estimates determinants of contractual coordination while Model 2 estimates determinants of procedural coordination. Model fit is acceptable with F-tests for both models rejecting the hypothesis that the predictors are jointly insignificant ( $p < 0.001$ ) and adjusted  $R^2$  values of 0.26 and 0.52 respectively. The results are interpreted below.

**Table 1: Assessing the determinants of governance choice**

	Determinants of Contractual Coordination <hr/> Model 1	Determinants of Procedural Coordination <hr/> Model 2
Contractual Coordination		0.4437 **
Procedural Coordination	0.0646	
Relational Uncertainty	0.2345 ***	0.0164
Process Uncertainty	0.0640	0.4129 ***
Information resources	0.1673 **	
Prior cooperative association		0.4685 ***
Environmental Dynamism	-0.1243 **	0.1061 **
Firm Size	0.1332 *	0.4685 *
Constant	1.5732 *	-0.7512
N	137	137
Model F	9.03 ***	25.86 ***
Adjusted R-Square	0.26	0.52

\* $p < 0.10$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

The results of Models 1 and 2 are largely consistent with our expectations. Uncertainty in the BPO relationship emerges as a significant predictor of contractual coordination, thereby providing support for Hypothesis 1a. Consistent with Hypothesis 1b, managers appear to invest in procedural coordination mechanisms as uncertainty in the outsourced business process increases. A stronger statement of hypotheses 1a and 1b is revealed in the lack of significant relationships between contractual coordination and process uncertainty and procedural coordination and relational uncertainty.

The significant relationship between contractual and procedural coordination in Model 2 suggests that contracts complement and support the relational processes used to coordinate activities across organizational boundaries. This implies that procedural coordination mechanisms cannot operate in a vacuum – they must be supported by an apposite structural



framework. This also emphasizes that the contract is not a mere control mechanism – it constrains and supports procedural coordination by providing the required cooperative framework for interaction between the firms.

We do not find procedural coordination to be a significant predictor of contractual coordination, thereby providing partial support of the complementarity hypothesis. However, the suggestion that contractual coordination does not necessarily require procedural coordination is not an unreasonable one. Prior research (Linder 2001) suggests that transactional processes can be transferred with ease to the service provider and are most efficiently managed by an arm’s length contract with minimal information exchange and communication with the provider (Mani et al. 2005).

The relationship between environmental dynamism and contractual coordination in Model 1 is significant and negative while that between environmental dynamism and procedural coordination in Model 2 is significant and positive. This result suggests that as contingencies in the business environment and allied exchange hazards become particularly pronounced, managers transition from using complex contractual safeguards to manage probable opportunistic behavior to designing coordination norms and relational processes that support collaborative behavior. This shift might be viewed as a transaction cost economizing decision, and is aligned with prior research (Crocker and Masten 1991; Williamson 1991; Macneil 1978) which suggests that relational norms facilitate adaptation to highly dynamic environments resulting from high levels of technological instability. Firm size shares a significant positive relationship with both dimensions of governance. This is consistent with the view that larger firms often have “superior financial and human resource endowments” (Leiblein et al. 2002) required for the efficient design of complex contracts and coordination processes.

Finally, the instruments used in both models are strongly significant. The amount of information resources available to the user firm is significantly related to contractual coordination while prior cooperative association between participant firms is significantly related to procedural coordination.

Table 2 presents estimates for the drivers of BPO performance. Model 3 presents a baseline case comprising controls while Model 4 introduces the interaction term between contractual and procedural coordination. Model 5 introduces interactions between contractual coordination and relational uncertainty and between procedural coordination and process uncertainty as explanatory variables. Model fit is acceptable with F-tests for all specifications rejecting the hypothesis that the predictors are jointly insignificant ( $p < 0.001$ ).

**Table 2: Assessing the determinants of BPO performance**

	Determinants of BPO Performance		
	Model 3	Model 4	Model 5
Contractual Coordination	-0.0151	-0.0237	-0.0057
Procedural Coordination	0.0355	0.0678	0.0520
Relational Uncertainty	-0.1284*	-0.1247*	-0.1046*
Process Uncertainty	0.1254*	0.1159*	0.1268*
Environmental Dynamism	-0.1908***	-0.1702***	-0.1545***
Firm Size	0.2067***	0.1169	0.1489**
Contractual Coordination * Procedural Coordination		0.2248***	0.1214**
Contractual Coordination * Relational Uncertainty			0.0837*
Procedural Coordination * Process Uncertainty			0.1153***
Constant	5.0972***	4.9533***	4.5166***
N	137	137	137
Model F	4.64	8.62	9.09
Adjusted R-Square	0.14	0.28	0.35

\* $p < 0.10$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

## **4.2 The Complementary Relationship between Contractual and Procedural Coordination**

The test of the impact of complementarities between contractual and procedural coordination on BPO performance hinges on the sign of the coefficient of the interaction between these constructs. We find that when the interaction term is introduced in Model 4, it is positive and significant. This result is robust across specifications, providing support for Hypothesis 2. Therefore, the systemic fit between contractual and procedural coordination impacts exchange performance – contractual coordination limits the domain of opportunistic behavior and encourages procedural coordination while procedural coordination fosters continuance of the relationship that responds to the adaptive limits of contracts (Sobrero and Schrader 1998; Poppo and Zenger 2002).

Models 1 and 2, in highlighting the distinct origins of contractual and procedural coordination, also support the complementary relationship between these dimensions of BPO governance. Common antecedents to both dimensions of governance would imply similar functionality and in turn, substitutability across the dimensions. However, our results emphasize the unique antecedents of contractual and procedural coordination and their complementary role in explaining BPO performance.

## **4.3 The Contingent Effects of Uncertainty on Dimensions of BPO Governance**

The significant interaction between contractual coordination and relational uncertainty in Model 5 provides support for Hypothesis 3a, i.e., when relational uncertainty is high, managers will use complex customized contracts as a potential safeguard against the threat of opportunistic behavior. Similarly, the strongly significant interaction between procedural coordination and process uncertainty in Model 5 provides support for Hypothesis 3b, i.e., when process uncertainty is high, managers will invest in exchange processes that facilitate adaptation to changing task requirements in the outsourced business process.

The results also point to an indirect impact of the relationship between relational uncertainty and procedural coordination on BPO performance. Given in Model 2 that high levels of contractual complexity and customization will engender organizational investments in norms and processes that promote commitment, joint action and continuance, we expect that high levels of relational uncertainty will require complementary investments in high levels of procedural coordination.

## **4.4 Other Determinants of BPO Performance**

The specifications in Table 2 suggest that the greater the level of uncertainty in the outsourced business process, the higher is the performance of the BPO relationship. This is likely because of higher value creation incentives inherent in higher levels of process uncertainty. Therefore, although uncertainty in the outsourced business process magnifies the extent of coordination and adjustment in mutual behavior required between participant firms across organizational boundaries, it also likely represents a shift in focus of the user firm from controlling the value appropriation concerns of relational uncertainty to managing value creation concerns. This finding is also consistent with prior research (Linder 2004) which suggests that given their significant impact on firm value and competitiveness, transformational BPO initiatives, characterized by high levels of process uncertainty, are marked by higher levels of performance than transactional BPO.

The positive impact of firm size on BPO performance is also consistent with our expectations. In addition to owning superior resources, larger firms have also been associated with scale economies and market power (Wu 2006; Ono and Stango 2005). Scale economies earn higher returns on the user firm's investments while greater market power impacts firm incentives and abilities to adapt to a dynamic environment. Therefore, firm size positively impacts BPO performance.

## **5. Discussion of Results and Conclusion**

This study develops a contingency model of governance choice which considers two theoretical perspectives, economic and organizational, that point to different forms of and antecedents to BPO governance. The transaction cost perspective defines the BPO governance solution as the underlying contract that formalizes the relationship between the user firm and the service provider. The contract seeks to align the interests of participant firms, and is representative of their obligations to perform contingent actions in the future (Macneil 1978). However, emerging organizational research (Sinha and Van de Ven 2005; Child 2005) suggests that as value chain processes become increasingly information-intensive and globally distributed, their management and governance must pay particular importance to the practice of work design. The shared understanding of work in distributed process contexts requires information exchange to both reveal behavior and revise beliefs toward mutual adjustment. Therefore, while the economic perspective views the governance of outsourced processes as a problem of contractual coordination, organizational perspectives emphasize that it is an issue of complex work design or procedural coordination.

Our results confirm that BPO performance is influenced by the manifest presence of both the ability of the governance solution to control the risk of opportunism through contractual coordination and the ability to promote a shared understanding of the outsourced process and facilitate adjustment and adaptation through procedural coordination. This is consistent with emerging research (Gulati 2005; Mayer and Argyres 2004) which points to the salience of both elements to exchange performance. For example, Gulati et al. (2005), in their analysis of the adaptive capacity of different modes of procurement, find that constraints to adaptation extend “beyond incentive conflict to include constraints arising from limited responsiveness to changing exchange conditions and coordination failures”. Similarly, Mani et al. (2005), in their study of the impact of information capabilities on performance across different modes of organization through BPO, demonstrate that both the contractual structure and processes that facilitate information exchange between the user firm and service provider contribute to the effectiveness of the chosen capabilities. The impact of the combined presence of both elements of governance on exchange performance is also aligned with industry trends in BPO. According to a recent survey performed by The Outsourcing Institute, 40 percent of firms believe that ongoing management of relationships is the most important factor for successful sourcing. Similarly, a Conference Board study found that 97 percent of respondents would outsource their operations again but would pay more attention to relationship management relative to the contract.

Our results also point to distinct limitations to the use of each element of governance. Both economic and organizational perspectives assume bounded rationality of participant firms and point to attendant uncertainty as an important determinant of governance choice. However, the use of the governance mode predicted by each theoretical perspective is contingent on the type of uncertainty encountered by the user firm. We find that contractual coordination is significantly influenced by relational uncertainty, and its impact on performance is determined by the extent of its alignment with such relational uncertainty. Similarly, the impact of procedural coordination on BPO performance is determined by the extent of its alignment with uncertainty in the outsourced business process. We recognize that there might be a degree of overlap between these dimensions of uncertainty, and consequently, difficult to completely empirically isolate the impact of each dimension absent the other. However, our results confirm managers can employ the governance mechanism that is aligned with the predominant form of uncertainty with fewer repercussions on the management of the alternative uncertainty form.

The indirect impact of relational uncertainty on procedural coordination is also important. A possible explanation is that the level of contractual coordination is a strategic choice of participant firms as opposed to a transaction cost economizing response to exchange hazards. This form of “strategic ambiguity” (Bernheim and Whinston 1998) in the contract might turn increasingly important as BPO becomes increasingly global in its reach and strategic in its impact. If the institutional context of the service provider, including specific legal and cultural contexts, is significantly different from the user firm, the consequent difficulty in enforceability of some aspects of performance may prompt the user firm to leave some verifiable aspects of performance ambiguous, and use procedural coordination to align both incentives and actions in the BPO relationship.

The results also offer insights on the effective sequencing of these modes of governance. We find that contractual coordination predicts procedural coordination. Further, we find that investments in procedural coordination are significantly influenced by the presence of mutual trust or prior cooperative association. This suggests that while procedural coordination mechanisms are particularly effective in the governance of BPO arrangements marked by high levels of uncertainty in the outsourced business process, they require long-term relationships for participant firms to reveal behavior, effectively exchange information and adjust behavior to align actions. Therefore, an outsourcing program must initially involve the externalization of business processes marked by low levels of process uncertainty, including strategically peripheral processes that share low levels of interdependencies with other organizational processes. As provider behavior is revealed through mutual experience and the premise of opportunism is weakened (Santoro and McGill 2005), the user firm will find the externalization of more complex processes marked by relatively higher levels of uncertainty both feasible and efficient. This, in turn, encourages investment in procedural coordination and renders it an effective governance mechanism.

The performance of the BPO relationship is also directly influenced by both relational and process uncertainty. The results show that process uncertainty has a positive impact on BPO performance. Recent research (Casciaro and Piskorski 2005) suggests that resource dependence in dyads results in power differential or a power imbalance between the firms, and mutual dependence, or the sum of their dependencies. Mutual dependence enhances both the motivation and ability of the firm to manage its dependencies, thereby increasing exchange performance. Conversely, power imbalance between the firms inhibits the efforts of the firm to restructure and effectively manage its dependencies. In the context of BPO, higher levels of process uncertainty suggest that the outsourced process is likely strategically important and has a pronounced impact on competitiveness (Mani et al. 2005). It is likely that the value creation incentives inherent in transformational BPO render

mutual dependence dominant and therefore, positively impact BPO performance. However, when relational uncertainty is high, the emphasis of the user firm is on control of value appropriation, indicating the dominance of power imbalance between participant firms. Consistent with the premise of exchange theory, this negatively influences performance.

Before we conclude, we'd like to point out important limitations of our research. First, this study focuses on the levels of process and relational uncertainty that exist at the outset of the BPO relationship. However, it is important to recognize that these uncertainties in the task environment will evolve over time as will the relationships between them. In the current study, we have only cross-sectional data, which limits our ability to provide a richer conceptualization of these constructs, including the interplay between them. Future research may analyze a multi-period model that will address this issue and introduce a dynamic perspective to examine how governance forms change over time with evolving expectations (Khanna et al. 1998; Gulati and Singh 1998) and goals of the user firm and service provider.

Second, the institutional contexts of the user firm and service provider are likely to impact contractual coordination as a mode of governance and adaptation. Research (North and Weingast 1989) suggests that the enforceability of contractual provisions is unlikely in countries with weakly enforceable systems of property rights. Therefore, our finding on the complementary relationship between contractual and procedural coordination might not generalize to countries whose institutional contexts do not support the use of formal contracts. Future work must look more closely at local and cross-regional BPO partnerships to understand how difficulty in enforcing property rights, greater coordination challenges and costs, and specific legal and cultural contexts may all encourage choice of a particular governance form.

Finally, we note that the decision to outsource or internalize is determined theoretically by the independent variables (process and relational uncertainty) in our model. This introduces the potential for sample selection bias – business processes characterized by high levels of process and relational uncertainty will be internalized and therefore, not observed in our sample of BPO transactions. The calculation of the inverse Mills ratio in the governance choice model and its inclusion in the performance model is an accepted method for correcting such sample selection bias in OLS. However, its use is particularly problematic in other approaches such as the two stage least squares procedure used in our model (Poppo and Zenger 2002). Therefore, our results must be interpreted as conditional upon the observed outsourced transaction (Hoetker and Mellewig 2004).

Understanding the drivers of governance choice and performance in BPO is critical because not only is the use of BPO rising across industries, but also firms' boundary choices are increasingly shaping their competitive positions (Gottfredson et al. 2005). Prior research<sup>3</sup> on governance of outsourcing relationships has been dominated by considerations of opportunism and the debate on whether trust and its underlying normative behaviors substitute contractual control of opportunism. Our study complements this rich literature and emphasizes that moving forward, especially as outsourcing matures from being a discrete exploitative transactional link to being a collaborative network paradigm that is increasingly strategic in its impact, attention must be paid to issues of work design and coordination. While theoretical arguments have been made in favor of this proposition, we empirically establish that a governance solution is more than a contractual mechanism to control opportunism; it must include processes that enable participant firms to coordinate tasks and responsibilities so as to create strategic value. Further, in establishing specific circumstances in which each mode and attendant theoretical explanation for governance is particularly effective, we provide a contingency model of governance choice that helps firms negotiate varying BPO task environments and effectively leverage BPO to improve firm competitiveness.

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<sup>3</sup> For example, as of the year 2000, there were over 600 documented empirical articles on TCE with exponential growth therein (Boerner and Macher 2002). Similar work is required to establish congruity between evidence and alternative theories of organization (Alborz et al. 2003), and to provide a broader understanding of new paradigms in outsourcing (Gulati 2005; Williamson 2000).

## Appendix: Respondent Characteristics

Figure 1: Distribution of respondents by revenue (All figures in %)

Revenue	%
Less than \$500,000	9
\$500,000 - \$1m	5
\$1m - \$5m	16
\$5m - \$25m	14
\$25m - \$100m	6
\$100m - \$500m	10
\$500m - \$1b	5
\$1b - \$10b	15
\$10b - \$50b	15
Over \$50b	5
<b>Total</b>	<b>100</b>

Figure 2: Distribution of respondents by functional responsibility (All figures in %)

Functional Responsibility	%
Chairman/ CEO/ President	24
Owner/ Principal/ Partner	7
Director-level Management	27
VP-level Management	25
Sr. Contracts Manager	2
Purchasing/ Procurement Officer	2
HR Executive	2
Other *	11
<b>Total</b>	<b>100</b>

\* Other functional responsibilities include Sourcing Advisor, Business Process Manager, CIO, CFO, Technology Manager, and EVP-level Management

Figure 3: Distribution of respondents by industry (All figures in %)

Industry	%
Electrical, Electronics, and High-Tech	28
Manufacturing	13
Financial Services*	11
Healthcare	11
Pharmaceutical & Chemicals	9
Professional Services	9
Consumer Business, Retail or Wholesale	5
Software & Telecom	5
Other **	9
<b>Total</b>	<b>100</b>

\* Includes Insurance, Banking, & Capital Markets

\*\* Other industries include Research & Education, Non-Profit, Pulp & Paper Products, Chemicals, and Construction

## References

- [1] Alborz, S., Seddon, P. B., & Scheepers, R., "A Model for Studying IT Outsourcing Relationships," Presented at the 7th Pacific Asia Conference on Information Systems (PACIS), 10 – 13 July 2003, Adelaide, South Australia.
- [2] Assael, H., *Consumer Behavior and Marketing Action*, Boston, MA: Kent, 1981.
- [3] Baker G., Gibbons R., and Murphy K.J., "Subjective performance measures in optimal incentive contracts," *Quarterly Journal of Economics*, 109: 1125–1156, 1994.
- [4] Barber, M.B, and Venkatraman, M., "The determinants of satisfaction for a high envelopment product: three rival hypotheses and their implications in the health care context," *Advances in Consumer Research*, 13: 317-20, 1986.
- [5] Barua, A., Mani, D. and A. Whinston, "An Empirical Analysis of Information Processing Requirements of Business Process Outsourcing Relationships," Working Paper, McCombs School of Business, 2005.
- [6] Beamish, Paul W., "Joint ventures in less developed countries: partner selection and performance," *Management International Review*, 27(1): 23-37, 1987.
- [7] Bensaou, M., and Venkatraman, N., "Configurations of interorganizational relationships: A comparison between U.S. and Japanese automakers," *Management Science*, 41(9): 1471-1492, 1995.
- [8] C. Koh, S. Ang, and D.W. Straub, "IT Outsourcing Success: A Psychological Contract Perspective," *Information Systems Research*, 15(4):356 – 373, 2004.
- [9] Casciaro, T. and M.J. Piskorski, "Power Imbalance, Mutual Dependence and Constraint Absorption: A Closer Look at Resource Dependence Theory," *Administrative Science Quarterly*, 50:167-199, 2005.
- [10] Child, J., *Organizations: Contemporary Principles and Practices*, Basil Blackwell, London, 2005.
- [11] Clemons, E. K., Reddi, S. P., and Row, M. C., "The Impact of Information Technology on the Organization of Production: The 'Move to the Middle' Hypothesis," *Journal of Management Information Systems*, 10(2): 9-35, 1993.
- [12] Conner K., Prahalad C.K., "A resource based theory of the firm: knowledge vs. opportunism," *Organization Science*, 7(5): 477–502, 1996.
- [13] Crocker K.J. and Masten S.E., "Pretia ex machina? Prices and process in long-term contracts," *Journal of Law and Economics*, 34: 69–99, 1991.
- [14] Daft, R. & Weick, K., "Toward a model of organizations as interpretation systems," *Academy of Management Review*, 9(2): 284-295, 1984
- [15] Davidson, W.H., and D.G. McFetridge, "International technology transactions and the theory of the firm," *Journal of Industrial Economics*, 32(3): 253-64, 1984.
- [16] Dutta, S. and S. Reichelstein, "Leading indicator variables, performance measurement, and long-term versus short-term contracts," *Journal of Accounting Research*, 41(5): 837-866, 2003.
- [17] Dyer, J. and H. Singh, "The relational view: Cooperative strategy and sources of interorganizational competitive strategy," *Academy of Management Review*, 23(4): 660-679, 1998.
- [18] Engel, James F. and Roger D. Blackwell, *Consumer Behavior*, New York: Holt, Rinegart, and Winston, 1982.
- [19] Feldman, M. S., "Organizational routines as a source of continuous change," *Organization Science*, 11: 611–629, 2000.
- [20] Galbraith, J. R., *Designing Complex Organizations*, Addison-Wesley, Reading, MA, 1973.
- [21] Gottfredson, M., Puryear, R. and S. Phillips, "Strategic Sourcing from Periphery to the Core," *Harvard Business Review*, 8 (2): 2- 9, 2005.
- [22] Greene, W.H., *Econometric Analysis*, Third ed. Upper Saddle River, NJ: Prentice Hall, 1997.
- [23] Gulati, R. and H. Singh, "The Architecture of Cooperation: Managing Coordination Costs and Appropriation Concerns in Strategic Alliances," *Administrative Science Quarterly*, 43:781-814, 1998.
- [24] Gulati, R., Lawrence, P.R. and P. Puranam, "Adaptation in Vertical Relationships: Beyond Incentive Conflict," *Strategic Management Journal*, 26:415-440, 2005.
- [25] Heath C, and N. Staudenmayer, "Coordination neglect: how lay theories of organizing complicate coordination in organizations," In *Research in Organizational Behavior*, Vol. 22: 153-191, Staw BM, Staudenmayer N (eds). JAI Press: Greenwich, CT, 2000.
- [26] Heide J., "Interorganizational Governance in Marketing Channels," *Journal of Marketing*, 58: 71–85, 1994.
- [27] Hoetker, G. and T. Mellewigt, "Choice and performance of governance mechanisms: matching contractual and relational governance to sources of asset specificity," Working paper, University of Illinois at Urbana Champaign, November 2004
- [28] Huber, G., "Organizational learning: Contributing processes and the literatures," *Organization Science*. 2: 88–115, 1991.
- [29] Joskow P., "Asset specificity and the structure of vertical relationships: empirical evidence," *Journal of Law, Economics, and Organization*, 4: 95–118, 1988.

- [30] Killing, J. Peter, *Strategies for joint venture success*, New York: Praeger, 1983.
- [31] Leiblein, MJ, Reuer, JJ and Dalsace, F., "Do Make or Buy Decisions Matter? The Influence of Organizational Governance on technological Performance," *Strategic Management Journal*, 23(9):817-833, 2002.
- [32] Linder, J., Hartley, A. & Sawyer, J., "Metrics and Incentives in Outsourcing: Driving Peak Performance," Accenture, 2001.
- [33] Linder, J.C., "Transformational Outsourcing," *Sloan Management Review*, 45(2): 52-58, Winter 2004.
- [34] Macneil I.R., "Contracts: adjustment of long-term economic relations under classical, neoclassical and relational contract law," *Northwestern University Law Review*, 72: 854-905, 1978.
- [35] Mani, D., Barua, A. and A. Whinston, "Of Governance and the Outsourcing Paradox: The Impact of Information Capabilities on Service Satisfaction," *Proceedings of the 26th International Conference on Information Systems (ICIS)*, Las Vegas, December 11-14, 2005.
- [36] March JG and Simon HA, *Organizations*. Wiley: New York, 1958.
- [37] Masten S., "Empirical research in transaction cost economics: challenges, progress, directions," In *Transaction Cost Economics and Beyond*, Grenewege J(ed.). Kluwer Academic: Boston, MA; 43-64, 1996.
- [38] Masten S., "Transaction costs, mistakes, and performance: assessing the importance of governance," *Managerial and Decision Economics*, 14: 119-129, 1993.
- [39] Mayer K.J., and Argyres N.S., "Learning to contract: evidence from the personal computer industry," *Organization Science*, 15(4): 394-410, 2004.
- [40] Miles R. E. and Snow C. C., *Fit, failure and the hall of fame*, New York: The Free Press, 1994.
- [41] Pearce, J., "Outsourcing 101: Who's happy with the process?" *ZDNet Australia*, July 2002. <http://www.zdnet.com.au/newstech/enterprise/story/0,2000025001,20266959,00.htm>
- [42] Pentland, B. T., "Sequential variety in work processes," *Organization Science*, 14(5), 528 - 540, 2003
- [43] Perrow, C., "A Framework for the Comparative Analysis of Organizations," *American Sociological Review*, 32(2): 194-208, 1967.
- [44] Pisano, G.P., Russo, M.V. and D. Teece, "Joint Ventures and Collaborative Agreements in the Telecommunications Equipment Industry," In David Mowery(ed.), *International Collaborative Ventures in U.S. Manufacturing: 23-70*. Cambridge, MA: Ballinger, 1998.
- [45] Poppo, L. and T. Zenger, "Do Formal Contracts and Relational Governance function as Substitutes or Complements?" *Strategic Management Journal*, 23: 707-725, 2002.
- [46] Robicheaux, R. A. and A. I. El-Ansary, "A General Model for Understanding Channel Member Behavior," *Journal of Retailing*, 52(4):13-30, 93-94, 1976.
- [47] Santoro, M.D. and J.P. McGill, "The effect of uncertainty and asset co-specialization on governance in biotechnology alliances," *Strategic Management Journal*, 26: 1261-1269, 2005.
- [48] Saxton T., "The effects of partner and relationship characteristics on alliance outcomes," *Academy of Management Journal*, 40: 443-461, 1997.
- [49] Sinha, K.K. and Van de Ven, A., "Designing Work Within and Between Organizations," *Organization Science*, 16(4):389-408, 2005.
- [50] Sobrero, M. and Schrader, S., "Structuring inter-firm relationships: a meta-analytic approach," *Organization Studies*, 19(4): 585-615, 1998.
- [51] Stinchcombe, A.L., "Contracts as hierarchical documents," In A. Stinchcombe and C. Heimer (eds.), *Organization Theory and Project Management: 121-171*, Bergen, Norway: Norwegian University Press, 1985.
- [52] Sureshchandar, GS, Rajendran, C and Anantharaman, RN, "The relationship between service quality and customer satisfaction - a factor specific approach," *Journal of Services Marketing*, 16(4):363-379, 2002.
- [53] Thompson, J. D., *Organizations in Action*, McGraw-Hill, New York, 1967.
- [54] Williamson O.E., "Comparative economic organization: the analysis of discrete structural alternatives," *Administrative Science Quarterly*, 36: 269-296, 1991.
- [55] Williamson, E. O., "The New Institutional Economics: Taking Stock, Looking Ahead," *Journal of Economic Literature* 38(3): 595-613, 2000