THE ACCOUNTING REVIEW
Vol. 86, No. 5
2011
pp. 1795–1834

American Accounting Association
DOI: 10.2308/accr-10100

Controls as Exit Barriers in Multiperiod Outsourcing Arrangements

Yee Shih Phua
University of New South Wales

Margaret A. Abernethy
Anne M. Lillis
University of Melbourne

ABSTRACT: This study explores how initial control choice influences the ease with which outsourcing firms switch suppliers. We recognize that firms invest in controls to manage collaborative relationships, and argue that these investments generate switching costs, namely, opportunity and reinvestment costs. We collect data on outsourcing transactions by conducting semi-structured interviews across multiple field sites. Observed patterns across 53 cases show that firms with trust-based controls experience the most difficulty in switching suppliers, whereas firms with market-based controls experience the greatest ease. Firms with bureaucratic-based and hybrid controls generally lie between these extremes. Furthermore, in nearly 50 percent of our sample (25 cases), respondents indicate that the switching costs associated with control choices increase the difficulty of switching suppliers. We also find evidence that the magnitude and nature of switching costs vary with the types of controls chosen.

Keywords: *outsourcing; interfirm controls; ease of switching suppliers; transaction costs.*

Data Availability: *Data used in this study cannot be made public due to confidentiality agreements with participating firms.*

We gratefully acknowledge the helpful comments from Shannon Anderson, Ramji Balakrishnan, Linda Chang, Mandy Cheng, Wai Fong Chua, Phil Collier, Henri Dekker, David Emsley, Jennifer Grafton, Andrew Jackson, Habib Mahama, Jan Mouritsen, Matthew Pinnuck, Roger Simnett, Laurence van Lent, and participants at the 2009 Management Accounting Sector Research and Case Conference, 2008 American Accounting Association Annual Meeting, and research seminars held at the University of New South Wales and University of Melbourne. Finally, we are greatly indebted to the reviewers, Ranjani Krishnan (editor) and Steven Kachelmeier (senior editor) for their constructive advice and support throughout the review process.

Editor's note: Accepted by Ranjani Krishnan.

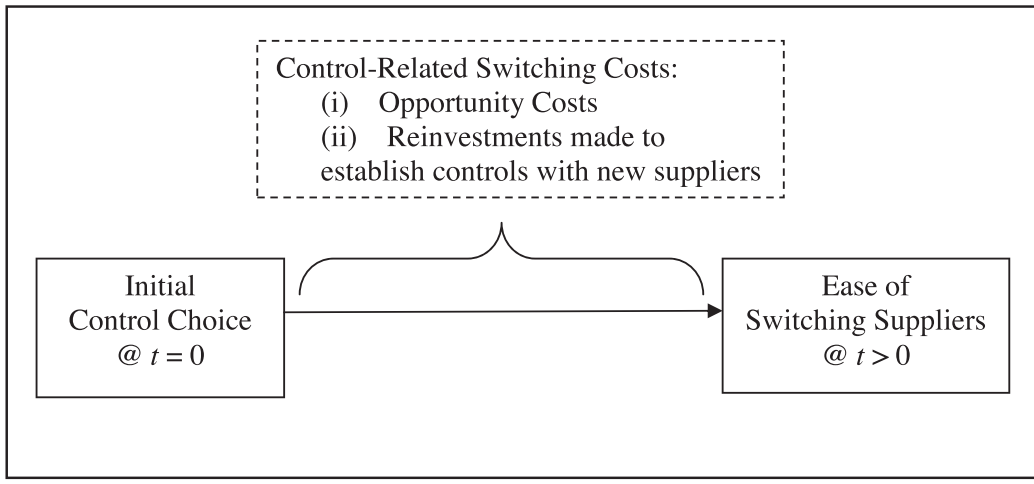
Submitted: February 2009
Accepted: February 2011
Published Online: May 2011

I. INTRODUCTION

There has been a significant escalation in the number of firms entering into collaborative interfirm relationships (Anderson and Sedatole 2003; McClenahen and Purdum 2005). The challenges involved in controlling activities across organizational boundaries receive considerable attention in the accounting literature (e.g., van der Meer-Kooistra and Vosselman 2000; Dekker 2004; Nicholson et al. 2006; Caglio and Ditillo 2008; Dekker 2008). This literature, however, adopts a predominantly static view of control that does not recognize explicitly that collaborative relationships evolve over multiple periods. Firms regularly review and adapt their collaborative arrangements to remain competitive (Young-Ybarra and Wiersema 1999; Ernst and Bamford 2005). Yet, little is known as to whether the investments that firms make in establishing control systems to manage interfirm relationships create impediments to subsequently modifying relationships or switching suppliers. In managing and controlling collaborative relationships, firms can invest significantly in developing trust and control infrastructure, and in ensuring that suppliers' processes meet firm requirements (Sako 1992; Dyer 1997). Because controls are generally supplier-specific, firms that switch suppliers will have to reinvest in establishing controls to manage new suppliers. We explore how initial control choice impacts the ease with which outsourcing firms[1] can switch suppliers, where switching costs are expected to vary with the investments in each control (see Figure 1).

We define control in interfirm settings as the devices, mechanisms, and processes that encourage the achievement of organizational goals by influencing behavior (Speklé 2001). We classify control choices based on a typology commonly used in the accounting literature—market-based, bureaucratic-based, and trust-based controls (van der Meer-Kooistra and Vosselman 2000; Caglio and Ditillo 2008). Instead of focusing narrowly on specific control mechanisms such as contracts, this typology provides a comprehensive coverage of distinct groups of control

FIGURE 1
The Relation between Initial Control Choice and Ease of Switching Suppliers



[1] Outsourcing firms refer to firms that have contracted out products or services to external suppliers.

mechanisms and devices adopted to manage interfirm relationships. We are interested in the ease of supplier switching associated with each type of control chosen, drawing on Williamson's (1996, 1998) transaction cost economics (TCE) framework to study this relation. Williamson (1996, 1998) recognizes that extant governance structures can impede firms from achieving optimal governance structures by giving rise to switching costs. We expect extant controls to generate two types of costs associated with switching suppliers ("control-related switching costs"): (1) opportunity costs arising from benefits forgone when discarding existing controls, and (2) reinvestment costs to establish controls to manage new suppliers. *Ceteris paribus*, controls that give rise to the highest switching costs should be associated with the lowest ease of switching suppliers.

Studies that examine control phenomena in interfirm settings are generally in-depth case studies of distinct groups of control mechanisms and practices (e.g., van der Meer-Kooistra and Vosselman 2000; Langfield-Smith and Smith 2003; Donada and Nogatchewsky 2006), or large sample survey studies that focus on specific control mechanisms (e.g., Dekker 2004; Anderson and Dekker 2005; Dekker 2008). We adopt the multiple case study method and test our hypothesis using data collected from 53 outsourcing arrangements. We select the multiple case study method for several reasons. First, the collection of rich data via semi-structured interviews allows us to measure and refine complex constructs that are not well operationalized in extant research (Eisenhardt 1991; Lillis and Mundy 2005). Second, this method supports the refinement of theory relating to the association between key variables (Lillis and Mundy 2005). By focusing on a narrow domain of interest, specifically initial control choice and the ease of switching suppliers, we are able to exploit evidence of cross-sectional patterns across a reasonable number of observations. This allows the achievement of more cross-sectional breadth than is evident in in-depth case studies, while allowing for the collection of richer data than the survey method.

As hypothesized, observed patterns across 53 cases show that firms with trust-based controls experience the most difficulty in switching suppliers; firms with market-based controls experience the greatest ease; and firms with bureaucratic-based controls and hybrid controls lie between these extremes. We allow respondents to provide reasons for the ease of switching suppliers. Respondents in nearly 50 percent of our sample (25 cases) reveal that their firms experience difficulty in switching suppliers because of control-related switching costs. Given the substantial investments made in developing trust, firms with trust-based controls generally incur high control-related switching costs, which include high opportunity costs associated with forgone reductions of monitoring costs. These firms also need to reinvest heavily in establishing trust-based controls with a new supplier. Conversely, firms with market/bureaucratic-based controls generally incur low opportunity costs and reinvestment costs.

This study makes the following contributions. First, we add to the management accounting and strategic alliance literature that examines post-formation phenomena in inter-organizational relationships (e.g., Langfield-Smith and Smith 2003; de Rond and Bouchikhi 2004; Mouritsen and Thrane 2006; Kamminga and van der Meer-Kooistra 2007). While some studies examine the evolution of controls or governance structures over time, we investigate how initial control choice influences the ease of switching suppliers in subsequent periods. Our results reflect the strategic consequences that flow from initial control choice. Second, this study attempts to overcome criticisms relating to static applications of TCE by looking beyond the determinants of control choice. Following Williamson's (1996, 1998) argument that switching costs are incurred when firms discard extant governance forms and adopt new alternatives, we investigate whether existing controls also generate switching costs and add to the difficulty of switching suppliers. We find evidence of control-related switching costs, which supports his argument, and we extend prior literature by showing that the *magnitude* of switching costs varies with the type of control selected.

Third, ours is one of the first studies to explore how the magnitude and nature of transaction costs in the form of investment in controls vary with the type of controls chosen. We recognize that

most transaction costs incurred in setting up controls to manage suppliers are investment in nature, including costs relating to supplier search and selection, trust-building, and developing control infrastructure (Arrow 1974; Sako 1992; Dyer 1997). Investments in trust-building are particularly important in assessing the magnitude of opportunity costs and reinvestment costs when firms consider switching suppliers. We provide empirical evidence of trust-building costs, which have largely been ignored in prior literature, and extend extant knowledge of the transaction costs incurred by firms that adopt trust-based controls to manage their suppliers *vis-à-vis* firms that adopt other more formal types of controls.

Section II provides the theoretical framework and hypothesis to be tested. Section III discusses the research method. Section IV describes the clusters that result from classifying cases based on control choices and ease of switching suppliers. Section V presents the results, and Section VI concludes.

II. THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

Williamson's (1985) TCE framework provides the theoretical basis for much of the research on control choices in collaborative relationships (e.g., van der Meer-Kooistra and Vosselman 2000; Dekker 2004; Nicholson et al. 2006; Dekker 2008). TCE proposes that forms of governance are adopted to minimize the sum of production and transaction costs. Transaction costs are non-production-related costs that arise when any form of exchange is taking place in an economic system that is not frictionless. Examples of transaction costs include: (1) supplier search costs to identify and select suppliers; (2) contracting costs to negotiate and write contracts; (3) transition costs to oversee the transfer of operations and assess supplier processes prior to contract execution (Kakouris 2006; Ghodeswar and Vaidyanathan 2008); (4) monitoring and enforcement costs to ascertain compliance with contractual obligations and to sanction noncompliant behavior; (5) adjustment costs to correct for any subsequent misalignment; and (6) costs to build and maintain trust (Williamson 1985; Sako 1992; Dyer 1997).

Williamson (1996, 1998) argues that, when switching costs incurred to establish alternative governance structures are high, it may be more efficient for firms to continue to use extant governance structures that are not optimal (i.e., do not *a priori* minimize transaction costs). By recognizing that firms incur switching costs when adopting new governance structures, Williamson (1996, 1998) explains how extant governance structures can impede change. We apply his rationale in studying whether, and how, initial controls selected to manage suppliers affect supplier switching.

Control Choices in Interfirm Relationships

We classify control choices based on van der Meer-Kooistra and Vosselman's (2000) typology, namely, market-based controls, bureaucratic-based controls, and trust-based controls. *Market-based controls* are governed by market forces (Ouchi 1979; van der Meer-Kooistra and Vosselman 2000; Speklé 2001). Suppliers self-regulate as the threat of being replaced by another supplier is real. The relationship is managed through simple processes and limited control mechanisms. For example, suppliers are selected via a competitive bidding process; standard contracts are negotiated and written; and transactions are periodically monitored.

Bureaucratic-based controls are characterized as "systems of surveillance, evaluation, and direction" (van der Meer-Kooistra and Vosselman 2000, 59). They include the set of rules specifying procedures and standards associated with desired behavior and output (Ouchi 1979), and are far more extensive than market-based controls. Firms adopting bureaucratic-based controls select their suppliers based on pre-set standards and rules, and negotiate and write very detailed contracts (Ouchi 1979; van der Meer-Kooistra and Vosselman 2000; Dekker 2004). When

transferring operations, they monitor the set-up process, supplier processes, and output (Kakouris 2006). These control mechanisms and practices can potentially reduce monitoring requirements during contract execution by providing some assurance about supplier competence. However, they cannot ensure supplier compliance. Therefore, relatively high levels of monitoring are still needed to evaluate supplier performance and ensure contract conformance. Examples of control mechanisms adopted during contract execution include behavior controls (e.g., standard operating procedures) and output controls (e.g., performance measurement systems) (Dekker 2008).

Trust-based controls are characterized by some reliance on trust as a form of control (van der Meer-Kooistra and Vosselman 2000). We define trust as the willingness of firms to be vulnerable to their transacting partners based on positive expectations of the partners' intentions (i.e., goodwill trust) or performance (i.e., competence and contractual trust) (Rousseau et al. 1998; van der Meer-Kooistra and Vosselman 2000). Following Adler (2001), we view trust as a deliberate choice that involves investing in trust-building activities. These activities include selecting trustworthy suppliers, training to instill the right values in suppliers' employees, managing and assisting the transition, and intensive communication and interaction that relates to "joint goal setting, problem solving, decision making, and partner development activities" (Dekker 2004, 33). Trust also develops over repeated transactions as familiarity increases and when suppliers consistently meet performance targets (Rousseau et al. 1998; Tomkins 2001). Relatively low levels of monitoring and enforcement are expected in the presence of trust as: (1) high levels of trust will motivate both parties to act in each other's best interest; and (2) the desire to maintain a trusting relationship will prevent the firm from signaling distrust of their partner via high levels of monitoring (Dekker 2004). Reliance on trust is also reflected by (1) the absence of contracts, or (2) having contracts with general guidelines and fewer or less detailed benchmarks, contingencies, or safeguards (van der Meer-Kooistra and Vosselman 2000; Donada and Nogatchewsky 2006).

The Influence of Initial Control Choice on the Ease of Switching Suppliers

We hypothesize that the type of control initially chosen will influence the ease of switching suppliers. We recognize that firms initially invest in different types of controls, and argue that the level of investment varies with control type. Investments in controls are broadly defined in this study as costs incurred to facilitate the monitoring of contract execution and reduce subsequent monitoring and enforcement costs.[2] Most transaction costs incurred by firms to manage suppliers prior to contract execution are therefore defined as investment-oriented in nature, including costs involved in searching for a competent or trustworthy supplier, monitoring of the transition process, and developing control infrastructure and trust. We expect investments, which give rise to future economic benefits by lowering monitoring and enforcement costs, to generate switching costs.

There are two main types of control-related switching costs: (1) benefits forgone when discarding existing controls (i.e., opportunity costs), and (2) reinvestments made to establish controls to manage new suppliers (i.e., reinvestments cost). Opportunity costs refer to the loss of future benefits in the form of lower monitoring and enforcement costs. These costs will vary with control choice. Each type of control is associated with different levels of investments and, hence, is expected to give rise to different opportunities for savings in monitoring and enforcement costs. Reinvestment costs are similar in nature to the investment costs that were initially incurred to set up controls to manage incumbent suppliers. Thus, they also vary with control type. Firms can avoid reinvesting in controls to manage new suppliers by not switching suppliers.

[2] We adopt a broader definition of investment in controls than Sako (1992) and Dyer (1997). They require investments in controls to reduce monitoring costs, while our definition also includes the set up of infrastructure that allows the monitoring of contract execution.

Firms that adopt *market-based controls* make the lowest investment in controls. They incur lower supplier search and contracting costs than firms that adopt other control types. Given that little or no investments were made to build trust, firms will incur little if any opportunity costs relating to forfeited reductions in monitoring and enforcement costs if they discard existing controls when switching suppliers. These firms will also incur low reinvestment costs when establishing market-based controls with new suppliers. Since control-related switching costs are low, we expect firms with existing market-based controls to be able to switch suppliers with relative ease.

At the opposite end of the spectrum, firms adopting *trust-based controls* invest most heavily in establishing controls. They incur very high supplier search and trust-building costs, and moderate to high contracting costs (Sako 1992; Das and Teng 2001). Most trust-building costs are incurred prior to contract execution, and in some cases several years prior. Given the large investments in controls, firms that discard trust-based controls to switch suppliers will incur the highest opportunity costs in terms of forfeited reductions in monitoring and enforcement costs. In addition, firms need to incur high reinvestment costs to establish trust-based controls with new suppliers. Since opportunity and reinvestment costs are both high, we expect the ease of switching suppliers to be low.

Finally, the investments made by firms to establish *bureaucratic-based controls* are higher than firms that adopt market-based controls but lower than firms that adopt trust-based controls. These firms incur higher supplier search and contracting costs than firms that adopt market-based controls. They also incur substantially lower supplier search costs and practically no trust-building costs relative to firms that adopt trust-based controls. We argue that, while some investments in bureaucratic-based controls reduce subsequent monitoring and enforcement costs (e.g., costs of assessing supplier processes and incorporating safeguards in contracts), other investments merely facilitate monitoring (e.g., costs of developing a reporting infrastructure and standard operating procedures). Hence, these firms are expected to incur some opportunity costs and reinvestment costs when discarding extant controls and adopting new controls, respectively. Since control-related switching costs for firms with bureaucratic-based controls will be higher than market-based controls but lower than trust-based controls, we expect the ease of switching suppliers to be highest for firms that adopt market-based controls and lowest for firms that adopt trust-based controls, with firms that adopt bureaucratic-based controls falling somewhere in between. This gives rise to the following hypothesis[3] (see Figure 2 for a diagrammatic summary):

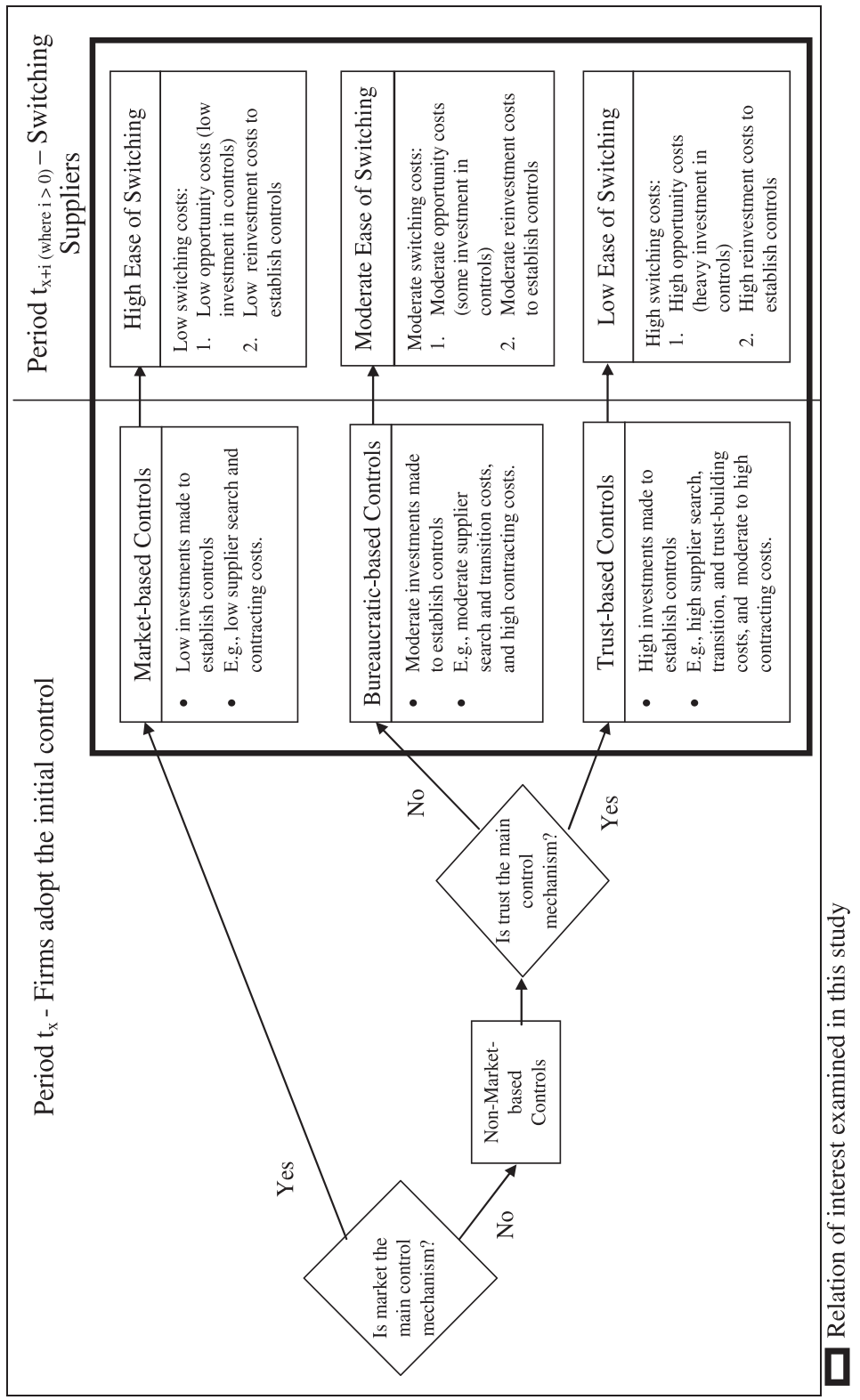
Hypothesis: The ease of switching suppliers is the lowest when trust-based controls are in place, followed by bureaucratic-based controls, and, finally, market-based controls.

Other Explanatory Variables

We collect information on four other explanatory variables that potentially influence the ease of switching suppliers, namely, asset specificity, power asymmetry, existing ties, and prior experience. Our analysis allows us to distinguish the effects of initial control choice from the effect of these other variables on the ease of switching suppliers. *Asset specificity* is defined as investments in transaction-specific assets that have a lower value when redeployed for alternative purposes (Williamson 1985). Firms incur high opportunity costs when they use transaction-specific assets for

[3] This hypothesis is developed based on the simplifying assumption that the same type of control is chosen to manage both the incumbent and new suppliers. If the firm adopts a different type of control to manage new suppliers, then the predictions will become more complex. Nonetheless, we expect the ease of switching suppliers to still remain a function of control-related switching costs in both scenarios; and the multiple case method adopted will allow us to capture more complex scenarios.

FIGURE 2
Theoretical Framework



different purposes or with different suppliers. Therefore, where asset specificity is high, the firms tend to be locked into existing interfirm relationships and the ease of switching suppliers is very low (see Young-Ybarra and Wiersema 1999).

Power is defined as the ability of a firm to influence decision variables of their transacting partner (Provan 1980; Frazier 1983). Our focus is on perceived power differences (i.e., *power asymmetry*) between transacting parties (Anderson and Dekker 2005). The less-powerful party will be subject to the intentions of the more-powerful party (Young-Ybarra and Wiersema 1999). Since suppliers would generally prefer to sell more to the outsourcing firm and retain its business, the ease of switching to a new supplier will increase with the power of the outsourcing firm.

The *number of existing ties* is represented by the number of contracts between two transacting parties. When transacting parties have multiple contracts with each other, the failure of one contractual arrangement can negatively impact, or even threaten, the entire relationship (Young-Ybarra and Wiersema 1999). Thus, we expect a negative relation between the number of existing ties and the ease of switching suppliers.

Prior experience refers to the firm's experience in: (1) forming and managing similar strategic alliances ("alliance experience"); and (2) transacting with the same supplier ("partner experience") (Reuer et al. 2002). Similar alliance experiences enhance the firm's ability to anticipate situations in which supplier switching is considered and allow steps to be taken to facilitate the change, while the trust that is likely to develop over time with positive partner experience is likely to reduce the ease of switching suppliers.

III. METHOD

Sample Selection and Data Collection

We adopt the multiple case study method in this study. The unit of analysis is each outsourcing arrangement. Given that our aim is not statistical but theoretical generalizability, we adopt purposive sampling to maximize variation in the test variables (Arnold 1970; Lillis 2002). We focus on outsourcing firms that are likely to have switched suppliers or considered switching suppliers, and apply two main criteria in selecting our sample. First, we select firms that have outsourced different types of activities. TCE predicts that transactions with different characteristics will be associated with different control choices (i.e., independent variable); and we expect the ease of switching suppliers (i.e., dependent variable) to vary with control choice. Second, because managers are less likely to announce their intentions or actions with regard to supplier switching, we select firms that entered into outsourcing arrangements two to six years prior to data collection. These firms are more likely to adjust their outsourcing arrangements as compared to firms in stable and long-term relationships (Reuer et al. 2002). This allows us to balance between (1) allowing sufficient passage of time to enable managers to reflect on the outsourcing decisions, and (2) minimizing the recall and hindsight biases often associated with retrospective data collection that we adopt (see Doz 1996).[4]

We conducted a keyword search (outsourc*) in the DatAnalysis and *Business Review Weekly* databases[5] to identify our sample (see Steensma and Corley 2001). Two informants who work for

[4] There is no rule of thumb for identifying timeframes within which the recall bias is acceptable. In the strategic alliance literature, timeframes range from a five-year period for survey studies (e.g., Sako 1992; Schilling and Steensma 2002) to a decade for in-depth case studies (e.g., Doz 1996).

[5] DatAnalysis is an Australian database that captures information from annual reports, announcements, and other available Australian Stock Exchange information for all currently, and some formerly, listed companies. The *Business Review Weekly* is the leading weekly business magazine in Australia.

large outsourcing providers provided us with the remaining sample. We extracted company information and contact details from *The Business Who's Who of Australia* and *Kompass Australia*. Companies not listed in either source were eliminated. To initiate contact, we sent a pre-notice letter to the CFO of identified firms to explain the objective of the study (Dillman 2000), followed shortly by a telephone call to confirm the firm's involvement in outsourcing and arrange an interview with the CFO or a nominee.

We carried out 36 semi-structured interviews with outsourcing managers or managers knowledgeable about outsourcing.[6] The response rate is 63 percent, with acceptances from managers in 34 firms and refusals from managers in 20 firms.[7] Each interview lasted approximately 80 minutes, and the respondents discussed on average two outsourcing arrangements. To enhance the completeness and integrity of data collected, we (1) used a pre-tested interview guide; (2) audio-recorded all interviews after providing assurances of confidentiality; (3) checked transcripts for accuracy; and (4) asked participants to focus on outsourced activities with which they were most familiar, to refer the interviewer to their colleagues, and to use documents to jog their memory (Miles and Huberman 1994; Minichiello et al. 1995; Yin 2003).

The final sample comprises 53 outsourcing cases from 29 firms located across Australia. All but two firms are from the manufacturing industry. The sample includes some firms that are listed in Australia (n = 6), and some subsidiaries of companies listed in Australia (n = 2) and overseas (n = 12). Table 1 presents a summary of the activities outsourced in this sample of firms. Appendix A provides further information about companies in the sample and participant managers.

TABLE 1

Summary of Outsourced Activities

Types of Activities[a]	No. of Cases
Manufacturing	15
Logistics[b]	13
Information Technology	10
Maintenance	5
Miscellaneous[c]	10
Total	53

[a] In nine cases, the activity has been outsourced for the first time; the activity in 23 cases was only outsourced a few times; and the remaining 21 cases relate to situations where the activity has been outsourced for a long time, although suppliers have been changed or contracts renewed.

[b] The outsourced activities in this category include warehousing, transportation, and/or the management of either or both.

[c] The outsourced activities in this category include labor (casual and other), research and development, training, project engineering, and packaging.

[6] We conducted 41 interviews, but discarded five that were incomplete or contained potential errors. Reasons for the exclusion include relatively inexperienced (generally new) staff or managers, and a telephone interview that resulted in poor-quality recording.

[7] We count the contact made with each group of companies only once, ignoring the number of firms contacted, as the group may outsource to the same supplier or a single contact number may be provided for the group. We exclude companies that (1) do not engage, or have little involvement, in outsourcing (n = 10), and (2) do not meet our selection criteria (n = 3). We also exclude 15 firms that we stopped following up on once we deemed that the sample size was sufficient due to time constraints.

Data Analysis

To mitigate researcher bias, we adopt a systematic and auditable data analysis process, and maintain an audit trail from the interview transcript to the results documented. In the first stage of the analysis, we use a qualitative analysis software, NVivo 2, to code information that relates to each variable across all cases (Miles and Huberman 1994; Yin 2003; Lillis and Mundy 2005). We integrate *a priori* and inductive approaches to develop a coding protocol. The initial set of codes derived from prior literature are subsequently revised and refined, and new codes are added as dictated by the data.[8] Appendix B contains codes and definitions.

In the second stage, we adopt a combination of case-oriented and variable-oriented approaches in analyzing the coded data (Eisenhardt 1989; Miles and Huberman 1994). As part of the analysis, we use matrices to display data in order to systematize and focus the organization of the data, and to enhance completeness of the analysis. We apply decision rules, derived from the literature, to coded text to obtain a relatively standard set of variables for each case (e.g., ease of supplier switching and control choice). To enhance construct validity, we stack all cases in ascending order based on the magnitude (e.g., low, medium, and high) or the dimensions (e.g., market-based, bureaucratic-based, and trust-based controls) of each variable to refine decision rules and ensure consistent application across all cases.

Next, we examine relations between dependent and independent variables within-cases and, subsequently, across-cases. We create categorical variables from our qualitative data (e.g., the ease of switching suppliers variable is a categorical variable with low = 1, moderate = 2, and high = 3). This enables us to conduct nonparametric tests to provide statistical results for our predicted relations. There is a further requirement to isolate the unique contribution of control choices *vis-à-vis* other variables in explaining the ease of switching suppliers. Specifically, we need to distinguish control-related switching costs from switching costs attributable to other factors. We carefully review the transcripts to identify cases in which respondents indicate a direct link between control-related switching costs and the ease of switching suppliers. A summary of cross-case findings that result from this analysis is presented in the following section.

IV. FINDINGS I: CLASSIFICATION OF CASES

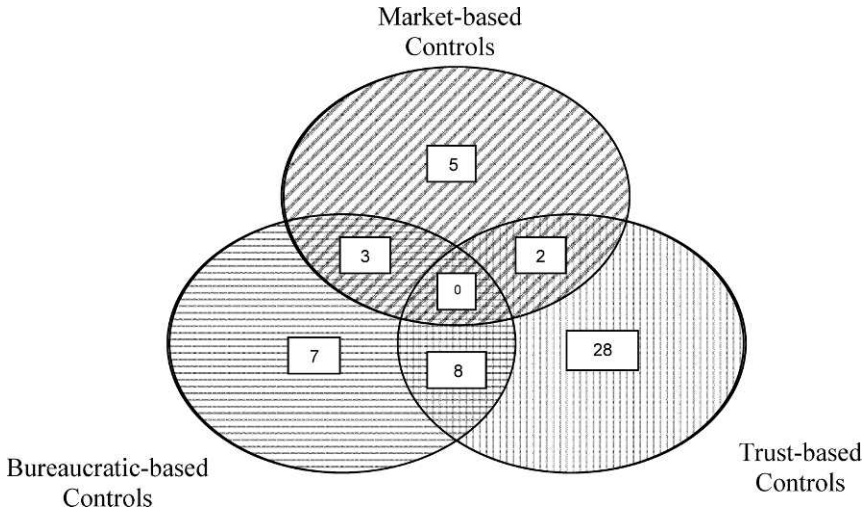
Grouping by Control Choices

We first identify the type of controls chosen by firms in our sample. We develop questions to capture information about the control mechanisms and practices that relate to supplier selection, contracting, transitioning, and the monitoring of contract execution. Respondents were also given descriptions of three types of controls derived from van der Meer-Kooistra and Vosselman's (2000) typology, asked to select the description that best fit their firm, and to comment on differences observed.

We apply decision rules derived from the typology and classify the control choice for each outsourcing transaction. Figure 3 presents the resulting control profile of the sample—five cases adopt market-based controls, seven cases adopt bureaucratic-based controls, and 28 cases adopt

[8] The coding is performed by one researcher. Intra- and inter-coder agreement checks were performed for one transcript to refine the codes. A transcript was coded by the same researcher on two separate occasions and the discrepancies resolved. A third coding was performed to ensure intra-coder agreement. To ensure inter-coder agreement, an independent coder with no prior knowledge of the subject area was provided with a copy of the coding scheme and an uncoded transcript. After the coding process was completed, the results for both coders were compared and the differences observed were discussed. At the end of the discussion, an agreement on the definitions of all codes was reached.

FIGURE 3
Summary of the Control Profile for 53 Cases



trust-based controls. The remaining 13 cases adopt hybrids of controls that resemble more than one control type (Håkansson and Lind 2004; Donada and Nogatchewsky 2006). We accordingly classify them as market/bureaucratic-based (n = 2), market/trust-based (n = 3), and bureaucratic/trust-based controls (n = 8). Appendix C presents an example of a case classified under each control type to demonstrate the application of the decision rules.

Consistent with prior studies (see Caglio and Ditillo 2008), we observe that control mechanisms are far more extensive for bureaucratic-based controls than market-based controls. Firms adopting bureaucratic-based controls undertake tender processes, verify supplier competence, write detailed contracts, and have higher levels of monitoring such as regular supplier reporting and auditing. Some firms also conduct tests to validate suppliers' product, equipment, and processes when transferring operations to ensure supplier competence and compliance with firm requirements. In contrast, four firms with market-based controls do not have contracts; monitoring is generally limited to employee feedback and the review of a few outcome performance measures.

We observe that some firms that adopt trust-based controls (n = 15) invest significantly in developing trust with suppliers, while others (n = 13) appear to have already developed trust from similar past transactions with the supplier. In addition, while the contracts and monitoring mechanisms in trust-based control cases are generally less extensive than those characterizing bureaucratic-based control cases, they are more extensive than predicted. For example, detailed contracts that resemble those in bureaucratic-based cases were observed in two-thirds of the cases (n = 21); formal controls, such as occasional audits and monitoring procedures, were observed in some cases. Nonetheless, the main distinguishing feature of trust-based controls is the use of control mechanisms for collaborative purposes instead of merely preventing opportunistic behavior (Vosselman and van der Meer-Kooilstra 2009). For example, detailed contracts form the basis for building collaborative relationships by promoting understanding. Nonpunitive functions of control mechanisms during contract execution include the timely resolution of problems to improve both partners' performance, discharge of management responsibilities, and coordination of tasks (Gulati and Singh 1998; Dekker 2004). When transferring operations, some firms also monitor their

suppliers' set up processes in order to provide necessary guidance, and establish trust by deploying key employees to foster good relationships. Many respondents are also confident of their suppliers' performance, adopt a "no blame" policy,[9] and some respondents believe their suppliers would always act in the best interest of the respondents' firms.

We further collect information about transaction costs in the form of the time and resources expended by the firms in establishing each control, and in exercising the control to monitor contract execution (Dyer and Chu 2003; Nicholson et al. 2006). The time taken for supplier selection and contracting is, on average, the shortest for market-based control cases (i.e., a few hours to two months), followed by bureaucratic-based control cases (i.e., between two to eight months, averaging four to five months), and then trust-based control cases (i.e., an intensive three-month period to one year, averaging seven months). Overall, the mainly qualitative evidence of the time and effort expended by firms with different control choices indicates that such investments in controls are lowest when firms adopt market-based controls, followed by bureaucratic-based controls, and then trust-based controls. We further observe evidence of high initial trust-building costs, and the subsequent reduction in levels of monitoring and enforcement. These observations indicate that investments in trust-based controls are the highest, which has implications for the magnitude of opportunity and reinvestment costs. In summary, the evidence shows that the magnitude and nature of transaction costs incurred by firms vary with control choice, providing some indication that switching costs will also vary with control choice.

Ranking by Ease of Switching Suppliers

In order to assess the ease of switching suppliers, we developed questions to capture information about the process of exiting the relationship and switching suppliers, the difficulties faced, and the outcomes experienced (Young-Ybarra and Wiersema 1999). We apply decision rules and classify cases in high (n = 12), moderate (n = 5), and low (n = 36) categories depending on: (1) the explicit verbalization about how easily firms are able to switch suppliers; and (2) evidence of the amount of time or effort that was expended in resolving issues with the incumbent supplier and switching suppliers. Firms in the high-ease category expend very little time or effort in switching suppliers. For example, firms in two cases did not have any problems exiting the relationship. They successfully returned the products and demanded full refunds from their incumbent suppliers. In contrast, firms in the low-ease category expended a lot of time, effort, and resources in the process, and tried very hard to first resolve issues with their incumbent supplier. For example, managers in four cases were determined to make the outsourcing arrangements work, as switching suppliers was not viewed as a feasible option (n = 4).

Table 2 presents a summary of the cases classified by ease of switching suppliers. Note there are only seven cases in which firms switched suppliers. Since switching costs arise from initial control choice as well as other explanatory variables (e.g., asset specificity and power asymmetry), it is unlikely that the majority of firms engaged in collaborative partnerships will routinely switch suppliers. The strongest evidence of high switching costs is found in cases in which firms decide against switching suppliers. Thus, it is important to explore qualitative evidence of ease of switching suppliers, not only for firms that switch suppliers, but also for those that contemplate switching but do not switch, and those where the issue of switching is largely hypothetical. It is also possible that the small number of firms that switched suppliers reflects some degree of selection bias, as respondents could have chosen to avoid discussing failed collaborations. This bias is unlikely to dominate the sample, given the range of factors that increase the difficulty of switching and the fact that respondents discussed control-related switching costs without directed questions.

[9] In contrast, suppliers in some bureaucratic-based control cases have to submit noncompliance reports.

TABLE 2

Summary of Cases Ranked According to the Ease of Switching Suppliers

Ease of Switching Suppliers	Number of Cases (Number of Cases that Switch Suppliers)	
High (i.e., easy)	12 (2)	23%
Moderate	5 (1)	9%
Low (i.e., difficult)	36 (4)	68%
Total	53 (7)	100%

V. FINDINGS II: CROSS-CASE RESULTS AND DISCUSSION

Exploring the Influence of Control Choice on the Ease of Switching Suppliers

In this section, we explore evidence of a relation between initial control choice and subsequent ease of switching suppliers. Table 3, Panel A presents a summary of the association between the types of controls initially chosen and the ease of switching suppliers. Observed patterns in Panel A show how the proportion of cases across the three categories of ease of switching suppliers changes with the types of controls. In particular, we can easily see how the proportion of cases in the *Low* column of each control category increases as we move from market-based controls (0 out of 5) down to trust-based controls (23 out of 28). The differences between the groups are significant (Pearson Chi-square statistic = 16.801; p = 0.002; and Mantel-Haenszel [hereafter, MH] Chi-square statistic = 14.304; p < 0.001).[10] Furthermore, the results of the Jonckheere-Terpstra (hereafter, JT) test (standardized statistic = −3.241; p = 0.001) and additional sensitivity analyses[11]

[10] All nonparametric tests and correlations are one-tailed. We exclude market/trust-based control (*MCTC*) cases when performing all nonparametric tests to obtain ordered categories of initial control choice, as we cannot predict whether the ease of switching suppliers associated with *MCTC* cases are higher or lower than bureaucratic-based control cases. Having ordered categories (i.e., ordinal variables) enables us to test whether a negative association between the test variables exists (e.g., correlations and Jonckheere-Terpstra test). A negative association suggests that the ease of switching becomes more difficult when moving from market-based to trust-based controls. Although the results of the Chi-squared tests are significant, we recognize that (1) we lose some information when combining the high and moderate categories of ease of switching suppliers; (2) there are some empty cells; and (3) 70 (i.e., ≥ 20) percent of the cells have expected frequencies that are less than 5 (Siegel and Castellan 1988).

[11] The additional tests performed to determine if there is a negative association between the ease of switching suppliers and initial control choice are as follow. We first derive categorical variables from our qualitative data (e.g., for the ease of switching variable, low = 1, medium = 2, and high = 3; and for the initial control choice variable, market-based controls = 1, market/bureaucratic-based controls = 2, bureaucratic-based controls = 3, bureaucratic/trust-based controls = 4, and trust-based controls = 5) and examine correlations between the test variables. As expected, the Spearman's rho (–0.447; p = 0.001) and Pearson correlation (–0.531; p < 0.001) coefficients are negative and significant. We extend the JT test to all five groups of control choices and the standardized test statistic obtained is still significant (–3.242; p = 0.001). Finally, the results of the Mann-Whitney U-tests in Table 3, Panel B also show that (1) the ease of switching suppliers is significantly higher for market-based controls than other pure types of controls; and (2) switching suppliers is more difficult for firms adopting controls that required large investments in trust (i.e., *BCTC* and *TC*) than other types of controls (see Sensitivity Analysis I). These results are generally consistent with the ordinal logit regression results (see Model 1 in Table 4).

TABLE 3

The Association between Initial Control Choice and the Ease of Switching Suppliers

Panel A: The Ease of Switching Experienced by Firms in Our Sample with Different Initial Control Choices

		Ease of Switching Suppliers			
Coding Category	**Initial Control Choice**	**High**	**Moderate**	**Low**	**Total**
1	Market-based (*MC*)	4	1	0	5
2	Market/bureaucratic-based (*MCBC*)	2	0	1	3
3	Bureaucratic-based (*BC*)	1	2	4	7
4	Bureaucratic/trust-based (*BCTC*)	0	1	7	8
5	Trust-based (*TC*)	4	1	23	28
6	Market/trust-based (*MCTC*)	1	0	1	2
	Total	12	5	36	53

Panel B: Mann-Whitney U-Test (one-tailed for hypothesis: ease of switching associated with *MC* > ease of switching associated with *BC* > ease of switching associated with *TC*)

			p-value	
	n	**Test Statistic**	**Asymptotic**	**Exact[a]**
MC (28.50)[b] versus *TC* (14.85)	33	12.500***	0.000	0.001
MC (9.20) versus *BC* (4.57)	12	4.000**	0.010	0.020
BC (21.00) versus *TC* (17.25)	35	77.000	0.119	0.177
Sensitivity Analysis I—Including Hybrids[c]				
MC (36.40) versus [*BCTC* + *TC*] (18.86)	41	13.000***	0.000	0.000
MC (11.00) versus [*MCBC* + *BC*] (6.50)	15	10.000**	0.024	0.042
[*MCBC* + *BC*] (29.40) versus [*BCTC* + *TC*] (21.86)	46	121.000**	0.018	0.036
Sensitivity Analysis II—Excluding "Exceptions"[d]				
MC (28.10) versus *TC* (14.35)	32	9.500***	0.000	0.000
MC (8.20) versus *BC* (4.17)	11	4.000**	0.016	0.035
BC (21.33) versus *TC* (16.04)	33	55.000*	0.045	0.091

*, **, *** Indicate significance at the 10 percent (marginal), 5 percent, and 1 percent levels, respectively. Also, the probability of type II error is high due to the small sample sizes, limited variation, and large number of ties.

[a] When assumptions of asymptotic distributions may not hold due to small sample sizes, we follow Field (2009) and report on both asymptotic and exact p-values.

[b] The numbers in the parentheses refer to mean ranks.

[c] The hybrid controls have been added to the pure controls to form three new categories in order to increase the sample size. This classification is selected based on our expectation that *MC* cases are associated with the lowest investments in controls; *BCTC* and *TC* cases are associated with the highest investments, especially in relation to building trust; and *MCBC* and *BC* cases lie in between these extremes.

[d] The "exceptions" refer to the three cases identified as outliers in the qualitative analysis. Reasonable explanations were provided and documented for these cases. Sensitivity Analysis II also draws attention to the likelihood of type II errors given our small sample size by showing that the removal of one or two cases can significantly impact the results.

(see Table 3, Panel B) generally show, as expected, that switching suppliers becomes increasingly difficult when moving from firms that adopt market-based controls, to bureaucratic-based controls, and, finally, trust-based controls.

However, the challenge here is to isolate the impact of control choice on the ease of switching suppliers from the impact of other explanatory factors. We proceed to assess the relations between the other explanatory variables and the ease of switching suppliers. Our results are generally consistent with prior studies (see Appendix E for the measurement of the other explanatory variables). Similar to Young-Ybarra and Wiersema's (1999) study, the ease of switching suppliers decreases with *asset specificity* (Pearson correlation = −0.638; $p \leq 0.001$), and no conclusive evidence is obtained for the association between the ease of switching suppliers and (1) *power asymmetry*, (2) *the number of ties*, or (3) *prior partner experience* (i.e., there is no significant correlation coefficient). We also do not observe any significant association between *prior alliance experience* and the ease of switching suppliers. This indicates that, with the exception of asset specificity, other factors do not explain the ease of switching suppliers across cases.

For completeness, we undertake ordinal logit regressions of ease of switching suppliers (ES) on (1) two test indicator variables reflecting firms with different control choices, namely, market-based controls (*MC*) and trust-related controls[12] (*TR*); and (2) the same test indicator variables and the only other explanatory variable that is significantly correlated with ES—asset specificity (*AS*). We expect the coefficient on *MC* (*TR*) to be positive (negative), i.e., the ease of switching associated with *MC* (*TR*) is likely to be higher (lower) relative to other types of controls chosen. The results in Table 4 show that the coefficients of *MC* (parameter estimate = 2.2789; $p < 0.1$) and *TR* (parameter estimate = −1.5334; $p < 0.05$) in Model 1 have the predicted signs and are marginally significant and significant, respectively. However, both coefficients become insignificant when we control for *AS* (parameter estimate = −1.5205; $p < 0.05$) in Model 2. These findings seem to suggest that asset specificity, and not control choice, is the only significant predictor of the ease of switching suppliers. While we acknowledge that asset specificity determines both control choice (e.g., van der Meer-Kooistra and Vosselman 2000; Dekker 2004; Krishnan et al. 2010) and the ease of switching suppliers, we expect that control choice will have an incremental effect on the ease of switching suppliers. The lack of significance in the regression results is attributable at least in part to the following: (1) the high correlation between asset specificity and control choice, which increases the difficulty of capturing the incremental contribution of control choice over *AS* in explaining ES;[13] and (2) the low power arising from categorical variables with limited variation.[14]

Given the potential issues with our regression results, and to better inform the relation between control choice and ease of switching supplier, we identify interview narratives in which respondents provide a direct link between the two variables (e.g., unwillingness to re-incur time and resources to select another supplier). This evidence allows us to determine whether initial control choice has an incremental effect on ease of switching suppliers, over and above other correlated explanatory variables, such as asset specificity. We identify 25 cases, nearly 50 percent of our sample, where the

[12] Trust-related controls encompass cases in which firms adopt trust-based controls and cases in which firms adopt bureaucratic/trust-based controls. We combine trust-based and bureaucratic/trust-based control cases to reduce any loss of power, as the reasons provided by respondents for the ease of switching suppliers are very similar in these cases.

[13] *MC* and *AS* are negatively and highly correlated (Pearson correlation coefficient = −0.717; $p < 0.001$); *TR* and *AS* are positively and highly correlated (Pearson correlation coefficient = 0.628; $p < 0.001$).

[14] Our test independent variable is a categorical variable with indicator variables representing the various categories, hence resulting in numerous data points being 0. By reducing our rich qualitative data into a few coarse "catch-all" categories for each variable (e.g., descriptions of actual control practices are replaced by two indicator variables representing the presence (1) or absence (0) of market-based controls and trust-related controls respectively), we throw away information. Not using this information is likely to reduce the power of the test.

TABLE 4

Ordinal Logit Regression Results
Ease of Switching Suppliers

Logit Regression:[a]

$$ES = b_0 + b_1MC + b_2TR + b_4AS$$

	Model 1		Model 2	
Independent Variables	**Parameter Estimate**	**Chi-square Statistic**	**Parameter Estimate**	**Chi-Square Statistic**
MC	2.2789	3.0097*	0.3411	0.0458
TR	−1.5334	4.1650**	−0.8054	0.8585
AS			−1.5205	4.8376**
Sample Size	n = 51		n = 51	
Likelihood Ratio		15.5973***		20.6819***

*, **, *** Indicate one-tailed significance at the 10 (marginal), 5 percent, and 1 percent levels, respectively.

[a] To run the ordinal logit regression, we combine the five types of controls into three main categories as follows: (1) *MC* (market-based controls); (2) *MCBC* (market/bureaucratic-based controls) + *BC* (bureaucratic-based controls); and (3) *TR* (trust-related controls) = *TC* (trust-based controls) + *BCTC* (bureaucratic/trust-based controls) (see Table 3, footnote c for the rationale underlying this classification). Therefore, we do not incorporate a third indicator variable to capture the presence or absence of *MCBC* + *BC* category because this will result in redundancy. In addition, we conduct two sensitivity analyses. First, we run the ordinal probit model. The results are similar, but we report the ordinal logit regression model as it does not assume that error terms are normally distributed. Second, we replace *TR* with *TC* and rerun the ordinal logit regression models using all five original types of controls. The results are similar, except that the coefficient of *MC* is now significant at the 0.05 level, while the coefficient of *TC* is no longer significant. This change in results is likely to be attributable to the increase in the number of data points that are coded as 0.

b_0 = intercept(s).

ES (ease of switching suppliers)
= ordinal variable coded 1 = low (i.e., difficult to switch); 2 = moderate (i.e., lies between easy and difficult to switch); and 3 = high (i.e., easy to switch).

MC; *TR*
= dichotomous variable coded 0 = cases where firms selected this type of control; and 1 = cases where firms did not select this type of control.

AS (Asset Specificity)
= ordinal variable coded 1 = low; 2 = moderate; and 3 = high.

reasons for the ease of switching suppliers explicitly relate to the switching costs directly attributable to initial control choice.[15] Some examples of quotes to support our interpretation of the direct link between control type and ease of switching suppliers follow (see Appendix D for more comprehensive narratives):

> Because of the heartache we have to go through to do a tender and because of the time it can take to implement someone new. I mean there is two years involved in that. A lot has got to go

[15] In seven of the remaining cases, firms with trust-based control cases experienced greater difficulty in switching suppliers because of their good relationships with incumbent suppliers. However, none of the respondents discussed control-related switching costs, especially with regard to building relationships or trust with suppliers. We argue that switching costs can be inferred from evidence in other cases where firms: (1) invested in building trust, and (2) were less willing to re-build trust with a new supplier when they had a good relationship with the incumbent. Respondents in one bureaucratic-based control case and two market/bureaucratic-based control cases also indicated that a good relationship was absent or did not affect the ease of switching suppliers. However, we acknowledge that the results in these ten cases provide weaker support for our hypothesis and are conservative in excluding them.

> wrong for me to want to waste two years of my time going through a process like that. I17 (446)

> But it is difficult sometimes to find the appropriate supplier to readily take things over, particularly when we have a high regard or a high need for ensuring that they have a similar operating philosophy to what we have. I mean we hold that very highly and I think for that reason we take a lot of time to make sure we select the right one because we like a long-term relationship. I10A1, A2 (311)

> There's the cost involved in now going out and finding another service provider, there is the risk in the upheaval associated with moving such a big operation into a new environment . . . So there are obviously switching costs associated with moving something like this, so it is significant. Then you've got the cultural risks and the relationships have to be rebuilt . . . Well, it means that we have to make it work, really . . . It's difficult to switch. We've got a significant investment in the relationship, so there is a significant motivation to making it work. I27A1 (553)

> [W]e recognize there is a cost to us from breaking a relationship even though we're not the supplier. There's still a cost of integration, from setting it all up again, from going through the process again [referring to the process of evaluating samples produced by the short-listed candidate]. It's something that, where we can, we'd like to avoid it, and keep a successful relationship. I21 (727)

Table 5 summarizes our findings on the association between initial control choice and ease of switching suppliers for the 25 cases, and identifies the switching costs attributed to the type of control chosen. Similar to the patterns observed in Table 3, Panel A, the proportion of cases in the *Low* column of each control category increases as we move from market/bureaucratic-based controls (1 out of 2) down to trust-related controls (18 out of 19). The results of Chi-square tests that assess the significance of these differences are mixed (Pearson chi-square statistic = 4.192; p = 0.123 and MH Chi-square statistic = 3.830; p = 0.050).[16] However, the JT standardized test statistic (−1.904, p = 0.029) and the correlation coefficients (Spearman's rho = −0.389; p = 0.028; Pearson correlation = −0.400; p = 0.024) computed are significant, thus providing support that switching suppliers becomes increasingly difficult when moving across these groups of cases.[17] We also draw attention to the low power of these statistical tests that is attributable to the reduced sample size (n = 25).

We first look at trust-related control cases and observe that the ease of switching suppliers is low, with the exception of one case for which the ease of switching suppliers is high.[18] The reasons provided by these cases are very similar and are summarized as follows. First, managers in 14 cases

[16] As a sensitivity analysis, we split the trust-related group into the original *BCTC* and *TC* groups, and the MH statistic becomes marginally significant. We argue that power is lower as the number of cells with expected frequencies less than 5 has now increased (88 percent). Indeed, the Chi-square statistics become significant ($p < 0.05$) once we duplicated each data point to double the sample size.

[17] When we perform the JT test using the four original categories of control choices, the test statistic becomes marginally significant (−1.345; p = 0.090). This is not surprising given the low power of the test. The test statistic becomes significant again upon duplicating the sample (−1.921; p = 0.028).

[18] Although the firm in this case adopted trust-based controls, case evidence suggests that the ease of exiting the relationship and switching suppliers is high due to (1) the termination clauses incorporated in the contract; and (2) less emphasis being placed on relationship building. While the firm exerted some effort in supplier selection and contracting and subsequently reduced the level of monitoring, the supplier was the party that exerted far more effort and was very keen to establish a relationship. Given these unique circumstances, the evidence provides general support for the theory underlying our hypothesis by showing that the ease of switching suppliers is higher when investments made by firms are lower.

TABLE 5

Evidence of the Relation between Initial Control Choice and the Ease of Switching Suppliers (i.e., where respondents indicate that control-related switching costs influence the ease of switching suppliers, n = 25)

	Ease of Switching Suppliers[a]		Reasons Provided for the Relation between Control Types and Ease of Switching Suppliers[b]		
Control Types	**High**	**Low**	**Search**	**Transition**	**Relationship Building**
Market/bureaucratic-based	1	1	1	—	1
Bureaucratic-based	1	3	—	3	(1)[c]
Trust-related	1	18	14	12	10

[a] The numbers refer to the number of cases with the respective ease of switching suppliers.

[b] The numbers refer to the number of cases where respondents either indicate that (1) the re-incurrence of respective transaction costs (e.g., search, transition, and relationship building) reduces the ease of switching suppliers, or (2) the costs incurred will reduce subsequent levels of monitoring and enforcement relative to a new supplier (i.e., show that transaction costs are investment in nature).

[c] Relationship building cost is mentioned to have no impact on the ease of switching suppliers here.

are unwilling to reincur high search costs to select the right suppliers. Second, firms in 12 cases previously incurred substantial transition costs to: (1) familiarize the supplier with the task; (2) ensure that suppliers' processes are meeting firms' requirements; and (3) build relationships. We observe in several cases that firms retain their incumbent suppliers to avoid re-incurring similar costs to establish controls with new suppliers. Some respondents are also reluctant to switch suppliers, as their incumbents are managing well and require less monitoring over time. As expected, these findings suggest that the ease of switching suppliers decreases with switching costs arising from initial control choice—both opportunity costs and reinvestment costs incurred to establish comparable controls with a new supplier.

Unlike other investment costs incurred to establish controls, high contracting costs do not necessarily translate to greater difficulty in switching suppliers. Although higher re-contracting costs suggest potentially greater difficulty in switching suppliers, this is offset to the extent that contracting costs are incurred to incorporate comprehensive termination clauses. We conclude that the ease of switching suppliers for trust-related control cases is reduced by opportunity costs and reinvestment costs, in particular, supplier search, transition, and relationship-building costs.

Respondents in ten additional cases express varying degrees of reluctance to switch suppliers after the contracts have ended. Eight respondents attribute at least part of their reluctance to the need to reinvest in controls to manage new suppliers. Since these firms no longer have a legal obligation to transact with their incumbent suppliers, their intentions provide further evidence that initial controls generate switching costs that reduce the ease of switching suppliers. In extreme cases, initial controls prevent firms from switching suppliers.

Next, we observe that the ease of switching suppliers is low in three of the bureaucratic-based control cases and high in the fourth case. The ease of switching suppliers is only affected by the re-incurrence of one type of cost in establishing controls—the transition costs incurred by firms in testing the supplier's products to ensure compliance with firm standards.

> Once that unique product [from the supplier] has been identified and, you know, tested and implemented, that becomes very valuable. You know the time spent on doing that is expensive. And you really need something reliable. So to sack one [supplier] and move to another is pretty traumatic and therefore it is always important to try and get it right at the front end. I7A1 (285)

This differs from trust-based control cases where supplier search and relationship-building costs are also re-incurred. The respondent in one case also explained that it was much easier to switch suppliers in the absence of a good relationship because no opportunity costs are incurred.[19] Hence, the control-related switching costs generated by existing bureaucratic-based controls are generally lower than trust-related controls. It is also notable that the managers in two cases expressed no qualms in switching suppliers once the contracts are concluded. These firms re-tender the contracts and select the supplier that puts forward the best deal.

> They were performing OK. It's just somebody was going into it better or for a better price or same quality, better price. Or had better ideas about how they're going to do it better. I16 (510)

Finally, the two market/bureaucratic-based control cases are associated with a high and low ease of switching suppliers, respectively. Further analysis shows that the firm with the low ease of switching suppliers was in the process of changing to trust-based controls. Since reinvestment costs incurred to establish new trust-based controls are higher than new market/bureaucratic-based controls, the expected ease of switching suppliers is lower than expected. These findings provide further support that firms that adopt trust-based controls incur high switching costs.

In summary, observed patterns in 53 cases reveal that the relation between initial control choice and ease of switching suppliers is consistent with expectations—the difficulty of switching suppliers increases when moving from firms that adopt market-based controls, to bureaucratic-based controls, and, finally, trust-based controls. Simple inferential statistics support this conclusion. We further draw on the interview narratives to isolate the specific impact of control choice from other explanatory variables, and identify the effect of control choice in 25 cases. Based on our analysis of this subset of our database, it would appear that the switching costs arising from investments made in establishing initial controls is the mechanism that influences ease of switching suppliers. Furthermore, the evidence indicates that these control-related switching costs vary with control choice.

Specifically, we recognize that opportunity costs are a function of investments made to establish controls. We observe that investments in controls (and, hence, opportunity costs) are highest when firms adopt trust-related controls, followed by bureaucratic-based controls, and then market/bureaucratic-based controls. We also observe that the need to reincur high supplier search, transition, and relationship-building costs to establish trust-based controls is higher than the need to reincur transition costs to adopt bureaucratic-based controls. Since transition costs are lower in bureaucratic-based control cases, and supplier search and relationship-building costs are only mentioned in trust-based controls cases, this finding indicates that firms invest more heavily in re-establishing trust-based controls than bureaucratic-based controls. In addition, the observed patterns show that the magnitude and type of transaction costs incurred by firms varies with control choice.

The respondents in the remaining 35 cases either (1) discuss other factors unrelated to extant controls (including ten cases that mention good relationships without discussing costs), or (2) indicate that the ease of switching suppliers is high, with no impediments faced by firms that switch suppliers. To enhance the validity of our results, we allow respondents to provide reasons for the ease experienced in switching suppliers instead of asking leading questions. The unprompted identification in interview narratives of the role of control-related switching costs provides strong evidence of a previously undocumented form of switching costs. The credibility of our results is also enhanced by the fact that we affirm the existence of other well-known sources of switching costs.

---

[19] There are unusual circumstances surrounding this case. The difficulty of switching suppliers was high because the firm was in the middle of legal proceedings to terminate their incumbent supplier at the time of the interview.

Additional Analysis

We conduct one additional analysis to increase the robustness of the results. Given the potential for some firms to discuss hypothetical supplier-switching situations, we compare the results of cases in which firms did not switch suppliers with cases in which firms did switch suppliers. The result of the Pearson Chi-square test ($\chi^2 = 0.465$; $p = 0.793$) suggests that the proportion of cases for each category of ease of switching suppliers does not differ between the two groups. We also find that the relation between initial control choice and the ease of switching suppliers, and the reasons underlying the relation, are generally consistent across both groups.

VI. CONCLUSIONS

We examine how initial control choice influences the ease of switching suppliers in subsequent time periods. This is one of the first empirical studies to show that initial investments in controls, like other types of investments, give rise to switching costs and reduce the ease of switching suppliers (and impede such changes in extreme situations). We also provide some evidence that it is the level of investment associated with the control choice that explains the mechanism underlying the relation of interest. In doing so, this study contributes both to the strategic alliance and management accounting literature investigating dynamic issues associated with interfirm relationships; and to the branch of interfirm literature investigating determinants of exit barriers (e.g., Young-Ybarra and Wiersema 1999; Reuer and Arino 2002).

By showing that firms incur switching costs when discarding existing controls and adopting controls to manage new suppliers, we also provide some support for Williamson's (1996, 1998) argument that switching costs are generated by extant governance structures. While Williamson (1996, 1998) discusses the switch to alternative governance structures in situations when existing governance structures are suboptimal, his focus is still on the switching costs incurred when firms discard and adopt governance structures. The change will similarly be impeded if switching costs are sufficiently high. Williamson (1996, 1998) also does not make any predictions about whether, and how, switching costs will vary with initial governance structure choice. Our findings thus extend his work by shedding light on switching costs generated by existing controls, and showing how these switching costs vary with control choices.

Our results further extend prior management studies that examine barriers to exiting strategic alliances by suggesting that the influence of irreversible investments increase firms' propensity to retain the incumbent supplier beyond the contractual period. Evidence from another ten cases provides additional, but weaker, support for the hypothesis by showing that a negative relation exists between trust and the ease of switching suppliers. The good relationships present in trust-related control cases contribute to the creation of exit barriers, whereas such barriers do not appear to exist in bureaucratic-based and market-based control cases. These findings provide some evidence of the costly nature of trust, which is ignored by prior interfirm control studies in the management accounting literature (van der Meer-Kooistra and Vosselman 2000; Dekker 2004; Donada and Nogatchewsky 2006).

While the patterns across 53 cases show that the relation between variables of interest are in line with expectations, direct evidence supporting the hypothesis is only observed in slightly less than 50 percent of our sample (25 cases). We do not claim that initial control choice is the sole factor that reduces the ease of switching suppliers. The responses of more than half the participants in this study suggest that asset specificity also influences the ease of switching suppliers. We acknowledge that the time and effort invested to establish controls may be overlooked, especially in cases where they are much smaller than other investment costs. Despite this possibility, we identify control choices as a previously undocumented factor that affects the ease of switching suppliers by generating switching costs in slightly less than 50 percent of our sample.

Another potential concern arises from the fact that none of the respondents in firms that adopt market-based controls mention investment in controls, or the lack thereof, as a reason why these firms generally find it easy to switch suppliers. We argue that this is not surprising, as respondents are unlikely to discuss what they have not done. Respondents might also lack the knowledge or experience to know how their firms differ from firms that invest heavily in controls.

The method adopted in this study gives rise to certain limitations. First, as with most other non-experimental research, we cannot draw conclusions about the direction of causality—that control choice pre-empts the decision to switch suppliers.[20] We recognize that the adoption of controls before switching suppliers does not preclude the possibility that managers have anticipated this change, and selected controls with sufficient flexibility to facilitate the change. Nonetheless, our aim is to show that existing controls give rise to switching costs that reduce the ease of switching suppliers, regardless of whether the decision to switch suppliers is anticipated or otherwise. Second, we emphasize that the statistical findings in this study need to be interpreted with care. The probability of type II error is reasonably high. We expect power to be low given the small absolute size of our sample, the limited variation in most of the categorical variables that are either nominal or ordinal, and the large number of ties (Siegel and Castellan 1988). Also, given the purposeful sampling process, these statistical results are only generalizable to the subset of the population that resembles our sample. We emphasize that theoretical and not statistical generalizability is the goal of qualitative methods. Third, recall and hindsight biases are inherent problems of the retrospective approaches to data collection (Golden 1992). These limitations are mitigated to a certain extent by the more objective nature of the data (Anderson and Dekker 2005; Dekker 2008), and by encouraging respondents to refer to relevant documents. Finally, we are only able to obtain mainly qualitative information about transaction costs incurred by each firm. There is much work to be done to develop an objective and quantitative measure of transaction costs.

The findings of this study can be extended in several ways. We observe that trust-based controls are not perceived to influence the ease of switching suppliers in some cases. Future research could explore other factors that moderate the relation of interest (e.g., size of investments in specialized operating assets). In addition, most of the activities outsourced in this study do not require a high level of collaboration. Future studies could focus on the most innovative R&D industries (e.g., biotechnology), where extensive cooperation between transacting parties is required. While exit barriers are likely to be high in these arrangements, an unsolved question is the extent to which they are caused by investments in transaction-specific assets or controls. We also find evidence that the bonds of trust are forged and maintained in various business-related ways, which endorses the concept of rational trust (e.g., Dekker 2004; Anderson and Sedatole 2003; Adler 2001). This raises questions about the different types of trust that exist between transacting parties, and the role(s) played by each. Finally, while we refer to Williamson's (1996, 1998) discussion on suboptimal governance structures, we do not investigate this issue. Future studies could explore the switching of controls in misalignment situations.

[20] We believe that this issue is mitigated to some extent by the structure of our interviews. We ask the respondents a sequence of questions, and make it very clear that our questions relate to two distinct time periods. We start by asking them to discuss initial control choice and other variables at the outset of outsourcing arrangements, and later in the interview ask them to discuss supplier switching that takes place in subsequent time periods. Our line of questioning also encourages respondents to think about reasons why they find it easy or difficult to switch suppliers. Hence, their focus tends to be on how and why controls affect the ease of switching suppliers rather than in the opposite direction.

REFERENCES

Adler, P. S. 2001. Market, hierarchy, and trust: The knowledge economy and the future of capitalism. *Organization Science* 12 (2): 215–234.

Anderson, S. W., and H. C. Dekker. 2005. Management control for market transactions: The relation between transaction characteristics, incomplete contract design, and subsequent performance. *Management Science* 51 (12): 1734–1752.

Anderson, S. W., and K. L. Sedatole. 2003. Management accounting for the extended enterprise: Performance management for strategic alliances and networked partners. In *Management Accounting in the Digital Economy*, edited by A. Bhimani, 36–73. Oxford, U.K.: Oxford University Press.

Arnold, D. O. 1970. Dimensional sampling: An approach for studying a small number of cases. *American Sociologist* 5 (2): 147–150.

Arrow, K. J. 1974. *The Limits of Organization*. New York, NY: Norton.

Caglio, A., and A. Ditillo. 2008. A review and discussion of management control in inter-firm relationships: Achievements and future directions. *Accounting, Organizations and Society* 33 (7-8): 865–898.

Das, T. K., and B. S. Teng. 2001. Trust, control, and risk in strategic alliances: An integrated framework. *Organization Studies* 22 (2): 251–283.

Dekker, H. C. 2004. Control of inter-organizational relationships: Evidence on appropriation concerns and coordination requirements. *Accounting, Organizations and Society* 29 (1): 27–49.

Dekker, H. C. 2008. Partner selection and governance design in interfirm relationships. *Accounting, Organizations and Society* 33 (7-8): 915–941.

de Rond, M., and H. Bouchikhi. 2004. On the dialectics of strategic alliances. *Organization Science* 15 (1): 56–69.

Dillman, D. A. 2000. *Mail and Internet Surveys: The Tailored Design Method. 2nd ed*. New York, NY and Chichester, U.K.: John Wiley.

Donada, C., and G. Nogatchewsky. 2006. Vassal or lord buyers: How to exert management control in asymmetric interfirm transactional relationships. *Management Accounting Research* 17 (3): 259–287.

Doz, Y. L. 1996. The evolution of cooperation in strategic alliances: Initial conditions or learning processes? *Strategic Management Journal* 17 (Summer Special Issue): 55–83.

Dyer, J. H. 1997. Effective interfirm collaboration: How firms minimize transaction costs and maximize transaction value. *Strategic Management Journal* 18 (7): 535–556.

Dyer, J. H., and W. J. Chu. 2003. The role of trustworthiness in reducing transaction costs and improving performance: Empirical evidence from the United States, Japan, and Korea. *Organization Science* 14 (1): 57–68.

Eisenhardt, K. M. 1989. Building theories from case-study research. *Academy of Management Review* 14 (4): 532–550.

Eisenhardt, K. M. 1991. Better stories and better constructs: The case for rigor and comparative logic. *Academy of Management Review* 16 (3): 620–627.

Ernst, D., and J. Bamford. 2005. Your alliances are too stable. *Harvard Business Review* 83 (6): 133–141.

Field, A. 2009. *Discovering Statistics Using SPSS*. Thousand Oaks, CA: Sage Publications.

Frazier, G. L. 1983. On the measurement of interfirm power in channels of distribution. *Journal of Marketing Research* 20 (2): 158–166.

Ghodeswar, B., and J. Vaidyanathan. 2008. Business process outsourcing: An approach to gain access to world-class capabilities. *Business Process Management Journal* 14 (1): 23–38.

Golden, B. R. 1992. The past is the past or is it: The use of retrospective accounts as indicators of past strategy. *Academy of Management Journal* 35 (4): 848–860.

Gulati, R., and H. Singh. 1998. The architecture of cooperation: Managing coordination costs and appropriation concerns in strategic alliances. *Administrative Science Quarterly* 43 (4): 781–814.

Håkansson, H., and J. Lind. 2004. Accounting and network coordination. *Accounting, Organizations and Society* 29 (1): 51–72.

Kakouris, A. P. 2006. Outsourcing decisions and the purchasing process: A systems-oriented approach. *Marketing Intelligence and Planning* 24 (7): 708–729.

Kamminga, P. E., and J. van der Meer-Kooistra. 2007. Management control patterns in joint venture relationships: A model and an exploratory study. *Accounting, Organizations and Society* 32 (1–2): 131–154.

Krishnan, R., F. Miller, and K. Sedatole. 2010. Collaborative Contracting in Inter-Firm Relationships. Contemporary Accounting Research Conference, Kingston, Ontario. September 28. Available at: http://ssrn.com/abstract=1004126

Langfield-Smith, K., and D. Smith. 2003. Management control systems and trust in outsourcing relationships. *Management Accounting Research* 14 (3): 281–307.

Lillis, A. M. 2002. Managing multiple dimensions of manufacturing performance: An exploratory study. *Accounting, Organizations and Society* 27 (6): 497–529.

Lillis, A. M., and J. Mundy. 2005. Cross-sectional field studies in management accounting research: Closing the gaps between surveys and case studies. *Journal of Management Accounting Research* 17: 119–114.

McClenahen, J. S., and T. Purdum. 2005. Collaborating to grow. *Industry Week* 254 (8): 68.

Miles, M. B., and A. M. Huberman. 1994. *Qualitative Data Analysis: An Expanded Sourcebook. 2nd ed.* Thousand Oaks, CA: Sage Publications.

Minichiello, V., R. Aroni, E. Timewell, and L. Alexander. 1995. *In-Depth Interviewing: Principles, Techniques, Analysis*. Melbourne, Australia: Longman.

Mouritsen, J., and S. Thrane. 2006. Accounting, network complementarities and the development of inter-organizational relations. *Accounting, Organizations and Society* 31 (3): 241–275.

Nicholson, B., J. Jones, and S. Espenlaub. 2006. Transaction costs and control of outsourced accounting: Case evidence from India. *Management Accounting Research* 17 (3): 238–258.

Ouchi, W. G. 1979. Conceptual framework for the design of organizational control mechanisms. *Management Science* 25 (9): 833–848.

Provan, K. G. 1980. Recognizing, measuring, and interpreting the potential/enacted power distinction in organizational research. *The Academy of Management Review* 5 (4): 549–559.

Reuer, J. J., and A. Arino. 2002. Contractual renegotiations in strategic alliances. *Journal of Management* 28 (1): 47–68.

Reuer, J. J., M. Zollo, and H. Singh. 2002. Post-formation dynamics in strategic alliances. *Strategic Management Journal* 23 (2): 135–151.

Rokkan, A. I., and S. A. Haugland. 2002. Developing relational exchange: Effectiveness and power. *European Journal of Marketing* 36 (1–2): 211–230.

Rousseau, D. M., S. B. Sitkin, R. S. Burt, and C. Camerer. 1998. Not so different after all: A cross-discipline view of trust. *Academy of Management Review* 23 (3): 393–404.

Sako, M. 1992. *Prices, Quality and Trust: Inter-Firm Relations in Britain and Japan*. New York, NY: Cambridge University Press.

Schilling, M. A., and H. K. Steensma. 2002. Disentangling the theories of firm boundaries: A path model and empirical test. *Organization Science* 13 (4): 387–401.

Siegel, S., and N. J. Castellan. 1988. *Nonparametric Statistics for the Behavioral Sciences. 2nd edition*. New York, NY: McGraw-Hill.

Speklé, R. F. 2001. Explaining management control structure variety: A transaction cost economics perspective. *Accounting, Organizations and Society* 26 (4–5): 419–441.

Steensma, H. K., and K. G. Corley. 2001. Organizational context as a moderator of theories on firm boundaries for technology sourcing. *Academy of Management Journal* 44 (2): 271–291.

Tomkins, C. 2001. Inter-dependencies, trust and information in relationships, alliances and networks. *Accounting, Organizations and Society* 26 (2): 161–191.

van der Meer-Kooistra, J., and E. G. J. Vosselman. 2000. Management control of interfirm transactional relationships: The case of industrial renovation and maintenance. *Accounting, Organizations and Society* 25 (1): 51–77.

Vosselman, E., and J. van der Meer-Kooilstra. 2009. Accounting for control and trust building in interfirm transactional relationships. *Accounting, Organizations and Society* 34 (2): 267–283.

Williamson, O. E. 1985. *The Economics Institutions of Capitalism*. New York, NY: Free Press.

Williamson, O. E. 1996. *The Mechanisms of Governance*. New York, NY: Oxford University Press.
Williamson, O. E. 1998. Transaction cost economics: How it works, where it is headed. *De Economist* 146 (1): 23–58.
Yin, R. K. 2003. *Case Study Research: Design and Methods. 3rd edition*. Thousand Oaks, CA: Sage Publications.
Young-Ybarra, C., and M. Wiersema. 1999. Strategic flexibility in information technology alliances: The influence of transaction cost economics and social exchange theory. *Organization Science* 10 (4): 439–459.

APPENDIX A

Information on Firms in the Sample

Panel A: Standard Industry Classification (SIC) Information on Firms in Sampling Frame

Two-Digit SIC Code[a]		
Major Groups	**Description**	**No. of Firms that Participated**
17[b]	Construction—Special Trade Contractors	1
20	Food and Kindred Products	4
21	Tobacco Products	1
22	Textile Mill Products	1
23	Apparel and Other Finished Products Made from Fabrics and Similar Materials	1
24	Lumber and Wood Products, except Furniture	1
26	Paper and Allied Products	5
28	Chemicals and Allied Products	2
29	Petroleum Refining and Related Industries	2
30	Rubber and Miscellaneous Plastics Products	1
32	Stone, Clay, Glass, and Concrete Products	1
34	Fabricated Metal Products, except Machinery and Transportation	1
35	Industrial and Commercial Machinery and Computer Equipment	2
36	Electronic and Other Electrical Equipment and Components, except Computer Equipment	2
37	Transportation Equipment	2
38	Measuring, Analyzing, Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks	1
50[c]	Wholesale Trade—Durable Goods	1
		29

Panel B: Reconciliation between Number of Firms, Number of Interviews, and Information on Interviewees

No. of Firms	No. of Interviews Per Firm	Total No. of Interviews[d]	Title	No. of Respondents	No of. Informants[d]
23	1	23	CXO[e]	6	
5	2	10	Director[e]	2	
1	3	3	Manager	29	2
			Staff	1	
29		36		38	2

(continued on next page)

APPENDIX A (continued)

Panel C: Summary Statistics

Based on Firms[f]

Type of Statistics	Length of Interview (mins.)	No. of Staff	Annual Revenue($)[g]	Total Assets($)	No. of Activities[h]	No. of Phases[i]
Mean	100.42	1,798	1,212,795,070	691,363,773	1.85	2.00
Minimum	58.10	31	104,195	1,000,000	1.00	2.00
Maximum	324.55	6,500	5,895,800,000	7,000,000,000	7.00	2.00
Sample Size	29	25	17	22	27	4

Panel D: Further Information on Sizes (breakdown of proxies into ranges)

No. of Employees	No. of Firms	Total Assets ($mil.)	No. of Firms
< 1,000	6	< 100	5
1,000 to < 2,000	10	100 to < 500	9
2,000 to < 3,000	5	500 to < 1,000	5
3,000 +	4	1,000 +	3
	25		22
No information provided	4	No information provided	7

[a] Many of the firms belong to other industry groups that are not listed in Panel A, and some have multiple two-digit SIC codes within the Manufacturing Industry Group. However, to allow a more comprehensive display of data, the first SIC code for each firm is selected.

[b] The respondents in this company were referred to the interviewer by another company in the same group with SIC code 36.

[c] This company is classified as a manufacturer under the "Industry Classification" in *The Business Who's Who of Australia*, although the SIC code states otherwise.

[d] The interviewer spoke to the informant who subsequently referred the interviewer to the respondent. These informant interviews are not included in the 36 interviews.

[e] CXO stands for CEO, CIO, and CFO; "Director" refers to a manager holding that title (e.g., Director of Distribution), and not to a board member.

[f] If respondents from the same firm discussed activities outsourced at different levels, we selected the highest level of analysis with the largest value.

[g] Sources of annual revenue include the two directories of companies, 2004 annual reports for listed companies, information from the firms' websites, and estimates provided by respondents. The information was extracted from the level closest to the level of the outsourced activity.

[h] The number of activities refers to the outsourced activities discussed by each respondent.

[i] The number of phases refers to number of contractual periods discussed by each respondent when the same activity was outsourced to different suppliers in different contractual periods.

APPENDIX B

Definition of the Codes

Tree Address	Title of Node	Definition of Node
(1)	Initial Control Choice	The three controls in the typology and their respective control mechanisms across all the phases.
(1 1)	• Contact Phase	Control mechanisms and procedures in place when searching for and selecting the supplier.
(1 1 1)	○ Selection Criteria	Criteria that the supplier is evaluated against during the selection process.
(1 2)	• Contract Phase	Control mechanisms and procedures in the contracting and negotiating process.
(1 2 1)	○ Terms of Contract	Details of the contract.
(1 2 1 1)	• Standard Terms	Terms and conditions in the contract that apply under usual conditions.
(1 2 1 2)	• Flexibility of Arrangement Clauses	Contractual clauses that specifically allow contracts to be modified or terminated, and/or procedures to be followed in order to vary or terminate the contracts.
(1 2 2)	○ Process of Contracting	Any action (e.g., negotiations and hiring legal advisors) that is associated with contracting, and has taken place for the purpose of arriving at an agreement between both parties.
(1 3)	• Execution Phase	Control mechanisms and procedures adopted after an agreement has been reached (and formalized) to manage the contract and monitor performance when transactions commence.
(1 3 1)	○ Transition/Implementation Process	Control mechanisms or procedures adopted during the transitional process (i.e., moving from one supplier to another) or implementation of the new processes. Generally relates to the period where the firm assists the supplier in starting up and getting the processes up and running.
(1 3 2)	○ Outcome and Behavioral Controls	Control mechanisms or procedures that allow the evaluation of (1) outcomes, (2) supplier behavior, or (3) supplier processes against expectations (i.e., checkpoints).
(1 3 3)	○ Trust Controls (Execution Phase)	Behavior that demonstrates trust in the supplier and reliance on trust in terms of managing the transactions. Includes: (1) level, type, frequency, and aim of monitoring; and (2) confidence expressed in the supplier even with the lack of monitoring.
(1 4)	• Training	Training provided by the firm to the supplier that relates to controls.
(1 5)	• Communication	The nature, including structure, and degree of the communication in place.
(1 6)	• Relationship	Information on the relationship between transacting parties. This will also capture trust.

(continued on next page)

APPENDIX B (continued)

Tree Address	Title of Node	Definition of Node
(1 6 1)	○ Intended Relationship	Description of the type (or nature) and length of relationship that the firm intends to form with their supplier. Also, the level of intended commitment to the relationship.
(1 6 2)	○ Building and Maintaining the Relationship	Steps taken to actively build or maintain the relationship or trust between the transacting parties.
(1 6 3)	○ Description/Evidence of Extant Relationship	Description/evidence of the relationship that exists between the transacting parties.
(1 7)	• Self-Classification	Information relating to the scenario-type measure.
(1 8)	• Corporate Culture	Norms and values of the organization in general, and especially in relation to controls.
(1 8 1)	○ Alignment of Firm and Supplier Culture	Steps or procedures adopted to align the culture of the supplier with that of the firm.
(2)	Transaction Costs	Costs incurred in establishing and implementing controls to manage suppliers (e.g., time, effort, and expenditure).
(2 1)	• Costs Incurred in Contract and Contract Phases	Costs incurred in supplier search and selection, and in contracting.
(2 2)	• Costs Incurred in Execution Phase	Costs incurred in the monitoring of contract execution (and also transition costs).
(3)	Asset Specificity	Investments made or costs incurred that are capital in nature and incurred for the purpose of producing the specific outsourced product or service. Also, additional investments made for the same purpose with new suppliers when the firm switches suppliers, and additional investments made to produce the product or service in-house if the activity is brought back in-house.
(4)	Power/Dependence	The dependence of one party on the other.
(4 1)	• Outsourcing Firm's Dependence	Perception of dependence on supplier. Includes number of alternative suppliers, and percentage of sales attributable to the goods or services provided by supplier.
(4 2)	• Perception of Supplying Firm's Dependence	Perception of supplier's dependence on the firm. Includes percentage of supplier's sales that relates to the firm's purchases, and investments made by the supplier that is specific to the firm.
(5)	Outsourcing Environment in Relation to Supplier	Information about suppliers of the outsourced activity in the current period.
(5 1)	• Current Outsourcing Environment	Information about suppliers of the outsourced activity or similar activities.
(5 1 1)	○ Number of Ties	Information about other contracts that is ongoing with the incumbent supplier.
(5 2)	• Past Outsourcing Environment	Information about suppliers of the outsourced activity in the previous periods.
(5 2 1)	○ Prior Relationship	Length of the relationship that the firm has with the incumbent supplier prior to this contract.

(continued on next page)

APPENDIX B (continued)

Tree Address	Title of Node	Definition of Node
(5 2 2)	○ Prior Experience	Information about the outsourcing of the same activity or similar activities with different suppliers.
(6)	Ease of Switching Suppliers	Information relating to the ease of exiting the outsourcing arrangement and switching suppliers.
(6 1)	• Actual Switching	Supplier switching has taken place. Perception of the ease of exiting the outsourcing arrangement and switching suppliers and related information.
(6 2)	• No Switching	No supplier switching. Perception of the ease of exiting the outsourcing arrangement and switching suppliers and related information.

APPENDIX C

Measurement of the Initial Control Choice Variable

Panel A: Contact Phase

MCTC (I9A3)	*MC* (I2A1)	*MCBC* (I26A2)	*BC* (I30A1)	*BCTC* (I29P2)	*TC* (I27A2)
1. Selection Method and Criteria					
The selection process is largely based on past experience with the supplier. The main criterion is the supplier's ability.	The selection process is limited to obtaining information in the market about suppliers (e.g., via trade fairs), and selecting one that meets the employees' training needs. There is no formal checklist of criteria, and the most important criterion is price.	A small tender is conducted where specific suppliers are invited based on reputation or related companies' experience. The selection process takes three months and is conducted by a team of purchasing staff (and others if needed). Price is the main criteria.	A tender is conducted in line with firm policy and procedures. Suppliers are selected based on their reputation, capability, quality, control systems, and price. Successful contenders participate in an e-auction. The process takes more than two months (intensive).	A tender is conducted and a detailed specification document provided. Formal procedures are followed and potential suppliers' responses are checked and evaluated. Most important criteria are quality, capacity, control, and price. This two-to-three-months process involves two managers.	First, a team of senior regional and global management identifies potential suppliers (> 3 months) based on cultural, strategic, and operational fit. Then the firm selects the supplier based on regional recommendation, knowledge of supplier, and price.
2. Understanding the Supplier					
No investigation is required. The firm is able to rely on past experience with the supplier.	The identity of the supplier is not important.	Site visits are usually conducted to inspect the supplier's processes, but the investigation is rather superficial.	The supplier's processes and products are audited to verify their capabilities and control systems, etc. They are given a report, and their responses and proposed corrective actions are then assessed.	Each supplier's background and references are checked. Further checks on the individual supplier's personnel who will be potentially providing the services to their firm.	Regional level does a lot of work to verify those suppliers' reputation and the value they can add. This includes background checks, presentations, meetings, and evaluation of suppliers' processes.

(continued on next page)

APPENDIX C (continued)

Panel B: Contract Phase

MCTC (I9A3)	*MC* (I2A1)	*MCBC* (I26A2)	*BC* (I30A1)	*BCTC* (I29P2)	*TC* (I27A2)
1. Details of Contract or Equivalent					
No contract is entered into per project. Some of the terms incorporated in the overarching contract that was entered into at the outset have become obsolete.	No contract is entered into. Instead, the order number provided by the manager confirms acceptance of the quote and enrollment.	The contract follows relatively standard firm guidelines in line with global best practices. The contract is tailored to incorporate intellectual property rights, Key Performance Indicators (KPIs), and clauses that allow termination upon nonperformance.	The contract incorporates information on price, volumes, quality requirements, and KPIs. They also set up a quality agreement focusing on process issues, which is incorporated as part of the annexure or in the contract.	The contract is very detailed and incorporates reporting requirements, processes, future action plans, or intended changes. Also, flexibility has been incorporated through termination and variation of contract procedures, and the right to reduce services.	The group has contracts at three levels—global, regional, and firm level. At firm level, a letter of intent is initially signed to indicate the parties' commitment in good faith to proceed as agreed. The very detailed firm-level contract is entered into only one year later.
2. Contracting Process					
The process is very short and ranges from one phone call to one meeting for determining the time scale and budget of the project.	The negotiation process is very short and generally takes only a couple of hours. The supplier provides a quote that is relatively standard for the type of course.	Contracting takes two to three months with the negotiation process being the quickest, and more time is spent to ensure that specifications are right.	The negotiation process takes around two months because of the "to-ing" and "fro-ing" involved.	The contract is based on prior contracts and the process takes a month. Open communication is strongly encouraged to promote understanding and clarity. The legal team is involved.	The letter is drafted within days and the contract within weeks. However, contracting is delayed to allow both parties to understand the risks and costs involved to ensure a robust and fair contract.

(continued on next page)

APPENDIX C (continued)

Panel C: Transition Phase

MCTC (I9A3)	*MC* (I2A1)	*MCBC* (I26A2)	*BC* (I30A1)	*BCTC* (I29P2)	*TC* (I27A2)
NA	NA	NA	The effort exerted mainly relates to the transfer of files and the monitoring of the set up. In addition, they conduct audits to validate their supplier's system and processes.	A lot of effort is spent especially in the first six months with firm personnel helping the supplier to get up to speed and helping to resolve issues.	The transition process takes about four to eight weeks and is monitored relatively intensively. The main purpose is to help the supplier improve and get up to speed.

Panel D: Execution Phase

MCTC (I9A3)	*MC* (I2A1)	*MCBC* (I26A2)	*BC* (I30A1)	*BCTC* (I29P2)	*TC* (I27A2)
The controls in place are largely informal and include the voluntary exchange of information and updates. Reliance is placed on the supplier's good reputation (which is crucial in this industry), and they are expected to self-manage. A formal report that incorporates the final results is provided at the end of the project.	The manager mainly relies on informal feedback provided by course participants. Only about 15-20 minutes is spent with each employee.	Systems and procedures are in place to ensure that the supplier meets production and pre-set KPIs. The actual time and effort spent on monitoring this supplier, however, is much less than for other suppliers. Some effort is made to help the supplier improve. However, if nothing changes, they will switch to another supplier.	Once the supplier's system and processes are validated, audits are conducted yearly or once in two to three years to monitor the supplier's systems. In addition, random samples from each delivery are tested. Confidence in suppliers mainly arises from thorough checks of their supplier's systems, and the supplier's willingness to implement recommendations.	Once the processes and systems are in place, management reports are provided to the firm's manager who spends a couple of hours per week reviewing the KPIs. He is unwilling to spend too much time in monitoring. Confidence is expressed in supplier's performance, and understanding and tolerance is displayed toward mistakes.	Procedures and systems are in place, with KPIs that capture outcomes and specific points of failures and dependencies. The level of monitoring is reduced once confidence in supplier's performance is built. The firm is patient with the supplier's mistakes, and a great deal of effort is spent to help them improve.

(continued on next page)

APPENDIX C (continued)

Panel E: Contextual Factors

MCTC (I9A3)	*MC* (I2A1)	*MCBC* (I26A2)	*BC* (I30A1)	*BCTC* (I29P2)	*TC* (I27A2)
1. Communication There is relatively limited informal communication at the operational level. Also, there are no monthly performance review meetings.	There is little (if any) interaction between the manager and the supplier after the initial meeting. When designing a new course, there will be a couple of informal follow-up calls.	Formal monthly performance reviews meetings are conducted. There is otherwise relatively limited interaction with the supplier, which usually relates to informal communication of operational issues.	Formal monthly performance reviews meetings are held. In addition, the focus of formal and informal interactions is largely on operational and business issues.	There is very regular formal interaction and some informal interaction that relates mainly to operational issues. Senior managers attend monthly performance meetings where important matters are also discussed; the manager attends weekly operational meetings. Furthermore, the firm ensures that they are in frequent contact with the supplier, even when there are few issues to be resolved or discussed.	There is constant formal and informal interaction for various purposes at different levels. Formal meetings are held (from senior management to operations-level staff) to formulate plans, discuss strategies, and review performance and other operational issues. The level of interaction remains constant over time. However, the focus is moving toward improvement.

(continued on next page)

APPENDIX C (continued)

MCTC (I9A3)	*MC* (I2A1)	*MCBC* (I26A2)	*BC* (I30A1)	*BCTC* (I29P2)	*TC* (I27A2)
2. Relationship The relationship with this supplier has long been established both at the managerial and company level. The relationship continues to be maintained through some socialization, and the supplier also attends the firm's strategic meetings in order to be updated about the firm's strategic direction.	There is no intention to continue with any one supplier for the long-term. No time is wasted on actions to build trust and the manager does not think that the firm's relationship with the supplier is critical.	The actions taken to build relationships appear to be heavily focused on increasing the supplier's capabilities (e.g., providing training and development for them, and promoting supplier awareness of firm processes and *vice versa*). Also, certain suppliers are cooperative because of their corporate culture. Length of relationship will be conditional on performance.	There is a general awareness that all transactions are on a contractual basis. Hence, suppliers are competing against other suppliers in the market, and the better supplier will win. They appear to have a good business relationship, and have constant exchanges about the business. In addition, the supplier is viewed as being quick to respond.	The firm intends to continue to work with this supplier even with plans to change the system, which will have an effect on the outsourced activity. The relationship is built and maintained by regular and frequent contact right from the contracting process. The relationship appears to be very good. However, the supplier seems to be the more active party in building the relationship and demonstrating goodwill.	The firm is committed to forming a long-term strategic partnership and making the partnership work. The building and maintaining of a good relationship (i.e., trust) has been emphasized from the selection process. The firm believes in the integrity of the supplier and in treating them fairly. Also, relationships exist within hierarchical levels—from top management level to operational level.

APPENDIX D

Examples of Illustrative Quotes

Control Type[a]	Quote	Phase (Mainly relates to)	Building Trust	Switching Ease	Beyond Contract
TC	"Because of the heartache we have to go through to do a tender and because of the time it can take to implement someone new. I mean there is two years involved in that. A lot has got to go wrong for me to want to waste two years of my time going through a process like that." I17 (446)	Search		Low	+
TC	"But it is difficult sometimes to find the appropriate supplier to readily take things over, particularly when we have a high regard or a high need for ensuring that they have a similar operating philosophy to what we have. I mean we hold that very highly and I think for that reason we take a lot of time to make sure we select the right one because we like a long-term relationship." I10A1, A2 (311) *The respondent further supports his point by providing an example where another supplier that was not coping well was allowed 12 months to change, although there were other suppliers in the market.* I10A1, A2 (479:485)	Search	+	Low	+
BCTC	"If we had to go and do something else, terminate and get someone else, I'd have to go and get someone to manage that thing for me … if we need to change I need someone to manage the whole change process. So I'd have to get someone else to say, as you said, maybe a consultant to help me go and pick a new tenderer … Yes, that from scratch again. It would be difficult purely because of the time and effort involved. Initially, there's a lot of work involved." I29P2 (676:682)	Search		Low	
	"[I]t would still depend on the tender process, but obviously they have a big foot in the door because they've had a good track record with us … because price is important, but the services side is very important to us … You always have a problem or an issue, we want to know what processes you've got in place to deal with that and we've had a lot of exposure to Supplier X so we know their service side has been very good." I29P2 (658)				+
TC	"There's the cost involved in now going out and finding another service provider, there is the risk in the upheaval associated with moving such a big operation into a new environment… So there are obviously switching costs associated with moving something like this, so it is significant. Then you've got the cultural risks and the relationships have to be rebuilt … Well, it means that we have to make it work, really … It's difficult to switch. We've got a significant investment in the relationship, so there is a significant motivation to making it work." I27A1 (553)	Search/ Transition	+	Low	

(continued on next page)

APPENDIX D (continued)

Control Type[a]	Quote	Phase (Mainly relates to)	Building Trust	Switching Ease	Beyond Contract
TC	"Of course it is [difficult to terminate the relationship] . . . Because again, all you need to do is to actually find a new supplier, and go through the process again. . . A lot of time wastage [sic] for us and we need to make sure we choose the right supplier this time and get rid of these guys, transition them out of the business and transition the new incumbents in." I18	Search/ Transition		Low	
TC	"It took us about 18 months to implement Supplier X into the task properly. You know for 18 months I had to do a lot of work just to make sure that everything was happening the way it should be. And then the last 18 months have been quite a lot easier because Supplier X has been managing it themselves. So that is why I am not keen to sort of immediately switch to someone else." I17 (83)	Transition		Low	
TC	"[W]e would not just up and discontinue supply based on price alone for this sort of stuff. It's too much effort bringing a supplier in line. There's too much effort bringing a relationship up to an ongoing level to just walk away for a price." I28 (446)	Transition	+	Low	
BCTC	"[W]e recognize there is a cost to us from breaking a relationship even though we're not the supplier. There's still a cost of integration, from setting it all up again, from going through the process again [referring to the process of evaluating samples produced by the short-listed candidate]. It's something that where we can we'd like to avoid it, and keep a successful relationship." I21 (727)	Transition		Low	
BCTC	"Have to re-validate [referring to supplier's systems], yup. Have to re-validate it, you know, so there's a barrier to change unless there is some compelling reason to change. You'd probably be looking at several hundred thousand dollars to move a product." I13A2 (441)	Transition		Low	
	"Yeah, well we wouldn't want to go through the whole process again [referring to due diligence of supplier]" I13A2 (621)				+
BC	"[T]he cost in changing from that supplier to another supplier is enormous because they've got to go through all the same learning curve that the previous company went through, and all the mistakes that they went through. So for the first six or eight months or maybe even 12 months of the new contractor operation, you might find you've got ten times as many problems as you had before." I16 (486)	Transition		Low	

(continued on next page)

APPENDIX D (continued)

Control Type[a]	Quote	Phase (Mainly relates to)	Building Trust	Switching Ease	Beyond Contract
TC	"[W]e say 'It's all up for grabs' [referring to re-tendering], but it's the devil you know and the devil you don't. And in this industry the devil you know, as long as they are doing the right thing, has a huge advantage . . . Why is that so? Because we know how they operate. For example, if we are in Melbourne at the present time with Supplier X, then we know they do a great job. So you come along and you offer to do just as good a job as Supplier X, we sort of say 'Well, that's great, tell me what else you are going to offer me'. . . So if you are the incumbent and you are doing it for effectively what we think you should do it for, plus a profit. We allow a profit. Then for someone else to come in, either the incumbent has to not be doing the right thing or you, as someone coming in, has to offer something which is incredibly different." I34 (270:276)		+	Low	
BCTC	"Where we can, we tend to build the relationship and work with them to deliver what we need. So for instance with the new model that we're building in 200X, we've been talking to these people now for a long time, so they know it's coming up. And they know that it's harder for us to change than to stick with the same people. So we try and build that relationship and keep it." I26A1 (892)		+	Low	+
BCTC	"It would tempt me to [referring to changing to a potential supplier who offered a much lower price], but I think the first steps that we would go down would be to actually talk to our current supplier about it, say 'Look this person's at the market place, he's offering this. He's offering the same service blah blah blah as you.' Initially make them aware of it from their own point of view that, 'You know, this is something that is competition to you. And should this continue when the next review comes up, we'd consider them as an option.' So it's something that you talk to them about, give them the opportunity to fix it, I guess." I21 (733)			Low	+
TC	"Look, usually legally there's a legal notice required, six months, whatever it might be. And that's what you have to meet, so there's usually a legal requirement which we would meet." I28 (446)	Contracting		Low	
TC	"You're right, your upfront costs associated with going to the outsourcer and preparing it all. And if it's a failure in the first year, then your ability to recover that cost has gone and you tend to work that back into the penalties. If you give yourself the right to terminate through breach, well, you have it anyway through breach. But depending what the penalties are, you can pre-agree what those penalties will be if you were terminating . . . And what you try to include in that contractual condition is the costs that you haven't defrayed by having the benefits of this outsourcing." I15 (262)	Contracting		High	

(continued on next page)

APPENDIX D (continued)

Control Type[a]	Quote	Phase (Mainly relates to)	Building Trust	Switching Ease	Beyond Contract
TC	"But if you've got a contractual situation where it's just not worked the way they promised, then you've got the upper hand anyway. You would say to them, 'I want those people. I'm going to exit this contract and in order to not sue you for all your misrepresentation, I want the key people that I gave you back. And I want them back now or I want you to hand them over to somebody else that I decide.'" I15 (280) "You do incur costs when you enter an outsourcing relationship because you transfer people. You have a lot of contractual set up costs. You have a lot of costs to come back out of it again." I15 (529)	Contracting		High	
TC	"Sometimes any agreement is difficult to terminate before the life of the agreement. So, you do need to be careful the longer the agreement is, on making sure that the terms and conditions about termination are very clear and that for agreed situations, you should be able to walk away from the agreement. That's probably where most of the focus is. There're really two focuses. One is to meet the market commercially, which I talked about. The second is to make sure that any foreseeable grounds that you want to terminate is actually covered in the agreement that you can terminate without financial penalties." I22P2 (786)	Contracting		Low	
BCTC	"We, as a company, don't want to go out every three years and re-negotiate a contract like this because of all the infrastructure that's built in, and the relationship that we've got. And a lot of companies don't want to have to renew a contract all the time because they're large contracts, and it takes a lot of time and effort to sit down and negotiate a new contract." I11 (135)	Contracting		Low	+
TC	"It's pretty hard to terminate an alliance partner, especially a longstanding one . . . The strength of your relationship defines the level of tolerance that you're willing to put up with in terms of what might be substandard performance." I35A1, A2 (144) "No. If we had the same situation [where the decision was made to terminate the supplier] in Supplier X or Supplier Y, we would probably, as I said, be more tolerant and work a lot harder with them. We have a lot more faith that they've got our interests at heart and their willingness to work with us." I35A1, A2 (779)		+ (No mention of costs)	Low	
MC	"And in this instance here . . .There's poor performance but there's no really strong relationship, so the level of tolerance is fairly low." I35A3 (144)		+ (No mention of costs)	High	

(continued on next page)

APPENDIX D (continued)

Control Type[a]	Quote	Phase (Mainly relates to)	Building Trust	Switching Ease	Beyond Contract
TC	"You know we wouldn't want to change it. I mean ... not within ten years because we've been really happy with it ... they've done a whole lot of things for themselves which we thought that's pretty neat. They've been pretty proactive, and there's a good relationship." I33A2 (1530:1542)		+ (No mention of costs)	Low	+
TC	"Secondly, as part of our agreement, we actually have the exit process fully documented in here as to what Supplier X had to do to help us move to someone else if we choose to do so. So we've actually built into the contract not just the start of the marriage but the dissolution of the marriage as well so that if we actually move away from Supplier X, and we're entitled to move away from them either partially or totally after three years... My belief is that we won't change. We've got a good relationship with Supplier X." I20 (139) "There will be Supplier Y and then the new Supplier Z and maybe someone else. Maybe by that time company ABC will have overcome their problems and they will be someone we might consider at that time. But I've got to say that the way it's going with Supplier X, formidably we wouldn't be too fussed about going somewhere else." I20 (153)		+ (No mention of costs)	Low	+
TC	"I characterize our relationship with that company as quite good. And if it wasn't like that, I probably wouldn't even contemplate ... You know on the basis, where it might continue on, we might just, you know, we really might just say, 'Look it's not working.' Full stop. Forget it. But in my position, it'd probably be to try and find a way to continue to move forward because our relationship is sound and it warrants that sort of thing." I5A1 (208)		+ (No mention of costs)	Low	
MC	"The relationship isn't that critical that it becomes that big an issue, you know. Usually the relationship is stronger when you have got the faith in the people to be able to deliver and you are less likely to be put in that position. So it's not that big a deal really." I2A1 (490)		−	High	

[a] *TC* = trust-based control; *BC* = bureaucratic-based control; *MC* = market-based control; and *XCYC* = hybrid of *XC* and *YC*.
+ = evidence that the factor mentioned in the heading is present (e.g., evidence of building trust is present, and evidence that the firm wants to retain the incumbent is present).
− = negative evidence is present (e.g., evidence provided indicates that the firm does not want to retain the supplier after the contract has ended).

APPENDIX E

MEASUREMENT OF OTHER EXPLANATORY VARIABLES

Asset Specificity

Questions relating to asset specificity were developed to capture the difficulty of transferring the outsourced activity to a different supplier, and the reasons for this difficulty (see instruments adopted in: Young-Ybarra and Wiersema 1999; Reuer and Arino 2002; Dekker 2008; Anderson and Dekker 2005). The cases are categorized into three groups with low (n = 8), medium (n = 8), and high asset specificity (n = 37) based on: (1) requirements for specialized equipment, skills, and industry-specific or firm-specific knowledge; (2) investments in infrastructure and knowledge transfer processes; and (3) number of suppliers that qualify.

Power Asymmetry

In line with the studies that proxy for power asymmetry using net dependence, respondents were asked to discuss the dependence of their firms on suppliers and *vice versa* (Provan 1980; Frazier 1983; Anderson and Dekker 2005). Probing questions were derived from three widely used measures of dependence asymmetry in Rokkan and Haugland's (2002) study. The dependence of the firm on their supplier and *vice versa* is first independently evaluated, followed by net dependence. However, power asymmetry is found to exist in only 12 cases.

Number of Existing Ties

The number of existing ties is measured by the number of contracts between the outsourcing firm and its supplier. In line with Young-Ybarra and Wiersema (1999), the results obtained do not provide conclusive evidence that the number of ties create exit barriers that reduce the ease of switching suppliers.

Summary of the Number of Additional Existing Ties in the Sample[21]

No. of Additional Ties	No. of Cases
0	35[a]
1 to 2 ties	6
> 2 ties	2
At a global level[b]	3
No information provided	7
Total Sample	53

[a] In two cases, more than one division is outsourcing to the same supplier under the same contract.
[b] For this category, suppliers have other outsourcing arrangements with related companies of the firm.

[21] The notes in this table highlight that some related parties of firms have entered into outsourcing arrangements with the firm's supplier (i.e., related-party contracts). These related-party contracts are viewed as weaker ties than those between the firms and their suppliers (i.e., indirect tie) because they are formed between the group of companies and the specific supplier that each firm is transacting with (i.e., formed at a hierarchical level above the outsourcing firm). Nonetheless, there are similar incentives for the group to continue with the alliance. The parent company is also likely to recommend, or develop policies to ensure, that all firms in the group transact with specific suppliers.

Prior Experience—Alliance Experience and Partner Experience
Summary of the Length of Prior Experiences in the Sample

	No. of Cases	
Length of Prior Experience	**Alliance Experience**	**Partner Experience**
0	10	22
$<$ 5 yrs	9	4
5yrs to $<$ 10 yrs	12	8
$>$ 10 yrs	10	7
Exists but exact period not specified	8	6
No information provided	4	6
Total sample	53	53

Alliance experience and *partner experience* are proxied by the length of relevant prior relationships. The length of prior relationships is estimated as the time period from the commencement of the first relevant contract to the completion of the contract entered into just before the contract of interest.