

**THE OUTSOURCING DECISION:
A STRATEGIC FRAMEWORK**

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INTRODUCTION: THE GROWTH OF OUTSOURCING

Firms as diverse as Nokia, Sun Microsystems, IBM, Mattel, Boeing and Calvin Klein all engage in extensive outsourcing. Sun, for example, currently purchases around seventy five percent of its components from external suppliers (Domberger, 1999). Outsourcing grew rapidly during the 1990s (Bryce and Useem, 1998) and has now become an accepted dimension of corporate strategy. Estimates currently put the market value of outsourcing in the United States at between \$200 and \$300 billion (Greer, Youngblood and Gray, 1999; Dun and Bradstreet, 2000). While outsourcing continues to grow in importance, the nature and focus of outsourcing is evolving. Historically, most outsourcing took place in manufacturing industries, but it is now spreading rapidly within service industries. Whether in manufacturing or services, outsourcing is becoming increasingly cross-national and global (e.g., Gopal, 2003; Palvia, 2003). For example, it is estimated that only approximately forty percent of the production value of a North American-made automobile now comes from the U.S. and much of this offshore supply is outsourced. The growth of international outsourcing has accentuated controversy surrounding trade liberalization efforts in developed economies, especially in the United States.

The nature of outsourcing is very diverse. Some firms now outsource core primary activities along the value chain (“operations” in Porter’s terminology [Porter, 1985]) so extensively that they no longer engage in production, as it is traditionally understood (Tisdale, 1994; Tempest, 1996). Inbound and outbound logistics are also being extensively outsourced (Knemeyer et al., 2003; Zsidisin, 2003). Other firms are extensively outsourcing secondary value chain activities such as information technology, accounting systems, distribution, aspects of human resources management and R&D (Cross, 1995; Johnson and Schneider, 1995; Lacity and Willcocks, 1998; Stroh and Treehuboff, 2003; Odagiri, 2003; Ono, 2003).¹

In spite of the increasing importance of outsourcing, many firms appear not to have a clear understanding of the benefits and costs of outsourcing, apart from a general idea that it will save resources

¹ For a framework that includes value “shops” and “networks” as well as chains, see Stabell and Fjeldstad (1998).

or acquire capabilities and allow them to focus on core competencies (Smith et al., 1998). Yet outsourcing involves significant costs. The outsourcing firm is inevitably placing at least part of its destiny in the hands of other firms that are seeking to maximize *their* profits. Thus, in spite of the fact that outsourcing is often described as a “strategic alliance” or in other co-operative terminology, the parties to the outsourcing contract inevitably have conflicting interests to some extent (Lacity and Hirschheim, 1995)².

In order to outsource intelligently, the firm must understand both the potential benefits and costs of outsourcing and the specific drivers of those benefits and costs. To do so, the firm must have a clear conceptual understanding of the outsourcing decision. The strategic objective of outsourcing decision makers should be to seek to maximize the net benefits of outsourcing relative to in-house provision of value-chain activities. In practice, this can often be simplified to minimizing the total costs of “receiving” any given quantity and quality of outsourced good or activity. The crucial point is that costs must be viewed comprehensively. *Costs consist of expenditures for the good itself and the costs associated with "governing" the outsourcing transaction.* This raises a number of fundamental questions relating to governance costs. How can the firm assess *ex ante* the potential governance costs that arise with outsourcing? How, and under what circumstances, can governance costs be reduced?

The chapter first presents a framework for assessing outsourcing benefits and costs from the firm’s perspective; second, we identify the specific governance costs associated with outsourcing; third, we delineate the three major determinants of outsourcing governance costs: product/activity complexity, contestability and asset specificity; fourth, we present four standard potential outsourcing situations and suggest appropriate responses for each; finally, we present some brief conclusions relating to the contingent nature of the potential net benefits of outsourcing.

² Tapon (1989) argues that pharmaceutical firms are more willing to outsource R&D to university laboratories because they are non-profit organizations and, therefore, less likely to have a financial conflict of interest with for-profit pharmaceutical firms.

THE BENEFITS FROM OUTSOURCING

There is emerging evidence that investors usually expect outsourcing to create value for shareholders (Hayes et al., 2000). The broad purpose of outsourcing is to: (1) lower the purchase price of some input by taking advantage of external suppliers' lower costs, or (2) improve the quality of one or more inputs by purchasing some superior resource or capability from an external supplier. In either case, the supplier's advantage will be one that is not easily imitable. If the firm could easily imitate the cost or capability advantage of potential outside suppliers, it could easily bring the production of the activity "in-house". Both direct cost savings and the acquisition of superior capabilities can be thought of, and described, in cost-saving terms – superior capabilities could only be produced at the same quality within the firm at a higher unit cost. However, it is usual in the business strategy literature to analyze each specific activity on the value chain in terms of the firm's ability to lower cost or to improve quality (or, more broadly, to in some way to differentiate their production process). We follow that distinction in the following discussion of the potential benefits of outsourcing.

Cost-Reducing Rationales for Outsourcing

The costs that must be compared are the costs of internal production of the activity to the cost if the activity is outsourced. Production costs are directly generated by the opportunity costs of the resources—land, labor and capital—actually used to produce the good. Of course, it is impossible to design firms to take advantage of economies of scale for all inputs – even the largest global pharmaceutical firms do not manufacture their own computers. Many inputs are inevitably outsourced. In practice, inputs that can be bought in highly competitive "spot" markets – "off-the-shelf" purchases -- raise few outsourcing issues. Therefore, outsourcing is really only a further step on the continuum from purchasing and procurement.

There are a number of cost-related reasons for considering outsourcing. The most basic reason for outsourcing is that in-house production of the activity entails production at too low levels to be efficient; that is, to achieve minimum efficient scale (McFetridge and Smith, 1988; Lyons, 1995). Many goods and services for which the organization has low unit demand exhibit significant cost "lumpiness",

holding quality constant (Loh and Venkatraman, 1992; McFarlan and Nolan, 1995). An independent specialized producer selling to multiple (outsourcing) buyers can achieve minimum efficient scale. Economies of scale do not apply only to the core operations (production) of a firm: the most significant economies of scale may relate to secondary value chain activities such as administrative and information systems, knowledge and learning, access to capital markets and marketing (Muris et al., 1992; Veugelers and Cassiman, 1999). For example, a major rationale for the significant degree of outsourcing of information systems is the inability of firms to achieve minimum efficient scale in either installing, updating or managing these systems (McLellan, 1993).

Similarly, and closely related to economies of scale, economies of scope are becoming a rationale for outsourcing. With the advent of flexible manufacturing (Greenwood, 1988), the potential to achieve economies of scope has increased dramatically (Pine, 1993). Firms that produce a range of products that can utilize the same production equipment have a significant cost advantage that they can pass on to customers (Besanko et al., 2001; Morrison, 2003). Smaller firms, therefore, in a single line of business will often not be able to achieve the same marginal production costs. Also closely related to an economy of scale rationale is the potential to change large fixed capital costs into variable costs (Quelin and Duhamel, 2003). For example, semiconductor plants (“foundries”) that approach minimum efficient scale cost approximately a billion dollars. Capital-constrained smaller firms cannot access such capital. Even when they can, committing those funds might crowd out more critical investments.

Recent theories of the “boundary choices” of firms emphasize that the optimal scale and scope of a firm depend on the degree to which new undertakings are specific to the firm’s existing asset base (Poppo and Zenger, 1998). That is, the relatedness of the undertakings ultimately conditions the net benefits of locating the relevant undertakings within or outside the firm. Relatedness can extend beyond technological similarities to include shared management knowledge and even a common language. Nevertheless, a relatively large and indivisible scale of required investment combined with rationing of financial capital may limit the ability of firms to exploit relatedness across activities.

Other economic cost-based rationales for outsourcing include superior external supplier economies of learning or experience (Hayes and Wheelwright, 1984), superior ability to introduce new technologically superior product generations quickly, and at low cost, and superior capacity utilization (Morrison, 2003). When work force demands are unevenly distributed over time, it may be cheaper for firms to outsource the work involved rather than lay-off and rehire workers (Abraham and Taylor, 1996).

There are also organizational factors relating to cost that suggest a rationale for considering outsourcing. Most importantly, in many organizations, especially large multi-unit organizations, there is a tendency for internal production units to act as if they are monopolists (Alles et al., 1998). Monopoly-like behaviour blunts efficiency incentives by reducing comparative performance benchmarks for internal customers and by making it less likely that a good is efficiently priced in the internal firm market, thereby obscuring the efficiency of the internal supply unit. Inefficient internal prices can arise for two reasons. First, the internal production unit may be an efficient low-cost producer, but prices internally as a monopolist – production unit *managers* are usually responsible for this problem (Reichelstein, 1995; Vining, 2003). Second, the production unit may not have sufficient incentives to achieve the minimum production costs that are technically feasible. As a result, they allow production costs to “drift” upwards – either managers or *employees* or *both* may be responsible for this syndrome (Leibenstein, 1976; Button and Weyman-Jones, 1994). Competition, that is the absence of monopoly, is normally the crucial driver in forcing down production costs to their lowest level. Profit-maximizing firms in a competitive market will be forced to price at the lowest possible marginal cost, thus eliminating inefficient practices. Monopolistic internal production units may not be subject to this same level of competition. (Although firms can simulate such competition by forcing different internal units to bid against each other for production rights.) This rationale for outsourcing might be a more important reason for outsourcing than minimum efficient scale issues, especially for larger, bureaucratized firms.

An additional organizational-cost reason for outsourcing is that internal production of an input may generate significant organizational negative externalities (or more accurately “internalities”, as they are internal to the organization) that can be reduced or eliminated by outsourcing. (Conversely, as

discussed below, outsourcing can also generate negative externalities for the outsourcing firm.) Internal production of an input, for example, may require a distinct corporate culture that is dysfunctional for the rest of the organization (Camerer and Vepsalainen, 1988). Similarly, firms can experience diseconomies of scope in management of multiple firm activities or diseconomies of scale in producing a single activity (Graves and Langowitz, 1993; Zenger, 1994).

Finally, cost savings can result from altering obligations that a firm faces under government laws and regulations or under agreements with labour unions. As an example, firms may be obliged to pay health care benefits to workers classified as “full-time”, whereas part-time workers are not entitled to the same level of benefits. Outsourcing specific activities may enable firms to “re-hire” the same or similar workers from external suppliers as part-time or temporary employees. To be sure, if labour markets are reasonably competitive and not segmented, such cost savings may prove to be only temporary. Market forces will force supplying contractors to pay higher wages to their employees to compensate them for the absence of health care benefits. These suppliers, in turn, will pass the higher wage costs on to those firms hiring the workers on a temporary basis.³

There is evidence from a variety of sources that outsourcing can lower production costs. Clearly, the anticipation of various kinds of cost saving is a major driver of outsourcing (Lacity and Hirshheim, 1993; McFarlan and Nolan, 1995; Kakabadse and Kakabadsee, 2002; Quelin and Duhamel, 2003) however, as noted by Leiblin et al., (2002) and other commentators, there is relatively little hard empirical evidence that comes from contexts where firms outsource to other firms. The limited evidence in part reflects the difficulty in measuring production and other cost savings (Bryce and Useem, 1998). Nevertheless, Ang (1998) found that a large sample of banks that outsource primarily considered production cost savings in their decisions, and there is some evidence to suggest that this finding is generalizable (Walker and Weber, 1987; Lyons, 1995; Benson and Ieronimo, 1996; Saunders et al., 1997). Much of the best empirical evidence comes from outsourcing by government to private suppliers.

³ Abraham and Taylor (1996) argue that the rapidly rising cost of health insurance in the U.S. may have strengthened employers’ incentives to contract-out low-skill tasks to firms not offering health benefits.

Empirical studies tend to find in this outsourcing context that production cost savings are approximately in the 20% range, especially if competitive bidding is used (Vining and Globerman, 1999; Hodge, 2000).

As we discuss below, a crucial point is that even those empirical studies that have examined the relative production costs of internal provision versus outsourcing have not included the costs of governing the outsourcing relationship, specifically, bargaining and opportunism costs, which *a priori* might be expected to be higher with outsourcing. Indeed, some governance mechanisms for outsourcing can be expected to raise production costs -- for example if cost-plus contracts are used (McAfee and McMillan, 1988; Ulset, 1996).

Differentiation (Quality) Rationales for Outsourcing

Firm-specific resources and capabilities are becoming increasingly recognized as the drivers of competitive success (Wernerfelt, 1984; Barney, 1986). Capabilities that are difficult to imitate, or, at the extreme, cannot be imitated, are therefore the key to sustainable competitive advantage (Barney, 1991). The capability may be inimitable for a wide range of reasons. Barney (1999) points out that the firm could attempt to acquire the capabilities through internal development or by acquiring a firm that already has the capability; however, it may be very costly or impossible to do either. Four reasons why it may be costly to develop a capability internally are: (1) unique historical conditions that no longer exist; (2) path dependency; (3) social complexity, and (4) "causal ambiguity" resulting from the difficulty of knowing what is the source of the capability (Barney, 1999: 140-1). Five reasons why it may be costly to acquire a firm that has the capability are: (1) legal constraints; (2) acquisition itself might negate the capability; (3) acquisition may be costly to reverse if the capability turns out not to be valuable; (4) there may be undesirable characteristics that offset the valuable capability, and (5) integrating the capability into the acquiring firm may be difficult both because of causal ambiguity and implementation problems (Barney, 1999: 142-3).

Whatever the reasons for inimitability, a firm producing a given product or service that requires a capability has to decide whether to compete with a firm that has a given capability or to attempt to purchase the higher quality input from them. If the capability is critical to the success of their product

(that is, a “core competency”) the firm may have no choice but to attempt to acquire the capability internally, although some commentators disagree even with this assessment (Baden-Fuller et al., 2000). But, if it is not developed internally, the firm may be able to acquire the capability through outsourcing. Historically, for example, many firms have outsourced specialized legal services and advertising. The evidence suggests that this rationale for outsourcing is increasing (Quinn and Hilmer, 1994; Farrell et al., 1998; Kakabadse and Kakabadse, 2003). Specifically, Quelin and Duhamel (2003: 649) argue that “cost reductions, while important, are but one objective expected from outsourcing. Other objectives include improved flexibility, quality and control”.

Again, as with cost-reducing rationales for outsourcing, the systematic empirical evidence of the value of outsourcing for improving quality is still quite limited. Gilley and Rasheed (2000) and Gilley et al. (2004) have recently found evidence that outsourcing various aspects of human resources management can innovation although they did not find direct evidence of financial performance improvements. Leiblein et al., (2002) present evidence that there are benefits from outsourcing, but they are contingent on the specific attributes of the contractual relationship, both in terms of the nature of the activity to be outsourced and the governance response by the firm.

We turn to a consideration of governance costs that may potentially offset the cost-lowering or differentiating-enhancing benefits of outsourcing.

THE AGGREGATE COSTS OF OUTSOURCING

Direct purchase cost savings or superior resources may be more than offset by increases in governance costs.⁴ Governance costs are any costs in addition to production/purchase costs. Two types of governance costs are relevant in the choice between internal production of an activity and outsourcing: bargaining costs and opportunism costs. Bargaining costs include the following kinds of costs: (1) costs arising from negotiating contract details *per se*; (2) the costs of negotiating changes to the contract in the

⁴ For an estimation of these “organization costs” see Masten et al., (1991:28).

post-contract stage when unforeseen circumstances arise; (3) the costs of monitoring whether performance is being adhered to by the other party, and (4) the costs of disputes which arise if neither party wishes to utilize pre-agreed-to resolution mechanisms, especially “contract breaking” mechanisms. While only the first bargaining cost is experienced at the time of contracting (the others are experienced subsequent to outsourcing), virtually all of these bargaining costs can be anticipated and dealt with at the time of contracting.

Bargaining Costs

Bargaining costs arise when both parties are acting with self-interest, but in good faith (Williamson, 1985). The incremental bargaining costs of outsourcing are significant. An advantage of "internalizing" an activity is that bargaining costs over the distribution of costs within the firm are normally lower. However, bargaining within organizations -- for example over wages, bonuses or internal transfer prices – can be costly (Alles et al., 1998); thus it is incremental bargaining costs of outsourcing that are relevant. Recent empirical evidence suggests that bargaining costs are higher with external suppliers (Simester and Knez, 2002). In this regard, it might be noted that bargaining costs include costs associated directly or indirectly with communication between external suppliers and outsourcers. In this regard, technological change and deregulation have arguably reduced communication and transportation costs, especially for international transactions, and have thereby encouraged international outsourcing (MacPherson and Pritchard, 2002).

Opportunism Costs

“Opportunism” is any behavior by a party to a transaction designed to change the agreed terms of a transaction to be more in its favor. Opportunism costs arise when at least one party acts self-interestedly, but in bad faith. Opportunism is more likely in outsourcing contexts than in transactions within organizations, since the distribution of profit is more relevant in dealings between organizations. Additionally, employees within organizations have better and more numerous opportunities to "pay back" (and, therefore, discourage) opportunistic fellow employees. Opportunism, however, can also occur within organizations (Alles et al., 1998; Vining, 2003). Therefore, again it is incremental opportunism

costs, which are relevant. Opportunism is usually considered to be more likely *after* the outsourcing contract has taken place, but some behaviors prior to contracting also have "opportunism-like" characteristics.

Although it is possible analytically to make a clear distinction between bargaining and opportunism costs, in practice, they are difficult to distinguish -- it is almost always in the interest of opportunistic suppliers to claim that their behavior results from an unexpected change in circumstances (i.e. uncertainty). Frequently, the outsourcing firm cannot tell whether this claim is genuine or not. The inability to distinguish between legitimate bargaining and opportunism itself raises outsourcing costs. Moreover, making such distinctions is likely to be even more difficult in cases of international outsourcing where language and cultural differences may impede mutual efforts to identify and remedy sources of disputes.

In summary, the firm should seek the regime that minimizes the sum of its production, bargaining and opportunism costs. Ideally, strategic managers then compare those estimated costs with the costs of internalization, that is, the cost of the firm producing the good itself.

THE DETERMINANTS OF OUTSOURCING COSTS

Three major factors are likely to determine the sum of bargaining and opportunism costs: product/activity complexity, contestability, and asset specificity.⁵ We discuss each of these in turn.

Product/Activity Complexity

Product (service) or activity complexity largely determines the degree of difficulty in specifying and monitoring the terms and conditions of a transaction ("activity" simply refers to outsourced inputs that cannot easily be described as goods or services). Goods, services or activities can be approximately divided into search goods, experience goods and post-experience goods (Vining and Weimer, 1988). A

⁵ The next two sections of this chapter draw heavily on Vining and Globerman (1999). With kind permission of the *European Management Journal*.

good is a search good if its price-performance (quality) characteristics are known before the “outsourcing” decision is made. Indeed, as mentioned earlier, such decisions are normally not even thought of as outsourcing – the purchase of ballpoint pens is simply purchasing or procurement. A good is an experience good if its price-performance characteristics are approximately known almost immediately after purchase. For example, assessing the quality of food served by a supplier is relatively easy at the time of consumption. A good is a post-experience good if its price-performance characteristics cannot be assessed for a considerable time (if ever, when full revelation is dependent on contingent events) after the outsourcing decision. Measuring the price-performance characteristics of a complex good such as R&D is difficult (Ulset, 1996; Tapon and Cadsby, 1996). Unique and/or new (to the outsourcing firm) goods are almost always complex.

The degree of product/activity complexity largely determines: (1) the uncertainty surrounding the contract (this effects both contracting parties equally) which raises the probability that bounded rationality will come into play (Williamson, 1985); (2) the potential for information asymmetry (the probability that one party to the contract will have information that the other party does not have); and (3) the probability that there will be externalities that will affect other firm activities.

Complex goods involve uncertainty about the nature and costs of the production process itself. This is partly because the production of complex goods is more likely to be affected by unforeseen changes in the external environment (Collingridge, 1992). Greater uncertainty raises bargaining costs, both during contract negotiations and post-contract. Information asymmetry occurs when one party has relevant information that the other party does not. While information asymmetry does not always raise costs, it usually does, especially if a contract involves post-experience goods. High task complexity raises the probability that there will be information asymmetry, because it implies specialized knowledge or assets whose characteristics are only initially known to external suppliers or other experts. Information asymmetry, thus, raises the probability that a party to the transaction can behave opportunistically. Opportunism arising from information asymmetry can occur either at the contract negotiation stage (typically when there is information asymmetry and low contestability) or at the post-contract stage, but is

most likely to be significant post-contract. Either the outsourcing firm or the external supplier may generate these costs. Higher task complexity also increase the potential for production externalities, that is the potential for serious disruption to the rest of the firm if the outsourced service is withdrawn or degraded (Globerman, 1995). From the outsourcing firm's standpoint, product/activity complexity raises costs, both because there is substantial uncertainty surrounding the transaction, and because potential external suppliers often have more information about attributes of the relevant transactions. The associated concern is that it may be very difficult for outsourcing firms to ensure that the quality of services provided is appropriately high.

The empirical evidence supports the idea that product complexity raises the probability of internal production. Masten (1984), for example, found that more complex components for the aerospace industry were more likely to be produced internally than to be outsourced. Mowery and Rosenberg (1989) found that R&D outsourcing is more likely to occur for less complex functions such as material testing and process invention and less for product innovation. Jensen and Rothwell (1998) found that nuclear power plants were less likely to outsource "production-critical" activities that are complex and where the quality is more difficult to assess before a problem occurs. Veugelers and Cassiman (1999) found that complexity leads Belgium manufacturing firms to reduce the probability of them relying exclusively on external technology sourcing. Novak and Eppinger (2001) found a significant and positive relationship between product complexity and internalization in the automobile industry.

Contestability

The number of firms that can supply a product or service affects the likelihood that the outsourcing firm will purchase on the "spot" market. Hubbard (2001), for example, found that in long haul trucking markets doubling the thickness of the market increases the probability that spot contracts will be used by around thirty percent. Besanko et al., (2001) found that firms in commodity industries (where competition is greater) pass on marginal cost reductions more than firms in industries with more differentiated products and services. Ono (2003) found that U.S. manufacturing firms are more likely to outsource advertising, bookkeeping, accounting and legal services the larger the size of the supplying

market.⁶ Finally, Leiblein et al., (2002) found that firms in the semiconductor industry produce in-house when they are few suppliers and outsource when there are many.

In many contexts, the competitive structure of the market may be less important than its contestability. A contestable market is one where only a few firms are immediately available to provide any given service, but many other firms would quickly become available if the price paid by the outsourcing firm exceeded the average cost incurred by external suppliers. For example, the markets for basic accounting and payroll services are highly contestable as many firms have the basic capabilities to supply such services, even if they are not currently doing so. The degree of contestability may, in some cases, be more important than the number of firms actually providing a given service (Baumol et al., 1982).

In some circumstances the market for the service in question may be competitive -- there may be a considerable number of firms in the relevant (usually geographic) market producing the service, or a very close substitute. In this case, potential entry by new suppliers may offer little additional discipline on the behavior of incumbent potential external suppliers.

The degree to which the activity being outsourced is contestable affects opportunism costs. If the market for the activity is contestable, opportunism is reduced at the contract stage and, potentially, at the post-contract stage. Low contestability raises different issues in the contract and post-contract phases. During contract negotiations, a potential external supplier in a market with limited contestability is tempted to offer services at a price above marginal cost (or average cost in circumstances where average cost is declining for the demanded good). This higher price can be thought of as a bargaining cost, because it is a direct result of outsourcing.

At the post-contract stage, low contestability increases the risks of opportunism (and associated costs) facing the other party for two reasons: first, because a external supplier cannot be quickly replaced

⁶ The contracts governing “standardized” transactions in competitive markets often specify neither price nor quantity. They are more readily characterized as “agreements to agree” (Lyons, 1996).

(temporal specificity) and second, because there is a heightened risk of “contract breach externalities”. This risk is especially relevant when the external supplier provides services that are related to a network of some kind within the outsourcing firm. For example, an external firm carrying out payroll operations may threaten to withdraw service, jeopardizing the payment of all payroll paychecks. This could effectively shut down the firm. Contexts where firms fear breach externalities are often defined as “strategic” systems. However, firms do not eliminate these externality problems by producing the good or activity themselves. As the FedEx strike in the United States graphically illustrated, employees can also opportunistically hold-up employers by withdrawing essential services (passive breach) or by picketing and various forms of sabotage (active breach).

The evidence suggests that some firms have unintentionally contributed to contestability problems. If potential suppliers perceive that outsourcing firms are soliciting “unreasonably low” bids and/or are arbitrarily requiring rebids at lower-than-originally agreed to prices, a competitive market may not emerge. Similarly some outsourcing firms dampen competition by encouraging excessive specialization by suppliers. This reduces supplier firms’ switching capacity in the face of unsatisfactory performance. External suppliers will, in turn, incorporate the increased risk of being tied to specific buyers in higher prices for their services. This latter point underscores the need for firms to think broadly about the cost consequences of specific outsourcing strategies. Short-run cost savings, and even improvements in quality, associated with economies of specialization, may be achieved at the expense of higher long-run costs.

In contrast, in many cases it is possible for outsourcing firms to deliberately enhance competition by expanding the size of the relevant geographic market. This is certainly an important impetus for the explosive growth of cross-national outsourcing (Feenstra, 1998). Such a strategy is less feasible if contestability problems are not so much the result of sunk cost investments, *per se*, but of the geographical specificity of the relevant assets.

Another potential approach to mitigating competition problems is for the outsourcing firm to own the (sunk cost) assets and for the external firm to own only relatively fungible assets. Thus, the

outsourcing firm retains formal ownership of relatively specialized and expensive equipment, which is leased to the external supplier. In this way, the need for potential new suppliers to make large sunk-cost investments can be mitigated and contestability enhanced.

Finally, contestability is also a function of the capability of the firm to bring the service back in-house (“backsourcing”). In order to effectively outsource, firms must retain a “core” employee capacity anyway. If this capacity can be readily expanded because there are trained specialists available, the outsourcing firm can credibly threaten backsourcing. There is evidence that more firms are taking seriously, and investing in, backsourcing capabilities (Hirshheim, 1998).

In sum, neither economies-of-scale or the need for sunk-cost investments are the main barriers to contestability. In particular, if either outsourcing firms or external suppliers are mobile, small numbers of competitors need not eliminate competition. If they are not mobile, the problem is better evaluated as one of geographic asset specificity. Indeed, for the remainder of this paper, we assume that contestability can be achieved in all cases.

Asset Specificity

An asset is "specific" if it makes a necessary contribution to the production of a good and it has much lower value in alternative uses. There are various kinds of specificity including physical asset specificity, location specificity, human asset specificity, dedicated assets (Williamson, 1985:55) and temporal specificity (Masten et al., 1991:9; Pirrong, 1993). Whatever the form of asset specificity, the issue is basically the same: agreements which require either party to employ assets (usually capital assets, but in some circumstances human capital assets) that have little or no alternative use, that is, are "sunk", raise the potential for opportunism. The contracting party who commits assets is vulnerable to hold-up (Shelanski and Klein, 1995; Ulset, 1996). No matter what prices are agreed to in the contracting stage,

the other party can behave opportunistically by renegeing and offering lower prices that only cover incremental costs.⁷

Extensive empirical evidence suggests that asset specificity reduces the degree of outsourcing (for a review, see Vining and Globerman, 1999; for some recent empirical examples, also see Ang, 1998; Gonzalez-Diaz et al., 2000; Saussier, 2000; Hubbard, 2001; Azoulay, 2002; Leiblein et al., 2002). Intermediate levels of asset specificity, when not leading to complete internalization, leads to long-term exclusive contracts (e.g., Joskow, 1987; Pirrong, 1993).

Although bargaining and opportunism costs can occur during contracting (period 1) or post-contractually (period 2), it is feasible and desirable for the outsourcing firm to address both these costs at the contracting stage (that is, in period 1). The parties are conceptually in a multi-period game (Rasmussen, 1994). The outsourcing "player" should anticipate what the optimal strategy in each period of the game will be for the external supplier player and by backward induction identify its own optimal strategy in each period. For example, suppose the outsourcing firm is playing a game where contestability is high in period 1, but is expected to be low in any subsequent periods. Outsourcing firms, therefore, should be able to predict that an external supplier will behave opportunistically or generate bargaining costs in some subsequent period. The outsourcing firm should, therefore, incorporate this expectation into its period 1 strategy. The optimal result is an initial contract that anticipates and addresses all potential opportunism costs and bargaining costs.

OUTSOURCING SITUATIONS AND SOME POSSIBLE STRATEGIES

The practical value of the "game" analogy is to emphasize that firms must formulate consistent expectations about future outsourcing issues and plan accordingly. In order to do so, however, outsourcing firms must think through the factors influencing opportunism and bargaining costs as well as strategies to minimize costs. Thus, it is useful to distinguish between *ex ante* mechanisms and *ex post*

⁷ As Pirrong (1993) notes, sunk costs can generate opportunism even where no contract has been signed, if a party has committed resources whose values would be reduced if the transaction were not consummated.

mechanisms to minimize costs, emphasizing that in the case of the latter, it is only the “trigger” that is *ex post*. To some managers this advice may seem abstract, but recent evidence from an extensive survey of information technology outsourcing suggests that detailed contract specification is the leading predictor of outsourcing firm satisfaction (Lacity and Willcocks, 1998). Leiblein et al., (2002) also find that performance outcomes are crucially dependent on taking seriously the factors described above in determining whether, and how, to outsource (see also Gopal et al., 2003).

This is not to say that managers should ordinarily strive for “fully complete” contracts. There are obviously costs as well as benefits to establishing a complete contract. A contract can be seen as being more complete than another contract if it gives a more precise definition of the transaction and of the means to carry it out (Saussier, 2000). The costs of striving for more completeness include the bargaining costs described earlier, as well as the costs of acquiring information requisite to undertaking comprehensive contracting.

We now apply the framework to various combinations of product complexity and asset specificity (remembering that contestability problems can be treated as being ultimately co-extensive with asset specificity problems). We consider possible combinations of these two characteristics with the goal of illustrating the conceptual framework rather than providing a definitive guide to all outsourcing issues.⁸

Low Product/Activity Complexity and Low Asset Specificity

This combination provides the clearest case for outsourcing. It encompasses many standard products, services and activities required by the firm. Outsourcing offers the potential for lower production costs for the good or activity, as well as minimal bargaining and opportunism costs. Low product complexity implies that the outsourcing firm has, or can easily acquire, sufficient knowledge and information to specify contract terms precisely (as there is low uncertainty about price-performance

⁸ Coles and Hesterly (1998) provide evidence that “transactional uncertainty” (complexity) interacts with asset specificity to determine the propensity of private hospitals to internalize services.

characteristics and no information asymmetry). With low asset specificity (and resulting high contestability), inefficient or opportunistic external suppliers can be quickly replaced.

Low Product/Activity Complexity and High Asset Specificity

Given low complexity, problems associated with high asset specificity almost certainly involve high temporal or locational specificity. There are likely to be few efficiency costs arising from high physical asset specificity if the outsourcing firm makes the relevant specific investments itself as, given this ownership, it is not costly to replace the external supplier (given high contestability). There are likely to be problems, however, if the external supplier makes the investment. Once the investment is sunk, an external supplier is vulnerable to opportunistic hold-up by the outsourcing firm, which could demand that it deliver the good at marginal cost. Given that all potential external suppliers can deduce this as a possible *ex post* outcome, they will compensate *ex ante*. They can compensate in one of two possible ways: either by raising the bid price or by utilizing a higher cost production technology that requires less physical asset specificity.⁹ Either strategy ultimately raises the outsourcing firm's costs.

One way to avoid these problems is for the outsourcing firm to own the specific asset and to rent it or lease it to the external firm. However, leasing specific assets is not costless. The outsourcing firm is now outsourcing two activities -- the original outsourced service and the lease contract (Hensher, 1988). Lease contracts can also generate opportunistic behavior, including the potential for the lessee to over-utilize and run down the leased assets. Including "reasonable usage and maintenance" clauses can mitigate this problem in lease agreements. But this form of outsourcing, then, requires detailed specification of both contracts, adding to costs.

Another method of dealing with the problem is for the outsourcing firm and the external supplier to explicitly share the asset-specific investments, a form of "mutual hostage-holding". Jap and Anderson (2003) find that such "bilateral idiosyncratic investments" are the most powerful safeguard of high performance outcomes.

⁹ Lyons (1996) notes the potential for under-investment in transaction-specific assets.

Temporal asset specificity raises several problems (Masten et al., 1991). The first arises if the external supplier fails to provide contracted performance. The outsourcing firm's usual insurance against the opportunistic exercise of contract breach is an action in tort. However, this is less desirable than having a contract that mitigates breach incentives, especially in the case of transnational outsourcing where legal activity is likely to be both more costly and less predictable than in domestic outsourcing. The outsourcing firm can, for example, write a contract that contains provisions that backloads payment (contract completion bonuses) and requires performance bonding.

The second possible problem arises if the outsourcing firm wishes to terminate because of unsatisfactory performance, but needs to maintain service until a replacement external supplier is in place. The risk is that in "endgame" situations external suppliers will act opportunistically. The most obvious way for an outsourcing firm to mitigate this risk is to demand bonding from a winning bidder plus a contract agreement that specifies timely arbitration of the firm's claim for the bond because of unsatisfactory contract performance (Eaton and White, 1982).

High Product/Activity Complexity and Low Asset Specificity

This configuration perhaps best characterizes the supply of a wide range of services or activities that are potentially outsourceable to professionals. It should be kept in mind, however, when assessing potential outsourcing problems that firms' employment contracts with professional employees are not very different from those with formally outsourced professionals. Basically the same issues arise under either arrangement (Garen, 1998; James, 1998). The main problem is high bargaining costs owing to honest disagreements surrounding *ex ante* specifications, or *ex post* performance in relationship to *ex ante* specifications. In particular, disagreements can arise because *ex ante* specifications are sometimes costly and difficult to write, and (therefore) the parties often have difficulty agreeing after the fact about whether the specifications were satisfied, and if not, whether the external supplier acted incompetently or negligently. This situation might be particularly relevant in the context of multinational firms where management-employee relationships span cultural boundaries, and honest misunderstandings are more apt to characterize expectations. However, in this situation opportunism should not be a significant problem,

since low asset specificity implies high contestability, suggesting that switching costs will be low for both parties. Opportunistic behavior once identified can be easily countered by contract termination. A related inference one might draw is that short to medium-term contracts with suppliers should be emphasized to avoid “contractual strangleholds” (Currie, 1998).

High Product/Activity Complexity and High Asset Specificity

The important difference between this situation and the second case discussed above is that reliance upon arbitration or other third-party contract enforcement procedures is more problematic because it is more difficult for a judging third party to identify whether contract breach has occurred. This type of problem has been discussed in the industrial organization literature. The basic solution suggested is that outsourcing firms provide external suppliers with higher than normal profits that they can expect to earn indefinitely in the absence of a verified contract breach (Mathewson and Winter, 1990). The potential loss of these profits harmonizes the incentives of the firms.

Table 1 summarizes the relevant issues for each of the four cases described (Vining and Globerman, 1999). The table focuses on two issues: the dominant problem(s) to be expected and the general strategic approach. The table identifies different combinations of problems and alternative instruments to modify each combination. However, the overall framework emphasizes the following steps: (1) Formulate consistent expectations about the uncertainties surrounding the potential transactions at all stages of contract formulation and implementation; (2) Identify the potential opportunism at different stages of contract formulation and implementation, including the underlying sources: contestability, complexity and/or asset specificity; (3) Identify contract provisions to attenuate the opportunism and assess the consequences of the preferred strategies for the overall efficiency of outsourcing versus internal production, and (4) Implement the relevant strategies prior to the initiation of outsourcing.

CONCLUSIONS

There is increasing interest in outsourcing among firms in a wide range of industries. Moreover, there is evidence that outsourcing is becoming increasingly more international, so that the benefits and costs of outsourcing are becoming an increasingly important social issue, especially in the United States and Western European countries when it involves outsourcing activities to less developed countries. Although not dealt with here, as a result outsourcing governance is increasingly likely to include managing the political and stakeholder environment. In this paper, we suggest that many of the potential costs associated with outsourcing can be mitigated by contracting and related strategies on the part of the outsourcing firm. We propose a simple framework that relates some alternative strategies for standard problem situations surrounding outsourcing. This framework does not deal with all strategic outsourcing issues. The outsourcing firm also has to develop information strategies so that it can continue to learn – about changing costs and other relevant factors (Cross, 1995).

A strategic approach towards outsourcing must explicitly acknowledge the game-theoretic context in which the activity takes place and attempt to condition the environment in order to minimize the governance costs associated with outsourcing. It also must recognize that in specific circumstances the governance costs will be so high that a firm should not outsource. This approach is distinct from a strategy that emphasizes adaptation or renegotiation in response to conflict with an outsourcing partner (Melese, 2000). In this regard, management experts have argued that managers seriously underestimate the costs associated with transitioning to a new vendor (Barthelemy, 2001).

The difficulties and costs associated with implementing a comprehensive strategic approach to outsourcing should not be underestimated. However, it is important to emphasize that there are likely to be economies of scale and scope in the outsourcing activity itself. Hence, substantial efficiencies may be realized by establishing a group or department specifically devoted to integrating company-wide experiences with outsourcing and using the resources in that unit to establish project teams with expertise in specific outsourcing activities (Barthelemy, 2001).

REFERENCES

- Abraham, K. and Taylor, S. (1996), "Firms Use of Outside Contractors: Theory and Evidence," *Journal of Labor Economics*, 14(3), 398-424.
- Alles, M., Newman, P. and Noel, J. (1998), "The Value of Information in Internal Management Communication," *Journal of Economic Behavior & Organization*, 36(3), 295-317.
- Ang, S. (1998), Production and Transaction Economies and IS Outsourcing: A Study of the U.S. Banking Industry," *MIS Quarterly*, 22(4), 535-52.
- Azoulay, P. (2002), "Acquiring Knowledge Within and Across Firm Boundaries: Evidence from Clinical Development," New York: Working Paper, Graduate School of Business, University of Columbia.
- Baden-Fuller, C., Targett, D. and Hunt, B. (2000), "Outsourcing to Outmanoeuvre: Outsourcing Re-defines Competitive Strategy and Structure," *European Management Journal*, 18(3), 285-95.
- Barthelemy, J. (2001), "The Hidden Costs of IT Outsourcing," *MIT Sloan Management Review*, 42(3), 60-69.
- Barney, J. (1986), "Strategic Market Factors: Expectations, Luck, and Business Strategy," *Management Science*, 32(10), 1512-14.
- Barney, J. (1991), "Firm Resources and Sustained Competitive Advantage," *Journal of Management*, 17(1), 99-120.
- Barney, J. (1999), "How a Firm's Capabilities Affect Boundary Decisions," *MIT Sloan Management Review*, 40(3), 137-145.
- Baumol, W., Panzar, J. and Willig, R. (1982), *Contestable Markets and the Theory of Industry Structure*, New York: Harcourt, Brace, Jovanovich.
- Benson, J. and Ieronimo, N. (1996), "Outsourcing Decisions: Evidence from Australia-Based Enterprises," *International Labour Review*, 135(1), 59-73.
- Besanko, D., Dranove, D. and Shanley, M. (2001), "Exploiting a Cost Advantage and Coping with a Cost Disadvantage," *Management Science*, 47(2), 221-35.
- Bryce, D. and Useem, M. (1998), "The Impact of Corporate Outsourcing on Company Value," *European Management Journal*, 16(6), 635-643.
- Button, K. and Weyman-Jones, T. (1994), "X-efficiency and Technical Efficiency," *Public Choice*, 80(1-2), 83-104.
- Camerer, C. and Vepsalainen, A. (1988), "The Economic Efficiency of Corporate Culture," *Strategic Management Journal*, 9(5), 115-126.

- Coles, J. and Hesterly, W. (1988), "The Impact of Firm-Specific Assets and the Interaction of Uncertainty: An Examination of Make or Buy Decisions in Public and Private Hospitals," *Journal of Economic Behavior & Organization*, 36(3), 383-409.
- Collingridge, D. (1992), *The Management of Scale: Organizations, Big Decisions, Big Mistakes*, New York: Routledge.
- Cross, J. (1995), "IT Outsourcing: British Petroleum's Competitive Approach," *Harvard Business Review*, 73(3), 94-103.
- Currie, W. (1998), "Using Multiple Suppliers to Mitigate the Risk of IT Outsourcing at ICI and Wessex Water," *Journal of Information Technology*, 13(3), 169-180.
- Domberger, S. (1999), *The Contracting Organization: A Strategic Guide to Outsourcing*, Oxford: Oxford University Press.
- Dun and Bradstreet. (2000), "Dun and Bradstreet Sees 25 Per Cent Growth for Global Outsourcing," www.businesswire.com (Feb 23), 3-4.
- Eaton, C. and White, W. (1982), "Agent Compensation and the Limits of Bonding," *Economic Inquiry*, 20(3), 330-343.
- Farrell, J., Monroe, H. and Saloner, G. (1998), "The Vertical Organization of Industry: Systems Competition versus Components Competition," *Journal of Economics & Management Strategy*, 7(2), 143-182.
- Feenstra, R. (1998), "Integration of Trade and Disintegration of Production in the Global Economy," *Journal of Economic Perspectives*, 12(4), 31-51.
- Garen, J. (1998), "Self-Employment, Pay Systems, and the Theory of the Firm: An Empirical Analysis," *Journal of Economic Behavior & Organization*, 36(2), 257-274.
- Gilley, K., Greer, C. and Rasheed, M. (2004), "Human Resource Outsourcing and Organizational Performance in Manufacturing Firms," *Journal of Business Research*, 57(3), 232-240.
- Gilley, K. and Rasheed, M. (2000), "Making More by Doing Less: An Analysis of Outsourcing and Its Effects on Firm Performance," *Journal of Management*, 26(4), 763-90.
- Globerman, S. (1995), "A Policy Analysis of Foreign Ownership Restrictions in Telecommunications," *Telecommunications Policy*, 19(1), 21-28.
- Gonzalez-Diaz, M., Arrunada, B. and Fernando, A. (2000), "Causes of Subcontracting: Evidence from Panel Data on Construction Firms," *Journal of Economic Behavior & Organization*, 42(2), 167-187.
- Gopal, A., Sivaramakrishnan, K., Krishnan, M. and Mukhopadhyay, T. (2003), "Contracts in Offshore Software Development: An Empirical Analysis," *Management Science*, 49(12), 1671-83.
- Graves, S. and Langowitz, N. (1993), "Innovative Productivity and Returns to Scale in the Pharmaceutical Industry," *Strategic Management Journal*, 14(8), 593-605.

- Greenwood, N. (1988), *Implementing Flexible Manufacturing Systems*, London: Macmillan.
- Greer, C., Youngblood, S. and Gary, D. (1999), "Human Resource Management Outsourcing: The Make or Buy Decision," *Academy of Management Executive*, 13(3), 85-96.
- Hayes, R. and Wheelwright, S. (1984), *Restoring Our Competitive Edge: Competing Through Manufacturing*, New York: John Wiley & Sons.
- Hayes, D., Hunton, J. and Reck, J. (2000), "Information Systems Outsourcing Announcements: Investigating the Impact on Market Value of Contract-Granting Firms," *Journal of Information Systems*, 14(2), 109-126.
- Hensher, D. (1988), "Some Thoughts on Competitive Tendering in Local Bus Operations," *Transport Reviews*, 8(4), 363-372.
- Hirschheim, R. (1998), "Backsourcing: An Emerging Trend?" www.outsourcing-academics.com/back sourcing.html, Outsourcing Center, Everest Partners, L.P.
- Hodge, G. (2000), *Privatization: An International Review of the Evidence*, Boulder, Co: Westview Press.
- Hubbard, T. (2001), "Contractual Form and Market Thickness in Trucking," *RAND Journal of Economics*, 32(2), 369-386.
- James, H. Jr. (1998), "Are Employment and Managerial Control Equivalent? Evidence from an Electronics Producer," *Journal of Economic Behavior & Organization*, 36(4), 447-471.
- Jap, S. and Anderson, E. (2003), "Safeguarding Interorganizational Performance and Continuity Under Ex Post Opportunism," *Management Science*, 49(12), 1684-1701.
- Jensen, J. and Rothwell, G. (1998), "Transaction Costs, Regulation, and Subcontracting at Nuclear Power Plants," *Journal of Economic Behavior & Organization*, 36(3), 369-381.
- Johnson, J. and Schneider, K. (1995), "Outsourcing in Distribution: The Growing Importance of Transportation Brokers," *Business Horizons*, 38(6), 40-49.
- Joskow, P. (1987), "Contract Duration and Relationship-Specific Investments: Empirical Evidence from Coal Markets," *American Economic Review*, 77(1), 168-185.
- Kakabadse, A. and Kakabadse, N. (2002), "Trends in Outsourcing," *European Management Journal*, 20(2), 189-198.
- Knemeyer, A., Corsi, T. and Murphy, P. (2003), "Logistics Outsourcing Relationships: Customer Perspectives," *Journal of Business Logistics*, 24(1), 77-109.
- Lacity, M. and Hirschheim, R. (1995), "The Information Systems Outsourcing Bandwagon," *MIT Sloan Management Review*, 35(1), 73-86.
- Lacity, M. and Willcocks, L. (1998), "An Empirical Investigation of Information Technology Sourcing Practices: Lessons from Experience," *MIS Quarterly*, 22(3), 363-409.
- Leibenstein, H. (1976), *Beyond Economic Man*, Cambridge, Mass: Harvard University Press.

- Leiblein, M., Reuer, J. and Dalsace, F. (2002), "Do Make or Buy Decisions Matter? The Influence of Organizational Governance on Technological Performance," *Strategic Management Journal*, 23(9), 817-833.
- Loh, L. and Venkatraman, N. (1992), "Determinants of Information Technology Outsourcing: A Cross-Sectional Analysis," *Journal of Management Information Systems*, 9(1), 7-24.
- Lyons, B. (1995), Specific Investment, Economies of Scale, and the Make-or-Buy Decision: A Test of Transaction Cost Theory," *Journal of Economic Behavior & Organization*, 26(3), 431-443.
- Lyons, B. (1996), "Empirical Relevance of Efficient Contract Theory: Inter-Firm Contracts," *Oxford Review of Economic Policy*, 12(4), 27-52.
- MacPherson, A and Prichard, D. (2002), "The International Decentralization of US Commercial Aircraft Production: Implications for U.S. Employment and Trade," Buffalo: State University of Buffalo, mimeo.
- Mathewson, F. and Winter, R. (1990), "The Law and Economics of Vertical Restraints," in Mathewson, F., Trebilcock, M. and Walker, M. (eds.) *The Law and Economics of Competition Policy*, Vancouver, B.C: The Fraser Institute.
- Masten, S. (1984), "The Organization of Production: Evidence from the Aerospace Industry," *Journal of Law and Economics*, 27(2), 402-417.
- Masten, S., Meeham, J. Jr. and Snyder, E. (1991), "The Costs of Organization," *Journal of Law, Economics & Organization*, 7(1), 1-25.
- McAfee, R.P. and McMillan, J. (1988), *Incentives in Government Contracting*, Toronto, Ont: University of Toronto Press.
- McFarlan, F. and Nolan, R. (1995), "How to Manage an IS Outsourcing Alliance," *MIT Sloan Management Review*, 36(2), 9-23.
- McFetridge, D. and Smith, D. (1998), *The Economics of Vertical Disintegration*, Vancouver, B.C: The Fraser Institute.
- McLellan, K. (1993), Achieving Competitive Advantage by Outsourcing a Core Skill: The Potential Strategic Benefits Available from Information Technology Outsourcing in the Financial Sector," ASAC Conference, June, Lake Louise, Alberta.
- Melese, Francois (2000), "Transaction Cost Analysis of In-Sourcing and Out-sourcing", Monterey, Ca.: Naval Postgraduate School, mimeo.
- Morrison, C. (2003), "Cost Economies: A Driving Force for Consolidation and Concentration?" *Southern Economic Journal*, 70(1), 110-27.
- Mowery, D. and Rosenberg, N. (1980), *Technology and the Pursuit of Economic Growth*, New York: Cambridge University Press.

- Muris, T., Scheffman, D. and Spiller, P. (1992), "Strategy and Transaction Costs: The Organization of Distribution in the Carbonated Soft Drink Industry," *Journal of Economics and Management Strategy*, 1(1), 83-128.
- Novak, S. and Eppinger, S. (2001), "Sourcing by Design: Product Complexity and the Supply Chain," *Management Science*, 47(1), 189-204.
- Odagiri, H. (2003), "Transaction Costs and Capabilities as Determinants of the R&D Boundaries of the Firm: A Case Study of the Ten Largest Pharmaceutical Firms in Japan," *Managerial and Decision Economics*, 24(2,3), 187-211.
- Ono, Y. (2003), "Outsourcing Business Services and the Role of Central Administrative Offices," *Journal of Urban Economics*, 53(3), 377-95.
- Palvia, S. (2003), "Global Outsourcing of IT and IT Enabled Services: Impact on US and Global Economy," *Journal of Information Technology Cases and Applications*, 5(3), 1-11.
- Pine, B. (1993), *Mass Customization*, Boston, MA: Harvard Business School Press.
- Pirrong, S. (1993), "Contracting Practices in Bulk Shipping Markets: A Transactions Cost Explanation," *Journal of Law and Economics*, 36(1), 913-937.
- Poppo, Laura and Todd Zenger (1998), "Testing Alternative Theories of the Firm: Transaction Cost, Knowledge-Based and Measurement Explanations For Make-Or-Buy Decisions in Information Services", *Strategic Management Journal*, 19(9), 1986-1998.
- Porter, M. (1985), *Competitive Advantage: Creating and Sustaining Superior Performance*, New York: Free Press.
- Quinn, J. and Hilmer, F. (1994), "Strategic Outsourcing," *MIT Sloan Management Review*, 35(4), 43-55.
- Quelin, B. and Duhamel, F. (2003), "Bringing Together Strategic Outsourcing and Corporate Strategy: Outsourcing Motives and Risks," *European Management Journal*, 21(5), 647-661.
- Rasmussen, E. (1994) *Games and Information*, 2nd Edition, Cambridge, Mass: Blackwell.
- Reichelstein, S. (1995), "Reliance Investment under Negotiated Transfer Pricing: An Efficiency Result," *The Accounting Review*, 70(2), 275-291.
- Saunders, C., Gebelt, M. and Hu, Q. (1997), "Achieving Success in Information Systems Outsourcing," *California Management Review*, 39(2), 63-79.
- Saussier, S. (2000), "Transaction Costs and Contractual Incompleteness: The Case of Electricite de France," *Journal of Economic Behavior & Organization*, 42(2), 189-206.
- Shelanski, H. and Klein, P. (1995), "Empirical Research in Transaction Cost Economics: A Review and Assessment," *The Journal of Law, Economics & Organization*, 11(2), 335-361.
- Simester, D. and Knez, M. (2002), "Direct and Indirect Bargaining Costs and the Scope of the Firm," *The Journal of Business*, 75(2), 283-304.

- Smith, M., Mitra, S. and Narasimhan, S. (1998), "Information System Outsourcing: A Study of Pre-Event Firm Characteristics," *Journal of Management Information Systems*, 15(2), 60-92.
- Stabell, C. and Fjeldstad, O. (1998), "Configuring Value for Competitive Advantage: On Chains, Shops, and Networks," *Strategic Management Journal*, 19(5), 413-437.
- Stroh, L. and Treehuboff, D. (2003), "Outsourcing HR Functions: When—and When Not—to Go Outside," *Journal of Leadership and Organizational Studies*, 10(1), 19-28.
- Tapon, F. (1989), "A Transaction Costs Analysis of Innovations in the Organization of Pharmaceutical R&D," *Journal of Economic Behavior & Organization*, 12(2), 197-213.
- Tapon, F. and Cadsby, C. (1996), "The Optimal Organization of Research: Evidence from Eight Case Studies of Pharmaceutical Firms," *Journal of Economic Behavior & Organization*, 31(1), 381-399.
- Tempest, R. (1996), "Barbie and the World Economy," *Los Angeles Times*, September 22, A1 and A12.
- Tisdale, S. (1994), "Shoe and Tell," *The New Republic*, September 12, 10-11.
- Ulset, S. (1996), "R&D Outsourcing and Contractual Governance: An Empirical Study of Commercial R&D Projects," *Journal of Economic Behavior & Organization*, 30(1), 63-82.
- Veugelers, R. and Cassiman, B. (1999), "Make and Buy in Innovation Strategies: Evidence from Belgium Manufacturing Firms," *Research Policy*, 28(1), 63-80.
- Vining, A. and Weimer, D. (1988), "Information Asymmetry Favoring Sellers: A Policy Framework," *Policy Sciences*, 21(4), 281-303.
- Vining, A. and Globerman, S. (1999), "A Conceptual Framework for Understanding the Outsourcing Decision," *European Management Journal*, 17(6), 645-54.
- Vining, A. (2003) "Internal Market Failure: A Framework for Diagnosing Firm Inefficiency," *Journal of Management Studies*, 40(2), 431-457.
- Walker, G. and Weber, D. (1987), "Supplier Competition, Uncertainty, and Make-or-Buy Decisions," *Academy of Management Journal*, 30(3), 589-596.
- Wernerfelt, B. (1984), "A Resource-Based View of the Firm," *Strategic Management Journal*, 5(2), 171-80.
- Williamson, O. (1985), *The Economic Institution of Capitalism*, New York: The Free Press.
- Williamson, O. (1991), "Strategizing, Economizing and Economic Organization," *Strategic Management Journal*, 12 (Special Issue), 75-94.
- Zenger, T. (1994), "Understanding Organizational Diseconomies of Scale in R&D: Agency Problems and the Allocation of Engineering Talent, Ideas, and Effort by Firm Size," *Management Science*, 40(6), 708-729.

Zsidisin, G. (2003), "Managing Perceptions of Supply Risk," *Journal of Supply Chain Management*, 39(1), 14-25.

Table 1*

A SUMMARY OF OUTSOURCING STATES

Case	Product / Activity Complexity	Asset Specificity	Dominant Problem(s)	Solution(s)
1	Low	Low	Few	Rely Primarily on contestability via contract termination (i.e. increase potential suppliers).
2	Low	High	Holdup	For physical assets, outsourcing firm owns and leases assets; for temporal specificity, backloaded payments, bonuses and bonding. Use of quick arbitration.
3	High	Low	Honest disagreement about quality and other performance attributes.	Where possible, mutually agreed-upon practice guidelines.
4	High	High	Opportunism by external supplier.	Harmonize outsourcing firm and external supplier incentives through "rent-creation".

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