Just Right Outsourcing: Understanding and Managing Risk

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Journal of Management Information Systems / Fall 2005, Vol. 22, No. 2, pp. 37–55.

0742–1222 / 2005 $9.50 + 0.00.

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ABSTRACT: The risks associated with outsourcing have been the principal limitation on the growth of business process outsourcing, especially cross-border outsourcing. In addition to technological improvements in risk management, it is possible to reduce the risk of opportunistic behavior faced by the buyer by redesigning work flows and dividing work among multiple vendors, increasing the range of tasks that are now appropriate candidates for outsourcing. We provide a taxonomy of risks associated with the outsourcing of business processes. We focus on strategic risks and identify the components of this risk and the means by which it can be mitigated.

KEY WORDS AND PHRASES: holdup problem, interorganizational work flows, outsourcing, process design, strategic risks, transaction-cost economics.

THIS PAPER IS ABOUT *JUST RIGHT OUTSOURCING*—that is, about knowing what activities to outsource and how to structure these activities so they can be outsourced most effectively. Proper outsourcing is not outsourcing as much as possible, or doing so at the lowest possible first-year price; proper outsourcing is about achieving the very best long-term risk-adjusted rate of return. In that sense, of course, proper outsourcing is like proper investment management or proper strategic planning. Unfortunately, outsourcing of complex business processes is so new that the risks are seldom understood either by clients or by their outsourcing consultants, many of whom judge their performance solely by how much of a first-year discount they are able to force the vendor to accept. In this paper, we will explain the risk profile created by any outsourcing relationship and will then describe actions that the client can to take to improve this risk profile.

Previous research has identified—correctly—that it is important to get the scope of outsourcing correct, and has advocated a balanced approach, outsourcing neither too much nor too little [8]. Although the idea that getting outsourcing *just right* is important, until now little guidance was available for formally making the decision for just right outsourcing. The technique we will use to improve the risk profile associated with outsourcing any process is *strategic chunkification*—dividing any process into separate component activities, or chunks, that can be outsourced, and in a manner that reduces the risk relative to that of outsourcing the entire original process. To accomplish this, and to guide the exposition of the chunkification technique, we find it helpful to start with a review of why offshore business process outsourcing has suddenly grown so quickly, which reinforces the importance of risk in driving outsourcing decisions.

Reasons for the Growth of Outsourcing

THE GROWTH OF OFFSHORE BUSINESS PROCESS OUTSOURCING in India has been dramatic, as the industry has gone from its infancy to the second largest and the single fastest growing industry in India in less than half a decade. Software and services exports grew by 20 percent in 2004 to $12.2 billion [9], while the ITES/BPO (IT-enabled services/business process outsourcing) industry grew at 52.3 percent during 2003–4. Foreign direct investment (FDI) flows into the services sector in India have increased by roughly 100-fold from 1990 to 2004.[1]

Clearly, India has not acquired a huge labor force only in the past five years, nor has its labor force suddenly learned to speak English fluently. The supply of skilled labor for telephone-based call centers or for technological help desks has not suddenly increased. Likewise, Indian labor has not recently suffered an enormous decrease in wages in dollar terms, making the subcontinent economically attractive for the first time. In brief, inexpensive labor, highly skilled and in adequate supply, is not a recent development in India. Thus, these factors alone cannot be the cause of the recent dramatic increase in offshore BPO. Since the ability to get the work done more cheaply, the *reward* portion of the risk–reward trade-off, has not changed, we must look to the risk side to understand the sudden increase in outsourcing.

The reduction of risk in BPO initiatives is the result in part of cheap and ubiquitous bandwidth now available in India. Indeed, it is easy to see that there is a close relationship between the improved telecommunications infrastructure now available in India and the emergence of a vibrant private sector, which itself is due to the economic reforms undertaken by successive governments since 1991.[2] Clearly, some risks occur because vendors can intentionally take actions that are contrary to the best interests of their clients, without fear of detection because of their remote location. With remote monitoring supported by telecommunications, it is much easier to observe the behavior of parties or to observe the effects of these behaviors much more rapidly, reducing at least some of the risks that are created by previously unobservable activities. Just as clearly, some risks occur despite the best intentions and despite the most ethical behavior of the vendors, simply because the vendors lack the necessary information or the necessary experience and expertise to take the best possible actions for their clients. With telecommunications and technology-intensive platforms for sharing data and for prompting the actions of the vendor's personnel, many of these operational risks are reduced as well. Indeed, it now appears obvious that recent changes in telecommunications and other forms of technology have improved the risk side of the risk–reward trade-off associated with outsourcing, and that this reduction in risk is the principal driver behind the increase in offshore BPO.

It is useful to next examine the forms that risk can take in outsourcing relationships and the mechanisms available for clients and vendors to control them. In particular, this paper will draw upon the recent experience of numerous firms in the United States and Europe with outsourcing in India to show how processes can explicitly be redesigned to reduce risk and thus to facilitate outsourcing. The insights and findings of this paper are grounded by a collection of rich data points, drawn from a credit card

issuer and a large switch manufacturer in the computer networks industry. Finally, although our examples are drawn from offshore outsourcing, the techniques discussed here will work just as well for same-shore outsourcing of processes.

Review of Literature

THE PREVAILING VIEW THAT THE NATURAL BOUNDARIES of the firm were determined by technology, technological nonseparabilities, and economies of scale was first challenged by Coase, who held that the firm and the market were alternatives for organizing the same set of transactions [5]. Indeed, Coase's work established that transactions costs—the costs associated with arranging to have work done rather than the cost of doing the work itself—offered the best explanation for the existence of separate firms rather than the universal reliance upon market transactions. Transactions-cost economics (TCE) was developed to justify the firm as economizing on transaction cost—that is, to identify the most economically efficient governance structure and to show the conditions under which the firm and not the market provided the ideal governance structure. The essential role of risk as a large component of transactions cost created by leaving the internal hierarchy of the firm was first explained by Klein et al. [7] and Williamson [11]. Central to TCE is the role played by transaction frequency, investment idiosyncrasy, and uncertainty. Furthermore, TCE emphasizes the role of investment idiosyncrasy as the key reason for vertical integration—that is, the strategic vulnerability created by contracting is taken to be the principal explanation for firms' retaining control of some processes internally. Williamson [10, 12, 13] and Alchian and Demsetz [1] also explain the role of principal-agent problems, and deliberate underperformance of contractual tasks, under conditions of imperfect observability of alignment of incentives between client and vendor.

TCE has been readily used by researchers (see [3]) in the field of information systems (IS) to explain the effect of information technology (IT) on the boundaries of the firm. Clemons et al. [4] classify the principal components of risk associated with interfirm contracting, and then show how improved use of IT systematically affects these components; this study will be the basis for much of the work in this current paper. The Clemons et al. study also led the authors to predict that, although the amount of outsourcing would increase, it would take the form of stable bilateral working relationships rather than extensive use of the spot market, which they termed *the move-to-the-middle hypothesis* [4].

There is considerable empirical evidence in support of the theoretical hypothesis offered by IS researchers. Bakos and Brynjolfsson [2] show that the optimal number of suppliers is relatively small, which is consistent with the move-to-the-middle hypothesis. The work of Clemons et al. [4] reflects the trade-offs that firms face: relying on too few suppliers amplifies the threat of opportunistic behavior by one (or more) supplier, whereas too many suppliers can result in significant coordination costs and greater risk of operational errors. IT's effect on firm size was studied by Hitt [6], who used an eight-year panel data set of firms' structure(s), capital stock of technology,

and tangible and intangible assets, and found that the use of IT is associated with significant decreases in vertical integration and a weak increase in the diversification of firms' scope of activities.

Forms of Risk

WE BEGIN THIS SECTION WITH A SHORT TAXONOMY of the forms of risk that are created by outsourcing. We will return to this taxonomy in more detail later. The risks associated with outsourcing take the following four forms.

There are strategic risks, caused by deliberate activities of vendors to exploit clients. We call these risks strategic because they are caused by actions that vendors may take deliberately as part of a profit-maximizing strategy. These are the risks that are treated in the greatest detail in the earlier work by Clemons et al. [4].

There are additional forms of risk that, while important to note, are not analyzed further in this paper. (1) There are operational risks, caused by the breakdown in operations at the vendor location. These risks are not caused by deliberate actions by the vendor or by unethical behavior of the vendor. Rather, they are a by-product of the complexity of operations, the geographic separation between client and vendor, the cultural gap between the environments of the client and the vendor, or the limitations of the communications and transmission systems between the two. (2) There are long-term intrinsic risks of atrophy. These are not caused by anything that the vendor does but are an inevitable by-product of the process of outsourcing. Over time, if a company outsources an activity completely, it loses the core group of people who were familiar with it. They retire, they leave for employment where their skills are more valued, or they simply become less technically competent and become progressively more out of date. (3) Finally, there are intrinsic risks of location, caused simply by moving activities to remote locations. Some of these are geopolitical risks; moving activities to India creates an exposure to the potential of violent escalation of conflict between India and Pakistan. The other forms of intrinsic risk of location are equally familiar, such as sovereign risk or exchange-rate risk (see Table 1).

This paper is principally about dealing with strategic risk—which arises from opportunistic behavior of a supplier—and the techniques that clients can adopt to reduce this form of risk. The risks caused by intentionally exploitive behavior can be further subdivided as follows.

Shirking or the Principal-Agent Problem

Shirking is deliberate underperformance while claiming full payment, and comes in a variety of forms. Essentially, it entails having the vendor, or your agent, do less work than you require, less work than you have contracted for, and less work than you are paying for. It always occurs for the same two reasons: the agent's incentives for hard work are not the same as yours (your agent can shirk without detection), and the lack of information available to you makes it difficult or impossible to detect shirking by agents.

Table 1. A Taxonomy of Risks

Type of risk	Elements that constitute the risk type
Strategic risks	Risks that result from opportunistic behavior of one or both parties (buyer and supplier).
Operational risks	Risk of suboptimal output that results from a variety of cases, including complexity of operations, geographic separation between client and vendor, and the limitations of the communications and transmission systems between the two.
Intrinsic risks of atrophy	Over time, as a company outsources an activity completely, it loses the core group of people who were familiar with the activity and have the expertise to execute the activity in-house.
Intrinsic risks of location	Caused by moving activities to remote locations. These include geopolitical risks, sovereign risk, or exchange rate risk. These are risks associated with different regions with their different sociopolitical systems and different historical contexts.

Poaching or the Misuse of Information Originally Provided for a Legitimate Contract

Unlike shirking, which involves making an insufficient effort while claiming full payment, poaching entails a second, parallel effort that results in a second, unauthorized revenue stream derived from data provided as a legitimate part of the contract, often one that can significantly damage the party that originally provided the data. It can be something as simple as front-running a customer order,[3] or it can entail reverse engineering critical proprietary business processes, stealing them, and reselling them or using them as a direct competitor of the client. Poaching as a phenomenon has become more significant as information has become a more valuable asset in our high-tech economy, as information is more easily codified, and as outsourcing has increased. Like shirking, poaching occurs because the incentives of the client and vendor diverge (the vendor *wants* the additional income that poaching can provide) and because the action is hidden from the client and difficult to detect (the vendor can successfully avoid detection).

Opportunistic Renegotiation

Opportunistic renegotiation, or unilaterally changing the terms of a contract after its inception, occurs when the client discovers that it has no alternative source of support, goods, or services, and thus must pay its current supplier whatever price the supplier demands in the future. This loss of bargaining power, and the associated escalation of pricing, has occurred so frequently that this form of opportunistic renegotiation has its own name—*vendor holdup*—in the outsourcing literature [7, 13].

Obviously, this form of strategic risk, like the others, occurs because the vendor wants to behave this way and feels that it can. However, with the other forms of strategic risk, what enabled opportunistic behavior was the difficulty of detection; what enables it in this case is the client's lack of recourse. If the client has no alternative, then the client must accept the terms that the vendor offers.

Thus, all three strategic risks occur because the incentives of client and vendor differ. Moreover, shirking and poaching require that the action of the vendor be hidden and unobservable, whereas (in contrast) opportunistic renegotiation requires that the threat be made clear and visible; the client has so little power that it has little choice but to accept the new terms as dictated by the vendor.

Redesigning a Process to Reduce Risk: Dealing with Loss of Control over Expertise

AMONG MONOLINE CREDIT CARD ISSUERS, one has been especially successful and has enjoyed sustained profitability. Using its proprietary expertise in identifying and retaining the most profitable credit card customers, it has leapt from a new entrant to its current position as the third-largest bank credit card issuer in the United States. The task that the bank chose to outsource entailed addressing an area of critical vulnerability. As other banks learned at least the basics of the bank's strategy, competitors began to target this bank's best customers. The bank needed a way to identify a subset of its existing best customers, those who were in the processes of being courted away by offers from competitors, and then convincing these customers to stay with the bank.

There are two problems associated with attempting to outsource any part of this activity. The first is that these customers represent the bulk of the company's profits and must be retained. It is critical to perform this process well, and outsourcing this process may create unacceptable operational risk. The second problem is that the expertise needed to identify these profitable accounts and to retain them represents the principal source of value for the bank as a whole. Transferring the expertise needed to perform this task may create unacceptable strategic risk. An unscrupulous vendor could then transfer this expertise to a competitor.

Task Decomposition of the Process

The specific process that the bank wanted to outsource had three component tasks (see Figure 1).

Identification

The identification task entails determining which critical customers were in danger of defecting to another bank. The critical accounts were customers who historically maintained high credit card balances but who recently appeared to be changing their purchasing behavior. Since finance charges are paid by revolvers, customers who

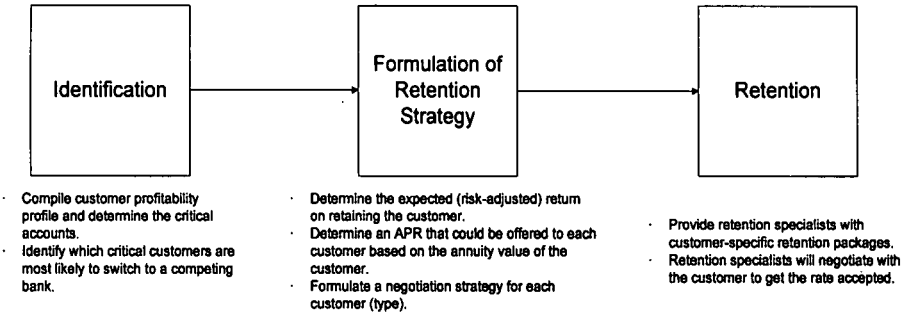

Figure 1. Work Flow Sequence: Identification, Formulation of Retention Strategy, and Retention

keep a revolving loan balance with the bank represent the largest single source of the bank's revenues and profits, and any loss of these accounts would severely damage profitability.

Formulation of a Strategy for Retention

The strategy formulation phase entails determining how to deal with each customer, which principally requires negotiating an annual percentage interest rate (or APR) that the customer will accept and that will retain the customer's business for the bank. In part, a lowest possible interest rate needs to be determined for each individual customer, based on the rate at which the customer's expected risk-adjusted rate of return (or expected long-term profitability) becomes zero. And a strategy needs to be developed for negotiating with each customer in order to get each customer to accept an interest rate that is both profitable for the bank and extremely competitive in the current credit card environment.

Retention

The bank employs *retention specialists* in the United States, whose job is to negotiate with customers who appear ready to leave the bank. They have computer support, which guides them in their negotiations with each customer, based on their assessment of the customer's feelings about his or her card and about the bank.

Risk Assessment of the Process: Strategic Risks

Outsourcing a process this critical will be risky, and risk analysis begins by attempting to understand the risk profile, or specific risks associated with outsourcing this process. We begin the study of the risk profile by examining the strategic risk of each of the three activities identified above.

Identification

Shirking does not appear to be a problem; if the vendor does not provide an adequate number of names, comparable to those that we would expect based on the statistical makeup of the group they are screening, this will immediately be obvious. Likewise, if they do not do an adequate job screening the names to identify those of greatest interest to the bank, this will be evident later, in the retention activities that follow. Shirking will be detected and, consequently, will be an unprofitable strategy for any vendor. Poaching remains problematic, and there are two elements of concern. The vendor could learn how the bank identifies accounts at risk of defecting, and then transfer this expertise to one of the bank's competitors. Alternatively, the vendor could learn *which* accounts are at risk of defecting, and sell that list to one of the bank's competitors. Either activity would, of course, be damaging to the bank. Opportunistic renegotiation does not appear to be a problem, since the bank has retained at least some portion of this activity within the firm in the United States, and it could rapidly gear up to reinternalize the process if a vendor should try to reprice the contract under terms unfavorable to the bank. Because of the risk of poaching, irrespective of the low level of other components of strategic risk, the strategic risk associated with outsourcing this process appears to be high.

Formulation for Retention

This process entails encoding rules into a computer program that can coach each retention specialist in working with each customer identified as a target in the previous process, and that can lead the retention specialist to propose interest rates that are both attractive to the customer and profitable for the bank. Shirking is not an issue; the software will either perform well or it will not, and this will be visible shortly after the software is made available. Poaching is the critical concern here. Once a vendor knows how the bank performs this operation, it is ideally suited to work with any of the bank's competitors and to transfer this most valuable expertise to them. Opportunistic renegotiation does not appear to be a concern; once the software has been written, the work is done. However, because of the risk of poaching, the strategic risk associated with outsourcing this process appears to be extremely high.

Retention

This process entails the actual negotiation with each individual cardholder. Shirking appears unlikely to be a problem because performance can easily be measured and compensation of retention specialists is based upon their performance. Poaching could be a problem if the retention specialists develop expertise that can be transferred to the bank's competitors. Opportunistic renegotiation does not appear to be a problem, because, as with identification, the bank maintains at least some portion of this activity within the United States and could reinternalize it if necessary. Because of the risk of poaching, the strategic risk associated with outsourcing this process appears to be high.

Risk Assessment of the Process: Operational Risks

We continue the study of the risk profile by examining the operational risk of each of the three activities identified above.

Identification

The operational risk of the process appears to be low because the statistical processes used to determine whether an account has begun to transfer its recent charge activities to a competitor's card are reasonably simple to understand and to implement.

Strategy Formulation for Retention

As long as all necessary information on calculating the value of a customer account is transferred to the authors of the coaching system, operational risk should be quite low. Of course, a great deal of information must be transferred. Some has to do with the probability of retaining a customer at each interest rate. Some has to do with the charge behavior of different customer segments over time. And some information may have to do with the efficacy of different negotiating strategies. All of these can, and indeed should, affect the prompts provided to the retention specialist as well as the information that the retention specialist should be requesting during the negotiations process.

Retention

The operational risk of outsourcing retention specialists is clearly higher than the operational risk of maintaining this activity domestically with U.S.-based retention specialists, if only because an employee familiar with American customs and with American styles and mannerisms is likely to be more comfortable and more effective during sensitive negotiations. That said, as long as the training of retention specialists is at the vendor location as it has been within the bank, and as long as the coaching software performs adequately, the operational risk of this task should be no worse than moderate.

We now need to combine these individual risk assessments into a composite risk assessment for the entire process. Having identified the various components of risk, it is clear that the strategic risk of outsourcing the three activities associated with the retention process is extremely high, simply because of the risk associated with outsourcing the software development. The operational risk is, at worst, only moderate. We combine these risks in a simple but intuitive fashion: the risk assessment of a process is the greater of the two individual assessments for strategic or operational risk. The justification for this heuristic is quite simple; it does not matter how safe the client is from operational breakdown if the vendor steals, and it does not matter how safe the client is from strategic abuse if the client cannot perform. A bad risk rating on either dimension is enough reason not to outsource the process.

Redesign of the Process Through Chunkification

While it would appear that the process of identifying and retaining these critical accounts is too risky to outsource, the bank achieved it safely through chunkification. The process was divided into three separate activities, as we described above, and each activity was allocated to one of three separate firms. No vendor could communicate with another; all communications were through the bank itself.

The identification activity was outsourced to one vendor. Moreover, the risk of this activity was greatly reduced by allowing the vendor access only to information needed for the successful execution of this activity. The vendor was not told what they were doing or why. They were identifying customers who satisfied some set of conditions, but they did not use this information in any way nor were they told how this information was going to be used by the bank. They knew that they were doing something, but they did not know what or why; although this may increase operational risk slightly, it virtually eliminated the risks of poaching described above. The risk of outsourcing this activity as delimited here was seen as only moderate. The customer-by-customer strategy formulation activity was considered too risky to outsource. The risk of poaching was seen as extremely high, because expertise would need to be transferred to a vendor completely and unambiguously in order for the vendor to be able to complete software development and testing. Thus, the bank kept this activity internal to the company and did not outsource it.

The account retention activity was outsourced to a second vendor, but this vendor was unaware of which firm had performed the identification activity and could not communicate with it; thus there was little danger of the first firm learning how their list of names was used or what the nature and importance of their activities were. Likewise, while retention specialists had access to the results of the strategy formulation activity through use of a coaching support system, they used the system essentially as a sealed black box. While the coaching system enabled retention specialists to perform surprisingly well, given the cultural gap between them and the clients with whom they spoke, the sealed nature of the box reduces or even eliminates the transfer of expertise to retention specialists. Once again, the risk of outsourcing this activity as delimited here was seen as only moderate.

The risk of each activity outsourced is now no worse than moderate, thus making each of these activities suitable for outsourcing. We summarize the key ideas of this section thus: by dividing the process into three activities, determining the risk profile of each, and developing a risk mitigation strategy for each, the risk of each activity is reduced. More importantly, the most labor-intensive activities can all be outsourced, while preserving a very low-risk profile for the process as a whole.

Redesigning the Task to Reduce Risk: Dealing with Misuse of Financial Information

A MAJOR SWITCH MANUFACTURER HAS OUTSOURCED its customers' order entry activities to India. This process, like the retention process that the bank outsourced, has

multiple activities, and they interact in subtle ways to determine the risk profile of the process as a whole:

- *Order capture:* The customer places an order for telecommunications equipment.
- *Order communication:* The order is communicated to an operational unit for production scheduling and to a financial unit for billing the customer and for disbursing some cash to the original equipment manufacturer (OEM) if this was a third-party sale.
- *Financial processing:* The client is billed and some preliminary and partial commission payment is authorized to be disbursed to the OEM vendor.

As with the treatment of the credit card issuer's outsourcing decision described earlier, we begin by describing the risk profile of the entire process. The strategic risk of the order capture task appears to be low. Shirking is minimized because clients will be enraged if their orders are not captured and confirmed properly, and thus shirking would readily be detected. One element of poaching is minimized by controlling the vendor's employees' ability to communicate with employees not working on the switch manufacturer contract or indeed to communicate with anyone not working on the contract or for the switch manufacturer itself.[4] Vendor employees working on the switch manufacturer contract cannot pass along the list of sales prospects to other vendor employees working for the switch manufacturer's competitors, nor can they send e-mail or use technology to communicate with the employees of these competitors. The switch manufacturer controls the risk of opportunistic renegotiation by retaining a core group of order entry personnel in the United States, and could readily reinternalize the activity if it became financially desirable to do so if the vendor attempted to change the terms of the contract. Operational risks are limited due to the simple nature of the tasks being performed.

However, one possible means of poaching remains, associated not with the order capture activity but with financial processing and cash disbursement. The outsourcing vendor, if allowed to make the decisions on cash disbursements for commissions, could front-load commissions to the OEM at a higher level than authorized, allowing the OEM to have access to more of their commissions sooner than authorized by the switch manufacturer; the vendor could then reduce later payments by the same amount, leaving the switch manufacturer unaware that they were losing vast amounts of float. Thus the strategic risk associated with the entire process appears to be high.

The switch manufacturer uses two separate vendors, who do not communicate with each other in any way, to manage the two separate activities. One vendor does only order capture and communication, passing along key order details to the switch manufacturer. The switch manufacturer then gives the second vendor only enough information to do financial processing, and not quite enough to complete cash disbursement authorization. The vendor can determine how much money is to be disbursed to each OEM, using a proprietary switch manufacturer OEM identification code. Only the switch manufacturer can translate from the code to a specific vendor, and thus only the switch manufacturer can complete the transfer. Since the first vendor does no cash disbursement and the second vendor does not know the identity of cash disbursement

recipients, neither can engage in activities that entail manipulation of the cash disbursement process. Chunkification has reduced the risk of each activity, and of the process as a whole.

Managing Strategic Risk

STRATEGIC RISKS ARE THE RESULT OF ACTIONS taken by a vendor directly aimed at obtaining benefit at the client's expense. Shirking is deliberate underperformance while claiming full payment. It allows the vendor to work less hard for a client, to dedicate fewer resources or lower-quality resources, and, in general, to earn more by diverting resources to other engagements. It can take many forms, but all have the following in common: reduced effort without offsetting reductions in compensation, motivated by differences between client and vendor incentives, and enabled by the client's inability to detect it.

Shirking

The simplest forms of shirking all involve lack of effort simply because the vendor has alternative uses for the same resources. These are the easiest to anticipate. (1) Vendor personnel can provide low levels of effort, either in the performance of the primary task or in subsequent quality assurance activities. It can take the form of lower effort levels, or indeed, not actually working at all during what appear to be billable hours. (2) The vendor can shift staff assignments and use more junior, or more poorly trained and less qualified, staff than the client was promised. (3) The vendor may underinvest, either in training or in software, equipment, and other facilities needed to support the vendor's activities.

These three forms of risk are created simply because the vendor may have other uses for critical resources required to perform optimally. There are other occasions in which the vendor's incentives may be so opposed to those of the client that even stronger conflicts of interest occur.

Commission-Related Incentives

The vendor may not get the best possible price for the client when negotiating on the client's behalf, because he earns a commission directly related to the price that he is able to obtain for the client. A real estate agent or a travel agent earns a commission based on the price that the client pays for the real estate or for the ticket. In some instances, a real estate agent or travel agent may be tempted to get a purchase price for the client that is higher than necessary, simply because this will increase the vendor's commission.

Vendor Competing with Client

The vendor may be a direct competitor of the client, with incentives to underperform, even to sabotage, the vendor operations. An online travel agent operated by one airline

can keep (and indeed at least one has kept) full-fare passengers for its own airline while loading its closest competitors with deep-discount leisure travelers on the routes that it considers to be the worst competitive threats. The online travel agent is delivering low-quality reservations to its competitors, and doing so for obvious reasons.

Poaching

Poaching, like shirking, requires that the client be unable to detect the vendor's behavior, but, unlike shirking, it does not entail insufficient effort. Rather, it entails the vendor's taking actions unrelated to the contract, with resources provided for the contract. It does not damage the client by resulting in inadequate deliverables but by activities that are directly in competition in some way with the client's own operations. It does not reward the vendor for undetected underperformance; it rewards the vendor through a parallel revenue stream. Shirking can be reduced by attempting to align the incentives of the vendor more completely with those of the client, for example, by compensating the vendor better as performance increases; this is often more effective than attempting to compensate the vendor for things that cannot truly be observed, such as effort. Poaching cannot be reduced this way—no matter how well you pay the client for his performance, the possibility for gain through parallel and unauthorized activities will often remain. Poaching can take the following forms.

Opportunities for Resale

A vendor can resell software developed for a client, or the expertise that enabled the software to be developed; innovations developed for one player in an industry are often of value to competitors. A vendor can resell engineering designs, or the research that led to their development. A vendor can resell a list of attractive and profitable customers being targeted for cross-selling and up-selling activities, or the expertise that led to the development of the target list.

Opportunities for Reuse as a Direct Competitor

A vendor may, over time, become a competitor of its client. This is more frequently observed in manufacturing outsourcing, where a vendor reverse-engineers designs and begins to act as a direct competitor. Numerous examples are well known, from stereo production to chip manufacturing.

Opportunities for Misuse

There are numerous ways in which a vendor can use information obtained from a client for competitive advantage. Perhaps the most publicized is front-running a customer order in a range of industries, starting with securities trading. Misuse may be more subtle and may involve encroachment into related activities. American Express, as a charge card processor, obtains enough information on corporate travel patterns to

enable it to pitch proposals to corporate travel coordinators, in direct competition with their existing travel agents. Likewise, a computerized reservations systems vendor can access reservations for full-fare passengers and divert at least some of them from competitors' flights to its own.

Opportunistic Renegotiation

Opportunistic renegotiation, or vendor holdup, occurs when the client has no alternative service provider readily available. This form of strategic vulnerability occurs as a result of "post-contractual small numbers bargaining situations." That is, it occurs when the client can no longer reinternalize a process, and no firm other than the current vendor is prepared to step in quickly. It can be encountered in facilities management outsourcing contracts. It can be encountered in a range of other settings as well; when a client outsources software development it often finds that only the original development firm is well positioned to bid on ongoing maintenance and testing, or on 24-7 tech support. Thus, even if the original vendor appeared attractively low-price before the initial contract, when it was bidding against a large number of competing development firms, in the small-numbers negotiating situation where no other firm can directly compete, its prices may be much higher.

As we have seen by example, *vertical chunkification*—dividing a process into sequential nonoverlapping activities—can greatly reduce the knowledge transfer associated with outsourcing and can reduce the risk of poaching. Similarly, *horizontal chunkification*—dividing the volume of a process or a set of subtasks among alternative vendors—can greatly reduce the risks of shirking and opportunistic renegotiation, especially if some of the volume is retained internally. Internal operations provide a wonderful mechanism for calibrating the performance of vendors and detecting shirking. Likewise, maintaining some internal competence, or using multiple vendors, reduces strategic dependence on one vendor and reduces opportunistic renegotiation because there will always be an alternative service provider. *It is important to note that horizontal chunkification should never be used to reduce the risk of poaching, since it creates multiple vendors with an incentive to poach, with concerns that a competitor may poach if they do not, and with plausible deniability of responsibility if poaching should occur.*

Indeed, the difference in techniques used to mitigate risk serves to underscore the differences among shirking, poaching, and opportunistic renegotiation.

Dimensions of Risk

We find the following three dimensions useful when comparing these three forms of risk.

Nature or Role of Information Asymmetry

Shirking and poaching both involve hidden actions, actions taken by the vendor that are unobservable by the client. In the case of shirking, the vendor simply does not

work very hard, or does not invest in systems or training, or does not assign appropriately trained personnel while claiming full payment. In the case of poaching, the vendor may do all of these things perfectly in order to learn as much as possible. The vendor benefits come from learning how to do a good job, from staying on the contract long enough to learn to do a good job, and sometimes even from the external credibility that comes with having been seen as doing a good job. However, the vendor's hidden action in poaching occurs at a later time, when the vendor uses this expertise for his or her own gain in a way that damages the client. In contrast, the actions that occur during opportunistic renegotiation are clearly visible when they occur and nothing about opportunistic renegotiation is hidden: when the vendor determines that the time is right and that the client is suitably dependent, the vendor then openly and explicitly changes the terms of the contract going forward.

Time Frame for the Action

Shirking occurs during the contract, and any detection can occur during the contract. Poaching is more likely to occur after the contract, and opportunistic renegotiation more frequently occurs during contract renewal, since this is the time when price is discussed.

Mechanisms for Mitigating the Risk

Because the nature of the three risks is so different, the mechanisms for controlling and mitigating them will be different as well. Shirking depends upon hidden action—that is, upon the client's not being able to observe closely and accurately what the vendor is doing during the course of the contract. One mechanism available is closer monitoring; this may be expensive for the client, but can produce good results. A second is to maintain two or more competing vendors through horizontal chunkification, compare their performance, and to discipline, fine, or drop the worst-performing vendor. This is less expensive to execute. Poaching also depends upon hidden action by the vendor, but most frequently, action is taken after the contract has been completed; therefore, neither of the actions that can be taken to reduce shirking is likely to be effective against poaching. Indeed, these actions may actually exacerbate poaching. Any action that reduces shirking, in essence, enables the vendor to do a better job and to demonstrate the ability to do a better job; in essence, these actions make the vendor more dangerous as a competitor. Worse yet, using multiple vendors through vertical chunkification creates *plausible deniability,* because if poaching occurs, it will not be immediately evident which of several vendors might have been responsible, and even the guilty party can plausibly deny its actions. The actions that are effective when dealing with poaching, such as dividing a process into nonoverlapping tasks that are assigned to different vendors to limit knowledge transfer *(vertical chunkification),* really have little effect on shirking or opportunistic renegotiation.

Opportunistic renegotiation is a result not of hidden action but of power shifts. Therefore, monitoring, coaching, and division of processes into tasks are unlikely to

be effective. However, dividing a task among competing vendors, so effective in dealing with shirking, reduces dependence upon any single vendor and thus mitigates the risk of opportunistic renegotiation.

In summary, the risk mitigation actions have decidedly different effects on the different risks.

Quality Assurance: The Role of Horizontal and Vertical Chunkification

QUALITY ASSURANCE ACTIVITIES PROVIDE an opportunity for both horizontal and vertical chunkification. Vertical chunkification describes *which activities* will be allocated to the client and which will be allocated to the vendor. Horizontal chunkification describes *what portion or fraction of each activity* will be allocated to the client and what portion will be allocated to the vendor.

A Western European national telephone company outsources the preparation and maintenance of all of its network mapping to InfoTech in Hyderabad. First- and second-level quality assurance activities are performed by the vendor as well. There is a single employee of the telephone company on location in Hyderabad and he or she spot-checks a fraction of the work after the vendor has certified it as "fully tested." If the client employee finds even a single mistake, the week's work is rejected and the vendor pays to redo the work at its own expense. Although this may seem excessively harsh, in practice, it has worked out quite well. The vendor can inspect the work more cheaply than the client, and it is better to have the work inspected before it is shipped to Europe. There is no benefit to be gained by having both client and vendor inspect all of the work, and all of factors listed above argue for having the vendor perform the inspection. That said, the client wants to ensure that the vendor does inspection quite carefully, and the harsh penalty for poor-quality inspection has, in practice, worked out well for both parties, and better than having the client perform the inspection and reduce the price of the contract by the cost of doing this task internally.

A major computer manufacturer's telephone order operations are outsourced to India, and much of the real-time quality assurance work is outsourced to India as well. The manufacturer has chosen to rely upon a combination of horizontal and vertical chunkification. The vendor has been given the bulk of the customer order support task and the bulk of the quality assurance task, but a small portion of each has been retained internally at the manufacturer. At any given time, one of the Indian call centers will not be taking customer orders but will instead be monitoring the performance of other operators at other Indian call centers, as they service customers calling in from the United States. As with the telephone company example above, it is cheaper to have the Indian call center operator monitor the performance of its operations, and thus this arrangement appears ideal. Unfortunately, shirking can occur, both in the call center operations and in the quality assurance activities related to them; each of the Indian vendor's call centers that acts as a quality assurance agent one day knows that one of its peer institutions will be serving as a quality assurance

agent for it another day. Even though none of the centers knows which has been monitoring it, informal collaboration can arise in which no center gives a poor performance evaluation to another. To prevent this, the computer company has maintained a call center in the United States, internal to the company and under its own management. At any given time, that call center may be online taking customer orders. Alternatively, it may be monitoring the Indian call centers, or monitoring the Indian call center monitor. Any deviation between the quality assurance assessment that the company monitors give the vendor and the quality assurance assessment that the vendor gave its operations at the same time can be dealt with as harshly as necessary. Currently, the presence of internal monitoring capability has been quite sufficient to ensure quality operations at the vendor, and penalties are seldom required.

Conclusions

AS WE HAVE EXPLORED ABOVE, OUTSOURCING any activity has various components of risk. Some are strategic and are caused by explicit actions that might be taken by vendors. Others are operational and are caused simply by the complexity of processes and the difficulties created by outsourcing them and removing operations from local oversight and control by the client firm. It is well understood that it is important to make outsourcing decisions correctly in order to reduce risk. The techniques described above for strategic chunkification go a long way toward guiding correct decisions on outsourcing, what to outsource and what to keep within the firm. They should indeed help firms right source their production and procurement decisions.

Acknowledgments: The authors would like to thank the executives at the following BPO service provider firms: Allsec Tech Ltd., First BPO, HCL technologies, InfoTech, I-OneSource, MphasiS Ltd., Office Tiger, Wipro Technologies, and the executives at the following firms: American Express, CapitalOne, CitiBank, General Electric and Morgan Stanley for their time, insights, and participation in our research. We would like to thank the appropriate parties in the governments of Karnataka and APFirst of Hyderabad and the Infocom Development Authority of Singapore (iDA), the National Computer Board and the Ministry of IT and Telecom of Mauritius for their generous assistance during our numerous site visits. The Fishman Davidson Center at the Wharton School, the Wharton Electronic Business Initiative (WeBI) and The Wharton-SMU Research Center at Singapore Management University provided financial and logistical support.

NOTES

1. *Financial Times* (June 4, 2004).

2. The economy witnessed wide-ranging deregulation after the 1991 economic reforms even as some South Indian state governments aggressively sought FDI in the services industry and made policies accordingly. The reader is referred to "The Plot Thickens" (www.economist.com/displaystory.cfm?story_id=637817).

3. In front-running, a firm that could be acting as the client's agent in some form of transaction first engages in a parallel transaction, then does the client's transaction at a worse price, then unwinds its own transaction at a profit.

4. A variety of mechanisms are employed for this purpose, including physical separation, disabling of electronic channels of communication, and so on. The objective is to reduce this

risk to levels better than (or no worse than) the client's business environment (in the United States, United Kingdom, etc.).

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