Beyond Opportunism:
A Resource-based View of Outsourcing Risk

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Abstract

To date, IT outsourcing research has focused on applied problems and case studies. Two bodies of theory offer useful and needed perspectives on both the risks and the factors or variables which affect the risk of outsourcing IT. Transaction cost economics provides a thorough description of the conditions under which the risks of opportunism and inflated transaction costs are high. The Resource-based view of competitive strategy proposes variables that affect outsourcing hazards even when opportunism can be ruled out. The resource-based view is consequently particularly helpful in the examination of outsourcing contracts described as partnerships.

1. Introduction

As the practice of outsourcing information technology (IT) resources has grown exponentially over the past few years, one core issue has dominated both research and IS management: Which resources can or should be outsourced? This question has centered our attention on the corollary problems of how to evaluate risk and how to minimize it. Recent research has compiled lists of the risks and threats of outsourcing, and we have begun to develop crude tools for identifying practices that should help businesses minimize or avoid the risks of outsourcing. Much of what we’ve learned academically has been from intensive and extensive case studies. As a consequence, our understanding of outsourcing issues has grown more from a system of trial, error and report than from theory-based research.

What theory or theories offer the most to our study of outsourcing? We may argue that the problem of effective outsourcing must drill down, eventually, to the economic issue of the theory of the firm and its fundamental questions: Why do firms exist? [7] and what is the cause of their scale and scope? [9, 16]. Why is not all business or commerce conducted by individual contractors on the market? To ask when and how and why a firm should outsource its information technology, we may turn to the theoretic question, when and how and why should a firm outsource, or not outsource—anything? Why does a firm exist at all? Using this approach, we find that theory helps us answer not “which resources should be outsourced,” but rather, “which ones should not?”

Two non-exclusive theories of the firm offer valuable perspective on this problem. Transaction cost economics [7, 31, 32] offers a view of the risks of opportunistic behavior accompanying various transactions. The Resource-based view of strategic management focuses on the value and accessibility of unique or costly-to-copy attributes of the firm. Both theories are useful in understanding risks to the firm when it turns to the market to source its IT resources.

Transaction cost economics (TCE), which derives from Coase’s (1937) argument that the firm exists to avoid excessive transaction costs, provides a model for specific conditions under which transaction costs are particularly likely to be excessive or where opportunistic behavior is a serious risk to the transaction. The primary reasons for outsourcing IT have been routinely identified as cost containment and acquisition of expertise [15]. Managers outsource when they expect the market to be more cost efficient than vertical integration and/or when they believe skills, knowledge or experience are available via the market that are not available in-house. The transaction cost approach to outsourcing applies to the cost-containment objective. It has been used and cited as potentially helpful to predictive models of outsourcing risk and success [12, 23] as well as the outsourcing decision [24].

Early wisdom for outsourcing dictated that we outsource only “commodity” IT (those resources which can be clearly defined and which are available from numerous vendors). Those resources seemed the most likely to harvest cost benefits for the firm without risking the hazards of major dependence on a vending firm which may lead to high transaction costs. Strategic IT resources were to be maintained internally. Yet increasingly, IT outsourcing literature discusses “strategic alliances” and “partnering” as a valid approach to effectively outsource more strategic IT resources [2, 4]. Beginning with the much-vaunted Kodak outsourcing
case, “partnering” has been proposed to be a means of reducing the risk of opportunism while the firm acquires externally the expertise and technical resources that may offer an IT-based source of competitive advantage. Does a “partnering” arrangement for acquiring complex IT resources actually allow the firm to avoid transaction costs, and consequently make outsourcing strategic IT feasible?

The Resource-based view of strategic management does not conflict with the ideas of transaction costs, but it raises issues beyond those of opportunism. Rather than focusing on the conditions affecting risk of opportunism in market-mediated exchanges, RBV focuses on characteristics of the strategic resources that affect their value and mobility. Thus it may be used to help us identify and evaluate risks of outsourcing beyond, or assuming away, the problems of transaction costs and opportunism.

This paper explores the contributions which TCE and the RBV offer to the problem of which IT resources may not be acquired reliably and successfully via the market. Particularly it explores the contribution that the RBV offers in carrying forward our thoughts about outsourcing in an opportunism-free scenario. In the following sections we will first explore current perspectives on types of IT outsourcing. We then explore aspects of both TCE and the RBV for their respective contributions to the IT outsourcing problem. Finally, we will suggest directions for empirical research in IT outsourcing based on the theories at hand.

2. A Review of IT Outsourcing Practice and Issues

In the Information Systems (IS) literature, we find three factors dominate approaches to the problem of which IT resources can and should be outsourced: 1) IT Resource characteristics, 2) Transaction types, and 3) Risk. Identified values for these factors are summarized in Table 1.

The two most common hazards of outsourcing documented in the outsourcing literature are failure to receive expected service levels or expected cost savings [13, 19]. These failures seem to be more probable as resource and transaction characteristics become more complex. Whether the resource is perceived to be more of a common commodity or a unique, custom, or even strategic resource has been observed to affect a firm’s tendency to outsource and expectations of success [19, 20, 24, 25]. The complexity of the specifications of the needed resource is also a factor in outsourcing studies. The more complex the requirements, the more difficult we may expect it to be to develop fair, functional contracts. Transaction types, in fact, reflect the complexity of IT resource requirements.

Applegate and Gogan’s (1995) convenient classification of IT transaction modes distinguishes three types: transaction, contract, and partnership. Each type implicitly includes both the complexity of asset requirements and the character of the relationship between buyer and vendor. Simple transactions are all that’s required for standardized, widely available IT commodities such as pre-packaged software or hardware components. There are many IT resources at this level for which market efficiency is unquestioned.

When the delivery of resources or services involves more customized specifications and a longer transaction term, a contract relationship is required. In contract transactions, the work to be accomplished and the time in which it is to be completed are specified. The complexity of services required will predict contract complexity. As the characteristics of the requirements are more uncertain (as is frequently the case in large, long-term IT projects) the contract must become more complex, specifying complex authority structures and processes in place of the details of the procedure and output [3]. But as we will explain in the following TCE discussion, as the required resources and the contracts for them become increasingly complex, the risk of increased costs increases.

Table 1. Outsourcing Factors in IS Literature

<table>
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<tr>
<th>RESOURCE CHARACTERISTICS</th>
<th>TRANSACTION TYPES</th>
<th>RISKS</th>
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<tr>
<td>Complexity of requirements</td>
<td>Simple (commodity) transaction</td>
<td>Inadequate service over time</td>
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<tr>
<td>Strategic value of resources</td>
<td>Contract</td>
<td>Expected cost savings are not realized</td>
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<td></td>
<td>Partnership</td>
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Since Kodak’s revolutionary, multi-vendor IT “mega-deal” in 1989, partnering has been proposed to reduce or remove the risk of opportunistic behavior in transactions involving long-range and complex dependence on a vendor [4, 19, 21]. As partners, vendor and buyer are expected to value the long-term relationship more highly than individual opportunities for opportunistic behavior, hence the opportunistic behavior is avoided. While TCE helps us explain and predict opportunism-based hazards of outsourcing contracts, it is less helpful if, as in the case of partnering, we attempt to assume away those hazards. The benefits and risks of the ‘partnering’ approach to market acquisition of resources is better assessed through the RBV.

3. A Transaction Cost View of IT Outsourcing

In order to obtain expected cost benefits from outsourcing, IS managers must be concerned that the outsourcing arrangements are and will remain fair market transactions. They must also be concerned that the IS technology and service they maintain meets firm requirements, both present and future.

TCE theory is particularly applicable to the manager’s concern for cost of IT resources and the research focus on market conditions which make transactions attractive. It explains firm organization as a means of avoiding opportunism expenses that might occur in a market exchange. That is, it explains resource acquisition and management in terms of defensive strategy against market inefficiencies. Where the market is efficient the firm need not support the overhead expense for developing, maintaining, and storing its own resources. Each of the four cases in Williamson’s (1983) “Organizational Failures Framework” identify market conditions that are likely to result in high transaction costs or opportunism. Each of these cases predicts a set of IS resource acquisition problems that have been experienced and documented in practice. Three, small numbers, information impactedness, and contract duration, deal with characteristics of the market or the contract. Uncertainty and complexity, the fourth case, identify resource-based vulnerability to risk.

Market- and vendor- based hazards. While in general the number of vendors offering some kind of IT services or resources is certainly not small, there are circumstances under which IT numbers become effectively small. Where a firm’s vendor requirements are highly specialized, the number of eligible vendors may shrink substantially. Also, when firms develop a contract relationship in which switching costs will be high, the small numbers condition is obtained once an initial contract is established. Consequently the “mega-deals” such as Xerox or Blue Cross reported in recent outsourcing literature may eventually encounter vendor opportunism through the small numbers condition.

Information impactedness occurs when one participant in the interaction has more information about the resource or the transaction than the other has. An irony of IT outsourcing is that many firms turn to vendors because they believe that the vendors have greater knowledge and experience with information technology and its implementation than they do. If this is true, the vendor is likewise in a position for opportunistic behavior in the contract design. Hence, hidden costs are almost certain to appear. Further, the process of contract development itself grows complex with the size and complexity of requirements. When a vendor is more proficient at contract writing for IT resources than the firm, opportunism is a serious threat.

The problem of opportunism predicted by Williamson’s model has been borne out in empirical research of IT outsourcing contracts. Lacity, et al. (1995) indicate:

In virtually every supplier-written contract we studied, we uncovered hidden costs, some adding up to hundreds of thousands—even millions—of dollars (p. 91).

The problem of uncertainty in the case of IT sourcing is exacerbated by long contract periods. Although IT generations are approximately two years, many of the large, comprehensive IT sourcing contracts specify a duration of ten years—or five IT generations. Even in conditions where, as Lacity et al. (1995) suggest, a firm believes it can be certain of IT requirements and their stability, the probability that needs or opportunities will change significantly in five generations is close to one.

Uncertainty/Complexity. The remaining condition for market inefficiency has to do with imperfect knowledge of the resources, the market, or its participants. Where characteristics of the resource environment are uncertain, and where the problem of acquiring or managing the resource is extremely complex, transaction costs are likely to be high and organization more attractive. Where uncertainty about the environment or the future occurs, approximation occurs in decision making, and the potential for opportunism in market transactions increases.

Common sense, as well as some practical experience tells us that it is quite difficult to write contracts for poorly defined resources. In the case of information technology, information about the resources is often imperfect for two reasons: 1) rapid change and 2) complexity. With the rapid change in technology, purchase of current technologies for immediate implementation may make sense because specifications of resource charac-
teristics are likely to be fairly clear and the resources are likely to be available through multiple sources. But dependence on a vendor for future technologies is likely to be more risky as specifications and availability are less certain. The impact of uncertainty on contract efficacy has been found repeatedly in the case of IS outsourcing.

The average total outsourcing contract that we studied was for 8.6 years, but by the third year, most companies complained that the technology provided by their suppliers was already outdated [18, p. 92].

As the firm develops requirements for complex systems which must be integrated with other systems, uncertainty of resource characteristics, work or skills required increases. As uncertainty of those requirements increases, likelihood of opportunism likewise increases.

We can expect fair resource acquisition through the market when three conditions are met:

1) The resources are widely available;
2) The resources are readily specified; and
3) Market information about the resources is complete and freely available to all.

Where these three conditions are not met, TCE suggests market transactions are exposed to opportunism.

The threat of opportunism has probably been the key concern in studies of risk and risk management in IT outsourcing. The solution of partnership has been proposed as a means of forging a relationship that is able to reduce the likelihood of opportunism in conditions of high uncertainty and complexity. The feasibility or validity of such a solution is still dubitable from a practical standpoint. But beyond that, we must raise the theoretic issue: can strategic IT resources, in particular, can complex and only weakly defined and planned IT resources be acquired on the market even if we are somehow able to rule out opportunism?

4. Resource-based View

While it is certainly true that uncertainty of needs and resources may lead to imbalanced contracts and opportunistic behavior in market transactions, we must recognize that such uncertainty is also a common state in business. The resource environment, especially in information-intensive industries [26], is dynamic. The IT resource environment is volatile in the extreme. Technology-based opportunities occur as new technologies emerge and new applications are developed; competitors introduce new, information-based products or services which create new IT-based competitive necessities into the industry; and strategies change. Hence as needs and opportunities change, the firm is hard-pressed to ensure that it controls the IT resources needed to meet new competitive challenges.

While the RBV absolutely recognizes the hazards of opportunism and their relevance to a firm’s sourcing choice, it extends our study of resource value and control in conditions of uncertainty. In particular, with the RBV, we explore the problems of acquiring or managing resources that offer strategic value [5,9,28,30].

The RBV rejects traditional economic assumptions that resources are homogeneous and perfectly mobile. That is, firms are assumed to be heterogeneous in terms of the resources they control or can readily acquire [6]. The application of this assumption to IT resources may not be immediately obvious. Indeed, the market for IT products and services has become enormous. Virtually any IT product can be acquired externally, either in standard packages or through custom development. However, valuable resources may not have the same competitive value to all competing firms, and they may not be evenly accessible [5,6]. This fact is key to the development of a resource-based perspective of IT outsourcing. The value of resources may vary as they occur in bundles of resources, and consequently, the value of the same resources may be heterogeneous across competing firms.

Using the RBV, we focus on value, accessibility, and control of valuable resources—those resources that may afford competitive advantage to the firm. One of the key problems in securing such resources is identifying which resources have this potential. Table 2 presents a comparison of RBV and TCE views of outsourcing factors.

As they change, the value of various resources—especially those that may affect the firm’s ability to act—change along with them. Consequently, where:

1) Uncertainty clouds the characteristics of resources (including their value),
2) The value of resources is heterogeneous, and
3) Resources are not reliably mobile,

we find that managers must concern themselves with more than the problem of transaction costs and opportunism. In dealing with resources such as IT, which are dynamic in characteristics, in usage, and in value, additional “unobservable” resources are needed and used to manage them. Organizational routines, knowledge, learning, and capabilities may all be included in this set [10, 14].

The RBV of the theory of the firm suggests that a key function of internal organization is the management—the acquisition and maintenance—of these “unobservable” resources which enable the firm to maximize its ability to take advantage of emergent strategic opportunities under the normal but difficult condition of uncertainty [1,8,14]. Our general concept of strategic opportunity may be described as a basis for new sources of revenue. Information-based strategic opportunities are increasingly understood to be very widespread. They may take the
Table 2. Key outsourcing factors: TCE vs. RBV

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<tr>
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<th>TCE</th>
<th>RBV</th>
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<tr>
<td>Market / Contract Characteristics</td>
<td>Uncertainty</td>
<td>&lt;Strategic Factor Markets&gt;¹</td>
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<tr>
<td></td>
<td>Number of vendors</td>
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<td></td>
<td>Contract expertise</td>
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<td></td>
<td>Contract duration</td>
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<tr>
<td>Resource Characteristics Affecting Risk</td>
<td>Uncertainty</td>
<td>Uncertainty</td>
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<tr>
<td></td>
<td>Complexity</td>
<td>Complexity</td>
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<td>Resource Homogeneity</td>
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<td>Resource Mobility</td>
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<tr>
<td>Risk</td>
<td>Transaction costs</td>
<td>Asset erosion</td>
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<tr>
<td></td>
<td>Opportunism</td>
<td>Loss of access to assets</td>
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<td>Loss of control over strategic assets</td>
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¹ Not discussed in this paper. The RBV recognizes the relevance of market issues described by TCE. It notes in addition the possibility that resource mobility is affected by the ability of vendors to recognize the strategic value of a resource to a buyer [5].

form of new products, new services, or new markets. They may take the form of improved operations that may move the products or services to the markets more quickly or inexpensively [17].

Capitalizing on a valuable opportunity requires a number of actions and capabilities from the firm. First, the opportunity must be recognized. Then, the firm must be able to acquire or divert quickly the resources needed for its response. In order to divert or acquire resources and to implement them in the time needed for a strategic move, two important intangible resources are required: knowledge and control. A decision-maker must have both the knowledge to understand the opportunity and adequate control of firm resources to be able to secure them for the project before the strategic value of the opportunity lapses.

The RBV helps us build the argument that where IT resources have potential strategic value to a firm, or where a firm strategy potentially may depend on IT resources, knowledge, control, and a third capability, learning, are key to strategy implementation [e.g. 10, 33]. We may then find that these unobservable resources have as much impact on outsourcing viability as the conditions that led to opportunism. That is, the unobservables may necessitate organization (internal sourcing) even when efforts on the part of the vendor and buyer for a fair transaction are earnest and sincere.

4.1 Knowledge

When we consider IS knowledge resources in the firm, we recognize three relevant dimensions: Knowledge of technology, knowledge of the firm, and knowledge of the competitive environment. Each area may include very specific and detailed information, such as technology characteristics, or a history of the firm or industry. But there are other kinds of knowledge in each type that may affect the accessibility of the resources or the firm’s ability to use them.

4.1.1 Knowledge of technology. Knowledge of technology is of two types. First, it involves both general and specific experience with characteristics of the technology. It also involves the technology’s value, both present and potential. Knowledge of technology function and specifications is probably the most mobile. Vendors may be expected to have a high level of understanding in this area. Knowledge of specific technology implementations is more specialized to the firm. The history of its development, implementation and maintenance, of its integration successes and failures, its use, and its cost history is far more unique, and in most cases is virtually impossible to acquire externally if that history occurred internally.

The value of technology is perhaps the most difficult knowledge of all for the firm to acquire or maintain. Yet knowledge of both present and future value of IT resources can be critical to planning and to the feasibility of strategic initiatives. The main obstacle to IT resource value assignment lies in the collision between complexity of resource characteristics and limited cognition [27]. The value of a firm’s IT resources can be obscured by the complexity of its contribution within systems of systems, and also through its historic complexity. Value may be found in direct effects of specific technology components within their systems, in systems’ synergies, in indirect effects of the technological resource on the value of related assets, and finally, its dynamic nature may cause value to change.

While systems’ complexity and synergies obscure IT resource value in one way, the problem is worsened because the systems are and will continue to be dynamic in function as well as design. Over the past two decades,
much more difficult is it to anticipate the value of IS precisely because of their complexity, but also because of the indirect effect of individual or small systems on corporate performance. We find there are tremendous indirect effects. The impact of new systems on the feasibility and cost of future systems is a critical knowledge of technology as well as strategic IT resources. For instance, even though corporate data resources are understood to be invaluable, data center management processes, requirements for service, and even value have been considered reasonably forward. Thus they have been proposed to be practical candidates for outsourcing (e.g. Kodak). Now consider the growing interest in the field of data-mining. Innovations in data integration and development of new data sharing and management processes appear to offer some firms extraordinary new strategic opportunities in marketing, technology capabilities, and each other proved a key to the achievement.

Thus, uses for established IT resources do change, and as they do, their strategic value to the firm may change if the firm is in a position to capitalize on the opportunity.

4.1.2 Knowledge of the Firm. When a firm outsources its IT to gain knowledge or expertise, it expects to acquire the benefit of knowledge of technology, and possibly knowledge of the industry (e.g. “best practices”) into the firm. We either assume that knowledge of the firm, or integrated knowledge of technology and the firm, is either unessential to the acquisition of the technology expertise, or we try to develop a mechanism for integrating external technical expertise with internal organizational expertise.

The ability of the firm to recognize IT-based strategic opportunities depends as much on understanding of the firm as knowledge of technology. The case of Australian architectural firm Flower and Samios illustrates the importance of firm knowledge in the success of the strategic use of IT (Yetton et al. 1994). The firm decided to computerize its processes in 1987 when it lost a design competition to a firm that entered a computer-generated 3-D walkthrough of the building. “Proven” off-the-shelf hardware and software were introduced into the firm gradually, one staff member at a time. As each staff person became proficient with the tools relevant to his task, he

a) “began to utilize their capabilities more extensively and developed skills in moving between packages and integrating particular software components while working on designs and design presentations”; and

b) helped the next staff members to learn the systems—both the tools and the capabilities of the emerging integrated architecture services system.

Through this shared development of integrated architecture tools, the firm substantially redesigned business processes and its strategic position.

Flower and Samios increased its business by 400 percent during 1987 to 1992, a time when local architecture firms experienced a severe recession and a significant number of architects in Sydney were out of work [34, p.59].

In this case, no extraordinary new computer technology shattered industry process and service norms. Rather, a firm implemented conventional, presumably non-strategic technology gradually, taking advantage of the new resources to alter and integrate firm processes with computer resources into a competitively superior way of doing business. Shared knowledge of firm processes, technology capabilities, and each other proved key to the achievement.

An external vendor simply could not have created the strategic system. The vendor could have had superior knowledge of the new technology; however, combined knowledge of trade practices and the insurers’ understanding of firm procedures were essential to the system’s development. Hence where value, especially strategic value of IT resources, is not clear, outsourcing involves an element of risk.

Knowledge of the firm is critical to opportunity recognition and in many cases, to follow-through in systems development. However, limited cognition is a fearsome adversary in these efforts. The potential of information resources is very firm specific, and even so
it is not likely to be widely understood. Firm knowledge is required to recognize opportunity, and then the firm must have sufficient control to be able to acquire or redirect the relevant resources as they are needed. The key reason firms support an internal IS department is the perceived value in cultivating employees who combine knowledge of technology and knowledge of the firm. Outsourcing may affect corporate understanding, and consequently corporate control, over the future value of these resources and all their co-specialized assets, recognized and unrecognized, present and future.

4.2 Control

The expertise to recognize an IT-based opportunity is frequently rare. In order to take advantage of the opportunity, it is necessary that this expertise be paired with the authority to martial the resources and implement them. Likewise, the pairing of expertise and authority to understand and resolve firm issues as they relate to the roll-out of new technology is essential to its success. Consider the problem of one manager of a Northern Ohio firm in the automobile manufacturing industry, as they implement outsourced Enterprise Systems software in their firms. As the firm attempts conversion to the new systems, decisions were made to expedite implementation that created chaos for this and many other managers.

Last week, without my knowledge, the implementation of live data began. The purchasing department, happy with their section of MFG-PRO, thought the task was done. I received a hard copy of a PO from the purchasing agent. Currently I am still on an “island.” As I was looking over the PO to update my system, I noticed the vendor number and purchase order number looked different. I called the PA and said, “What are these numbers supposed to be?” She responded, “These are the new MFG-PRO numbers. We decided if we were going to start we had better start now.” Instantly, a normal day at the office became not so ordinary. I became very angry. I cannot proceed with my job until I change every vendor number in my system (approximately 500). After completion of this task, I start to regain my senses, until the phone rings. The accounts payable department calls and says, “By the way you can’t use that account number any longer.” …The problem is we have over 8,000 inventoriable items that have a default account number. According to A/P these numbers are no longer valid.”

Mismanaged project implementation, or projects where technological knowledge is not well paired with firm knowledge, may result in chaos so severe that the project is abandoned. In the case of enterprise systems, abandoned projects have forced firms to write off losses of tens of millions of dollars [e.g. 22].

When vendor and buyer form a team to develop the details of a poorly defined, highly complex or ambiguous project (e.g. Xerox), they certainly bring different sets of knowledge or expertise to the project. Ideally, the firm hopes that the sets of knowledge will be complementary and will enable the team to accomplish work impossible for either group alone. In fact, limited cognition and different experiences may lead individuals to derive very different views of the best course of action.

When firms attempt to “partner” with vendors, they may create inefficiencies in the decision making process. If the firm decides that a certain course of action should be taken (or avoided), it must persuade the partner of the correctness of its decision in order for the partner to cooperate. That is, understanding must be made homogenous at least among the decision makers of both partners.

In situations where expertise is rare, as is frequently the case in integrated knowledge of the firm strategies, capabilities, and limitations as they are relevant to IT, organization offers the efficiency of “knowledge substitution” [10].

A primary effect of firm organization—or the authority relationship—is to cause an individual to use the knowledge of another before the former fully understands or agrees with it. Conversely, a main effect of market contracting—of an autonomous relationship—is to oblige knowledge to be internalized before the individual agrees to modify its actions on the basis of that knowledge (p.485).

Where the complexity of systems, both organizational and technological, afford competitive opportunity, the ability of the firm to make decisions and implement them without full understanding on the parts of individual participants may be key to the fast response needed to take advantage of an opportunity. “Knowledge substitution” enables the firm to “economize on cognitive limitations” [10 p. 486].

4.3 Learning

We have established that IT resources and their value are dynamic. Consequently, so are the related knowledge assets. If continuous learning about its potentially strate-
gic resources is discontinued in the firm, its set of knowledge resources actually erodes.

When a set of IT resources is entirely outsourced, the vendor assumes full responsibility for and control over the technology. The vendor assumes both planning and decision-making responsibilities, and the firm accepts dependency on the vendor, deferring to its 'competency,' for the duration of the contract. However, this new dependence may lead to a corporate incompetence and complacency unless the firm is able to develop a means of migrating the expertise into the firm and allowing it to integrate with other knowledge resources.

Market vendors may be a very efficient source for acquiring complex resources quickly. The risk to the firm is a longer term one. As the firm remains dependent on the vendor for knowledge of technology, it risks an erosion of unobservable resources which in turn may affect its ability to recognize and respond to IT-based opportunities. This risk may be described in three parts: erosion of knowledge, erosion of control, and erosion of flexibility.

As a vendor maintains a set of technology resources for a firm, it assumes responsibility for keeping up with innovations in the field. This is well-documented as a particularly difficult aspect of outsourcing contracts. The firm wants its vendor to keep the resources appropriately current, but is not able to specify growth and change requirements a priori. If it does keep up with current technology, the outsourcing firm experiences knowledge erosion within the firm, as its own knowledge resources become dated, and new knowledge is cultivated through learning outside the firm. Gradually the benefit of paired firm and technology knowledge is reduced.

As knowledge erodes, so does the firm’s control over its resources. Knowledge of both opportunity and resources must occur together for the firm to move on a strategic opportunity. Hence as a firm becomes increasingly (over time) dependent on its vendor for technological expertise, it loses control over the resources needed to make strategic moves. Again, when firms attempt a partnering relationship in which expertise and control are shared, both sides must understand and agree on the merits of a strategic action before the action can be implemented. We may argue thus that this lack of knowledge management efficiency may result in strategic inflexibility for the firm.

5. Future Research

Theory from TCE and the RBV of strategy offers IT outsourcing research ideas for variables, models, and even laboratories. Current IS outsourcing practice is showing great interest in applying concepts from business partnership to the outsourcing relationship as a means of managing transaction-type risks. Future research must carefully explore the nature of these partnerships first to determine whether they truly meet basic partnering criteria such as shared objectives and mutual control. Then, using the RBV we may begin to model relationships between outsourcing types, risk-inducing factors, and impact of the outsourcing arrangements on the firm. In models based on the RBV we may develop dependent variables such as:

- firm satisfaction with the vendor and resources over time,
- renewal of outsourcing contracts, and
- characteristics of resource mobility (over time)
- characteristics of strategic flexibility (over time).

Perhaps the most interesting test ground for outsourcing studies in the near future is Enterprise Systems (such as SAP or PeopleSoft) implementation projects. The systems are so immense and so complex, they clearly provide the uncertainty and complexity characteristics discussed above. In addition to the millions of dollars paid for the systems alone, firms must contract for millions of dollars of consultant help in implementing them. They are clearly trying to acquire both complex technology and expertise from the market in order to radically improve technological and business integration. Early anecdotal evidence suggests that the complexity of the systems does result in firm dependence on external expertise, and that internal learning is quite difficult to cultivate and keep. Does the theory discussed in this paper not suggest that enterprise systems may cost the firm long-term inflexibility? How will it affect the firm’s ability to respond to new opportunities? Will the improvement in integration prove more valuable than the cost in control and learning? Application of the RBV offers a needed basis for systematic design of future IT outsourcing research.

References


