Strategic Implications of Information Technology for Resource and Capability Outsourcing Decisions

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ABSTRACT

Outsourcing generally involves non-strategic resources and/or non-asset specific capabilities. However, in this paper, the authors examine the non-traditional, but increasingly more common, use of IT to facilitate theoretically inconsistent outsourcing decisions involving core resources and capabilities. The authors reconcile theory with practice by developing propositions to explain how IT can enable such outsourcing decisions and how performance advantages may ensue. The authors develop a finer-grained perspective of the constructs of knowledge-based resources and capabilities. The paper concludes with a discussion arguing that such IT-enabled outsourcing decisions, if implemented correctly, can provide an organization with both capability advantages and cost benefits, resulting in higher performance.

Keywords: Decision Support, Information Technology (IT), Knowledge Management, Outsourcing, Performance

INTRODUCTION

The practices of outsourcing and offshoring are popular trends (Hunter & Cooksey, 2004; Clegg, Burdon, & Nikolova, 2005; Cornelissen, Floyd, & Wright, 2005; Doh, 2005; Lacity, Willcocks, & Rottman, 2008), with outsourcing decisions generally based on cost and efficiency arguments stemming from the resource-based view

(RBV) (Barney, 1991; Mahoney & Pandian, 1992) and/or transaction cost economics (TCE) (Williamson, 1975, 1991). These decisions rely on the notions of not outsourcing 'core' or 'strategic' firm resources (from an RBV perspective) or 'firm-specific' assets (from a TCE perspective). Yet, even when following such theory guidelines, outsourcing does not always lead to competitive advantages and/or improved performance (Lacity & Hirschheim, 1995; Loh & Venkatraman, 1992; Mahoney &

Pandian, 1992; Watjatrakul, 2005), and ineffective outsourcing decisions can result in a loss of organizational capabilities and even affect firm survival (Loh & Venkatraman, 1992; Ngwenyama & Bryson, 1999).

However, many firms are successfully buying some things they should make (i.e., strategic resources and unique firm-specific capabilities), and/or making some things they should buy (i.e., non-strategic resources and non firm-specific capabilities) - the performance implications of which should be disadvantageous. Are these firms merely lucky, and enjoying temporary short-term cost advantages at the expense of long-term competitive advantage and firm survival? Perhaps firms are lucky in some cases, but in other cases, is it possible that we are observing some unique phenomena that provide some cause to reconsider the predictive logics of RBV and TCE? If so, what conclusions could we draw from such 'counter-theoretical' outsourcing decisions that lead to improved performance and/or competitive advantages? Would such observations indicate that the types of resources and capabilities firms outsource, and the ways firms outsource them, have changed from our accepted theoretical logics for the sourcing decisions from RBV and TCE? If so, they may hold new implications for the firm, providing cause to re-examine our theoretical perspectives for outsourcing decisions, and their implications for research and practice.

Prior research has examined the general cost and efficiency arguments for outsourcing and provides strong evidence to support the cost efficiency argument (Clegg et al., 2005). Other concurrent work has examined the specific roles of firm 'asset specificity' and 'uncertainty' from TCE and 'core' or 'strategic' resources from RBV as drivers of IT related sourcing decisions, and identified contexts where the theories differ (Watjatrakul, 2005). However, we still do not have a strong understanding of the implications of outsourcing decisions that appear to successfully conflict with theories' predictive logics. Therefore, in this study, we review and extend these theoretical perspectives for outsourcing decisions. We do this to attempt to address some

of the major understudied research questions in this area: 1) What is the process for making effective outsourcing decisions; and 2) How do firms realize performance benefits from these types of sourcing arrangements?

We organize this paper as follows: In the next section, we review related literature to examine and extend existing theory on outsourcing. Then we leverage our extended theory to develop propositions for the types of resources and capabilities to outsource under these conditions. We conclude with a discussion of the contributions and implications of our paper for future research and management practice.

THEORY DEVELOPMENT

Outsourcing refers to a management decision to "abandon or forgo attempts to perform certain value chain activities internally and instead farm them out to outside specialists and strategic allies" (Thompson, Strickland, & Gamble, 2006, p. 175). The outsourcing process usually involves firms consolidating around their primary activities and core competencies, while outsourcing some or all of their support activities and non-core capabilities. Outsourcing decisions are made with the expectation of significant efficiency gains for the firm through focusing "time, effort and capital on value-creating activities that yield a competitive advantage, an improved overall performance, and security for the organizations' long-term survival" (Hunter & Cooksey, 2004, p. 27). However, debate about the merits and processes of sourcing decisions has been considerable and the implications of outsourcing are far from clear (Porter & Millar, 1985; Vitale, 1986; McFarlan, 1990; Clemons & Row, 1991; Argyres, 1996; Venkatraman, 1997; Clegg et al., 2005; Cornelissen et al., 2005; Doh, 2005; Holcomb & Hitt, 2007).

Historically, the outsourcing of support and non-core 'transactional' services such as some components of IT, finance, accounting, and supply chain management activities has been a wide-spread and accepted practice. Specifi-

cally, outsourcing has been commonplace in human resources administration (i.e., recruiting, staffing, training, and payroll processing), and employee benefits administration (i.e., healthcare, insurance, and retirement plans), as well as in IT services (storage, networks, database management, tech support, and internet/intranet hosting). Factors that transcend cost considerations may drive such outsourcing (Busi & McIvor, 2008). For example, outsourcing decisions for these types of activities generally hinge on traditional cost/benefit considerations, which may vary predictably under different types of traditional sourcing arrangements, or somewhat unpredictable under IT-enabled sourcing arrangements. Thus, traditionally firms 'buy' or externally source resources and/or capabilities for anticipated performance benefits, which they expect to occur for one of three rationales.

First, firms may outsource a capability they *do not perform well* internally, and then purchase the 'outputs' of a reengineered or better source of this capability externally. This rationale benefits the organization in two ways; it allows them to lower their operating costs by decreasing assets and resources allocated to a poorly performing capability, while it also provides them with access to a higher quality capability. A second rationale for outsourcing is for an organization to simply try to improve a capability they already perform fairly well internally. This rationale allows the organization to reduce some operational costs, while maintaining access to a high quality capability externally. Finally, firms can also outsource simply to gain access to a new capability they don't currently have. For example, organizations seeking to improve customer relations realized that third party customer service providers may have superior customer contact and handling capabilities and therefore outsourcing offers additional benefits such as access to new skill sets, best-of-breed services, greater innovation and transformation, and better speed-to-market for new products and services (Edgell, Meister, & Stamp, 2008).

Traditionally, management research approached outsourcing from either governance

(i.e., TCE), or more recently, competence (i.e., RBV and KBV) perspectives. Prior research examined the limitations of governance perspectives in outsourcing decisions by advocating the contributions of competency perspectives (Prahalad & Hamel, 1990; Bettis, Bradley, & Hamel, 1992; Argyres, 1996; Venkatraman, 1997). And prior research has also combined competence and governance perspectives by bringing in implications of technology (Poppo & Zenger, 1998; Doh, 2005). Additionally, some studies have also examined the nature and process of outsourcing strategy with an intra-organizational focus of sourcing decisions (Murray & Kotabe, 1999). Classic theoretical perspectives for sourcing decisions suggest that make/buy decisions are made on a cost of contracting basis (governance perspectives) (Williamson, 1975), while competence-based theorizing suggests allowing firms to focus on core capabilities or gain access to resources (competence perspectives) (Prahalad & Hamel, 1990; Barney, 1991; Kogut & Zander, 1992). However, outsourcing practices appear to indicate that firms may routinely violate both these theoretical perspectives by outsourcing traditionally internal core knowledge resources and asset specific capabilities, and by sourcing non-core organizational knowledge resources and non-asset specific capabilities internally. Is there an alternative theoretical explanation waiting to be uncovered here? Our premise is that the use of Information Technology (IT) by organizations to varying degrees may have changed the way firms make some sourcing decisions, which creates a need to re-examine our theoretical perspectives. Given that a firm's environment is likely to change over time, its decision processes are also likely to need changing as well (Moses & Ahlstrom, 2008). One potential change is that IT appears to be enabling and facilitating counter theoretical practices. Specifically, IT can enable the separation of some strategic and firm-specific resources from the capabilities to manage, administer, and deliver them (Miozzo & Grimshaw, 2006).

We examine this apparent gap between theory and practice in a manner that differs

from prior studies on outsourcing in several major ways. First, we develop and apply a more comprehensive knowledge construct that accounts for the possibility of gaining value from knowledge resources generated or acquired from periphery functions (Kogut & Zander, 1992; Grant, 1996). Specifically, as part of the outsourcing process, we examine the benefits of reengineering core and periphery organizational capabilities with IT. Further, we look at how IT changes the way we can view core organizational knowledge resources and capabilities. We advocate that IT now allows the organization to reengineer capabilities at the core, the periphery, or both. In doing so, we use our more comprehensive application of knowledge resources and the capabilities that support organizational knowledge at both the core and periphery. Collectively, most prior work on outsourcing focuses on outcomes and the 'why' and 'what' issues of outsourcing, while we shed light on some of the 'how' issues of outsourcing.

Competence-Based Perspectives of Outsourcing

Competence perspectives such as the resource and knowledge based views explain sourcing decisions through organizational motives such as access to resources, capabilities, knowledge acquisition, and learning. For example, RBV accepts the importance of knowledge as a competitive resource (Barney, 1991), and KBV accepts tacit knowledge as a source of sustainable competitive advantage (Kogut & Zander, 1992; Grant, 1996). In this view, KBV arguments suggest that an organization should internally source knowledge resources and capabilities in which they have competence advantages, and externally source knowledge resources and capabilities where they lack competence advantages (Argyres, 1996). KBV also offers us a conceptualization of knowledge itself, as tacit or explicit, (Polanyi, 1958, 1966). Tacit knowledge is uncodified and intangible, such as the knowledge residing in the organization's

employees and culture. Explicit knowledge is codified (or is easily codifiable) and is tangible. Explicit knowledge can consist of the knowledge in training manuals, product documentation, product designs, plans, patents, etc. This distinction is important as the KBV argues that tacit individual and/or tacit organizational knowledge is the only knowledge which can serve as a sustainable, value creating competitive resource (Kogut & Zander, 1992; Grant, 1996), and such knowledge embedded in firm-specific assets and routines is also of critical importance to firm performance (Nelson & Winter, 1982; Barney, 1986, 1991).

So how might we reconcile the differences between observations of outsourcing practices and traditional theoretical perspectives for sourcing decisions? One way to reconcile the differences may be to simply argue that varying uses of IT by firms (i.e., to more efficiently manage knowledge, lower transaction costs, improve contract monitoring, and/or reduce information asymmetry, etc.) has significantly changed the way a firm can view its knowledge resources. If so, we may also need to change the way we view knowledge as scholars. However, does this mean that theory needs to change, or have merely the conditions under which we consider sourcing decisions simply changed? Our argument is that while some conditions clearly have changed, theory may also need further examination and extension to fit the context in which it is now applied. For example, IT now allows for more efficient service delivery, as well as the ability to separate service production and consumption through such mechanisms as on-line provisioning (Murray & Kotabe, 1999). Further, IT can also create new performance implications for firms (i.e., easier access to knowledge and information, improved information processing, and/or reduced operating and transacting costs, etc.), which could provide cause for firms to rethink their original sourcing decisions.

Our arguments here build on existing theory and hinge how the organization values the outsourced activity. Specifically, if we observe an

organization outsourcing a capability that it used to perform internally, we must try to determine if something has changed in how the organization values that capability. For example, perhaps the capability is not as valuable to the organization as it had been previously, perhaps a superior external source of the capability has arisen, and/or perhaps changing conditions have now attenuated the risks from hold-up and opportunism previously associated with a capability (Jensen & Meckling, 1976). The use of IT by the organization may support all of these scenarios. IT systems can provide enhanced monitoring and valuation of activities, which can allow an organization to more effectively determine the contribution (and cost of) an activity in its value chain (Porter, 1985). IT can also help the organization identify, and contract for, superior external sources of a capability. Finally, IT can also enhance or enable an organization's ability to monitor its sourcing relationships, which may help to reduce or mitigate the risks from hold-up and opportunism which can arise from external sourcing (i.e., the agency problem) (Jensen & Meckling, 1976). The question remains though, does traditional management theory still apply in these cases, or is it in need of extension as the context of practice evolves and changes (Baldwin & Clark, 2000)?

Collectively, competence-based arguments for sourcing decisions advocate constraining outsourcing to non-core functions (Prahalad & Hamel, 1990; Bettis et al., 1992), and suggest that benefit realization may accrue from freeing up resources through outsourcing, (which in turn allows for resource redeployment to areas that add more value to the organization) (Venkatraman, 1997). However, traditional theory does not appear to accurately predict or explain the processes through which firms outsource and realize performance benefits, or the resulting organizational structures observed in modern practice. Yet, an extension of the knowledge construct, may offer a simple solution to address this gap between theory and practice.

Outsourcing Knowledge Resources

If we accept competence-based arguments that a firm's competitive advantage relies heavily on valuable, rare, inimitable, and non-substitutable (knowledge-based) resources and capabilities (Itami & Roehl, 1987; Barney, 1991; Kogut & Zander, 1992; Grant, 1996), then effective management of such resources is also a critical component of success. The use of IT, to varying degrees, can also improve the organization's capabilities to manage these types of (knowledge) resources. For example, IT can reduce information asymmetry and thus help facilitate more efficient and effective contracting. Likewise, IT in general may facilitate better information disclosure, contracting, monitoring, and governance, which may provide the reduced contracting and opportunism benefits previously available only from internal sourcing. Overall, the use of IT in the organization can facilitate a wide array of unique opportunities and numerous strategic options for transforming organizational activities through (IT-Enabled) outsourcing.

However, while such theorizing may provide a basis for how IT can enhance or enable organizational capabilities and in turn, performance, through outsourcing, it does not explain why outsourcing would be a preferred means of accessing knowledge resources and capabilities. For example, competence perspectives argue quite the opposite, as they would view the knowledge underlying capabilities as critical and necessary of internalization. Thus, competence perspectives and their current conceptualization of knowledge through its descriptive characteristics (i.e., tacit or explicit, core or non-core) are challenged to explain current outsourcing practices which appear to outsource core knowledge resources and capabilities.

Therefore, explaining modern sourcing decisions with current theory may require a 'finer-grained' conceptualization of the knowledge construct which accounts differently for how a

firm may value its knowledge resources. Doing so also allows us to simplify our understanding of, and bridge prior theoretical conceptualizations (Polanyi, 1958, 1966; Williamson, 1975, 1979) of knowledge resources and their role in the firm. Most of the prior literature in this area generally grounds itself in Polanyi's (1958, 1966) work, which classifies knowledge by its 'descriptive characteristics' of tacitness or explicitness. Our conceptualization is somewhat finer grained than Polanyi's (1958, 1966) traditional conceptualization, and also draws from Williamson's (1975, 1979, 1991) suggestions of the proprietary and non-proprietary characteristics of organizational 'know-how' (Teece, 1980). The extended conceptualization we develop here includes aspects for the *dimensions* of knowledge by its role in the organization, and the *components* of knowledge by its underlying elements. By leveraging both Williamson's (1975, 1979, 1991) and Polanyi's (1958, 1966) perspectives, we can extend the traditional descriptive views of knowledge to include considerations for the role of the knowledge resource underlying a capability, and its differing value to the organization regardless of its source.

Yet, since IT is generally thought to only handle explicit (codified) knowledge, (and perhaps to a limited extent, any codifiable elements of tacit knowledge), the existing conceptualization of knowledge as tacit or explicit remains problematic for theorizing regarding the implications of IT for outsourcing. A better approach, for the purposes of examining the IT-enabled outsourcing, may be to classify knowledge by its role in creating or protecting value in the organization. With this approach we classify knowledge that supports or underlies a firm's value creating, and rent generating, activities as '*strategic knowledge*.' However, an organization also has knowledge that is private and/or confidential. We consider this type of knowledge resource proprietary. For example proprietary knowledge resources may include personnel records, social security numbers, product designs, marketing plans, customer/client lists, and consumer information - none

of which directly creates value or generates revenue for the organization. Even though this type of knowledge resource is not value creating or revenue generating, it is necessary to secure and protect this private and confidential 'proprietary' knowledge, as its leakage could undermine the organization's value and/or its ability to generate revenue from its strategic resources. Therefore, along the lines of prior uses of this conceptualization (Williamson, 1975, 1979; Teece, 1980) we term this type of knowledge as '*proprietary knowledge*.'

Collectively, the type of knowledge underlying an organizational capability should consist of more than the traditional constructs of tacitness and explicitness or core and non-core. By characterizing organizational knowledge along the dimensions of strategic / non-strategic and proprietary / non-proprietary we can determine how the organization may most effectively support its knowledge resource requirements through its sourcing decisions. In regards to the first dimension, *Strategic Knowledge*, we refer to knowledge that is 'strategic' to the organization in the sense that it is serving as a value creating, revenue generating, competitive resource. The second dimension, *Proprietary Knowledge*, is knowledge, which while not serving directly as a competitive resource, is private and/or confidential to the organization such that they must protect and secure it internally since its leakage could undermine the organization's ability to create value and/or generate revenue (i.e., loss of trade secrets, source code, reputation, brand/image, etc.). Strategic knowledge is generally by nature proprietary, though if it is tacit and/or causally ambiguous (and therefore difficult or impossible to transfer), it does not have to be proprietary. Proprietary knowledge on the other hand, is not strategic unless it supports a value creating capability, hence making it strategic and proprietary. However, as its leakage could potentially undermine the organization's value creating capabilities, it is private and confidential and in need of protection.

From these arguments, we conclude that if an organization outsources capabilities associated with its strategic knowledge, its immediate

performance may be more positive in the short-term due to the initial accounting benefits from selling an asset and/or freeing up resources. However, overall, outsourcing of this type of knowledge should, theoretically undermine the organization's long-term performance and competitive advantage. This occurs because the process of outsourcing, by its nature, will facilitate the leakage of strategic knowledge (i.e., spill over to competitors). Further, if an organization outsources capabilities associated with its proprietary knowledge, then while short-term costs may decrease and performance may increase, its overall long-term performance should also decrease (i.e., due to leakage of the proprietary knowledge). With regard to these arguments for the implications of outsourcing strategic or proprietary organizational knowledge resources and capabilities, we offer the following proposition:

Proposition 1: Outsourcing an organization's **non-strategic and/or non-proprietary knowledge resources** will positively affect the organization's competitiveness.

After determining what types of knowledge the organization could consider outsourcing, we next need to determine which components of the knowledge resources and capabilities could be outsourced. To do this, we look at some of the common elements, which underlie organizational knowledge. We categorize and term these common elements of organizational knowledge as *'knowledge content'* and *'knowledge administration.'* This approach is similar to prior work which deconstructed the concept of a 'service' into components of production and consumption (Murray & Kotabe, 1999). Along these lines, we advocate that knowledge capabilities are comprised of two components - the *content* underlying the knowledge and the *administration* (management) of that knowledge content. By *Knowledge Content* we refer to the intellectual property and source elements of the knowledge. Whereas *Knowledge Administration* refers to the functions and systems, which manage, process, store, transfer, and generally support the knowledge content used within the organization. Specifically, by this extension of the knowledge construct, we propose that the content of knowledge can be explicit, tacit, or a combination of the two and this will determine the various means, methods, and limitations of administering the knowledge. Therefore, one may view knowledge administration as an endogenously derived effect of knowledge content. Similarly, in outsourcing practice, this concept of deconstructing knowledge into its components is commonly observed as 'knowledge content' and 'knowledge delivery' activities (Starr & Luckock, 2002), where content is the creation of the knowledge, and delivery includes the administration activities to transfer the knowledge to the desired recipient.

One might easily see how administrative activities such as the delivery of knowledge content could be outsourced while the responsibility for the content itself could still reside within the organization. For example, think in terms of a third party who can be hired to deliver the content of a highly strategic training program, but the material for the program is developed and controlled by the organization given the strategic or proprietary nature of the content. An example in practice of this includes technology firms such as Microsoft and Cisco. Both of these firms create highly specific technical product documentation (which is proprietary) for the purposes of training external technicians to install and maintain their products. Cisco and Microsoft own this knowledge content as their intellectual property (figuratively in terms of institutional knowledge and literally in terms of patents/copyrights), but they outsource the act of turning this intellectual property (which exists in the form of product documentation, manuals, training classes, etc.) into training programs and the actual delivery of these programs by 3rd party instructors to external service technicians (Thompson et al., 2006, p. 177).

Therefore, these examples would appear to suggest that we should consider the content and administration components of knowledge differently in outsourcing decisions, since they can impact the organization in very different

ways. For example, if the knowledge capability that is outsourced has an underlying knowledge dimension that is strategic, we should only source its administrative activities externally. Specifically, as transactions cost logic might argue (Williamson, 1985, 1991), administration activities are more generic and subject to economies of scale, therefore benefits may be attainable from outsourcing knowledge administration functions, while the organization retains the knowledge content. This is because content components of the knowledge can affect adversely the organization's competitive position if we source them externally. Therefore, outsourcing administrative activities under these circumstances could produce efficiency and economic benefits (i.e., through lowering operating costs and improving organizational and knowledge efficiencies), without adversely affecting the organization's competitive position (i.e., through a loss of its strategic knowledge content). Concurrently, knowledge content components, if transformed and retained in the organization, could continue to serve as a source of performance and competitive advantage.

Similarly, firms may also wish to avoid outsourcing proprietary knowledge content to prevent the adverse effects that an unintended spill over of confidential information (i.e., source code, trade secrets, product flaws, marketing plans, projected cash flow issues, employee turnover, recruiting plans, etc.) could create. Therefore, outsourcing administrative activities under these circumstances could produce some economic benefits for the organization (i.e., through lowering operating costs and improving organizational operational efficiencies), without adversely affecting the organization's performance or competitive advantage. With regard to these arguments for the implications of outsourcing the knowledge administration and content components of strategic and proprietary knowledge, we offer the following propositions:

Proposition 2a: Outsourcing the **administration of strategic or proprietary** organizational knowledge will positively affect the organization's competitiveness.

Proposition 2b: Outsourcing the **content and administration of non-strategic and/or non-proprietary** organizational knowledge will positively affect the organization's competitiveness.

We intentionally argue these propositions to conflict with traditional theoretical perspectives of outsourcing, that core competences, and asset specific capabilities should not be outsourced (Williamson, 1975; Kogut & Zander, 1992; Lado & Wilson, 1994; Drnevich & Crino, 1996). While classic transaction cost based arguments (Williamson, 1975, 1985) might suggest that this is a simple cost decision (i.e., do the benefits of outsourcing, from administration gains, offset the costs of outsourcing, from content leakage), this line of theorizing is not possible without a finer-grained conceptualization of knowledge such as we develop here. Further, TCE might not lead the manager or researcher to effectively measure or value the potential opportunity cost for, or damage to, a firm from a loss of strategic or proprietary knowledge content, and would therefore likely favour measurable short-term economic benefits over less measurable long-term strategic costs. Thus, such governance perspectives would lead managers to outsourcing decisions that could undermine the long-term performance and competitive advantage of the organization (i.e., over outsourcing).

Conversely, competence perspectives would lead managers to not outsource components of some core activities (i.e., administration components of strategic knowledge), which could improve performance (i.e., under outsourcing). This conflict illustrates how using current theory could be problematic for outsourcing decisions in these types of IT-Enabled outsourcing contexts. Relying on current theory as the basis for a firm's make/buy decisions in these contexts could potentially lead to suboptimal or incorrect outsourcing decisions.

While the theory extension developed here agrees in part that knowledge that is not highly strategic or proprietary in nature may have both its content and administrative components sourced and/or managed externally

(as competence and governance perspectives would support), we now offer new conditions on this premise which resolve the conflict illustrated previously. Specifically, even if the knowledge is highly strategic, or is proprietary in nature, it is still possible to outsource its administrative components without adverse competitive implications for the organization. Doing so allows the organization to gain the operational efficiency benefits of outsourcing, without undermining its long-term performance and competitive advantage through the loss of strategic or proprietary knowledge content. Thus, the extension developed here addresses the implications of outsourcing certain types of knowledge capabilities with respect to their content and administrative components. Therefore, we now have an extension to current theory which allows us to explain what aspects of knowledge to outsource and why to outsource it. We offer an overview of the implications of these proposed relationships of the extended knowledge perspective in Table 1 and Table 2.

DISCUSSION AND CONCLUSION

This paper explored the 'counter theoretical' practice of organizations successfully out-sourcing some 'core' and 'strategic' resources and 'firm-specific' capabilities. We developed an argument that this type of outsourcing, in part due to advances in IT, now allows for the separation of knowledge resource content from its management, administration, and delivery capabilities, as well traditional scale and scope efficiency benefits of reengineered and centralized capabilities. Such outsourcing practices appear to challenge traditional theoretical explanations from competence (RBV and KBV) and governance (TCE) perspectives for sourcing decisions. To address this phenomenon, we extended theory and developed propositions for outsourcing under these conditions. Our premise is that what an organization can outsource and the processes by which they can outsource have changed, which can hold substantial performance implications for the organization.

We combined prior theory and research approaches by extending current competence and governance perspectives to explore the nature and process of outsourcing decision. We addressed some of the major unanswered research questions in this area including: 1) What is the process for making effective sourcing decisions; and 2) How do firms realize performance benefits from these types of outsourcing arrangements? Through exploring

Table 1. The extended perspective of knowledge

Knowledge Capability Type	Content Sourcing	Administration Sourcing
High Strategic value	Internal	External
Low Strategic value	External	External
High Proprietary risk	Internal	External
Low Proprietary risk	External	External

Table 2. Overview of outsourcing propositions

Knowledge Capability Type		Outsourcing Decision
Strategic	→	Administration only
Proprietary	→	Administration only
Not Strategic or Proprietary	→	Administration and Content

these questions, this paper contributes to our understanding of such sourcing decisions and offers contributions for theory, practice, and research on outsourcing strategy and processes. We feel a key contribution is in articulating that using this type of outsourcing enables the organization to split core organizational knowledge resources and the capabilities they underlie between the organization and its service providers. The major benefit of this is that the organization can benefit from outsourcing without experiencing the adverse competitive implications from giving up control of strategic or proprietary knowledge content.

Collectively, a major contribution of this paper was to clarify the anomaly between traditional competence and governance perspectives for sourcing and firm boundary decisions facilitated by advances in IT. Our premise is that while theory may appear to be out of line with practice, a finer-grained application of the knowledge construct, largely enabled by IT, can reconcile competence perspectives with observations of outsourcing inconsistent with theory. In this view, IT now allows us to specify and manage knowledge resources in terms of dimensions (strategic and proprietary) and components (content and administration). Prior operationalizations of the knowledge construct in competence perspectives (i.e., RBV/KBV) focused solely on the traditional descriptive characteristics of knowledge (tacit/explicit) or strategic characteristics (core/non-core) as the driver of sourcing decisions and boundary choices. We extended this view to consider both the strategic and proprietary dimensions, as well as the content and administration components of knowledge resources. This approach allows firms to outsource components of core functions of non-strategic/non-proprietary tacit knowledge functions, and prevents the outsourcing of non-core proprietary functions (as prior theory would incorrectly allow). Thus, our 'extended knowledge perspective' significantly enhances the power of competence perspectives for understanding and explaining the firm's sourcing decisions and boundary considerations in Outsourcing practices.

We feel this finer grained logic can also apply to governance perspectives (i.e., TCE) of sourcing decisions and firm boundary choice based on asset specificity. However, while fully developing and examining the implications for TCE was beyond the scope of this paper, doing so clearly remains an interesting subject for consideration in future research. Further research could test specifically both competence and governance based propositions on a larger population with better measures and more performance data. Researchers interested in this topic could also consider testing, challenging, extending the arguments and propositions in this paper in other settings where the ideas may transfer, and where data size and duration would support additional methods of analysis.

As firms continue to react to competitive and market pressures in the economic environment by consolidating activities, outsourcing will likely continue to increase in importance. We expect that the logic developed here may hold positive implications for organizations and their performance and competitive advantages. More specifically, the logic developed in this paper involves *analysing and classifying* organizational knowledge and the capabilities they underlie using the concepts of our knowledge dimension/component framework, *determining* which capabilities will benefit from outsourcing, and then *deciding* on the appropriate knowledge resources and capabilities to outsource. While these outsourcing activities, *if done* correctly, are likely to enhance short-term accounting measures of performance through a reduction in balance sheet assets, perhaps the more important issue for overall longer-term performance and potentially competitive advantage is in *how* to do these outsourcing activities correctly in practice. As we argue in this paper, for a variety of reasons, the nature, order undertaken, and context of these outsourcing activities may have major strategic implications for sustaining knowledge resource and capability based competitive advantages. We hope our arguments and their implications may offer some new insights to the firms who make these types of decisions in practice and the scholars who study them.

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