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IT outsourcing and firm-level performance: A transaction cost perspective

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ABSTRACT

We analyzed the effect of the level of low asset specificity IT outsourcing on firm-level financial performance. We used transaction cost economics (TCE) as the theoretical basis to explain the effect of the level of network and telecommunication services outsourced on financial performance. An analysis of 1444 Integrated Healthcare Delivery Systems revealed that higher levels of network and telecommunication services outsourced were associated with superior financial performance. Specifically, each additional network and telecommunication service outsourced resulted in an average $3,120,000 in savings, a 25% increase in profit. In addition, increases in IT budgetary expenditures were found to be associated with increased financial performance. Our study provided preliminary support for the use of asset specificity to guide outsourcing decisions. In particular, IT activities that have become commodities (having 'low specificity') should be outsourced to improve the firm's financial performance.

1. Introduction

The management of organizational IT is fundamental to organizational success [7]. Outsourcing IT can reduce its overall cost to the firm; this was the focus of our study. Prior IT outsourcing studies have examined a wide variety of topics, including why firms choose to outsource, management and relationship issues associated with it [15], and the performance outcomes associated with it. Our study extended this by empirically analyzing the relationship between the level and type of IT outsourcing and firm-level financial performance. By understanding the characteristics of IT that make it amenable to outsourcing, we can determine its potential to improve firm performance, allowing firms to make better decisions regarding *what type of IT* to outsource or insource.

The total value of the IT outsourcing market in North America was estimated at $160 billion in 2005. The make or buy decision for IT services can have a significant impact on the firm's operational efficiency and its bottom-line. One of the foundations of globalization and outsourcing is its communications network. Electronic communication networks allow access to a larger, more diverse range of markets providing organizational IT departments with a range of options when considering whether or not to outsource particular functions. Given their homogeneous, standards based nature, internal networks can be considered commodities that are likely to be more efficiently procured in the marketplace than built internally. Similarly, network management services to operate and maintain the network are IT commodities that can be more efficiently procured in the marketplace.

For the healthcare industry, outsourcing IT functions has the potential to reduce the cost of administering healthcare services. Researchers at Boston University's School of Public Health estimated that $1.9 trillion dollars was spent on healthcare in the United States in 2005, an increase of 48% since 2000 [1]. Administrative costs account for as much as 25% of the expenses [10].

The purpose of our study was to examine the efficiency outcomes associated with outsourcing IT commodities in the healthcare industry to determine whether or not the level of IT commodity outsourcing was associated with better firm-level performance. Specifically, the level of low specificity IT asset outsourcing was assessed and used as a measure of IT as a commodity and then used to determine the correlation between a firm's level of low asset specificity outsourcing and performance.

2. Background and theory development

2.1. IT outsourcing

Gonzalez et al. [8] in a literature review of outsourcing articles published between 1988 and 2005 found that the study of outsourcing determinants and reasons why firms choose to outsource to be the most frequently studied topics in the IS field.

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Emphasis on the study of determinants has contributed to the understanding of the outsourcing phenomenon; however, few studies have examined the relationship between outsourcing outcomes and the reasons why firms choose to outsource.

Research exploring the realization of outcomes has compared predefined objectives for outsourcing with measures of how well they are satisfied by outsourcing, whereas performance based analysis has examined the efficiency and effectiveness changes that can be attributed to the outsourcing decision.

Two studies examined the relationship between the level of outsourcing and firm-level financial performance. One examined the relationship between large outsourcing announcements and a firm's productivity and profitability, finding that outsourcing was associated with higher levels of productivity and profitability [9]. A second found no relationship between the level of IT outsourcing and firm-level financial performance in Florida hospitals, suggesting that outsourcing is a cost neutral approach for providing organizational IT capability [13]. The difference in the findings of the two studies may be due to the wide variety of advantages, disadvantages, and risk associated with outsourcing and a failure to consider differences in the types of IT resources outsourced.

Outsourcing organizational IT has advantages, disadvantages, and risks – the net gain from outsourcing IT may not be positive. One advantage of IT outsourcing is that it allows an organization to focus on core business competencies rather than administrative functions. Managing a data center and providing IT services to employees is not a core competency of most organizations, To increase the emphasis on the core business, an organization can outsource all or part of its IT operations. A second advantage is the cost efficiency associated with outsourcing due to economies of scale and of experience. Because the third party specializes in IT management, it can provide good service levels at lower cost. Furthermore, purchased services bring assurances of standardized interface and exchange protocols that allow for easier expansions and upgrades.

While the benefits of outsourcing can be significant, there are a number of issues that make it less attractive in some situations. First, the level of organizational control over the IT configurations and services are generally less than those when the system is developed in-house. IT outsourcing requires explicit delineation of the services to be provided from the start and any deviations can add significant costs to the system. The loss of control and decrease in in-house expertise may lead to a decreased level of IT integration in the organization, potentially reducing the competitive advantage of its integrated IT. IT outsourcing puts the support activity outside the organization's internal environment and may result in lower service levels from an end-user's perspective. Furthermore, outsourcing is susceptible to risk factors like antiquated technology lock-in, high-cost of contractual modifications, unanticipated management and transition costs, and legal disputes [3].

The costs, benefits, and risks vary according to the types of IT resources to be outsourced. One theory that can serve as a basis for analyzing the effect of the level of individual IT resources outsourced on the financial performance of the firm is transaction cost economics.

2.2. Transaction cost economics (TCE)

The idea of transaction costs was first proposed to explain why firms choose to make some components and purchase others. The cost for a firm to produce a product or service internally is termed the production cost while the cost of purchasing a product or service is termed a transaction cost. Firms produce a product or service internally when it is economically more cost effective than purchasing the same product or service on the open market. Purchasing a product or service involves an additional cost: that of conducting the transaction. Transaction costs depend on three factors: the frequency of the transaction, uncertainty, and the asset's specificity.

Transaction costs economics makes two primary assumptions about human behavior. The first is that decision makers are bounded rationally. Because they do not have perfect market information; they have to 'satisfice'. The second assumption is that some people engage in opportunistic behavior and it may be necessary for a firm to monitor the other party's performance – adding to the cost of conducting a transaction.

Transactions that have a high frequency of occurrence typically have low transaction costs. Conversely, a high degree of uncertainty contributes to transaction costs. Uncertainty includes the cost associated with searching for information in the market and can represent a significant portion of overall transaction cost as complete information on all prices and products at any given time is impossible. People use satisficing behaviors, choosing the best alternative from the readily available solutions given the information available. A third transaction element relates the rarity and/or complexity of the input being produced.

When two parties attempt to execute a contract, one or both may have to purchase specific assets in order to successfully execute the contract. Assets with specificity are transaction specific and may have very little value in their alternative use. Setup and configuration costs associated with each contract, along with the human knowledge required to execute the contract represent asset specific costs; e.g., custom built supply chain interfaces require intimate knowledge and expertise of the resource in order to maintain and support it. An IT outsourcing firm supporting a firm's custom built software application would incur the cost of acquiring knowledge and expertise to maintain this unique resource. Since the knowledge and expertise acquired is unique to the transaction, it has little value in any other market. Furthermore, assets that are purchased specifically for a transaction make a firm susceptible to opportunistic behavior unless sufficient provisions are specified in the contract and adequate measures are taken to police and enforce its performance. Contracting and monitoring add significantly to the transaction costs, increasing the likelihood that a firm can more efficiently manufacture the product internally.

Aubert et al. [2] developed a transaction cost model of IT outsourcing examining the specific elements of transaction costs and unexpectedly found a positive relationship between asset specificity and degree of outsourcing showing the "non-optimal behavior of some firms." Significant prior research on IT outsourcing has used TCE to explain the degree of IT outsourcing sometimes finding considerable deviation from theoretical predictions.

The ambiguous results have led some to question the use of TCE to analyze IT outsourcing decisions while others have noted significant empirical support for specific constructs of TCE, such as asset specificity [6]. Since firms are made up of people who are bounded rational due to imperfect information, a firm's decisions to outsource may not always be optimal. Therefore, research using TCE to explain a firm's choice to outsource may not be appropriate because firms do not always choose the best alternative. Self-serving attribution suggests that those that choose to outsource will view outsourcing favorably while those that choose to insource will view insourcing favorably. Accordingly, survey data obtained from outsourcing stakeholders regarding outsourcing outcomes may be biased. Therefore, we used objective, archival data on firm-level financial performance of IT outsourcing in. We examined IT resources with low asset specificity that can be conceptually considered to be commodities.