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The use of information technology in the provision of HR compensation services and its effect on outsourcing and centralization

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ABSTRACT

Conventional wisdom suggests information technology (IT) can reduce inter-firm costs, leading to increased outsourcing. However, IT can reduce costs both within and between organizations, making the net influence of IT on outsourcing, and within firm configuration, unclear. Using transaction- and agency-cost approaches, this paper considers the influence of IT on both outsourcing and the within firm choice of decentralization or centralization of HR services. The interdependence of centralization decisions with outsourcing decisions is a novel theoretical and empirical contribution of the paper. Results from a survey of 243 firms indicate that IT facilitates outsourcing. Centralization of service decision making is positively related to outsourcing of the service which suggests that centralization may be a precursor stage or a facilitator of outsourcing. Empirical results also indicate that decision making on a service tends to be more centralized as the service is more standardized and has a higher level of scope economies.

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1. Introduction

The past several years have seen two dramatic trends in the way that many firms do business: a large increase in the outsourcing of HR services to external vendors, and the increasing use of information technology (IT) in service provision (Boudrie, 2012; CedarCrestone, 2012; Mercer Human Resource Consulting, 2003). The primary focus of research in this area has been on the ability of IT to reduce the costs associated with providing services, as well as general firm-to-firm interactions (e.g., Afuah, 2003; Brynjolfsson et al., 1994; United States General Accounting Office, 2003). To the extent that IT changes the costs and the way in which services are provided, this may change the level of outsourcing for a given service (i.e., inter-firm service provision). Considerable research has been done on the use of IT in service provision (e.g., Afuah, 2003; Brynjolfsson et al., 1994; Malone et al., 1987; Metters, 2008; Zenger and Hesterly, 1997); the paper contributes further to this stream by explicitly modeling the effect of IT on outsourcing decisions and empirically testing this effect.

The use of IT to provide services may also allow firms to change the internal configuration of services as an alternative to outsourcing

(Gurbaxani and Whang, 1991). In particular, it may facilitate the centralization or decentralization of services within a firm. A series of surveys by the Corporate Leadership Council revealed that HR managers consider outsourcing and centralization of services to be key decisions affecting service performance and effectiveness (Corporate Leadership Council, 2008a, 2008b). This potential to decrease costs both within and between organizations makes the net effect of IT on organizational boundaries—such as the decision to outsource—unclear (Afuah, 2003; Devaraj et al., 2007; Varian, 2002). Hence the endeavor to model the effect of IT on outsourcing of services becomes potentially intertwined with the analysis of the effect of IT on intra-firm decisions about service provision.

In deciding whether or not to outsource a service, a firm faces a make or buy decision, which is typically the domain of transaction cost economics (TCE) (e.g., Coles and Hesterly, 1998; Leiblein et al., 2002; Lyons, 1995; Williamson, 1985). In the context of service outsourcing, TCE theory holds that, due to the inability of firms to write complete and enforceable contracts, firms are subject to the possibility of opportunistic action by their service vendors. The threat of opportunism is highest in those transactions characterized by high levels of transaction-specific investments known collectively as asset specificity (Williamson, 1985). A potential outsource provider may have to make specific investments in the relationship that may not be recoverable (e.g., training the service provider about firm-specific requirements of service provision), and these investments will require safeguards in the form of

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transaction costs. If the cost of these investments and safeguards rises sufficiently high, it will be too costly for the outsource provider to provide the service, and hence more efficient for the outsourcing firm to continue to provide the service internally (e.g., Coles and Hesterly, 1998; Leiblein et al., 2002; Lyons, 1995; Williamson, 1985).

The paper is concerned with both inter- and intra-firm service provision, but TCE only addresses the inter-firm make-or-buy decision embodied by the decision of a firm to outsource. Since intra-firm service provision in the form of the level of centralization is also being considered, another theory is needed to explain the decision to centralize or decentralize service provision. There is a general assumption that information technology will lead to the decentralization of decision-making in firms, but there has been little work on the determinants of decentralization (Acemoglu et al., 2007), which is one of the key issues that is explored here.

In the same way that transaction costs and asset specificity drive the outsourcing decision, agency theory addresses the way that transactions are organized within the firm (Gurbaxani and Whang, 1991). Gurbaxani and Whang (1991) point out that both transaction costs in inter-firm relationships and agency costs related to the centralization of decision making will, "to a considerable degree, be determined by the costs associated with acquiring, storing, processing, and disseminating information". Kinnie (1987) points out that investment in technology can promote or inhibit centralization of manager's decisions. According to agency theory, if decision-making is delegated to agents by principals, the agents may make decisions that are not aligned with the interests of the principals (Jensen and Meckling, 1976). To the extent that these decisions are not aligned with the preferences of the principals, the organization experiences agency costs (Jensen and Meckling, 1976). In an attempt to insure the alignment with the principals' interests a firm may also incur agency costs when they expend resources to better communicate and enforce the will of the principals and to monitor the behavior of the agents (Jensen and Meckling, 1976). Ceteris paribus, if these agency costs are reduced with IT, more delegation by principals would be seen. In the context of this study, this increased delegation manifests itself in terms of increased levels of decentralized decision making in service provision (Gurbaxani and Whang, 1991; Hitt and Brynjolfsson, 1997; Jensen and Meckling, 1976). Countering this, however, is that the lower costs of information provided by IT may reduce the cost of transferring information from decentralized units back to headquarters, which might facilitate more centralization of decisions. Indeed, per Gurbaxani and Whang (1991), it is an empirical question whether IT reduces information costs more or monitoring costs more and in turn whether the firm minimizes both of these costs with more centralization or more decentralization (Hitt and Brynjolfsson, 1997).

In an empirical investigation of prior theoretical work, researchers (Malone et al., 1987) found that higher levels of IT investment were associated with smaller overall firm size (Brynjolfsson et al., 1994). The authors speculated that this smaller size was due to the outsourcing of services (Ellram et al., 2008). However, other researchers (Varian (2002), and more elaborately, Afuah (2003)), raised the point that efficiencies gained by the use of IT will lower costs both between and within organizations, making the net effect of using IT in service provision on governance choice unclear. Varian (2002) focused on the total cost reductions that may be enabled by IT. Although considerable research has been done on the impact of IT on service performance (Froehle, 2006), less work has looked at the influence of IT on organizational and governance forms. Researchers such as Riordan and Williamson (1985) and Williamson (1985) have long pointed out that inter-firm governance choices between make and buy can involve both production costs and transactions costs. In this paper arguments

are developed for how IT could affect both types of costs and hence outsourcing. On the intra-firm side it is also considered how IT could affect information costs (a form of production cost) and agency costs and hence intra firm choices such as centralization. Discussions are focused sequentially on the influence of transaction and production costs on outsourcing, and then information and agency costs on centralization.

The contributions of this paper are thus twofold. First, this paper suggests the possibility that IT acts as a shift parameter that influences not only the outsourcing decision, but also the way in which these services are provided within the firm via centralization (Ahmadjian and Oxley, 2006; Williamson, 1991). Second, it explores the possibility that organizational form (i.e., centralized versus decentralized service provision) influences governance choice (i.e., outsourcing versus in-house service provision). Put another way, the authors contend that a firm may be able to more efficiently or effectively outsource a service if it changes the way it is provided within the firm via centralization or decentralization; a consideration that is not part of the traditional TCE model. A firm may also be able to capture some or all cost savings that might be achieved via outsourcing by instead modulating the level of centralization. Thus a contribution is made to consider the effect of IT on outsourcing and centralization simultaneously, and empirically investigate these issues together. The authors are not aware of prior scholarly research that does this.

The remainder of the paper is divided into four sections. In Section 2, a theoretical framework is outlined and four sets of hypotheses are developed. Section 3 provides an outline of the empirical methods employed to test the aforementioned hypotheses including sample, survey methodology, model, and econometric methods employed. Section 4 gives the outcome of the statistical analyses. Section 5 includes a discussion of the findings, the study's limitations, and directions for future research.

2. Theory and hypotheses

Evans and Wurster (1997) discuss how the internet fundamentally alters the trade-off between the richness and reach of information. According to their view, the economics of information goods enable a great deal more richness of information to be distributed to many more potential recipients through the web than has been possible through other distribution means. While the information is still costly to collect and develop, it can now be made available at nearly zero marginal cost. Piccoli et al. (2004) track both the suitability of IT for various aspects of service provision as well as map the increasing ability of IT to provide services effectively. The richness of content that can now be economically distributed has enabled electronic forms of interaction such as online interfaces (Shapiro and Varian, 1999). This ease of interaction, particularly of those activities that are very information intensive, has reduced the cost of activities for which the transfer of information is fundamental.

2.1. Outsourcing, transaction costs, and asset specificity

This section is concerned with standard approaches to outsourcing using transaction costs and asset specificity in the first set of hypotheses. The next section then turns to the influence of IT on the extent of outsourcing. For services that are information-intensive, the value of the service may increase with the richness of the information and the timeliness of its delivery. In the past, the effective provision of information-intensive services has required that the service provider be located close to the end user (e.g., the need for face-to-face meetings). Within the TCE framework, this is referred to as site specificity. Advances in IT allow

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