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Outsourcing distribution and logistics services within the automotive supplier industry

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ABSTRACT

This paper reports on an empirical study that examined a suite of distribution and logistics services commonly used to manage inbound materials en route to plants. The sourcing decision is examined through the lenses of transaction cost economics and the resource-based view of the firm and the results lend limited support for both theories in the context of such services. Results further indicate that there is little evidence supporting differences between internal versus external decision-makers.

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1. Introduction

Outsourcing involves the procurement of physical and/or service inputs from outside organizations either through cessation of an activity that was previously performed internally or abstention from an activity that is well within the capability of the firm (Barrar and Gervais, 2006). Outsourcing continues to be a significant management concern and topic of academic research (Baker and Hubbard, 2002; Benn and Pearcy, 2002; Chan and Chan, 2004; Chow et al., 1995; Fisher et al., 2008; Howells et al., 2008; McIvor, 2005; Mol, 2007; Rieple and Helm, 2008; Stank and Daugherty, 1997). It affects manufacturing and service technologies alike. Management practices such as sub-contracting, as well as the outsourcing of business processes such as human resources and customer call centers, have been employed for decades (Davis and Spekman, 2004). Presently, the politically charged topic of offshoring is evidence that outsourcing is increasingly extending across international borders and is as relevant today as in the past. Moreover, the flow of capital that results from such offshoring can affect not only the economies of nations worldwide, but can affect the political environment of these nations as well. Thus, understanding what drives outsourcing decisions is an important and worthwhile undertaking.

This research seeks to examine the validity of theoretical constructs from both the resource-based view of the firm and transaction cost economics in the context of a service technology. In this case, the service technology is the provision of distribution and logistics services (e.g. design of truck routes and delivery schedules, management of reverse logistics, measurement of transportation and logistics performance). More specifically, this research investigates how suppliers within the automotive industry manage their inbound material shipments and determine which distribution and logistics services to provide internally and which to outsource. In contrast to much of the resource-based view and transaction cost economics literature that focuses on the sourcing of discrete physical products (Dyer, 1996; Masten, 1993; Schilling and Steensma, 2002), this research focuses on the sourcing of a service. Thus, the transaction cost economics and resource-based view constructs that are normally applied to physical product characteristics must now be applied to intangible services such as movement, delivery, and sequencing. The automotive industry focus is unique because of the high volume of parts transported and the variation in the size of these parts. The automotive industry supply chain handles not only mundane small

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parts like screws and fasteners; but it must also handle large and valuable cockpit modules, door assemblies, and transmissions that must arrive in a prescribed production sequence. The automotive industry is also a leading practitioner of the lean principles pioneered by Toyota (Liker, 2004; Womack and Jones, 1996; Womack et al., 1990), including just-in-time shipments, small batch sizes, and low inventories. Such lean practices make distribution and logistics services of critical importance within the industry. Thus, this inherent complexity and criticality make this particular industry context of particular interest. There is a unique dynamic of countervailing forces. On one hand, the criticality of the services rendered would argue for increased control and hierarchical organization. On the other hand, the seemingly generic nature of transportation and logistics services would suggest a competitive market purchase.

This research also seeks to determine if there are differences in the firm boundary decision based upon whether an internal or external stakeholder makes the decision. That is, are there significant differences regarding how services get sourced based upon whether the plant that receives the inbound materials makes the sourcing decision versus a decision-maker outside of the plant (e.g. a corporate division, supplier, or third party logistics firm). Though not directly addressed in the paper, the underlying question is whether principal-agent issues can result in sub-optimal decision-making or, at the very least, decision-making that is inconsistent with theoretical expectations.

Two of the more prominent theories in reference to the outsourcing decision are the resource-based view of the firm (Barney, 1991; Barthelemy and Quelin, 2006; Conner, 1991; Eisenhardt and Schoonhoven, 1996; Finney et al., 2008; Holcomb and Hitt, 2007; Hunt, 1997; Peteraf, 1993; Wernerfelt, 1984) and transaction cost economics (Coase, 1937; Masten, 1993; Williamson, 1991; Yang and Huang, 2000). These theories have not only been discussed in the literature in purely theoretical terms, but they have also been the subject of empirical studies (Conner, 1991; Masten et al., 1991; Poppo and Zenger, 1998; Schilling and Steensma, 2002).

The resource-based view of the firm posits that sustainable competitive advantage is possible for firms because of the unequal distribution of assets (i.e. heterogeneity) and the fact that these assets are not perfectly transferable (i.e. immobility) (Peteraf, 1993). Thus, in the context of the outsourcing decision, firms should own those assets that create value for the firm and are a source of competitive advantage, and purchase those that do not. Furthermore, valuable assets are generally firm specific in nature. That is, the inherent value of assets is the result of a unique association with the firm itself and cannot be easily replicated by another firm (Dyer and Singh, 1998; Eisenhardt and Martin, 2000; Wernerfelt, 1984). Finally, the resource-based view of the firm also recognizes that such value is generally accumulated over time. Thus, valuable assets are, by nature, rare and not easily transferred (Peteraf, 1993; Wernerfelt, 1984).

Hypothesis 1. The perceived rarity of the ability to provide a particular distribution and logistics service will increase the likelihood that the service is sourced internally versus outsourced.

There is an error resulting from a previous modification of Hypothesis 1 listed in the text above.

Transaction cost economics recognizes myriad costs associated with various firm transactions. For example, in market-based exchanges, the costs due to additional monitoring of the trading partner to mitigate the potential for opportunistic behavior, the legal costs of establishing a contract, additional sales taxes, etc. (Coase, 1937). Many such costs, while present in market-based exchanges, are not equally present when such transactions are governed in a vertically integrated manner. Thus, in a market-based transaction a buying firm may incur additional costs to establish a contract to govern a transaction with a supplier and even further costs to monitor compliance with the contract if sufficient trust does not exist with the supplier. The cost of similar transactions would differ if they occurred within a vertically integrated structure. Transaction cost economics posits that firms seek the sourcing arrangement that minimizes these costs (Coase, 1937; Gonzalez-Diaz et al., 2000; Williamson, 1991; Williamson and Ouchi, 1981). It is also interesting to note that, following agency theory logic (Jensen and Meckling, 1976), the assessed cost of such transactions will differ depending on whether an internal or external decision-maker makes the sourcing decision.

Transaction cost economics further identifies three factors that affect the magnitude of these transaction costs or the likelihood of opportunistic behavior. These three factors are the frequency of the transactions, the degree of uncertainty, and asset specificity (Williamson, 1999).

The frequency of transactions can impact the sourcing decision in several ways including increased sensitivity to reputation effects, the accrual of trust, as well as economies of scale. That is, when there is frequent and repeated interaction between trading partners, the incentive to maintain a good reputation in order to maintain the likelihood of future transactions may be sufficient to mitigate opportunism and, thus, make market structure more attractive. Similarly, frequent and repeated transactions can result in the accrual of trust between trading partners, which again will mitigate opportunism and make market transactions more appealing than they otherwise would be. However, transaction cost economics seeks to economize not only on transactions, but on production costs as well. Thus, it is easier to recover the additional costs of investments in specialized assets (and the associated increase in transaction costs) given recurring transactions than in the case of infrequent transactions. Thus, it can be argued that the higher the frequency of transactions, the more likely a hierarchical structure will be adopted.

As the above discussion makes clear, there is no clear directional impact of the frequency of transactions on the sourcing decision. These differences are demonstrated in the literature (Baker and Hubbard, 2002; Williamson, 1991, 1985). However, it is equally clear that frequency of transactions can impact exposure to opportunism. It is this potential impact on exposure to opportunism that is the focus of this research.