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Economic explanations for concurrent sourcing

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ABSTRACT

Concurrent sourcing is a phenomenon where firms simultaneously make and buy the same good, i.e. they simultaneously use the governance modes of market and hierarchy. Though concurrent sourcing seems to be widespread, few studies of sourcing have focused on this phenomenon. This paper reviews different economic explanations for why firms use concurrent sourcing. The distinctive features of the explanations are compared, and it is discussed how they may serve as a springboard for research on concurrent sourcing. Managerial implications are also offered.

1. Introduction

Concurrent sourcing exists when a buyer makes and buys the same good. Parmigiani (2007, p. 285) describes concurrent sourcing as a governance structure where a firm is backward, partial vertically integrated with regard to the same good or service, and she states that "'[c]oncurrent sourcing emphasizes that firms are making and buying the *same* good, in contrast to considering a broader unit of analysis an/or one with more heterogenity". Concurrent sourcing has also been labelled *tapered integration*, which is defined as integration strategies where the firm relies on outsiders for a part, but not all, of its supplies or distribution (Harrigan, 1984, p. 643). Jacobides and Billinger (2006, p. 249) use the term *permeable vertical architectures* to describe firms that are partly vertically integrated and partly open to the markets, and Heide (2003, p. 18) uses the term *plural governance in industrial purchasing* to describe concurrent sourcing.

Several researchers have documented the existence of concurrent sourcing (e.g. Hallwood, 1991; Heide, 2003; Rothaermel et al., 2006; Parmigiani, 2007). In a study of Southeastern US manufacturing companies' sourcing strategies, Heriot and Kulkarni (2001) found that 121 out of 211 companies had chosen concurrent sourcing. Ahmadjian and Lincoln (2001) described how Toyota chose to produce some of their requirements of electronic components, while simultaneously using Denso as an external supplier of the same components. Heide (2003) studied the purchasing relationships between original equipment manufacturers and their component suppliers, and he reported that 31% of the firms in his sample relied on concurrent sourcing. Recently, Parmigiani (2007) categorized 28% of the observations in her dataset as concurrent sourcing. Empirical observations have also shown that many local governments both make and buy the same service (Warner and Hefetz, 2008).

Despite the seemingly widespread use of concurrent sourcing, and a large number of papers on strategic sourcing, outsourcing, and make-or-buy decisions (e.g. Freytag and Kirk, 2003; Marshall et al., 2007; Water and van Peet, 2006), concurrent sourcing has received little attention in the literature on sourcing (Bradach and Eccles, 1989; Heriot and Kulkarni, 2001; Heide, 2003; Parmigiani, 2007; Puranam et al., 2008). Parmigiani (2007) uses transaction cost theory, neoclassical economics, and the firm capabilities view to explain the choice of concurrent sourcing. Other empirical studies have derived their hypotheses and interpretations from a single or a few theoretical approaches to concurrent sourcing (Heide, 2003; Heriot and Kulkarni, 2001), and a search for theories that explain both the choice of concurrent sourcing and the relationship between concurrent sourcing and performance shows that no overview is readily available.

This paper reviews, compares, and discusses different theoretical approaches and models for explaining why firms use concurrent sourcing. It discusses how the explanations may be synthesised into a more complex and integrative model that relates concurrent sourcing to performance. Managerial implications and suggestions for future research are also offered.

2. Economic approaches to concurrent sourcing

Zeng (2000) distinguishes between four different categories of sourcing: multiple sourcing, single sourcing, network sourcing, and global sourcing. Concurrent sourcing is a variation of the dual

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or the multiple sourcing arrangement, because it combines internal and external sources of supply. Theorising on concurrent sourcing uses different starting points (e.g. Puranam et al., 2008; Parmigiani, 2007; He and Nickerson, 2006; Heide, 2003). In the following sections, I review the literature on concurrent sourcing and focus on the different explanations offered for this phenomenon. The identified literature on concurrent sourcing draws on different economic theories and concepts. Table 1 gives an overview of these economic theories and concepts used for explaining concurrent sourcing. All theories and models focus on economic phenomena and economic performance, and they all assume rationality or bounded rationality. However, the central problems and the central variables differ and thus the economic theories and models represent different perspectives on concurrent sourcing, and together they are more comprehensive than any one of them alone (e.g. Santos and Eisenhardt, 2005; Bergen et al., 1992).

2.1. Transaction cost theory

Transaction cost theory attempts to explain why some transactions are governed inside the firm and other transactions are governed by the market. This is done by comparing the costs of using the market with the bureaucratic costs of the hierarchy (Williamson, 1985). It builds on two behavioral assumptions: bounded rationality and opportunism (Williamson, 1985, p. 47). Opportunism makes it necessary for firms to safeguard their investments. Bounded rationality makes it important to be able to make adaptive sequential decisions. A transaction can be governed by the market, the hierarchy or their hybrid. Williamson (1991) argues that the market offers high-powered incentives, no administrative control, and is efficient for autonomous adaptation. It is supported by classical contracts, and it protects against opportunism when there are many alternative buyers and sellers and all relevant information is contained in the prices (Williamson, 1985, 1991). The hierarchy offers low-powered incentives, opportunities for administrative control, and is efficient for cooperative adaptation. It is supported by forbearance, it protects against opportunism by harmonization of norms and the use of fiat, and it economizes with bounded rationality by allowing for adaptive sequential decision-making (Williamson, 1985, 1991). The hybrid is a combination of the market and the hierarchy, and it takes on approximately average properties regarding incentives, administrative control, autonomous adaptation, and cooperative adaptation (Williamson, 1991, p. 280). However, it differs in its ability to handle disturbances. Thus, in the case of frequent consequential disturbances, the hybrid becomes excessively maladapted and costly.

Whether vertical integration is an efficient strategy is primarily determined by a combination of transaction-specific assets, uncertainty, and transaction frequency. Of these three factors, transaction-specific assets are the principal factor responsible for transaction cost differences among transactions (Riordan and Williamson, 1985, p. 367). Transaction-specific assets have lower value when used in other transactions or for other purposes. The

Table 1
Economic approaches to concurrent sourcing.

	Transaction cost theory	Agency theory	Resource-based theory	Knowledge-based theory	Neoclassical economics	Complementarities and constraints
Central problem	How to safeguard transaction specific assets	How to avoid quality debasements and cheating	How to access resources and technologies	How to organize for efficient problem solving	How to operate at optimal scale and scope	How much to make and how much to buy
Central independent variable	Asset specificity	Measurement difficulty	Technological uncertainty	Non-decomposability	Volume uncertainty	Complementarities and constraints
Unit of analysis	Transaction	Agent/contractual relationship	Resource	Problem	Production function	Concurrent activity system
Primary assumptions	Opportunism, bounded rationality	Opportunism	Bounded rationality	Bounded rationality, opportunism	Rationality in production	Opportunism
Central goal	Minimize transaction cost	Minimize agency costs	Growth and rent	Create valuable new knowledge for efficient problem solving	Minimize production costs	Minimize production and transaction costs
Advantages from concurrent sourcing	Provide a termination safeguard	Access to information	Increase available resource base	Both efficient problem solving and exploitation of efficiency of external suppliers	Operation at optimal scale and scope	Complementarity
Alternative solution to make and buy	Vertical integration	Behaviour-based contracts and/or vertical integration	Vertical integration to protect core competences or external suppliers to access needed resources	Authority-based or consensus-based hierarchy	Make all internally	Make or buy
Representative contributions	Dutta et al. (1995)	Heide (2003)	Parmigiani (2007)	Ahmadjian and Lincoln (2001)	Harrigan (1984)	Puranam et al. (2008)
Why do companies not make all their requirements?	External suppliers have lower production costs	Without measurement difficulties external suppliers are more efficient	Impossible to maintain all potentially relevant resources/capabilities internally	External suppliers are more efficient, when problems are decomposed	Lack productive capacity or face decreasing returns to scale	Costs of bureaucracy, complementarities, scale constraints, and barriers to exit
Why do companies not buy all their requirements?	Have to protect transaction-specific investments	Want to avoid quality debasement and cheating	Want to use internal resources to earn rent, and want to maintain absorptive capacity	Need internal capabilities in order to solve non-decomposable problems	Can produce some of their requirements at lower costs than potential suppliers	Transaction costs, complementarities, scale constraints, and barriers to exit