



# The effect of relational factors on open-book accounting and inter-organizational cost management in buyer–supplier partnerships

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## ABSTRACT

Open-book accounting (OBA) – the systematic disclosure and discussion of cost data between partner firms – is indispensable for revealing additional cost reduction opportunities that become feasible through the joint efforts of different organizations within supplier–buyer partnerships (inter-organizational cost management). However, evidence from previous case studies indicates that the adoption of OBA and inter-organizational cost management (IOCM) depends on the relational context. This study hypothesizes that the relational factors trust and commitment influence the implementation of OBA and IOCM. The results of a structural equation model used to evaluate data from 147 automotive suppliers partly support this hypothesis. While supplier's commitment promotes cost data disclosure, the buyer's commitment is a key enabler for the inter-organizational cost management.

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## 1. Introduction

The efficient management of supply partnerships has become of primary importance for manufacturing organizations to gain a competitive advantage in today's fast changing business environment. In order to ensure the competitiveness of the organization and to increase operational flexibility, organizations increasingly focus on their core competencies and outsource a high percentage of the products' value-added (Pralhad and Hamel, 1990; Quinn, 2000). However, Cooper and Slagmulder (1999) note that "...when a high percentage of the value-added of products is outsourced it is not sufficient to be the most efficient firm; rather it is necessary to be part of the most efficient supplier network" (p. 11). Competition is no longer only between firms but rather between supply networks (Trent, 2004). Consequently, the scope of cost management has been widened beyond the boundaries of the single firm (Cooper and Slagmulder, 1999; Kulmala et al., 2002; Slagmulder, 2002). The traditional independent cost management by the individual firms of the network itself – however effective – is no longer sufficient to maintain competitiveness. To achieve additional cost savings, buyers and suppliers need to introduce an inter-organizational cost management (hereafter IOCM), i.e. cost savings through the coordinated actions of buyers and suppliers (Cooper and Slagmulder, 1999).

To effectively manage costs, i.e. to purposefully influence costs covering all activities that improve the efficiency of the firm (Kajueter, 2002; Kotzab and Teller, 2002), the cost elements of a product need to be known, including the suppliers' costs (Kulmala, 2002). However, firms usually only know their own internal costs and purchase prices due to the lack of transparency regarding cost accumulation within supply networks. This makes IOCM practices difficult (Kulmala, 2002). Therefore, the practice of open-book accounting (hereafter OBA), which demands the disclosure of cost information to the partner firm (Kulmala, 2002, 2004), is considered essential to reveal additional opportunities for cost savings through introducing IOCM (Kajueter and Kulmala, 2005; Kulmala et al., 2002). Research addressing OBA and IOCM suggests that the relational context of the buyer–supplier partnership influences the adoption of both cost data disclosure and joint cost management practices (Cooper and Slagmulder, 2004; Kajueter and Kulmala, 2005). However, evidence in this respect is limited to case study-based research.

Using structural equation modeling, we contribute to the literature by examining the key factors influencing the implementation of OBA and IOCM based on cross-sectional survey data from 147 first- and second-tier automotive suppliers. Our aim is to further enhance the understanding of the potential prerequisites of and obstacles to OBA and IOCM. The analysis is based on transaction cost theory, while its focus is widened by including additional relational factors in the analysis.

The remainder of the paper consists of a review of the relevant literature on OBA and IOCM, followed by the description of the research framework, the identification and definition of the

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relevant factors, and the development of the hypotheses to be tested on the survey data. Subsequently, the method used to conduct the study is presented. The paper concludes with a discussion of the results followed by the conclusion.

## 2. Open-book accounting and inter-organizational cost management

### 2.1. Previous research

High degrees of outsourced value creation require a more collaborative mode of purchasing (“hybrid form”) which encompasses the requirement to establish neo-classical and relational contracts (Williamson, 1991). This development is accompanied by an increasing importance of first- and second-tier suppliers for the products’ competitiveness. Furthermore, buyers need to increase their efforts to actively manage costs across the supply network (Cooper and Slagmulder, 1999; Ellram, 1996; Gietzmann, 1996). Increasingly, buyers and suppliers are forced to a joint cost management where both work collaboratively to reduce costs. IOCM is a structured approach to coordinate the activities in a supplier network so that total costs in a network are reduced. The objective is to find lower-cost solutions, than would be possible if firms attempted to reduce costs independently (Cooper and Slagmulder, 1999). However, for doing so, buyers need to know the suppliers’ cost structure. Thus, compared to internal value creation, the relevance of information asymmetry concerning costs, cost structures and cost drivers between buyers and supplier arises when substantial amounts of value is made by few key suppliers. Consequently, many researchers see the establishment of effective routines for information sharing in general as a key factor for the success of buyer–supplier partnerships (Amabile, 2001; Cooper and Yoshikawa, 1994; Dyer and Singh, 1998; Mohr and Spekman, 1994). “It is not enough to know about the activities or the resources of just the counterpart, instead, detailed information about specific activities, i.e. the costs, revenues, quality, cycle time, reliability or delivery, and information concerning the use of resources will be needed for some of the connected parties to enable ways of improving the operations” (Håkansson and Lind, 2004, p. 56). In the context of IOCM, the disclosure of cost information (OBA) plays a key role in the identification of cost saving potentials (Axelsson et al., 2002; Coad and Cullen, 2006; Kajueter and Kulmala, 2005; Kulmala et al., 2002). However, open-book accounting does not necessarily imply that buyer and supplier subsequently apply joint cost management practices. In fact, OBA may be implemented simply to help the buyer to determine the allocation adequacy of overhead costs without any subsequent joint cost management activities. Nevertheless, disclosing cost data as a prerequisite for additional inter-organizational cost management techniques (Ellram, 1996) has largely been regarded as the decisive reason for the implementation of OBA due to IOCM’s high cost saving potentials (Carr and Ng, 1995; Kajueter and Kulmala, 2005; Kulmala et al., 2002). Similarly, some IOCM techniques such as chained target costing or functionality–price–quality trade-offs do not require the disclosure of cost data. However, the application of more sophisticated techniques (e.g. inter-organizational cost investigation or concurrent cost management), which offer much higher cost saving potentials, is only possible when buyers are aware of the suppliers’ cost structure (Cooper and Slagmulder, 1999, 2004). It is not surprising, then, that OBA has been said to be essential to reveal cost saving opportunities arising through buyer and supplier’s collaborative effort (Kajueter and Kulmala, 2005). OBA has to date been mainly analyzed in conceptual papers and in case studies. One exploratory study of OBA has

been conducted in Switzerland (Wagner, 2008) and two in the UK (McIvor, 2001; Munday, 1992). These studies have found that customers do indeed require cost data from their suppliers and that the suppliers are partly willing to provide these cost data (McIvor, 2001; Munday, 1992). While OBA may be applied bi-directionally, a one-sided disclosure of cost data by the supplier seems to prevail in practice (McIvor, 2001).

However, owing to the legal independency of suppliers, buyers face serious problems accessing key information concerning cost related information to conduct inter-organizational cost management (Baiman and Rajan, 2002). Thus, the relationship constellation becomes a key enabler for the promotion of both, IOCM and OBA. Case studies, focusing on implementation problems and prerequisites of OBA and IOCM (Cooper and Slagmulder, 2004; Kajueter and Kulmala, 2005; Kulmala, 2004; Mouritsen et al., 2001; Seal et al., 1999), support this assessment concerning the role of the relational context. However, whether the findings from these case studies may be generalized remains yet to be tested based on a large-scale survey. Furthermore, when analyzing prerequisites for cost data disclosure, OBA has been either regarded as an implicit component of other inter-organizational cost management practices (Coad and Cullen, 2006; Cooper and Slagmulder, 1999, 2004; Cooper and Yoshikawa, 1994; Kulmala, 2004) or the inter-organizational cost management was not included at all in the analysis (Munday, 1992).

The purpose of this study is to examine the key factors influencing IOCM and OBA’s implementation in strategic buyer–supplier partnerships based on a large-scale empirical study. By doing so, we contribute to the literature by testing whether the findings from previous case studies may indeed be generalized. Furthermore, we examine the relative importance of the previously identified factors in long-term buyer–supplier relationships.

### 2.2. The research framework: combining different theoretical views on open-book accounting and inter-organizational cost management

The effective cost management by the coordinated actions of buyers and suppliers requires that the supplier’s costs are known. OBA addresses this problem of information asymmetries inherent in supply partnerships, specifically, the supplier’s information advantage regarding its manufacturing and operational costs. Transaction cost theory argues that information asymmetry is mainly caused by the environmental factors uncertainty and/or complexity, which are associated with bounded rationality. Consequently, the scope for opportunistic behavior and the need for adequate safeguards against it arises (Williamson, 1975). The disclosure of cost data by the supplier would enable the inter-organizational cost management’s application and increase the efficiency of the transaction by lowering the transaction costs resulting from information asymmetries. However, buyers usually also have an information advantage regarding the price enforceable at the market, which they can use to unduly squeeze the profit margin of their suppliers. This risk is even higher if the supplier discloses its cost data. Therefore, while OBA reduces the transaction costs for the buyer, it potentially increases the transaction costs for the supplier by increasing the risk of a buyer’s opportunistic behavior (McIvor, 2001; Munday, 1992).

Critics of transaction cost theory argue that the focus on the behavioral factors opportunism and bounded rationality is insufficient, since potentially important social mechanisms of governance are neglected (Dekker, 2004; Gulati, 1995). Furthermore, Williamson’s (1991) assumption that vertical integration automatically implies an enhancement of control (and thus decreased transaction costs within frequently occurring,

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