



## Opening the black box of management accounting information exchanges in buyer–supplier relationships

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### ABSTRACT

The purpose of this paper is to explain the reasons why collaborating firms “open their books” and share management accounting information. We investigate the effect of variables related to the tasks and relationships of single individuals of the partner firms (i.e., task interdependence and analysability, team interdependence and relationship duration) on open book accounting (OBA). Our model controls for firm-level variables (i.e., asset specificity, degree of economic dependence, contract presence, contract comprehensiveness, and firm size) known to influence management accounting information exchanges. By using social network analysis (SNA), the data collected from a fashion firm and its entire set of suppliers shows that the quantity of management accounting information is positively related to task interdependence while having an inverted U-shape relation with the duration of the relationship. In addition, it provides evidence of a positive association with task analysability, whereas we find no relation with team interdependence. The analysis also confirms the importance of firm-level factors in explaining the exchanges of management accounting information. Our conclusions have important implications for the design of OBA in inter-organisational relationships.

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### 1. Introduction

Over the last few years, the collaboration between firms has emerged as an important business trend. One important theme related to the functioning of these collaborative relationships is the need for “information openness”. To this end, research is investigating the use of the so-called *open book accounting* (OBA) consisting of management accounting information exchanges between firms to support inter-organisational action (e.g., Cooper and Slagmulder, 1999, 2004; Degraeve et al., 2000; Dekker, 2003; Ellram and Siferd, 1998; Ittner et al., 1999; Shank, 1989; Shank and Govindarajan, 1992; Widener and Selto, 1999; Wouters et al., 2005). Management accounting

information is here intended as the financial and non-financial information used by managers to cope with coordination and control issues (Bouwens and Abernethy, 2000). Previous research has generally concentrated on the variables that facilitate the use of OBA mainly at the firm level. For example, Kajüter and Kulmala (2005) concentrate on the firm size and the hierarchical nature of the relationship between the collaborating entities. Other studies (Berry and Rondinelli, 2000; Tomkins, 2001) focus on the long-term commitment of firms to the relationship. Still others focus on the existence of asset specific infrastructure, degree of economic dependence between collaborating organisations, duration of the contract and the number of contractual partners (Axelsson et al., 2002; Carr and Ng, 1995; Dekker, 2003; Kulmala, 2002; Seal et al., 1999; Tomkins, 2001; Hoffjan and Kruse, 2006).

The firm-level perspective neglects the effect of the characteristics of the specific tasks and activities carried

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out by *individuals* at the collaborating firms and some features of their relationships on activating open book accounting. There is a call for research to open the black box of inter-organisational relationships and their underlying management accounting information exchanges by focussing on the specific relationships activated by individuals and not simply on “average relationships” (Dekker, 2003). Our study responds to this call by investigating the effect of some micro variables – related to the tasks and relationships of single individuals of the partner firms (i.e., task interdependence and analysability, team interdependence and relationship duration) – on open book accounting. Our model controls for firm-level variables (i.e., asset specificity, degree of economic dependence, contract presence, contract comprehensiveness, and firm size) known to influence this practice. We include the perspectives of both the buyer and suppliers and collect data from all individuals involved in the inter-organisational management accounting information exchanges related to a specific manufacturing network (Caglio and Ditillo, 2008, 2012).

OBA is conceptualised here as the systematic exchange of management accounting information between legally independent business partners beyond corporate borders that would otherwise be kept secret<sup>1</sup> (Hoffjan and Kruse, 2006; Kajüter and Kulmala, 2005; Mouritsen et al., 2001). Following Hoffjan and Kruse (2006) and Lamming (1993), we examine one key dimension of OBA, i.e., the degree of “openness” or level of transparency operationalised as the amount of management accounting information disclosed between collaborating entities. This dimension, i.e., amount (otherwise labelled as “precision”) (Kulp, 2002) and

“level of detail” (Gerdin, 2005a)), is derived from the MAS literature (Bouwens and Abernethy, 2000; Chenhall and Morris, 1986; Mia and Chenhall, 1994).<sup>2</sup>

By using social network analysis (SNA), the data collected from 14 managers of a fashion firm and 43 managers of 18 suppliers (a total of 350 relationships) show that task interdependence has a positive relationship with the quantity of management accounting information while having an inverted U-shaped relation with the duration of the relationship, as expected. It also shows that, contrary to our expectations, task analysability has a positive association whereas we find no relation with team interdependence and the quantity of inter-organisational management accounting information exchanged. In line with our expectations, firm size has a positive relationship with the quantity of inter-organisational management accounting information exchanged. Contrary to our hypotheses, asset specificity and economic dependence have a negative relationship with management accounting information, while contract presence has a positive relationship and contractual comprehensiveness has a non-significant effect.

Our conclusions have important implications for the design of management accounting information flows in inter-organisational relationships. The design based on standard criteria identified with reference to an “average” task and a “typical” relationship between individuals of the collaborating firms can have potential negative effects in terms of effectiveness and efficiency of management accounting information flows. Without considering the specific characteristics of the tasks and the relationships among interacting individuals, the risk is that the quantity of management accounting information is too high to control certain tasks (generating problems of efficiency) and too low to control others (generating problems of effectiveness). In addition, the lack of consideration of the duration of the relationship between individuals may result in unnecessary and thus costly levels of openness and formality in the management of the inter-organisational relationships.<sup>3</sup> Only by considering that collaborating firms are intertwined in a complex network of differentiated tasks and individuals’ relationships is it possible to develop a customised network of management accounting information flows to control inter-organisational interaction efficiently and effectively.

The structure of the paper is as follows. Section 2 introduces our model and hypotheses development. Section 3 describes the study and the method adopted to analyse data. Section 4 describes the results of our empirical analysis and Section 5 discusses and interprets the findings. Finally, we summarise our contribution to OBA.

<sup>1</sup> There is an open debate regarding the characterization of OBA. In effect, Hoffjan and Kruse (2006) maintain that a consistent definition of open book accounting has not emerged yet because different authors refer to different types of information when using this label. More specifically, some authors maintain that financial information and, in particular, cost information represents the “essence” of OBA, while others talk about both financial and non-financial information, i.e., management accounting information that would normally remain undisclosed beyond corporate borders. For example, Lamming (1993) define OBA as the “sharing of costing information between customer and supplier which would traditionally have been kept secret by each party for use in negotiations” (Lamming, 1993, p. 214). Hoffjan and Kruse (2006) distinguish between information sharing and OBA saying that the latter can be regarded as one aspect of the extensive area of information sharing, which is broader and comprises all data transfers, i.e., all forms of disclosure of valuable information between business partners. According to the authors, the disclosure of cost information is intrinsic to OBA. Other authors provide a broader definition of OBA, implying the exchange between collaborating firms of management accounting information, both financial and non-financial. In this respect, Tomkins (2001) talks about inter-organisational information exchanges referring to “business information”, including information on quality, price and delivery issues, R&D competencies, cost structures, and target costs. Carr and Ng (1995) and Mouritsen et al. (2001) point their attention to cost structure information, capacity saturation, set-ups, cycle times, movement times and delivery information, while Kajüter and Kulmala (2005), even though they focus mainly on cost information (such as raw material costs, labour costs, production overheads, transport costs), include also complementary non-financial information on scraps, capacity saturation, set-ups, cycle times and movement times in their analysis of OBA practices. In line with this second group of authors, in this paper, we consider as OBA all “private” management accounting information exchanged between collaborating firms.

<sup>2</sup> For completeness, we analyse two other dimensions of OBA (also derived from the MAS literature), namely frequency and scope, although there is no expectation that the relations will differ.

<sup>3</sup> We are grateful to one of the anonymous Reviewers for pointing this out.

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