

Management Accounting in networks: Techniques and applications

Research Executive Summaries Series

Vol. 2, No. 14

By Ariela Caglio and Angelo Ditillo

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Introduction

Collaboration between firms – a quick and flexible way to obtain complementary resources and competences belonging to other organisations – has become a popular way to gain competitive advantage and to succeed in a global environment. More and more firms now move beyond simple transactional relationships and work together towards the achievement of common objectives. They do this by forming alliances, partnerships or networks.

Specific control problems arise for such inter-organisational associations, which loosely mix characteristics of both the integrated firm and the free market. Close, on-going relationships and joint action between independent organisations require each firm to: understand its specific contribution in the relationship; define the mechanisms to coordinate inter-organisational activities; and monitor the level of mutual performance and satisfaction.

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1. Project overview

The research project sought to address the control problems arising from such inter-organisational associations by addressing the following questions:

- Is management accounting used to build and maintain successful relationships with external partners?
- What are the control patterns observed for inter-organisational cooperation and coordination?
- What is the role of management accounting and management accountants in networked organisations?

2. Objectives

In addressing these questions, a four fold research objective was developed, composite elements being to:

1. Present a generalisable framework for describing and understanding management accounting and control patterns in networked organisations.
2. Introduce new concepts and techniques that are suitable to manage the numerous interactions taking place within new organisational forms.
3. Illustrate empirical evidence of the use of management accounting and the role of the management accountant in networked organisations.
4. Provide some recommendations and guidance for practitioners operating in these new organisational contexts.

3. Methodology

3.1 To address the research objectives, data providing the following is required:

- a framework for describing and understanding management control patterns in networked organisations
- some guidance for practitioners on how to select the suitable combination of management accounting and control mechanisms.

To generate such data, the following organisational variables were identified and investigated:

- type of relational interdependence
- knowledge of the transformation process
- life-cycle of the relationship.

3.2 Numerical evidence on the uses of management accounting and the role of management accountants in networked organisations was collected, through three different methods:

1. A survey: to investigate the diffusion of the phenomenon under analysis.
2. A field study: to explore networked control patterns and the related information exchanges.
3. In-depth case studies: to identify the specific variables that impact on the configuration of inter-organisational management accounting and control mechanisms.

For data collection methods 2 and 3 (above), research was based on the fashion industry, in which firms normally outsource non-core activities and enter into shared, cooperative agreements with 'partners' to carry out their operations.

For the purposes of the field study, evidence was collected from firms that, though similarly positioned within the supply chain, differed both in strategic focus and strategic complexity.

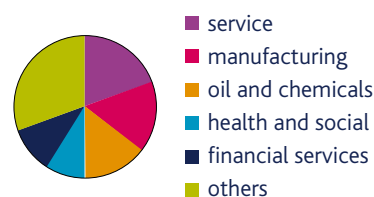
Such variety represented a deliberate choice, with the objective of providing broader and richer research data (this was especially the case with reference to the nature, intensity and configuration of information flows between these firms and their networking partners).

The six in-depth case studies were conducted with reference to renowned, international fashion firms at the forefront of experimentation with networked organisational solutions. These firms were also particularly interesting because they had recently been revising their supply chain partnerships / alliances. They had all seen the need to reduce their delivery times and costs while, at the same time, maintaining high product quality and variety.

These data were also integrated with observations of the functions and competencies of management accountants in networked settings.

3.3 The survey data collected was submitted by management accountants in different industries, from the UK and Italy. Survey data sources included objects from services, manufacturing, oil and chemicals, health and social, financial services and other organisations. The distribution of these data sources is shown in Figure 1 (below):

Figure 1 Survey data sources



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4. Findings

4.1 Field study findings

The main findings from the field study indicate that the relationships with the most important external partners are supported by means of information exchanges going far beyond the typical contract specifications. In addition to information relating to prices and delivery times, participants also exchange accounting information (both planned and actual) relating to the coordination of inter-organisational activities and processes. In addition, these information exchanges are not purely aligned with the timing of the contracts. Relevant information regarding the characteristics of the relationships with the external partners is not exchanged every three or five years, in parallel with the renegotiation of the underlying contracts. Instead, such information is often exchanged monthly, weekly or even daily.

Management accounting mechanisms:

4.1.1 Partner participation levels

It was found that, with specific reference to management accounting mechanisms, a number of firms allowed their partners to participate.

(see Figure 2, below):

Partners allowed to participate in:	%
• Strategic planning	8.4
• Budgeting processes	13.9
• Control processes	13.9
• Operating decisions	11.1

Figure 2 – Partner participation levels

These figures are relevant since they reflect the extent to which organisations are allowing another commercial entity some involvement in internal processes.

4.1.2 Information exchanges

As well as allowing partners to get involved in processes, over one fifth of management accountants were involved to a greater extent in the financial information exchanges with their most important partners. Slightly fewer were also involved in exchanging a significant amount of non-financial information.

The findings from the field studies indicate that for networked organisations and supply chains,

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management accounting seems to play a dual role at the operational level.

- To complement and enhance contract based relationships, thus reducing information asymmetries. This is evident with regard to the following aspects:

- i) type of information exchanges
- ii) detail of information exchanges
- iii) time of information exchanges.

- As a means by which partners explicitly articulate their differentiated goals and economic perspectives, transcending the need for authority based coordination. This is suggested by the fact that accounting information exchanges support budgeting processes crossing organisational boundaries. They also sustain the coordination of short term action plans at the inter-organisational level as well as the co-definition of medium term strategic programs.

4.2 In-depth case study findings

Analysis of the six in-depth case studies confirmed the findings of the field study, and their comparative analysis highlighted some important variables that may impact both on the control practices, and on the management accounting information exchanges at the networked level. Those variables are:

- the type of relational interdependence between the networked partners;

In cases of sequential interdependence, where partners were highly substitution-able and relational asset specificity was low, the inter-organisational control pattern tends to be more market-based.

- the knowledge of the transformation

process contributed by the partners relative to the main coordinating firm;

The lower the knowledge of the transformation process, the more inter-organisational control and management accounting mechanisms tend to be focused on outputs (i.e. quantity and quality of final goods, total cost of the outsourced activity).

The higher the knowledge of the transformation process, the more inter-organisational control and management accounting mechanisms tend to be focused on inputs (i.e. personnel skills and raw materials quality) and/or on processes and behaviours.

- the stage in the relationship cycle of the relationship;

At the exploratory / screening stage, partners rely on goodwill and capability trust, (partly sustained by calculus-based trust) which is generated through investigation of the partners' reputation. When long term commitment is established, calculus-based trust is reinforced by relational trust, emerging from repeated 'open-book' information exchanges between the partners.

In the in-depth case studies, the existence of specific inter-organisational cost management (IOCM) systems and the role of management accountants were also investigated. Evidence showed that no specific IOCM systems exist, rather, such information is incorporated within each partner's control systems.

Finally, data suggested that management accountants are not involved in direct interactions with the partners. Rather it is operations managers who directly interact with external parties. Management accountants'

main functions within networked environments are:

- to support operational managers in the economic evaluations of inter-organisational activities
- to coordinate the collection and diffusion of relevant management accounting information with a value chain focus; to be responsible for the design and smooth functioning of information systems, and the integrity and consistency of management accounting information; and control procedures at the networked level.

5. Implications of the findings for practical application

The research has several implications for practical application. First, the findings show that management accounting has a role to play not only in hierarchical organisations, but also in inter-organisational settings. Specifically it can be used to:

- coordinate cross-organisational activities through joint communication, and negotiation between the partners
- establish an environment that favours the achievement of desirable or predetermined partners' outcomes by reducing information asymmetries
- take inter-organisational decisions and assign partners' reciprocal responsibilities as a basis for performance measurement
- develop trust-based relationships.

Secondly, the design of inter-organisational accounting information systems to support network relationships should be a priority, and

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should be contingent upon the following variables:

- the type of relational interdependence between the network partners (defined as workflows between the partners, partners' substitutability, and relational asset specificity)
- the degree of mutual knowledge of the transformation process
- the stage of the relationship life-cycle.

Thirdly, from the empirical evidence on networked organisations it seems that there is no need to develop 'new' accounting and control techniques for these 'new' forms. Rather, it appears to be sufficient to use cross-organisational versions of existing management accounting systems.

Since the research findings highlight the use of management accounting within inter-organisation negotiation processes, this suggests that management accountants will have to be more proactive in providing the information required for interaction with relevant external parties. Further, to successfully fulfil this role, management accountants should expand their traditional 'hierarchical centric' vision of management accounting, focused mainly on control problems and mechanisms within the firm, and instead extend this to a broader inter-organisational perspective. Additionally, they must be sensitised to value chain concepts and to inter-organisational information needs in their accounting education. In this way, they can contribute not only to operational decisions (for example, those relating to whether inputs should be produced internally, or purchased from external parties) but also to longer term strategic decision, such as whether it would be appropriate to form a multi year supply relationship with a specialist partner, or to exploit linkages with the partner clients.

6. Conclusions

In presenting a generalised framework for describing and understanding management accounting and control patterns in networked organisations, the research concludes that contrary to expectations, no 'new' management accounting techniques or applications are required to control 'new' organisational settings. Instead, to optimise their contribution management accountants will need to adapt a broader perspective of information requirements of the value chain existing in a new 'networked' environment.

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Contact details:

Ariela Caglio Ph. D.

Assistant Professor and Lecturer

E: ariela.caglio@sdabocconi.it

Angelo Ditillo Ph. D.

Assistant Professor and Lecturer

E: angelo.ditillo@unibocconi.it

SDA Bocconi School of Management

Università Bocconi IAFC

Piazza Sraffa, 11

20136 Milano

Italy

Direct line: +39 02 5836 2575 - 2576

Fax: +39 02 5836 2561

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Forthcoming

Ditillo A., Caglio A., (2006) '*Inter-organisational control: How to make partnerships work through management accounting*', *Financial Management*.

ISSN 1744-7038 (online)

ISSN 1744-702X (print)

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First published in 2006 by:

The Chartered Institute of Management Accountants

26 Chapter Street London SW1P 4NP

Printed in Great Britain

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**The Chartered Institute
of Management Accountants**
26 Chapter Street
London SW1P 4NP
T. +44 (0)20 7663 5441
F. +44 (0)20 7663 5442
E. technical.services@cimaglobal.com
www.cimaglobal.com