

# The Role of Management Accounting and Control Systems as Information Networks and as Networks of Relationships on the Development of Organizational Knowledge

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## 1. INTRODUCTION

Management accounting and control systems (MACS) may be defined as part of the global information system, through which it is collected, processed, analyzed and communicated information (financial and non-financial, internal and external) used for planning, monitoring and control of different organizational activities, to optimize the use of resources, to support the process of decision making and to the performance evaluation process. In this way, the concept of MACS in use in this article expands the notion of management accounting systems to embrace the entire array of control mechanisms used by organizations (See Machintosh & Quattrone, 2010).

The design of MACS as elements of organizational structure that favor the development of intellectual capital has been highlighted in the literature (Cf. e. g. Prieto, 1999; Tayles, Bramley, Adshead, & Farr, 2002; Roberts, 2003; Widener, 2004; Wingren, 2004; Bjurström & Roberts, 2007; Cleary, Kennedy, O'Donnell, O'Reagan, & Bontis, 2007; Tayles, Pike, & Sofian, 2007; Cleary, 2009; Massaro, Bardy, & Pitts, 2012; Massaro, Bardy, & Zanin, 2013), mainly as a means of communication, dissemination and interpretation favoring the interaction mechanisms essential to the creation, transmission and integration of organizational knowledge.

In this article, MACS will be described as elements of the managerial apparatus that managers may use to promote the activities that invoke organizational knowledge, i.e., the fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. Organizational

knowledge often becomes embedded not only in documents or repositories but also in organizational routines, process, practices, and norms (Davenport & Prusak, 1998). The main objective of the article is to discuss the role of management accounting and control systems as information networks that collect, process and communicate information that influence the development of organizational knowledge, as well as networks of relationships that support the establishment of conditions for the creation and integration of organizational knowledge.

## 2. BACKGROUND

In recent years, several attempts have been made to positioning management accounting and control on IC sphere, which has enabled filling a gap in empirical academic literature and has provided some clarification as to how MACS contribute towards the identification, measurement and management of IC. The main issue here is that if knowledge is a resource then there exist a link between MACS and knowledge management, and this involves examining whether and how its technology can contribute in this field.

The literature has suggested the development of management accounting and its instruments in order to comprehensively embrace IC. Tayles et al.'s (2002) concerns about the potential role of management accounting stressed the importance of strategic management accounting in supporting the measurement and management of IC. They contended that the real strategic value of management accounting shall be expressed by the feasibility to identify and value, with some precision, the component elements of the IC of

the company. Tayles et al., (2002) proposed a model linking shareholder value with a range of non-financial performance measures, arguing that there is a need for a closer degree of identification of the various dimensions and values of an organization's IC and the impact of decisions on individual and overall valuation. Wingren (2004) proposed a model that combines tangible and intangible measurement systems. The framework links the balanced scorecard and the IC by means of a structure that includes both a tangible and an intangible element. The framework also shows how management accounting content may move from a tangible and production-focused economy to a more intangible and knowledge-driven one. Cleary et al., (2007) and Cleary (2009) explored the connection between management accounting and structural capital in the indigenous Irish information and communications technology sector. Roberts (2003) has developed an accounting-based concept of the knowledge production process based on the principle of connectivity. According to this approach, knowledge is an object that can be accounted for as well as open up for manipulation by accounting technologies. Accordingly, the management accounting focus is much more about managing connectivity, that is, the flows of knowledge transfer and the interdependencies of resources. The resultant implications are multiple and challenging, and call for the use of non-financial performance evaluation and management control frameworks based on interaction and dialogue (Roberts, 2003).

After several years of developments, it is clear from the literature that the IC phenomenon has a strong human focus and that the management accounting and control perspective on IC should not disregard this. Consequently, calls for a human resource perspective on management accounting and control have been made in order to provide management with accounting and control information on human resources. As Roberts (2003) observed, developments in management control frameworks (e.g. balanced scorecard, levers of control, and so on) reveal an effort to integrate different functional perspectives and place human capital in a wider interpretative context. At the same time, it is clear from the literature that knowledge management involves the confluence of financial and nonfinancial methods and measures (Roberts, 2003; Bjurström & Roberts, 2007; Tayles et al., 2007), which means that organizations need to ensure that their MACS are developed to some degree in order to fully address to the issue. Finally, it

is also clear that management accounting and control is an instrument of knowledge management activities (Bhimani & Roberts, 2004; Ditillo, 2004; Edwards, Collier, & Shaw, 2005; Ditillo, 2012; Massaro et al., 2012; Massaro et al., 2013), and that much of the contribution of MACS to the IC relies on its capacity to address the concerns of knowledge management and the issues of information, flows of information and interaction mechanisms it comprises. In this way, MACS may be seen as elements of the managerial apparatus that managers use to support the activities that promote knowledge, namely as information networks and as networks of relationships.

### 3. MACS, INFORMATION, AND KNOWLEDGE

One of the functions associated with MACS is the provision of information for planning and control purposes. This function highlights the importance of MACS so that the characteristics and features of the information provided by the system are prominent issues and constitute the basis for development of practices and techniques and to evaluate their utility (IFAC, 1998). Any organizational information system is based on information technology, regarded as the infrastructure that supports and increases the volume of data, information and knowledge that can be processed by the organization (Robey, Boudreau, & Rose, 2000; Alavi & Leidner, 2001; Gold, Malhotra, & Segars, 2001; Spek & Carter, 2003; Tippins & Sohi, 2003; Peppard, 2005; Prieto & Revilla, 2006).

While it is true that knowledge management is not just the issue of information technology, its role is highlighted as a facilitator of the inherent processes, mainly in terms of capturing, structuring and dissemination of knowledge in formats accessible to users, leading to a decentering of the accounting knowledge (Granlund, 2011; Schermann, Wiesche, & Krcmar, 2012; Burns, Quinn, Warren, & Oliveira, 2013). Moreover, by the way they are immersed in the organizational structure they are usually singular constructions with transfer costs associated (Peppard, 2005). In this sense, management information systems, i.e., the structured and integrated information technology networks, are seen as elements of organizational structural capital. They still correspond to the part of structural capital that can

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