Management control effectiveness and strategy: An empirical analysis of packages and systems

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ABSTRACT

This study examines management control (MC) combinations that are effective in different strategic contexts through two related approaches — MC as a package and MC as a system. First, this study identifies how a set of MC practices combine (i.e. MC packages) to achieve effective control outcomes for firms operating in defender and prospector strategic contexts by applying fuzzy set qualitative comparative analysis (fsQCA). Using data from a survey of top managers the analysis reveals that there are multiple ways by which firms can effectively combine MC practices in a given strategic context. Furthermore, the analysis shows that not all MC practices found to be relevant in isolation are relevant when examined simultaneously as a package. Second, based on a comparison of effective MC packages this study examines interdependencies between MC practices (i.e. MC systems). Results show that in defender firms a diagnostic control use of accounting and mechanistic structural controls act as complements, while mechanistic structural controls and measure diversity act as substitutes. In prospector firms an interactive control use of accounting and organic structural controls are found to have complementary effects. These results indicate that the effectiveness of accounting control and structural control choices are determined not only by their fit with strategic context but also by how they fit with each other. This study also demonstrates how an understanding of MC packages can provide guidance for theory development and empirical analysis of MC systems.

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1. Introduction

The interface between management control (MC) and strategy is one of the most enduring concerns in management accounting literature. Much of the research in this space follows a contingency approach to establish systematic associations between strategy and particular MC practices. However, while the literature has been relatively successful in identifying associations between strategy and individual MC practices, little progress has been made towards understanding the choice and consequences of combinations of MC practices in different strategic contexts (Langfield-Smith, 2008). This study seeks to add to the limited body of knowledge in this area by addressing two related questions.

The first research question this study explores is how a set of MC practices combine as a package to achieve effective control outcomes in different strategic contexts.[1] Prior MC-strategy research predominately examines MC practices in isolation. The implicit assumption is that an understanding of effective MC packages can be gained by aggregating the results of independent analyses of MC practices (Donaldson, 2001). Yet without empirical evidence it remains less than clear whether all MC practices found to be relevant separately are in fact relevant when examined simultaneously as a package. MC practices observed to have incremental benefits in isolation may not necessarily be relevant for achieving effective control outcomes when analysed as part of the wider set of MC practices that a firm has in place.

Observing a coexisting set of MC practices does not, however, imply interdependence between MC practices (Grabner & Moers, 2013). The second question of this study is therefore which, if

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[1] In this study a MC package refers to the set of MC practices top managers use to meet the control requirements of a particular strategy, whereas a MC system refers to MC practices that are interdependent, that is, where the benefit of one MC practice depends on the value of another (Grabner & Moers, 2013).

any, MC practices within a package form interdependent systems and how these vary across different strategic contexts. While it is generally assumed that accounting and other MC practices are interdependent (Chenhall & Moers, 2015; Milgrom & Roberts, 1995; Otley, 1980), most MC-strategy literature relies on conventional contingency approaches which maintain that the effectiveness of any one MC practice is determined by contextual factors (Donaldson, 2001). This approach ignores the possibility that the benefits of using MC practices may depend not only on the fit with strategy but also upon how MC practices fit with each other. Furthermore, as strategy influences the effectiveness of individual MC practices it is plausible that the strategic context of a firm will also affect the degree of interdependence between MC practices (Grabner, 2014; Grabner & Moers, 2013). For instance, MC practices observed to act as complements in one strategic context may be unrelated or act as substitutes in another.

There are two empirical approaches for addressing these questions. One approach, implicit in the discussion of Grabner and Moers (2013), is to examine specific MC practices (i.e. as a system) to develop an understanding of which MC practices are interdependent and which are independent within a package. The second approach is to start with an aggregate investigation of MC practices (i.e. as a package) to identify which MC practices are likely to act as complements or substitutes and then subject these to more specific analyses.[2] This study adopts the latter approach. This more exploratory approach is appropriate given that there is little empirical or theoretical knowledge to indicate how the numerous MC practices examined in MC-strategy literature may or may not be related.

To address the first research question this study applies fuzzy set qualitative comparative analysis (fsQCA). Unlike techniques previously used to investigate MC packages, such as cluster analysis, this approach reveals which MC practices are relevant, and which are redundant, for achieving effective control in a particular strategic context (Ragin, 2008). Using data from 400 responses by top managers to a cross-sectional survey, and drawing on the framework of Miles and Snow (1978), this study reveals that firms in defender and prospector strategic contexts can combine MC practices in multiple and equally effective ways. Furthermore, it is found that not all MC practices within a package are relevant for achieving effective control outcomes.

The analysis of MC packages provides the basis for examining the second research question. Although interdependence cannot be established directly from the first analysis, comparison of the similarities and differences in the relevance of MC practices between effective MC packages provides information about which practices are likely to act as complements or substitutes. Based on this comparison theory is developed to explain how and why certain MC practices within the observed packages operate interdependently. Predicted interdependencies are then examined through the production function approach to complementarity outlined by Grabner and Moers (2013). It is shown that for firms prioritizing efficiency and conformance (i.e. defenders) a diagnostic control use of accounting and mechanistic structural controls act as complements, while mechanistic structural controls and measure diversity act as substitutes. For firms emphasizing innovation and flexibility (i.e. prospectors) there is a complementary effect between an interactive control use of accounting and organic structural controls.

This study contributes to the literature in the following ways.

First, the study extends the MC-strategy literature by demonstrating that not all MC practices observed to be beneficial in isolation need to be simultaneously present in a package to achieve effective control outcomes. This suggests that relying on the results of independent analyses of MC practices alone is insufficient for understanding the constitution of effective MC packages (Grabner & Moers, 2013; Malmi & Brown, 2008). Second, in showing that there are multiple and equally effective ways to combine MC practices in the same strategic context this study provides empirical evidence of equifinality (Gerdin, 2005; Sandelin, 2008). This finding implies that conventional contingency approaches are unlikely to provide a complete understanding of the range of viable MC alternatives available to firms in a given context (Dent, 1990).

Third, this study adds to the emerging body of research investigating systematic interdependencies between MC practices (Abernethy, Dekker, & Schulz, 2015; Campbell, 2012; Grabner, 2014; Indjejikian & Matějka, 2012; Moers, 2006). This study shows that not only are accounting control and structural control choices interdependent, but that these interdependencies differ depending on the strategic context of the firm. However, the results also suggest that most of the MC practices examined are not interdependent; instead they appear to vary independently with the strategic context of the firm. This supports the claim of Indjejikian and Matějka (2012) that the assumed prevalence of complementarity between MC practices within a package is likely overstated. Finally, this study demonstrates how the analysis of MC packages, through the application of fsQCA, can be used to inform theory development and empirical analysis of MC systems. This provides an alternative approach for extending our understanding of how MC practices are related to each other, and the conditions in which these interdependencies hold, than currently advocated in the literature (cf. Grabner & Moers, 2013).

The remainder of this study is structured in two main parts. The first part (Section 2) details the exploratory analysis of MC packages. This section starts with an outline of the relevant literature and the research framework, followed by a description of the research method. The results of the MC package analysis are then presented. The second part (Section 3) outlines the analysis of MC systems. This section begins by describing how the analysis of MC packages will inform the analysis of MC systems. Predictions about MC practice interdependencies are then developed, followed by the research method and results. Section 4 provides a discussion and conclusion.

2. Analysis of MC packages

The first research question of this study examines how a set of MC practices combine as a package to achieve effective control outcomes in different strategic contexts. To explore this question a research framework is first outlined that details the choice of strategic typology, the selection of MC practices, and how the effectiveness of MC packages is conceptualised. The research method and results of the MC package analyses follow.

2.1. Research framework

2.1.1. Strategic context

To examine associations between MC and strategy much of the literature builds upon strategic typologies. These allow researchers to empirically capture the complex patterns of action and distinctive competencies that constitute the strategy of a firm (Chapman, 1997; Dent, 1990). This study uses the Miles and Snow (1978) typology, which is appropriate for a number of reasons. First, it describes the most prominent strategic postures adopted by firms in relation to their task environments and is closely associated with

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[2] The analysis of MC as a package is consistent with configuration theory (Fiss, 2011; Gerdin & Greve, 2004), while the analysis of MC as a system is consistent with complementarity theory (Grabner & Moers, 2013; Milgrom & Roberts, 1995).