ELSEVIER

Management Accounting Research 19 (2008) 62–79

Management Accounting Research

www.elsevier.com/locate/mar

The effect of organizational life cycle stage on the use of activity-based costing

Juha-Pekka Kallunki *, Hanna Silvola

Department of Accounting and Finance, University of Oulu, PO Box 4600, FIN-90014 Oulu, Finland

Abstract

This paper investigates if the use of an activity-based cost-accounting system differs among firms in different organizational life cycle stages. We apply the Miller and Friesen [Miller, D., Friesen, P.H., 1983. Successful and unsuccessful phases of the corporate life cycle. Organ. Stud. 4 (3), 339–356; Miller, D., Friesen, P.H., 1984. A longitudinal study of the corporate life cycle. Manage. Sci. 30 (10), 1161–1183] life cycle model according to which the internal characteristics of firms and the external contexts in which the firms operate differ across firms depending on their stages of development. Based on the organizational life cycle theories we hypothesize that the use of the activity-based costing is more common among firms in maturity and revival phases than among firms in a growth phase. Our empirical analyses based on a questionnaire to 105 Finnish firms operating in various industries and in different life cycle stages support our hypothesis. We conduct various robustness checks of the results using several control variables and checking the effect of potential non-response bias. Our results remain essentially the same.

JEL classification: M41

Keywords: Activity-based costing system; Organizational life cycle; Management accounting

1. Introduction

In a growth stage, firms are characterized by a rapid sales growth and an expansion of activities and products (Miller and Friesen, 1984). In a maturity stage, the sales of the firm level off, more formal and bureaucratic organization structures are established and innovation declines. In the revival stage, firms adopt divisionalized structures for the first time to cope with more complex and heterogeneous markets (Miller and Friesen, 1984). These life cycle stages of the firm are described in organizational life cycle theories according to which the internal characteristics of firms and the external contexts in which the firms operate differ across firms depending on the stage of development (e.g. Greiner, 1972; Miller and Friesen, 1983, 1984; Merchant, 1997).

A firm's life cycle stage is a contingency to which organizational responses have to be matched (e.g. Miller and Friesen, 1983, 1984). This implies that the use of management accounting systems differs across the stages of organizational life cycle as different systems are needed in different stages. Firms' need for formal management accounting and control systems is notably greater in the later life cycle stages than it is in the early stages. However, as Md. Auzair and Langfield-Smith (2005) point out, organizational life cycle is a fairly recent variable in the empirical management

* Corresponding author. Tel.: +358 8 553 2956; fax: +358 8 553 2906.
E-mail address: juha-pekka.kallunki@oulu.fi (J.-P. Kallunki).

1044-5005/$ – see front matter © 2007 Elsevier Ltd. All rights reserved.
doi:10.1016/j.mar.2007.08.002

accounting system literature, and life cycle stage has not been linked to most of the management control dimensions. In a few existing empirical studies, it has been reported that the life cycle stage is an important driver of the emergence of management control systems (Miller and Friesen, 1984; Moores and Yuen, 2001; Davila, 2005; Md. Auzair and Langfield-Smith, 2005; Granlund and Taipaleenmäki, 2005). For instance, Miller and Friesen (1984) report that firms in the maturity and revival phases put significantly more emphasis on formal cost controls than do firms in the growth stage. Md. Auzair and Langfield-Smith (2005) use a self-categorization measure based on the firm's own assessment of its life cycle stage and report that organizational life cycle, among other contingent variables, has a significant effect on the design of a firm's management control systems.

In this paper, we investigate if the use of the activity-based cost-accounting system differs across life cycle stages of the firm.[1] The life cycle literature (e.g. Miller and Friesen, 1983, 1984) reports that increased competition and diversification in products and markets cause firms in the maturity and revival phases to put significantly more emphasis on formal cost controls and performance as opposed to firms in the growth phase. In addition, mature and revival firms have greater resources for experimenting with advanced management accounting systems and they have more complex, more formal and more bureaucratic organizational structures creating a need for these systems compared to growth firms. These differences in the internal characteristics of the firm and the environments in which the firms operate lead to more widespread use of advanced costing systems, such as activity-based costing, among mature and revival firms than among growth firms. The paper contributes to the management accounting literature by exploring if the life cycle of the firm has a role of its own apart from that of the size of the firm in the use of activity-based costing. Although firms in the maturity and revival phases are often larger than firms in a growth phase, not all mature or revival firms are necessarily large in size. In other words, even small firms are likely to use activity-based costing if they have a managerial need for an advanced cost-accounting system due to their life cycle stage. We therefore expand the earlier studies investigating the effect of the size of the firm on the use of activity-based costing without considering the life cycle stage of the firm. Such earlier studies include Drury and Tayles (1994), Innes and Mitchell (1995), Bjornenak (1997), Chenhall and Langfield-Smith (1998), Malmi (1999) and Al-Omir and Drury (in press).

We feel that this study has important implications for the practice of management accounting research; it sheds light on whether the actual underlying organizational need indicated by the life cycle stage of the firm rather than simply the size of the firm drives the firms' use of an activity-based costing. In addition, although activity-based costing has been scrutinised for almost two decades, it continues to be actively investigated (e.g. Al-Omir and Drury, in press). One reason for this is that implementations of ERP (enterprise resource planning) systems allowing firms to integrate advanced cost accounting such as activity-based costing software with ERP systems, have increased remarkably in recent years (e.g. Dechow and Mouritsen, 2004; Granlund and Malmi, 2002; Granlund, 2007).

Our empirical analyses based on the cross-sectional survey data of 105 firms operating in several industries and in different life cycle stages, support our hypothesis. The results indicate that the characteristics of the firm reported in the life cycle literature to affect the use of advanced cost-accounting systems differ across life cycle phases, i.e. firms in the maturity and revival phases have a greater organizational size, lower profitability, a more diversified product/service range and have more often gained a stock market listing as opposed to firms in the growth phase. More importantly, we find that the use of activity-based costing is significantly more common among firms in maturity and revival phases than it is among firms in a growth phase. In addition, we find that it is the life cycle stage rather than the size or age of the firm which is decisive in explaining the use of the activity-based costing among firms. These results remain essentially the same after several control variables and checking the effect of potential non-response bias have been applied.

We divide the remainder of the body of this paper into four sections. In Section 2 we review the relevant literature and develop our hypothesis. We describe the survey data and research method in Section 3 and report the results of preliminary data analyses. In Section 4, we report the empirical results including the corresponding robustness tests and present concluding remarks in Section 5.

[1] Hilton (2005, p. 786) describes activity-based cost accounting system as 'a two-stage procedure used to assign overhead costs to products and services produced. In the first stage, significant activities are identified, and overhead costs are assigned to activity cost pools in accordance with the way the resources are consumed by the activities. In the second stage, the overhead costs are allocated from each activity cost pool to each product line in proportion to the amount of the cost driver consumed by the product line'. In addition, Bjornenak and Mitchell (2002) provide an excellent review of the activity-based costing journal literature and Lukka and Granlund (2002) that of activity-based costing research genres.