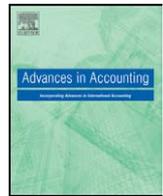




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## Do organizational life-cycle and venture capital investors affect the management control systems used by the firm?

Hanna Silvola\*

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

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### ABSTRACT

This paper investigates how the organizational life-cycle stage of the firm and the existence of venture capital investors affect the use of management control systems. The study consists of three types of management control systems, i.e. business planning, budgeting and management control techniques. Our empirical analyses are based on a survey questionnaire of 105 Finnish firms operating in all industries at different life-cycle stages. The results indicate that the business planning and use of management control techniques differ between the organizational life-cycle stage of the firm and the existence of venture capital investors. However, the existence of venture capital investors is also essential in maturity and revival firms while the earlier literature emphasizes their role in start-up and growth firms. Our results remain the same after conducting various robustness checks.

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### 1. Introduction

Earlier research on management control systems reports that various organizational features, such as the technology or strategy of the firm, explain the use of management control systems in the firms. However, the published evidence on how the organizational life-cycle stage of the firm affects the use of management control systems is very limited. Exceptions include Moores and Yuen (2001), Auzair and Langfield-Smith (2005), Davila (2005) and Granlund and Taipaleenmäki (2005). These studies report that the organizational life-cycle has a significant impact on the management control systems used by the firm, and that the influence is especially important for growing firms. Previous studies investigating the effect of venture capital investors on the decision-making process of the firm report that venture capital investors play an important role by financing start-up and growing firms, especially in the field of high technology (e.g. Cassar, 2004; Davila, Foster, & Gupta, 2003; Hellman & Puri, 2002). Venture capital investors have great power over several areas of business, including business development, strategic decisions and management control.

In this paper, we investigate the use of the management control systems of the firms operating in different life-cycle stages. The study focuses on three types of management control systems, i.e. business planning, budgeting and management control techniques. In addition, we investigate the role of venture capital investors in the firm's use of management control systems in different life-cycle

stages of the firm. Our empirical analyses are based on the survey data of 105 Finnish firms operating in several industries and in all life-cycle stages. The analysis of life-cycle configuration can help firms to adopt new procedures in achieving efficiency. Knowledge of the overall use of management control systems helps to predict the future development of firms and helps firms to move on along in their life-cycle.

The paper extends the current literature in three main respects. First, it contributes to the literature on the management control systems used by the firms by providing evidence of how the life-cycle stage of the firm affects the use of management control systems. More specifically, the present study extends the earlier literature by providing evidence on the use of business planning, budgeting and management control techniques at different organizational life-cycle stages. Second, we explore the role of venture capital providers in the firms' use of management control systems. Earlier studies have investigated how this contingency variable affects the overall use of management control systems at a more general level while we investigate the interaction effect of venture capital investors and the organizational life-cycle stage on the use of management control systems (e.g. Davila, 2005; Granlund & Taipaleenmäki, 2005; Laitinen 2001). Third, the paper contributes to the literature by providing results outside the UK, the US or Australia. Finland provides a good empirical setting for the study, because a large amount of new firms for which venture capital providers are an important source of funds have been established there during the last decade. Many of these firms are fast growing R&D-intensive firms operating in the field of high technology. These firms passed their first growth stage during the 1990s and, hence, the first of them are at the beginning of their revival stage. This provides an interesting setting for the study because

\* Tel.: +358 8 553 2951; fax: +358 8 553 2906.  
E-mail address: [hanna.silvola@oulu.fi](mailto:hanna.silvola@oulu.fi).

the role of venture capital investors has usually investigated in start-up and growth firms (e.g. Cassar, 2004; Davila et al., 2003; Hellman & Puri, 2002). Previous studies on the effect of venture capital investors on the use of management accounting practices in later stages of the life-cycle are limited even though Miller and Friesen (1984) suggest that the revival stage is in many ways the most exciting and challenging of the five life-cycle stages.

## 2. Literature review and hypotheses development

### 2.1. Research questions in the contingency framework

The contingency approach in management accounting research assumes that managerial behavior depends on a wide variety of firm elements. The contingency framework is guided by the general hypothesis that organizations whose internal features best match with the demand of their environments will achieve the best adaptation. Previous contingency studies point out that the most common contingency factors that have been examined in relation to management control systems are the environment, technology, size, structure, strategy and national culture (e.g. Chapman, 1997; Chenhall, 2003). Recently, the construct of life-cycle has also been introduced as a contingent variable that influences management control systems (Auzair & Langfield-Smith, 2005).

In this study, we use the stage of the life-cycle of the firm as a contingency factor as it implies episodic changes in organizational and contextual characteristics having significant impacts on management control systems (Auzair & Langfield-Smith, 2005; Davila, 2005; Granlund & Taipaleenmäki, 2005; Moores & Yuen, 2001). The life-cycle stage of the firm is defined by a self-categorization measure such that the respondents choose in the questionnaire whether their firm were in the birth, growth, maturity, revival or decline stage (e.g. Auzair & Langfield-Smith, 2005; Kazanjian & Drazin, 1990). The analysis of life-cycle configurations can help firms to adopt new procedures in achieving efficiency. Knowledge of the current use of management control systems helps to predict future development of the firm and to develop new management control systems, especially in young firms. Therefore, management control systems can help firms to move on along with the life-cycle (Granlund & Taipaleenmäki, 2005).

We use an organizational life-cycle stage of the firm as a contingency variable in our analyses instead of firm size because the firm size might be only a proxy for the organizational life-cycle stage without paying any attention to organizational characteristics such as the structure, strategy, decision-making style and environment (Miller & Friesen, 1984). Not all mature or revival firms are necessarily large in size even though firms in the later phases are often larger than firms at the beginning of the organizational life-cycle. Therefore, small entrepreneurs may be in a revival phase, whereas substantially larger newly-listed firms may be only in the growth stage.

The size of the organization as a common life-cycle indicator has also been reported to drive the emergence of management control systems (Davila, 2005). Earlier studies indicate that relatively small firms usually operate in highly predictable and stable environments in which the decision-making is individualized, and therefore, sophisticated management control systems are not needed (Khandwalla, 1973). Recent revolutionary global changes in business environments and information technology are more likely to affect the operations and structures of smaller firms, and probably also impact on their design and use of management control systems (Chenhall, 2003). This raises a question concerning the need for management control systems in small firms operating on fast-changing, unpredictable and unstable environment as the high technology industry. In other words, many small firms may actually need management control systems more than many larger firms do. Therefore, we have controlled for the effect of firm size as a control variable in our analyses.

We also use the existence of venture capital investors as a contingency factor, because earlier studies indicate that venture capital investors play an important role in the firm's choice of management control systems in small, especially, in start-up and growth firms (e.g. Hellman and Puri, 2002). Earlier studies point out that venture capital investors are interested in monitoring reports, budgetary control and the cost-effectiveness of the firms in which they have invested (e.g. Mitchell, Reid, & Terry, 1997; Robbie, Wright, & Chiplin, 1997). In fact, venture capital investors have a positive association with the number of management accounting systems adopted by the firm (Davila & Foster, 2005). The present study investigates if the existence of venture capital investors also affects to the use of management control systems in the later life-cycle stages than only in the growth stage.

Fig. 1 describes the contingency framework of the life-cycle stages and the existence of venture capital investors in explaining the use of the management control systems i.e. business planning, budgeting and management control techniques. Panel A in Fig. 1 shows the theoretical framework of configuration of the contingency factors and the management control systems. Panel B shows the classification of empirical testing of the survey data.

In summary, the study addresses the following research questions:

1. How does the use of the management control systems differ across organizational life-cycle stages?
2. Does the existence of venture capital investors affect the use of management control systems across the organizational life-cycle stages?

### 2.2. Life-cycle perspective of management control

Earlier studies report that the internal characteristics of organizations and the external contexts in which the organizations operate change according to life-cycle stages and, in fact, these organizational characteristics of the firm define such stages. The well-known growth models constructed by Greiner (1972), Churchill and Lewis (1983) and Miller and Friesen (1983) are based on five equivalent stages, which have quite similar characteristics. In Greiner's Model, growing organizations move through five distinguishable phases of development, each of which contains a relatively calm period of growth that ends with a management crisis. Churchill and Lewis' model also consists of five stages through which small companies pass through crisis after crisis. The Miller and Friesen (1983) model demonstrates firms' passage through the five phases showing how firms vary significantly in their strategies, environments, structures and decision-making styles giving out specific measures for successful and unsuccessful phases. In addition, previous studies have used a diverse array of characteristics to describe organizational development, such as individual cognitive orientation, structure, strategy, leadership style, critical development areas, problems and environmental conditions (e.g. Adizes, 1979; Gupta & Chin, 1990, 1993; Quinn & Cameron, 1983; Victor & Boynton, 1998).

In our study, we apply the Miller and Friesen (1983) model for two main reasons. First, it is a natural "cradle-to-grave" life-cycle model basing the life-cycle classification mainly on the age, size and form of organization. In our study, we need a universal model with common life-cycle indicators, because our sample covers different sized firms in several industries. Second, Miller and Friesen's model has a strong empirical background (e.g. Miller & Friesen, 1980a,b, 1983, 1984) and the model has also been tested in the empirical accounting research (Davila, 2005; Moores & Yuen, 2001).

Miller and Friesen's (1983) life-cycle model includes five stages, i.e. birth, growth, maturity, revival and decline, after which the organization can try to renew itself and go back to basics or shut up shop. Miller and Friesen (1984) show that organizations do not necessarily go through these stages in the same sequence such as

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