



# Product innovation, budgetary control, and the financial performance of firms

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## ABSTRACT

Organizations are increasingly calling for greater budgetary oversight of the product innovation process. A major focus of their concern is the costs associated with product innovation together with their need to enhance their financial performance through these endeavours. However, the literature has raised a number of issues arising from such budgetary proposals, suggesting that the creativity of those involved in product innovation should not be constrained by cost concerns, that the use of management control systems is incompatible with product innovation, and that budgets may stifle innovation. It is argued in this paper that the extent to which product innovation has a positive impact on the financial performance of firms is dependent on the manner in which budgets are used in organizations. If budgets are used predominantly as a planning mechanism, then such budget planning facilitates product innovation resulting in enhanced performance. In contrast, if budgets are used primarily as a control mechanism, then it is unlikely that product innovation will contribute to financial performance. The results of the study are consistent with these expectations. This paper makes a contribution to the literature by providing empirical evidence of the impact of budgets in the context of product innovation.

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## 1. Introduction

The ability of firms to develop and market innovative products is frequently considered to underpin their global competitiveness (e.g. Aggeri & Segrestin, 2007; Backman, Borjesson, & Setterberg, 2007; Booker, Drake, & Heitger, 2007; Meade & Presley, 2002). Evidence suggests that product innovation also facilitates firms entering new industries and gaining competitive advantage (e.g. Ali, 1994; Greve & Taylor, 2000). Consequently, product innovation is often characterized as being critically important to a firm's performance (e.g. Balkin, Markman, & Gomez-Mejia, 2000; Cho & Pucik, 2005; Li & Atuahene-Gima, 2001; Prajogo & Ahmed, 2006). Bisbe and Otley (2004) defined product innovation as the development and marketing of products that are unique or distinctive in some way from existing products. More generally, product innovation refers to the adoption of an internally generated or purchased product that is new to the adopting organization (e.g. Damanpour, 1991; Oke, Burke, & Myers, 2007; Rogers, 1995). Emsley (2005) indicated that this definitional approach is commonly used in research.

The literature suggests that product innovation is likely to enhance an organization's financial performance (e.g. Balkin et al., 2000; Calantone, Vickery, & Droger, 1995; Nijssen, Arboun, & Commandeur, 1995). One rationale for product innovation doing so is that it has become crucial for value creation in many firms (Aggeri & Segrestin, 2007; Hitt, Hoskisson, Johnson,

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& Moesel, 1996). However, organizations are increasingly calling for greater budgetary oversight of the development and marketing of innovative products (e.g. Pike, Roos, & Marr, 2005; Poh, Ang, & Bai, 2001; Rotman, 1994). Much of this is due to the growing magnitude of the costs associated with these endeavours. For example, Lin and Chen (2005) reported that the significant cost of innovation is a challenge to firms in terms of meeting shareholder expectations for returns. Yet questions have been raised with such budgetary proposals. Shields and Young (1994) argued that the creativity of scientists and engineers involved in product innovation should not be constrained by cost concerns. Kerssens-van Drongelen and Bilderbeek (1999) noted that product innovation is frequently viewed as a creative and unstructured process that is difficult, if not impossible, to control. Furthermore, Bisbe and Otley (2004) reported that the innovation and management control literatures suggest the application of management control systems (MCS) is incompatible with product innovation, noting that formal MCS are considered to be deterrents for creativity and the fostering of innovation. Similarly, Marginson and Ogden (2005) indicated that budgets are frequently considered to stifle innovation. More generally, they proposed that an emphasis on meeting budget targets may create an array of behavioural side effects which have dysfunctional organizational consequences (e.g. Davila & Wouters, 2005; Fisher, Fredrickson, & Pfeffer, 2006). In contrast, Bisbe and Otley (2004) reported an alternative approach proposing that formal MCS block innovation excesses and help ensure that ideas result in effective product innovation. They concluded that the innovation literature provides inconsistent findings regarding the relation between formal MCS and product innovation.

In an attempt to resolve these inconsistencies, Bisbe and Otley (2004) concentrated on the interactive use of formal MCS as defined by Simons (1990, 1991, 1994a). Simons (1990, p. 136) argued that interactive use occurs when top management “use the planning and control procedures to actively monitor and intervene in ongoing decision activities of subordinates”. Based on Simons’ framework, Bisbe and Otley (2004) speculated that those studies reporting MCS as hindering innovation focus on formal MCS that address diagnostic use of MCS, and ignore the implications of interactive use of MCS. Simons (1994b) defined diagnostic control systems as formal information systems used by managers to monitor organizational outcomes and rectify deviations from performance standards. He distinguished three features of diagnostic control systems as the ability to measure process outputs, the existence of standards against which results can be compared, as well as the ability to remedy deviations from standards. Nevertheless, as Bisbe and Otley (2004) pointed out, the relation between the use of MCS as a diagnostic or interactive framework and product innovation fails to address the question of what the effect is on performance.

Bisbe and Otley’s (2004) study focused on the interactive use of MCS with respect to product innovation and organizational performance. They argued that with interactive controls, top managers signal to organizational members the need to pay attention to issues addressed by interactive control systems and, through those systems, communicate to the organization the importance of focusing on strategic uncertainties. Bisbe and Otley (2004) proposed that these systems motivate information gathering, dialogue and debate, and as subordinate managers respond to opportunities and threats, they expected that organizational learning improves together with the emergence of new ideas and strategies.

From this, Bisbe and Otley (2004) developed a path-analytic framework and argued that the interactive use of MCS acts indirectly on performance through innovation. However, they found no evidence to support this mediating hypothesis. Their interactive use of MCS (a global measure) comprised the three individual control systems of interactive use of budgets, interactive use of balanced scorecards and interactive use of project management systems, and none were correlated with product innovation.

Bisbe and Otley (2004) then examined whether interactive use of MCS moderates the relation between product innovation and organizational performance. This approach makes no attempt to develop or support an argument that MCS directly affect product innovation. Rather, they argued (p. 715) that the link between innovation and performance is likely to be enhanced when “focus, integration and fine-tuning” are obtained through the interactive use of MCS. Consequently, Bisbe and Otley (2004) proposed that the interactive use of MCS should result in product innovation contributing to performance. They found support for this proposition, as well as when interactive use of MCS was decomposed into interactive use of budgets, but not when interactive use of balanced scorecards and interactive use of project management systems were substituted.

Bisbe and Otley (2004) provide a degree of guidance with respect to the thrust of this study. Their finding that the interactive use of budgets enhances the extent to which product innovation influences organizational performance facilitates the development of the theory underpinning this research. It is argued in this paper that the extent to which product innovation has a positive impact on the financial performance of firms is dependent on the manner in which budgetary systems are implemented in organizations. If budgets are used predominantly as a planning mechanism, then such budget planning facilitates product innovation resulting in enhanced performance. This is akin to using budgets as an interactive MCS, in the manner described by Simons (1990) and used by Bisbe and Otley (2004). In contrast, if budgets are used primarily as a control mechanism, or in Simons’ terms in a diagnostic fashion, then it is unlikely that product innovation will contribute to the financial performance of firms.<sup>1,2</sup>

This paper can be distinguished from and builds on the work conducted by Bisbe and Otley (2004). First, they focused only on the degree of reliance on interactive controls, and are thereby unable to provide evidence of the implications associated

<sup>1</sup> This paper does not suggest that planning and control roles of budgets are synonymous with interactive and diagnostic uses of budgets respectively; only that there is a degree of consistency between them. Bisbe, Batista-Foguet, and Chenhall (2007) argued that interactive budget use defies precise assessment to date, and as such, it constitutes an ambiguous construct. Hence, equivalence in meaning cannot be argued.

<sup>2</sup> Although Simons (2000) proposed that diagnostic and interactive control systems complement each other in implementing organizational strategy, he pointed out (p. 301) each can be differentiated “to highlight its unique characteristics and attributes”.

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