



Enhancing new product development capabilities of small- and medium-sized enterprises through managerial innovations



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ABSTRACT

This essay aims at finding empirical evidence on which types of managerial innovations actually promote new product development (NPD) capabilities of small- and medium-sized enterprises (SMEs). We built this study upon empirical data derived from 650 German SMEs that took part in the Community Innovation Survey (CIS) 2011. We applied principal component analysis (PCA) to detect three different NPD capability factors. Our findings indicate positive effects of the following two types of managerial innovations: innovations in organisational procedures and in organisational forms. The results imply that the best bet for SMEs aiming at improving capabilities that are important for the first phases of NPD are changes in their organisational procedures. On the other hand, firms gearing toward advances in the final phases of NPD should concentrate internal changes on their general work organisation. Our paper demonstrates that SMEs can actively reinforce their NPD capabilities by implementing the right changes in their organisations.

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1. Introduction

Markets have become progressively more competitive in recent years. To compete with the large players, small- and medium-sized enterprises (SMEs) often try to assert themselves through new product developments (NPDs). However, innovative products cannot be taken for granted since they require the full commitment of the organisation and its employees (Simon, Elango, Savelli, & Houghton, 2002). A compounding factor is that SMEs struggle with different obstacles, namely, limited resources (Garengo, Biazzo, & Bititci, 2005; Laforet & Tann, 2006) or skills shortages (Freel, 1999; Scott, Jones, Bramley, & Bolton, 1996). These restrictions raise the question of how SMEs can improve their NPD capabilities.

There have been several attempts to support SMEs' NPD capabilities by policy changes (Klomp & Roelandt, 2004; Massa & Testa, 2008) and public funding (Belitz & Lejpras, 2014; Wonglimpiyarat, 2013). Other studies scrutinised how far networks among SMEs can advance their NPDs (e.g. Soh, 2003). While these analyses eminently contributed to the understanding of how SMEs can enhance their NPD capabilities by external means, they neglected the question of whether the NPD capabilities could benefit from the implementation of internal changes. More recent studies introduced in this regard the term *managerial innovation* as a new subject of analysis that discusses changes in organisational structures, processes, and systems (Birkinshaw, Hamel, & Mol, 2008; Damanpour & Aravind, 2012). It has been emphasised that these changes are generally important to firms (Büschgens, Bausch, & Balkin, 2013; Hernández-Mogollon, Cepeda-Carrión, Cegarra-Navarro, & Leal-Millán, 2010) by being related to firm and innovation performance (Saunila, Pekkola, & Ukko, 2014). Although managerial innovations can be considered as a

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basis for NPDs (Damanpour, Szabat, & Evan, 1989), the number of studies dealing with the potentials of managerial innovations is still limited. What aggravates the situation is that managerial innovations are not without controversy. For example, Naveh, Meilich, and Marcus (2006) found that managerial innovations will not promote innovations under all circumstances. Boer and Doring (2001) examined that managerial innovations require longer lead times than NPDs and are related to higher complexity; Damanpour and Evan (1984) highlighted complex measurements and evaluations of managerial innovations in contrast to NPDs. It is therefore worth investigating whether or not the efforts to implement managerial innovations pay off for SMEs in terms of improved NPD capabilities. This leads us to the following research question:

RQ: *Do managerial innovations contribute to NPD capabilities of SMEs?*

Our study aims to shed more light on this issue by investigating the effects of different managerial innovations on NPD capabilities of SMEs. The findings should make a contribution to the field of innovation management in general. What is more, it should enhance our knowledge on the relationship between NPD capabilities and managerial innovations in SMEs and support managers in their decision on whether or not managerial innovations should be implemented.

We begin by developing a conceptual framework on managerial innovations and NPD capabilities. The paper will then go on to the method applied in this study. Part 4 interprets the results of the data analysis and discusses the findings with those from other studies. Finally, we draw a conclusion and implications in the final part of this paper.

2. Conceptual development

2.1. Managerial innovation

Research in the fields of innovation management has investigated NPDs in terms of new products or new processes thoroughly. Authors often make the distinction between incremental and radical innovations (McDermott & O'Connor, 2002; Oke, Burke, & Myers, 2007) or product and process innovations (Presley, Sarkis, & Liles, 2000). These concepts have been challenged by scholars who ascertained that those categorisations are problematic insofar as they disregard structural differences between the firms' internal, administrative, or managerial processes on the one hand and more technical processes that lead to new products or production processes on the other hand. The number of studies that address these differences is still very low. An example of a threefold differentiation of innovation types is provided by Mavondo, Chimhanzi, and Stewart (2005), who set administrative innovations apart from product and process innovations. Damanpour (1987) used the distinction between technical and administrative innovations, and Daft (1978) argued that there is a hierarchy of innovations in organisations. According to Daft (1978), administrative innovations have an impact on technical innovations, indicating that administrative innovations are on a higher hierarchy level than technical innovations. He supposed in his dual-core model that NPDs are accomplished at two different levels, the administrative and the technical core. While some NPDs can be balanced in terms of both cores, Daft (1978) claimed that differences in the innovativeness of firms could be traced back to varying predominance and couplings of either the administrative or the technical core.

At this point, it is necessary to clarify terminology. For Mustafa (2015), organisational innovation describes new types of leadership and a changing organisational culture. Daft (1978) defined organisational innovation as an implementation of a new idea or behaviour. In addition, administrative innovations designate changes in the management system, processes, and social relations within the firm (Damanpour, 1987, 1991; Damanpour & Evan, 1984; Damanpour et al., 1989; Tanninen, Jantunen, & Saksa, 2008). However, since we focus on managerial innovations in our study, studies employing the term managerial innovation are of greater interest. This term was used by Birkinshaw et al. (2008) and Damanpour and Aravind (2012) to describe changes in organisational structures, processes, and systems. In their comparative study of organisational, administrative, and managerial innovation, Damanpour and Aravind (2012) ascertained that all three terms characterise similar ideas, which is the reason why we focus on one term only, namely, *managerial innovation*. Even though this term may indicate a higher degree of management influence on change management processes, we argue that the initial spark for such processes mostly depends on the manager. Reinforcing this mind-set, Lloréns Montes, Ruiz Moreno, and Miguel Molina Fernández (2004) suggested that management support is the starting point for innovations. We should note that the terms managerial innovation, administrative innovation, and organisational innovation are often applied synonymously. After outlining the different terms, for us, *managerial innovation* means a change in organisational structure that is new to the firm and that has not previously been introduced (Hernández-Mogollon et al., 2010).

The introduction of managerial innovations is not an end in itself. Instead, competitive advantages are based on organisational and managerial processes (Teece, Pisano, & Shuen, 1997). As empirical evidence shows, changes in administrative processes may serve technical innovations as a basis (Damanpour & Evan, 1984; Damanpour et al., 1989), but they also lead to a better firm performance (Ravichandran, 2000). According to Damanpour and Aravind (2012), managerial innovations can be separated into *innovations in organisational procedures* and *innovations in organisational forms*. The same authors describe the first as changes in business processes that may lead to cost reductions and the latter as changes in the firm's structure, signifying that new types of labour organisation will be accomplished. We follow this distinction in our paper. However, empirical findings have shown that changes in external relations can also support NPDs of SMEs. To us, innovations in external relations describe the establishment of relations of the firm either to existing partners in new forms or to new partners. The importance of external relations of SMEs' NPD activities has been highlighted by Gronum et al. (2012, p. 273), who emphasised in their study the role of networks in SMEs: A '(...) mechanism that unlocks the performance value of networks (...) may be of more value for SMEs than common enterprise networks. Moreover, Romijn and Albaladejo (2002) investigated determinants of innovation capabilities in SMEs,

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