Internal Determinants of Product Innovation and Management Innovation: The Effect of Diagnostic Capability and Implementation Capability

Mie Harder

SMG WP 5/2011

January, 2011

SMG Working Paper No. 5/2011
January, 2011
ISBN: 978-87-91815-67-6

Department of Strategic Management and Globalization
Copenhagen Business School
Porcelænshaven 24
2000 Frederiksberg
Denmark
www.cbs.dk/smg

Internal Determinants of Product Innovation and Management Innovation:

The Effect of Diagnostic Capability and Implementation Capability

Mie Harder

Department of Strategic Management and Globalization

Copenhagen Business School

mh.smg@cbs.dk – www.cbs.dk/smg

January 11, 2011

ABSTRACT

This paper adopts a behavioral theory of the firm perspective in order to compare the antecedents of two types of innovation: Management innovation refers to the adoption of new management practices or organizational structures, whereas product innovation refers to the introduction of new products or services on the market. The study further distinguishes between two categories of innovation within each type: new to the firm and new to the industry innovations. The findings indicate that there are more differences than similarities between the antecedents of the two types of innovation. However, adopting either type of innovation increases the likelihood of simultaneously adopting the other.

INTRODUCTION

The importance of innovation for economic growth and for the development of societies and firms is well established (e.g. Schumpeter, 1934). The field of innovation is very broad and a plethora of subfields and typologies have emerged. The invention and commercialization of new products is probably the type of innovation most widely studied by management scholars (e.g. Abernathy & Clark, 1985; Imai et al., 1985; Rogers, 2003; Urabe et al., 1988; Wolfe, 1994). But recently a new type of innovation, so-called management innovation, has attracted considerable attention (Birkinshaw et al., 2008; Hamel, 2006; Mol & Birkinshaw, 2009). Management innovation is defined as the introduction of new management practices, processes, techniques or structures[1] that significantly alter the way the work of management is performed (Birkinshaw et al., 2008; Hamel, 2006). Examples of management innovations include the M-form at General Motors and Oticon's spaghetti organization (Chandler, 1962; Foss, 2003).

However, despite recent efforts our knowledge of management innovation remains limited and the differences and similarities between management innovation and other types of innovation are not yet well understood. Previous research has compared the determinants, processes and outcomes of product innovation to other types of innovation. For example, the comparison between product and process innovation is well known (Abernathy & Utterback, 1978; Damanpour & Aravind, 2006; Damanpour, 1991; Edquist et al., 2001; Utterback & Abernathy, 1975). Also, Kimberly and Evanisko (1981) have compared technical innovation (encompassing both product and process types of innovation) to administrative innovation in the Hospital sector and found that the determinants of the two types of innovation differed(). However, the notion of administrative innovation in the study by Kimberly and Evanisko (1081) refers to innovations that are only indirectly related to the organization's basic work activity: "Administrative innovations, which in this study all involve the adoption of electronic data processing for a variety of internal information storage, retrieval, and analytical purposes, are only indirectly related to the basic work

[1] The term management practices is used to refer to both practices, processes, techniques and structures throughout the paper.

activity of the hospital and are more immediately related to its management" (p. 692). As such, administrative innovation is a broader concept not directly comparable to management innovation. For example, the adoption of electronic data processing technologies for internal purposes is considered an administrative innovation, but would not be regarded as a management innovation.

Damanpour and Evan (1984) defined administrative innovation in broader terms: "Administrative innovations are defined as those that occur in the social system of an organization. The social system here refers to the relationships among people who interact to accomplish a particular goal or task" (p. 394). While this notion may be closer to the concept of management innovation, it still has a broader emphasis than management. In more recent work, Edquist and colleagues (Edquist et al., 2001; Meeus & Edquist, 2006) have suggested integrating the earlier work on innovation typologies into an overall innovation taxonomy with two types of product innovation (goods and services) and two types of process innovation (technological and administrative). In this framework, I will suggest that management innovation can be regarded as a type of administrative process innovation.

Product innovation and management innovation differ in nature. Product innovation refers to new products or services offered on the market and, hence, are typically well defined, articulated and observable. Management innovation, on the other hand, refers to new ways of performing management activities within the organization. For example, new ways of coordinating, delegating, motivating and rewarding tasks. As such, management innovations are often more systemic and may be associated with higher degrees of causal ambiguity and uncertainty for the adopting organization (Birkinshaw et al., 2008; Mol & Birkinshaw, 2007a). Also, compared to product innovation, management innovations often involve reallocating decision rights and income rights and, hence, are more political. These differences in nature are likely to also reflect differences in the causal mechanisms underlying the development and adoption of innovations as well as differences in the performance outcomes of the two types of innovation. A better understanding of what drives firms to adopt certain types of innovation and not others serves two

purposes. First, it will increase our understanding of the different innovation types and, second, it will assist firms in developing innovation strategies more suited for the desired type(s) of innovation.

The aim of this paper, thus, is to answer the following questions: What are the antecedents of firms' decisions to adopt product innovation and management innovation, respectively? Do the two types of innovation share antecedents? The paper builds on a framework based on the behavioral theory of the firm (Cyert & March, 1963; Pierce et al., 2008) and explores how different internal determinants may be more or less important in explaining the different innovation outcomes outlined above. The paper is based on survey data collected among the 1,000 largest Danish firms (314 respondents) mapping their innovation activities during the years 2006-2009. The paper is structured as follows. First, previous research and findings in the field of management innovation and product innovation are briefly outlined. Then the theoretical approach adopted in this paper is introduced and a set of hypotheses is developed. Finally, the results are presented and implications for research and practice are discussed.

BACKGROUND

Based on a thorough review of the various definitions of innovation offered in multiple disciplines, Baregheh et al (2009, p. 1334) suggest the following integrative definition of organizational innovation: "Innovation is the multi-stage process whereby organizations transform ideas into new/improved products, service or processes, in order to advance, compete and differentiate themselves successfully in their marketplace". Wolfe (1994) has identified three major research streams in the innovation literature. First, the diffusion literature focuses on how specific innovations diffuse over time or across populations of firms, industries or countries. Second, process theories of innovation focus on the stages and increments that organizations go through during the implementation of innovations. Lastly, a stream of literature focuses on the determinants of innovation behavior at the firm level. This paper addresses the stream of literature investigating innovation determinants.

Damanpour (1991) defines product innovation as "new products or services introduced to meet an external user or market need" (p. 561). A thorough account of the many studies of product innovation lies beyond the purpose of this paper. However, the most widely studied determinants of product innovation include specialization, functional differentiation, professionalism, centralization, managerial attitudes toward change, knowledge resources, slack and communication (Damanpour & Aravind, 2006; e.g. Damanpour, 1991; Wolfe, 1994).

Past research has suggested that comparing different types of innovation is necessary for identifying and understanding the determinants of firms' adoption behavior (Damanpour & Aravind, 2006; Damanpour, 1987; Damanpour et al., 1989; Downs & Mohr, 1976; Edquist et al., 2001; Knight, 1967). Different types of innovations influence the adopting organization differently and imply potentially different causal mechanisms and decision making processes (Aiken et al., 1980; Daft, 1978; Damanpour, 1991). For example, Daft (1978) introduced a dual-core model of innovation suggesting that technical innovations are facilitated by bottom-up factors such as low formalization and low centralization, whereas innovations pertaining to the administrative core of an organization are more likely to develop through a top-down process enhanced by the inverse organizational characteristics, i.e. high formalization and high centralization. Also, Damanpour (1987) finds that e.g. specialization and slack have stronger effects on technical than on administrative innovations.

Although administrative innovations have been investigated in earlier studies, the more narrowly defined field of management innovation has been introduced only a few years ago. Hence, no empirical studies have yet compared management innovation to other innovation types. However, a number of detailed accounts of the origins and diffusion of specific management innovations exist. For example, Chandler's (1962) well known accounts of the emergence of the multidivisional form at Du Pont and General Motors. Also, a stream of literature has studied how new practices and management fashions diffuse over time and across populations of firms and industries (Abrahamson, 1991; Abrahamson &

Fairchild, 1999; Ehigie & McAndrew, 2005; Fligstein, 1985; Guler et al., 2002; Kogut & Parkinson, 1993; O'Mahoney, 2007; Rogers, 2003; Teece, 1980). Nevertheless, the interest in the determinants of management innovation from a firm-level perspective has been pioneered in recent work, most notably in work by Gary Hamel, Michael Mol and Julian Birkinshaw (e.g. Birkinshaw et al., 2008; Birkinshaw & Mol, 2006; Hamel, 2006; Hamel, 2007a; Hamel, 2007b; Mol & Birkinshaw, 2009; Mol & Birkinshaw, 2006; Mol & Birkinshaw, 2007a; Mol & Birkinshaw, 2007b).

As mentioned, management innovation is defined as the introduction of new management practices, processes, techniques or structures[2] that significantly alter the way the work of management is performed (Birkinshaw et al., 2008; Hamel, 2006). Within this broad definition of management innovation, two streams of literature can be distinguished. The first focuses on management practices that are new to the state of the art (e.g. Birkinshaw et al., 2008), while the second investigates innovations that are new to the adopting organization (e.g. Mol & Birkinshaw, 2009).

For example, Mol and Birkinshaw (2009) studied new to the firm management innovations and tested a number of hypotheses derived from reference group literature. They found that firm size, education levels, market scope and use of knowledge sources predicted the number of new management practices adopted by firms. They also found that management innovation was associated with subsequent productivity growth. However, few studies have compared new to the firm and new to the industry or the state of the art. In general, few studies have empirically measured new to the industry innovations. The present paper attempts to bridge this gap in the literature by measuring management and product innovation at both new to the firm and new to the industry level.

In recent work, Harder (2011) introduces a conceptual model outlining the causes of firm-level management innovation. The model builds on modern interpretations of the behavioral theory of the firm

[2] The term management practices is used to refer to both practices, processes, techniques and structures throughout the paper.

(see e.g. Argote & Greve, 2007; Pierce et al., 2008; Pitelis, 2007) and posits that an organization's propensity to introduce management innovations depends on its diagnostic and implementation capabilities. These two concepts refer to the ability to diagnose opportunities and problems and to develop and implement managerial solutions in response.

Diagnostic capability refers to the ability of an organization to recognize the locus of a perceived problem or an opportunity for improved performance and to develop management solutions that either solve the problem or exploit the opportunity. Implementation capability, on the other hand, refers to the ability of the organization to manage the transition process associated with implementing new management practices. As such, diagnostic and implementation capability share some commonalities with Teece's (2007) notion of sensing and seizing opportunities and March's (1991; 1996; 2006) concepts of exploration and exploitation. Nevertheless, diagnostic capability and implementation capability are understood as dynamics specifically related to management innovation.

In order to compare the antecedents of management and product innovation, the present paper uses the notion of diagnostic capability and implementation capability as an organizing framework. As such, hypotheses are derived based on behavioral theory of the firm and categorized as pertaining to one of the two capabilities (see figure 1 below). Although this framework is developed for management innovation, it is useful in the context of the present study, since the purpose is to compare antecedents of management and product innovation. As such, this paper investigates whether a number of variables that are thought to influence management innovation are also determinants of product innovation.

THEORETICAL DEVELOPMENT

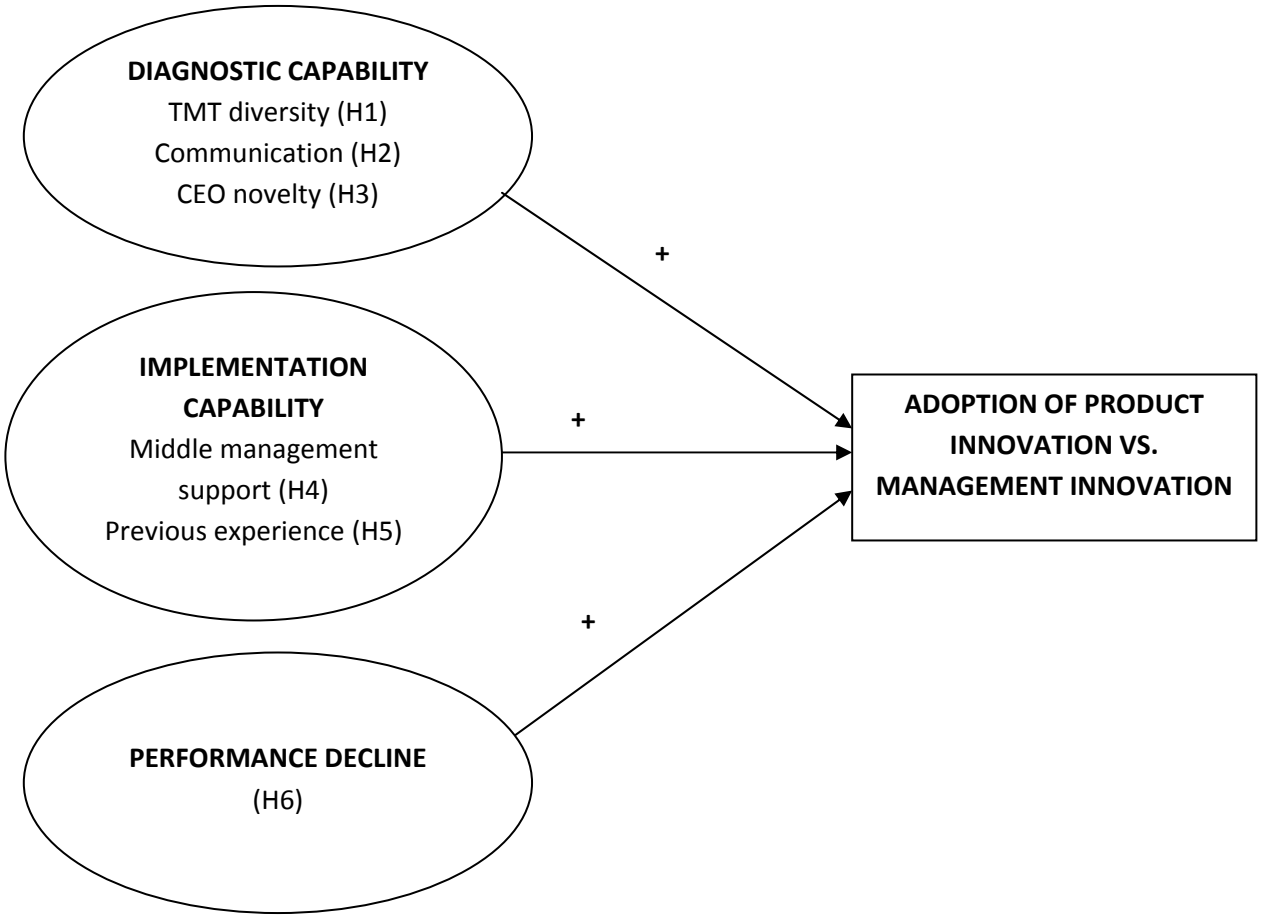
The theoretical framework for this study is based on the behavioral theory of the firm (Cyert & March, 1963; March & Simon, 1958; Pierce et al., 2008; Simon, 1997; Simon, 1955). The behavioral theory of the firm (BTF) integrates perspectives from economics, sociology, social psychology and political science in order to provide a nuanced understanding of the behavior of firms. Specifically, BTF differs from the

previously dominant neo-classical perspectives by looking inside the "black box". As such, BTF provides a framework for analyzing the internal dynamics that lead firms to act in ways that may sometimes seem irrational from the outside.

BTF views the firm as a boundedly rational, adaptive and learning organization characterized by internal goal conflicts, asymmetric information and path dependency (Cyert & March, 1963). The work of Cyert and March (1963) has been hugely influential in strategic management research and many modern theories of strategy and firm behavior have incorporated the assumptions presented in BTF (Argote & Greve, 2007; Pierce et al., 2008). The original work by Cyert and March (1963) focused primarily on understanding and describing how firms actually behave and make decisions. Implications for how managers may seek to improve or change firm behavior have been elaborated on in work by others. For example, contributions based on the resource based view (Barney , 1991; Barney, 1996; Penrose, 1959; Wernerfelt, 1984) and dynamic capabilities (Pierce et al., 2008; Teece et al., 1997; Teece, 2007; Winter, 2003) have emphasized how heterogeneous internal resources, routines and capabilities can be exploited to build and sustain competitive advantages. Resource based theories and dynamic capabilities share the basic assumptions about firm behavior with BTF and can, thus, be regarded as part of a wider behavioral theory tradition in strategic management research (Argote & Greve, 2007; Pierce et al., 2008).

In the present paper, hypotheses are proposed based on a combination of the above mentioned theories. Since the main purpose of the paper is to understand the determinants of a firm's decision to innovate, behavioral theory offers a useful and relevant frame for the analysis. A summary of the overall conceptual model is presented in figure 1.

Figure 1. Overall conceptual model



HYPOTHESES

As already mentioned, the variables measuring internal antecedents of innovation in the present paper fall into two categories and the analysis is structured accordingly. The variables that are mainly concerned with the ability of the firm to recognize opportunities or problems and to develop managerial solutions in response are addressed under the label of diagnostic capability. On the other hand, the variables that mainly involve the ability of the firm to manage the transition process from one organizational setup to another are addressed under the label of implementation capability. The concepts of diagnostic capability and implementation capability relate to the management innovation behavior of firms, but is used as an organizing framework in this study in order to compare determinants of management and product innovation.

Diagnostic capability

The concept of diagnostic capability is based on the notion that firms perceive their environment through an organizational filter (Helfat & Peteraf, 2010; Pitelis, 2007; Teece, 2007; Walsh , 1995). In contrast to the neo-classical assumptions of continuous scanning of information and perfect environmental matching, behavioral theory acknowledges that the information processing capabilities of individuals and firms are limited (Cyert & March, 1963; March & Simon, 1958; Ocasio, 1997). In other words, individuals and firms are not able to monitor and absorb all the available information inside and outside the organization and, hence, firms will rarely be in perfect alignment with their environments. A number of internal factors influence the attention and search behavior of firms, the decision alternatives that are taken into consideration and, eventually, the actual and observable behavior (Ocasio, 1997; Peteraf & Reed, 2007; Simon, 1947). These factors constitute an organizational filter which moderates the strategic behavior of firms. The part of the organizational filter that pertains to the ability of firms to recognize opportunities or problems and develop managerial solutions in response is regarded as a firm's diagnostic capability.

Factors that go into the diagnostic capability of firms include the backgrounds, beliefs, attitudes and cognitive ability of managers as well as organizational resources such as workforce characteristics, access to knowledge sources, reward structures and communication flows in the organization (Cyert & March, 1963; Hambrick & Mason, 1984; Helfat & Peteraf, 2010; Håkonsson et al., 2008; Knudsen & Levinthal, 2007; Ocasio, 1997). As such, a number of factors are likely to be part of an organizations diagnostic capability. Disentangling these factors and measuring diagnostic capability as a latent variable lies beyond the purpose of this paper. Instead, the influence of a number of factors that are likely to be part of a firm's diagnostic capability are studied individually.

Top management team (TMT) diversity is one factor that is likely to influence the adoption of innovations in firms. The importance of top managers' cognitive abilities, attitudes and beliefs for a number

of organizational outcomes is well established in strategic management research (e.g. Bantel & Jackson, 1989; Boeker, 1997; Damanpour & Schneider, 2006; Hambrick & Mason, 1984; Santos & Garcia, 2006; Stjernberg & Philips, 1993). The perception, beliefs and experiences of top managers are important parts of the attention structure of an organization and, therefore, influence the allocation of time, effort and attentional focus in decision making processes (Ocasio, 1997). Top managers also are in a special position to influence the aspiration levels, search behaviors and routines adopted throughout an organization (Cyert & March, 1963). Finally, top managers will often be in a position to initiate, terminate or eventually approve the adoption of innovations. In the words of Chandler (1962): ”Although the enterprise undoubtedly had a life of its own above and beyond that of its individual executives, although technological and market requirements certainly set boundaries and limits to growth, nevertheless, its health and effectiveness in carrying out its basic economic functions depended almost entirely on the talents of its administrators” (p. 384).

The more diverse the backgrounds, experiences and education of the top management team, the more diverse are the knowledge sources and perspectives available to decision makers. The diversity of ideas and perspectives may then influence the direction of search, the alternatives that are considered and eventually the innovation behavior of the organization. The exposure to different knowledge sources and perspectives is also likely to foster idea cross-fertilization of and, thus, increases the likelihood of innovating. Since the top management team represents the administrative core of an organization, this determinant could be expected to have a stronger influence on management innovation than product innovation (Daft, 1978; Damanpour, 1987).

Hypothesis 1. TMT diversity of an organization increases the likelihood of implementing management innovations and product innovations.

Richness and frequency of internal communication is generally found to promote organizational innovativeness. For example, a meta-analysis of the determinants of organizational innovation found a

statistically significant correlation for internal communication (Damanpour, 1991). In the studies included in the meta-analysis internal communication was measured in different ways, e.g. referring to the number of committees, the frequency of committee meetings, the number of face-to-face contacts between people at different levels of the organization or to the degree to which units share decisions.

The notion that communication promotes innovation stems from research linking the diffusion of ideas and information to new knowledge creation (Gupta & Govindarajan, 2000; Jassawalla & Sashittal, 2000; Nonaka & Takeuchi, 1995). For example, Nonaka and Takeuchi (1995) introduced the now well known spiral model in which knowledge creation is viewed as a continuous process of articulating, combining, internalizing and sharing ideas. Hence, as individuals communicate, diffuse and combine their knowledge and ideas, new valuable knowledge is likely to be created. Internal communication, therefore, is an important driver of learning (Argyris, 1977; Zollo & Winter, 2002) as well as organizational self-renewal and innovation (Allen et al., 1980; Nonaka & Yamanouchi, 1989; Rothwell & Robertson, 1973).

Communication may also increase the likelihood of innovating in a more direct manner. The more rich and frequent internal communication, the faster information about new opportunities or problems will spread throughout the organization. According to the behavioral assumption of problemistic search, organizational members search for potential solutions inside the organization before exploring information from other sources (Cyert & March, 1963). As such, communication will increase the effectiveness of organizational members' search behavior, since individuals are more likely to be exposed to information about new opportunities and relevant knowledge residing in other business units or departments (Hansen, 2002). Likewise, studies have found that the absence of effective internal communication is a major barrier to the development of new technology based products (Gupta & Wilemon, 1990).

Therefore, rich communication flows are likely to increase the diagnostic capability of a firm by exposing employees to new ideas, giving them access to valuable knowledge in other parts of the organization and fostering cross-fertilization of ideas (Jassawalla & Sashittal, 2000). According to a dual

core logic (Daft, 1978), communication richness may be expected to have a more important influence on product innovation than on management innovation, since technical innovations are expected to arise out of a bottom-up process. Communication richness at least to some extent represents a decentralized or bottom up approach to innovation.

Hypothesis 2. Rich internal communication flows in an organization increase the likelihood of implementing management innovations and product innovations.

As already discussed, the chief executive officer (CEO) is in a special position to exercise influence on the strategies and behaviors of a firm. Therefore, CEO succession may have significant influence on an organization and can be a trigger for organizational change. The longer a CEO has been in office, the more routines and operating procedures of an organization tend to stabilize and large structural or strategic changes become less likely. Therefore, CEO tenure can lead to strategic myopia, internal resistance, vested interests and organizational inertia(Hannan & Freeman, 1984; Romanelli & Tushman, 1994; Tushman & O'Reilly III, 1996). In fact, Miller (1991) found that CEO tenure correlates with lower levels of "match" between an organization and its environment. Therefore, CEO succession may constitute an opportunity to overcome organizational inertia and a number of studies have documented that CEO succession indeed increases the likelihood of strategic and structural changes(e.g. Carlson, 1961; Denis & Denis, 1995; Helmich & Brown, 1972; Meyer, 1975).

Also, CEO succession may be important for organizational change from a power dependency perspective. Over time, the prevailing power distribution tends to become institutionalized, since power holders resist changes that undermine their influence (Pfeffer & Salancik, 1978; Salancik & Pfeffer, 1977). CEO succession offers an opportunity for existing power distributions to be altered and new strategic perspectives to be introduced (Shen & Cannella, 2002).

Finally, CEO succession may be a mechanism for organizational learning (Tushman & O'Reilly III, 1996; Virany et al., 1992). As such, the shift of top executive can facilitate so called second order or double-loop

learning (Argyris, 1977; Weick, 1979; Weick & Roberts, 1993), which would otherwise be held back by inertia and path dependency.

In summary, recent CEO succession may bring in new managerial perspectives and is likely to assist an organization in overcoming inertia, political resistance and institutionalized power dependencies. Since new-to-the-industry innovations require higher degrees of novelty and involve more risk than new-to-the-firm innovations, CEO novelty may be especially important for new-to-the-industry product and management innovations. Based on the findings of e.g. Daft (1978), CEO novelty could be expected to exert the most important influence on management rather than product innovation, since the top executive succession first and foremost constitutes a change in the administrative core of the organization. Nevertheless, CEO novelty is expected to positively influence the likelihood of adopting both management and product innovation.

Hypothesis 3. CEO novelty increases the likelihood of implementing management innovations and product innovations.

Implementation capability

While diagnostic capability refers to the ability to recognize opportunities or problems and to come up with innovative solutions in response, implementation capability refers to the ability of firms to actually implement the new discovery. Implementation capability does not in itself lead to innovation, but it is a prerequisite for the successful exploitation of innovation opportunities. Nevertheless, firms possessing high levels of diagnostic capability are not necessarily very capable of managing the transition process from idea to practice. In fact, the organizational processes associated with idea generation on the one hand and implementation or commercialization on the other may even work against each other. Idea generation, experimentation and exploration are typically associated with decentralized, informal bottom-up processes, whereas effective implementation is associated with more controlled, formalized top-down processes (Birkinshaw et al., 2008; Gibson & Birkinshaw, 2004; Greenwood & Hinings, 1996; March, 1996;

Teece, 2007). Implementation may also require a different skill-set and entail higher human costs in the form of changes in work procedures and shifts in the distribution of decision and income rights (Greenwood & Hinings, 1993; Greenwood & Hinings, 1996). In this regard, invention and implementation are two distinct organizational processes.

Management innovations are often associated with large changes to the organizational setup, e.g. delegation of tasks, reward structures, and coordination. However, product innovations may also be associated with substantial changes primarily to the technical core of the organization but also to its administrative procedures, since the technical and social structures of an organization are interdependent. For example, changes in production technologies tend to influence how work is organized and tasks are coordinated (Cummings & Srivaste, 1977; Daft, 1978; Trist & Murrey, 1993). Therefore, implementation capability is relevant for both product and management innovation. However, the influence of implementation capability is likely to be greater for management innovations, since they involve more direct changes to the management systems and organizational setup than do product innovations. In this study, two elements of firms' implementation capability are studied; middle management support of change and previous experience with large organizational changes.

The organizational changes associated with innovating are inevitably perceived as stressful and are likely to cause uncertainty for organizational members. Although people exhibit different levels of risk aversion, studies in sociology and social psychology find that most people have a natural tendency to resist changes (Agócs, 1997; Ford et al., 2002; Giangreco & Peccei, 2005; Meyer & Stensaker, 2006; Meyer et al., 2007; Oreg, 2003; Reger et al., 1994; Reichers et al., 1997; Strebel, 1996). Resistance to change may also stem from institutionalized values, norms or power structures (Greenwood & Hinings, 1996). Powerful coalitions or individuals tend to protect their authority by implementing procedures and formalized structures that buffer themselves and the organization against change (Pfeffer, 1981; Pfeffer, 1992; Salancik & Pfeffer, 1977). This sort of barrier to change may be particularly important for management

innovation, since new management practices or structures will almost inevitably shift the balance of power within the organization and hence may be perceived as a threat to current power holders. Nevertheless, product innovations may also influence the distribution of power, since new products may render previously critical resources or competences obsolete and, as such, diminish the power of the people in control of those resources. Therefore, the support of middle managers may be crucial for the successful implementation of both product and management innovations.

Hypothesis 4. Middle management support of change increases the likelihood of implementing management innovations and product innovations.

As individuals we learn from our experiences. So do firms. Therefore, having prior experience with implementing organizational changes is likely to make firms more able to manage the process of organizational transition associated with future innovation projects. According to Cyert and March (1963), firms use standard operating procedures, decision rules and aspiration levels as a sort of organizational memory reflecting prior experiences. As firms gain experience with organizational changes, procedures are slowly adapted thereby improving the ability of the firm to manage future implementation processes. Similarly, Nelson and Winter (1982) argue that the knowledge gathered in previous experience is stored in organizational routines. These routines, then, allow firms to replicate successful behaviors.

From a resource based perspective, past experience with change is likely to improve the skills and routines that support the implementation of changes. The more a firm has experience with implementing large changes, the more likely it is to possess the necessary knowledge and competences to manage other change projects in the future (Barney, 1996; Teece, 2007). Empirical studies have also confirmed that firms that are experienced in implementing changes are indeed more likely to adopt additional changes. For example, Amburgey et al (1993) found that companies with a recent history of change are more likely to attempt further change. Therefore, this paper argues that firms with a recent history of large organizational changes are more likely to have developed skills and routines supportive of the transition process

associated with either product or management innovation. Due to the more political nature of management innovation, experience with change may be more important for management than for product innovation.

Hypothesis 5. Previous experience with implementing large organizational changes increases the likelihood of implementing management innovations and product innovations.

Performance decline

It is a common assumption that an important driver of changes in firms are changes in their external environments (e.g. Damanpour & Evan, 1984; Drazin et al., 2004; Scott, 1995; Tushman & Anderson, 1986; Tushman & Rosenkopf, 1996). Chandler (1962), for example, illustrated how the diversification strategies of large American corporations led to the need for structural and administrative reorganization to meet the needs of the quite different markets, which in turn drove the development of the multidivisional form at DuPont and General Motors. In the 1989 edition of his famous book, Chandler writes: "As a relatively young historian, I had developed an interest in the beginnings and evolution of modern large-scale organizations, in how and why they altered their operating structures. For I had learned that historically administrators rarely changed their daily routine or altered positions of power except under the strongest pressures" (p. 1).

Likewise, institutional theory has formulated the idea that firms due to inertia and path dependencies are most likely to implement radical changes and innovations only when confronted with severe pressures or exogenous changes such as performance crises or CEO succession (Drazin et al., 2004; Romanelli, 1991; Romanelli & Tushman, 1994; Scott, 1995).

The behavioral theory of the firm contests the typical neo-classic assumption of perfect environmental matching. In other words, the idea that firms are able to continuously scan all possible decision alternatives and chose the value maximizing response to any problem or opportunity. Due to

bounded rationality of decision makers and the presence of internal goal conflicts, BTF suggests that firms make satisficing rather than optimizing decisions (Cyert & March, 1963; Simon, 1947). Nevertheless, change is problem driven. Failure to meet aspiration levels triggers the search process. Therefore, the severity of the initial problem is likely to influence the nature of the chosen solution. For example, Birkinshaw et al (2008) argue that novel problems are necessary preconditions for novel solutions.

In accordance with the principle of simple minded search and satisficing as the decision criteria, firms are likely to adopt simple, off-the-shelf, innovations if such innovations could resolve the perceived problem (Birkinshaw et al., 2008; Cyert & March, 1963; Pitelis, 2007). According to this principle, organizational members will initially search for solutions to perceived problems in the neighborhood of the problem area. Conversely, firms are more likely to experiment with the development of own, new to the industry, innovations, when the problems facing the organization are so severe that simpler solutions are inadequate (Birkinshaw et al., 2008; Wiseman & Bromiley, 1996).

Hypothesis 6. Performance decline increases the likelihood of implementing management innovations and product innovations.

DATA AND METHODS

The Management Innovation Survey conducted as part of this study has been developed at the Center for Strategic Management and Globalization at Copenhagen Business School. The overall structure of the survey is similar to the Community Innovation Survey (CIS), which is a European wide survey measuring product and process innovation. The CIS was developed on initiative of the European Union and has been executed by national statistical offices throughout the EU six times since 1992. The survey has been incrementally improved and refined during the years and a large number of papers have been published using CIS data (e.g. Battisti & Stoneman, 2010; Evangelista et al., 1997; Frenz & Ietto-Gillies, 2009; Laursen & Salter, 2006). The CIS includes measures on changes in business practices and structures, which have been used by e.g. Mol and Birkinshaw (2009) in their studies of new-to-the-firm management

innovation. However, the CIS measures are very crude proxies for management innovation. These surveys only report changes to structures, policies and practices, but do not require alterations to be new to the adopting organization. New to the industry management innovations are not included at all. Hence, the CIS measures have weak content validity if used in management innovation studies. Also, CIS data lacks a number of the firm level variables of interest to this study. Therefore, the Management Innovation Survey was conducted in order to refine and improve the innovation measures used in the CIS thereby allowing for more adequate measures of management innovation.

The sample of firms was derived from the Danish CD-direct database, which contains detailed public information on all Danish enterprises. The survey was sent to CEOs of the 1,051 largest Danish firms and the data was collected during the fall of 2009. The selection was done based on number of full-time employees and include all firms with more than 150 employees in 2008. 314 firms responded corresponding to a response rate of 29.9%. The survey was conducted online and respondents received a postal invitation with a unique login and password for the website. All non-respondents received a postal reminder and were subsequently contacted via telephone. When it was not possible to reach the respondent, interviewers asked for a direct e-mail address and follow up e-mails with a link to the survey were sent. The survey was sent to CEOs but other members of the top management team were also allowed to answer.

In order to reduce the risk of common method bias, data regarding the performance decline variable was collected using archival data from the CD-direct database. This ensured that all measures in the survey were not collected from the same source. Furthermore, most of the questions used in this study are based on factual data that is at least in principle verifiable from other sources. For example, previous experience with large organizational changes, CEO novelty and composition of the top management team. This type of items reduces the risk of bias in the sample compared to e.g. self-reported items based on the respondent's perception or attitudes (Podsakoff & Organ, 1986). Finally, a factor analysis, the Harman's

one-factor test, did not indicate common method variance (Podsakoff & Organ, 1986). Two-group mean comparison tests were used to test for non-response bias and indicated no significant differences between respondents and non-respondents when comparing relevant variables such as industry affiliations and company size.

Since the majority of firms in the sample have adopted both management innovations and product innovation during 2006-2009, entering both types of innovation in one regression would give little variance in the two separate outcomes of interest (see table 1 for an overview of the distribution of management innovation vis-à-vis product innovation in the sample). In order to avoid having most observations in the "both types of innovation" group, I conducted two separate multinomial regressions for each of the innovation types. This also allowed for distinguishing between new to the firm and new to the industry innovation without splitting the sample in overly small categories. The multinomial logit model (MNLM) simultaneously estimates binary logits for all comparisons among the alternatives and, hence, allows for comparing different outcomes of categorical dependent variables.

Table 1. Frequencies of innovation types in the sample

	Frequency	**Percent**	**Cum.**
No innovation	13	5.73	5.73
Product innovation	9	3.96	9.69
Management innovation	30	13.22	22.91
Both	175	77.09	100.00
Total	227	100.00	

Measures

Management innovation. Respondents were asked "During the years 2006-2009, did your firm introduce any significant changes to the organizational structure of your firm?" and "During the years 2006-

2009, did your firm implement any new or significantly altered management practices, processes or techniques?". For each question, the respondents were given three response alternatives: a) "Yes, changes to the organizational structure were new to the industry", b) "Yes, changes to the organizational structure were only new to the firm", or c) "No". The scale is coded as a categorical variable with three outcome variables: 1) no innovation, 2) new to the firm innovation and 3) new to the industry innovation. See table 2 for an illustration of the outcome categories.

Table 2. Management innovation outcome categories

Management innovation outcome categories		**Structures**		
		No innovation	New-to-the-firm	New-to-the-industry
Practices	No innovation	1	2	3
	New-to-the-firm	2	2	3
	New-to-the-industry	3	3	3

Product innovation. Respondents were asked the following question: "During the years 2006-2009, did your firm introduce any new or significantly improved goods or services?". Respondents were given three response alternatives: a) "Yes, new to the market (your firm introduced new products or services onto your market before your competitors)", b) "Yes, only new to the firm (your firm introduced new products or services that were already available from your competitors)", or 3) "No". This item is identical to the measure used for product innovation in the Community Innovation Survey. The product innovation variable, then, is coded as a categorical variable with three values: 1) no innovation, 2) new to the firm innovation, and 3) new to the market innovation.

Top management team diversity. This measure is based on a multi-item scale with three items adapted from Campion et al (1993). Respondents were asked "To what extent do the following statements accurately describe the composition of your firm's top management team?". (1) The members of the top management team vary widely in their areas of expertise, (2) The members of the top management team

have a variety of different backgrounds, and (3) The members of the top management team have a variety of different experiences. Responses were reported on a 7 point Likert scale ranging from 1 (not accurately at all) to 7 (very accurately). The scale has an alpha coefficient of 0.81.

Communication. The measure of communication flows indicates the top manager's perception of the richness of communication and collaboration in the firm. The measure is a multi-item scale and respondents were asked to indicate based on their personal experience to what extent the following statements accurately describe the communication climate in the organization: (1) The communication across departments is rich and plentiful, (2) Departments are often skeptical about information received from other departments (reverse-coded), (3) The communication across levels of the organization is rich and plentiful, (4) Inter-disciplinary and cross-departmental collaboration on tasks and activities is widespread, and (5) Formal channels of communication, e.g. company blogs, newsletters, intranet and databases, are plentiful and widely used. Responses were recorded on a scale from 1 (not accurate at all) to 7 (very accurate). The scale has an alpha coefficient of 0.73.

CEO novelty. CEO novelty indicates the number of years the current CEO has been in office. The measure is reverse-coded so that a higher number indicates a more recent CEO succession, i.e. a higher degree of novelty.

Previous experience. This measure indicates the extent to which firms have recent experience with implementing large organizational changes. Respondents were asked to indicate their experience with organizational changes in the three year period prior to the time period measuring management innovation in the present study: "During the three years *2003-2005*, did your company implement large organizational changes (e.g. mergers or acquisitions, large restructurings etc.)?". Responses were recorded on a scale from 1 (not at all) to 7 (many large changes).

Middle-management support. This measure is a multi-item scale reflecting the attitudes and behaviors of middle managers when faced with organizational changes. The measure is based on the

perception of the CEO. Inspired by measures used by Burton et al (2002) and Agócs (1997), respondents were asked "In your experience with previous organizational changes, how do middle managers in your firm respond to change?". Respondents were asked to indicate the accuracy of four items on a 7 point Likert scale ranging from 1 (not accurate at all) to 7 (very accurate). The items were: (1) They generally acknowledge the need for change, (2) They are often reluctant to implement changes that have been agreed to (reverse-coded), (3) They accept responsibility for dealing with change issues, and (4) They sometimes act to dismantle changes that have been initiated (reverse-coded). The multi-item scale has an alpha coefficient of 0.7.

Performance decline. Performance decline is measured as the percentage change in a firm's return on equity (net profit divided by equity) from the financial year 2004 compared to 2006 based on data from the Danish CD-Direct database. The measure is calculated so that a larger measure indicates a larger performance decline, i.e. (ROE 2006-ROE 2004)/ROE 2004*(-1). The years 2004 and 2006 are chosen to reflect the time period prior to the main period of interest in the study, namely the years 2006-2009. This reflects an expected time lag between the perceived performance shortfall and a change in the outcome variable; i.e. pervasiveness of adopted management innovations. A firm's financial performance obviously does not fully reflect the strategic aspirations of an organization. Nevertheless, since a range of factors influence the extent to which performance is perceived to meet aspirations, a financial measure is chosen as a crude proxy for performance shortfall. Another option could have been to ask for CEOs' perception of previous firm performance. However, the ability of respondents to accurately report their perception and performance 3-5 years ago is questionable. Also, this approach would raise serious issues of both social desirability and common method bias, since that would make CEOs the source of information for the dependent as well as independent variables (Furnham , 1986; Moorman & Podsakoff, 1992; Podsakoff & Organ, 1986; Spector, 2006).

Control variables. Four control variables were included in order to test for possible alternative explanations. First, firm size measured as the logarithm of the number of employees in 2009 was included, since larger organizations may possess more resources for R&D, organizational development and other innovation related activites. Second, an industry dummy distinguishing between service industries (coded as 1) and manufacturing industries (zeros) was included to account for potential industry effects. Third, a dummy measuring whether a firm is part of an enterprise group or not was included, since firms that are part of enterprise groups may have access to more innovation related knowledge sources and assets. Finally, since the majority of firms in the sample had implemented both management and product innovation, a dummy measuring adoption of the other type of innovation was included in each regression in order to control for the effects of the other innovation type. For example, in the regression for management innovation, a product innovation dummy is included. The dummies are coded as: 0) no innovation and 1) new to the firm or new to the industry/market innovation.

RESULTS

The means, standard deviations and correlations between the variables in the study are reported in table 3. The survey examines the introduction of two types of innovation. As illustrated in table 1, roughly 6% of firms had adopted no innovations in the period 2006-2009. 4% had implemented only product innovations, 13% had implemented only management innovations and 77% had implemented both types of innovation. The regression results for the industry dummy variable (table 4) indicate that manufacturing industries have a higher rate of innovation across all categories than service industries. Also, the size of a firm is positively associated with the likelihood of adopting new to the firm management innovation and new to the industry product innovation. Finally, the dummies entered to represent the opposite innovation type indicate that adoption of either category of innovation increases the likelihood of simultaneously adopting the other.

Table 3. Means, standard deviations and correlations between variables

	Mean	Std.	1	2	3	4	5	6	7	8	9	10	11
1. Management innovation	2.18	0.58	1.00										
2. Product innovation	2.35	0.78	0.37	1.00									
3. Performance decline	0.77	21.30	0.07	-0.09	1.00								
4. Communication	4.49	0.96	0.05	0.26	0.07	1.00							
5. TMT diversity	5.52	1.14	0.20	0.18	-0.17	0.06	1.00						
6. Middle management support	4.56	0.95	0.01	0.12	0.03	0.28	-0.09	1.00					
7. Previous experience	4.19	2.17	0.11	0.23	-0.13	-0.03	0.12	-0.14	1.00				
8. CEO novelty	43.38	8.54	0.21	0.16	-0.17	-0.05	0.15	0.02	0.11	1.00			
9. Size	5.89	1.31	0.07	0.19	0.07	0.04	-0.03	-0.01	0.17	-0.01	1.00		
10. Industry dummy	0.33	0.47	-0.02	-0.03	-0.03	0.04	-0.11	0.05	-0.05	-0.10	-0.04	1.00	
11. Group dummy	1.71	0.46	0.03	0.10	-0.05	-0.03	0.06	0.05	0.04	0.25	0.01	-0.12	1.00

The determinants of firms' innovation behavior are examined using multinomial logistic regression and the results for hypotheses 1-6 are displayed in table 4. The overall model is highly significant ($p<0.001$) and the pseudo R-squared is 0.14 and 0.15 respectively. The table shows the regression coefficients indicating the effect of the independent variables on the likelihood of obtaining each of the two innovation outcomes as compared to the base outcome (no innovation).

Table 4. Regression results

Results of multinomial regressions predicting managememt innovation and product innovation (baseoutcome = no innovation)

Management innovation			Product innovation		
	New to the firm	New to the industry		New to the firm	New to the industry
Performance decline	0.00	0.02***	**Performance decline**	-0.01	-0.01
	(0.58)	(0.00)		(0.14)	(0.11)
Communication	-0.27	-0.28	**Communication**	0.29	0.77**
	(0.31)	(0.36)		(0.35)	(0.01)
TMT diversity	0.18	0.46*	**TMT diversity**	0.57*	0.44'
	(0.35)	(0.04)		(0.01)	(0.05)
Middle management support	0.18	0.08	**Middle management support**	0.39	0.40
	(0.40)	(0.75)		(0.26)	(0.26)
Previous experience	-0.03	0.05	**Previous experience**	0.14	0.29*
	(0.82)	(0.71)		(0.27)	(0.02)
CEO novelty	0.06'	0.10**	**CEO novelty**	0.02	0.02
	(0.05)	(0.01)		(0.46)	(0.32)
Size	0.64*	0.43	**Size**	0.33	0.42*
	(0.02)	(0.16)		(0.13)	(0.04)
Industry dummy	-0.41	0.10	**Industry dummy**	-0.28	-0.00
	(0.47)	(0.87)		(0.57)	(0.10)
Group dummy	-1.34'	-1.00	**Group dummy**	-0.53	0.24
	(0.09)	(0.23)		(0.27)	(0.61)
Product innovation dummy	1.42*	2.40**	**Management innovation dummy**	1.57*	1.78**
	(0.01)	(0.00)		(0.03)	(0.00)
Constant	-2.92	-7.33*	**Constant**	-9.26**	-12.97***
	(0.22)	(0.02)		(0.00)	(0.00)
Wald (chi2)	47,81		Wald (chi2)	51.00	
Pseudo R-squared	0.14***		Pseudo R-squared	0.15***	
Observations	203	203	Observations	203	203

Robust standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05, 'p<0.1

Hypothesis 1 stating that TMT diversity has a positive effect on the likelihood of innovating is supported in the data. However, the effect differs for management and product innovations, respectively. Top management team diversity increases the likelihood of implementing new to the industry management innovations, while it has no significant effect on new to the firm management innovation. For product innovation the opposite applies. TMT diversity seems to increase the likelihood of implementing new to the

firm product innovation, while the effect on new to the industry product innovation is only significant at the 0.10 level. For the truly novel innovations (new to the industry), this seems to confirm the dual core logic stating that innovations in the administrative core of an organization are more driven by top-down processes than are product innovation. However, this does not explain why TMT diversity increases the likelihood of new to the firm product innovation, while not significantly influencing new to the firm management innovation.

Hypothesis 2 is partly supported in the data. Richness of communication has a significant impact on the likelihood of implementing new to the industry product innovation but has no significant effect on the other categories of innovation. While a positive relationship between communication and all innovation outcomes was expected, the fact that the most important influence seems to be on new to the firm product innovation may support the assumption that product innovation more than management innovation arises out of dispersed, bottom up processes in the organization (Daft, 1978; Damanpour, 1987).

Hypothesis 3 regarding CEO novelty is also partly supported. In this sample, CEO novelty significantly increases the likelihood of new to the industry management innovation, while the effect on new to the firm management innovation is significant at the 0.10 level. On the other hand, there is no significant influence on product innovation. This, again, may indicate that management innovation to a higher extent than product innovation grow out of top-down processes and hence are more influenced by changes at the executive level.

Overall, results for the three first hypotheses indicate that the factors involved in firms' ability to recognize, diagnose and develop innovative solutions in the management and product domains, respectively, cannot be assumed to simultaneously support both types of innovations. In fact, only TMT diversity influences both types of innovation. In a world with scarce resources, this may indicate a trade-off between pursuing a management innovation or product innovation strategy.

When examining the implementation capability variables, hypothesis 5 stipulating that middle management support increases the likelihood of innovating is not supported in the data. Similarly, there is only weak support in the data for hypothesis 6. Previous experience with large organizational changes only significantly influence the likelihood of implementing new to the industry product innovation. Since management innovations generally affect the administrative structures and work routines of an organization more directly than product innovations do, it was discussed that the variables pertaining to implementation capability (hypothesis 5 and 6) would have a more significant effect on management innovation than on product innovation. However, this could not be confirmed in the data.

Finally, hypothesis 6 is partly supported, since performance decline increases the likelihood of implementing new to the industry management innovation. However, performance decline in this sample does not have a significant effect on any of the other innovation outcomes. The implications of these findings will be discussed in the following section.

CONCLUDING DISCUSSION

Overall, the findings indicate that the behavioral theory of the firm (Cyert & March, 1963; Pierce et al., 2008) is a relevant theoretical framework for analyzing management and product innovations. Although the results are mixed, the concepts of diagnostic and implementation capability has also proved a useful framework for a discussion of innovation determinants. However, clearly more empirical and theoretical clarification is needed in order to fully grasp the similarities and differences between determinants of management innovation and product innovation. Nevertheless, these findings constitute a first step in building an understanding of the similarities and differences between management and product innovation.

This study indicates that the determinants of product innovation and management innovation may differ quite a bit. Only TMT diversity increased the likelihood of both types of innovation in this sample. Some of the differences observed between determinants of product and management innovation

may be explained by the logic proposed by Daft (1978) and others: That innovation pertaining to the administrative core of an organization are characterized by top down processes, whereas innovations pertaining to the technical core of an organization (such as product innovation) are more characterized by bottom up processes. This may explain why CEO novelty and TMT diversity are more important drivers of (at least new to the industry) management innovation than of product innovation. Likewise, the fact that communication in this study has a more significant influence on product innovation may be explained by the bottom up processes associated with this type of innovation. However, the finding that TMT diversity increases the likelihood of adopting new to the firm product innovation, while it has not influence on new to the firm management innovation, cannot easily be explained by the theories addressed in this paper.

Also, this study indicates that external stimuli in the form of performance shortfalls may be a more important driver of management innovation than of product innovation. While performance decline was expected to increase the likelihood of adopting all categories of innovation, it is not all that surprising that the effect may be most important for new to the industry management innovation. Due to the political nature of management innovation, i.e. the fact that this type of innovation shifts power structures and distribution of decision and income rights in the organization, it is likely that stronger pressures are needed in order to overcome the resistance and inertia that may in particular be a barrier for this type of changes of managerial practices, processes and structures (Birkinshaw et al., 2008; Chandler, 1962).

Implications for theory and practice

This study indicates that the behavioral theory framework may be useful for comparing management and product innovation. Also, most of the variables identified as pertaining to the diagnostic and implementation capabilities are significant determinants of firms' innovation activities. This paper only uses diagnostic capability and implementation capability as an organizing framework, but future studies may investigate whether these capabilities are in fact latent variables with a number of underlying drivers. Scientific endeavors of this nature may advance our understanding of firms' innovation behavior

considerably. Also, future studies may include additional types of innovation (e.g. process innovation) and include other potential determinants. In particular, it may be interesting to investigate whether a number of organizational design variables that have been found to promote product innovation are also determinants of management innovation.

Also, this study indicates that the implementation of either type of innovation increases the likelihood of also implementing the other. This finding may not be surprising, since the technical and administrative cores of an organization are related and interdependent (Daft, 1978; Damanpour, 1987). Therefore, it is likely that product innovation and management innovation may be complementary. A few studies have addressed the combinative effects of simultaneous adoption of different types of innovation over time (e.g. Damanpour et al., 2009), but more research is needed in order to fully comprehend the potential complementary effects of different innovation types.

Managers wishing to increase the innovativeness of their organizations may benefit from these findings in two ways. First, if they desire to increase the likelihood of adopting both management innovations and product innovations, they may benefit from focusing in particular on the diversity of the top management team. Also, managers should take notice of the fact that high CEO tenure may decrease the likelihood of implementing management innovation. Other initiatives may compensate for this effect. For example, firms could focus on increasing diversity of the top management team. Furthermore, firms wishing to increase the likelihood of implementing product innovation may focus on building experience with implementation of changes and on establishing rich and frequent internal communication flows.

Limitations

As with most empirical studies, a number of limitations apply to this research. Since the survey is based on cross sectional data, results represent only a specific point in time. Except for the variable regarding previous experience with change and the performance decline variable, all measures refer to the same time period. Therefore, causality and time-order of events for these variables are theoretically

assumed and cannot be verified in the data. Furthermore, most of the measures in this study are collected from the same respondent. The analysis, hence, is based on the perception of the top managers and may to some extent suffer from social desirability bias and common method bias (this is discussed in the method section). Variables such as middle manager support may be more accurately measured by collecting data directly from middle managers. Collecting rich data at both the individual and organizational level is very time and resource demanding. However, doing so would strengthen the validity of measures and allow for including multi-level perspectives in the analysis.

Furthermore, this study only includes some of a range of observable innovation types. Similarly, the determinants included in this research hardly exhaust the pool of potential drivers of innovation. Future studies may, thus, elaborate on these findings by investigating other determinants and/or innovation types. Finally, the dataset used in this study is collected among Danish firms. Therefore, results may not apply in all other national contexts.

REFERENCES

Abernathy, W., & Utterback, J. 1978. Patterns of industrial innovation. ***Technology review***, 80(7): 40.

Abernathy, W. J., & Clark, K. B. 1985. Innovation: Mapping the winds of creative destruction. ***Research Policy,*** 14(1): 3-22.

Abrahamson, E. 1991. Managerial fads and fashions: The diffusion and refection of innovations. ***Academy of Management Review***, 16(3): 586-612.

Abrahamson, E., & Fairchild, G. 1999. Management fashion: Lifecycles, triggers, and collective learning processes. ***Administrative Science Quarterly***, 44(4): 708-740.

Agócs, C. 1997. Institutionalized resistance to organizational change: Denial, inaction and repression. ***Journal of Business Ethics***, 16(9): 917-931.

Aiken, M., Bacharach, S. B., & French, J. L. 1980. Organizational structure, work process, and proposal making in administrative bureaucracies. ***The Academy of Management Journal***, 23(4): 631-652.

Allen, T., Lee, D., & Tushman, M. 1980. R&D performance as a function of internal communication, project-management, and the nature of the work. ***IEEE Transactions on Engineering Management***, 27(1): 2-12.

Amburgey, T. L., Kelly, D., & Barnett, W. P. 1993. Resetting the clock: The dynamics of organizational change and failure. ***Administrative Science Quarterly***, 38(1): 51-73.

Argote, L., & Greve, H. R. 2007. A behavioral theory of the firm--40 years and counting: Introduction and impact. ***Organization Science***, 18(3): 337.

Argyris, C. 1977. Double loop learning in organizations. ***Harvard Business Review***, 55(5): 115-125.

Bantel, K. A., & Jackson, S. E. 1989. Top management and innovations in banking: Does the composition of the top team make a difference? ***Strategic Management Journal***, 10(Special Issue: Strategic Leaders and Leadership): 107-124.

Baregheh, A., Rowley, J., & Sambrook, S. 2009. Towards a multidisciplinary definition of innovation. ***Management Decision***, 47(8): 1323-1339.

Barney , J. 1991. The resource-based model of the firm - origins, implications, and prospects. ***Journal of Management***, 17(1): 97.

Barney, J. B. 1996. The resource-based theory of the firm. ***Organization Science***, 7(5): 469-469.

Battisti, G., & Stoneman, P. 2010. How innovative are UK firms? evidence from the fourth UK community innovation survey on synergies between technological and organizational innovations. ***British Journal of Management***, 21(1): 187-206.

Birkinshaw, J., Hamel, G., & Mol, M. 2008. Management innovation. ***Academy of Management.The Academy of Management Review***, 33(4): 825.

Birkinshaw, J., & Mol, M. 2006. How management innovation happens. ***MIT Sloan Management Review***, 47(4): 81-88.

Boeker, W. 1997. Strategic change: The influence of managerial characteristics and organizational growth. ***Academy of Management Journal***, 40(1): 152-170.

Burton, R. M., Lauridsen, J., & Obel, B. 2002. Return on assets loss from situational and contingency misfits. ***Management Science***, 48(11): 1461-1485.

Campion, M. A., Medsker, G. J., & Higgs, A. C. 1993. Relations between work group characteristics and effectiveness: Implications for designing effective work groups. ***Personnel Psychology***, 46(4): 823-850.

Carlson, R. O. 1961. Succesion and performance among school superintendents. ***Administrative Science Quarterly***, 6(2): 210-227.

Chandler, A.D. 1962. ***Strategy and structure: Chapters in the history of the american enterprise***. Cambridge: MIT Press.

Cummings, T.G., & Srivaste, S. 1977. ***Management of work: A sociotechnical system approach***. Kent: Ohio.

Cyert, R.M., & March, J.G. 1963. ***A behavioral theory of the firm***. New Jersey: Prentice-Hall.

Daft, R. L. 1978. A dual-core model of organizational innovation. ***The Academy of Management Journal***, 21(2): 193-210.

Damanpour, F., & Aravind, D. 2006. Product and process innovations: A review of organizational and environmental determinants. In J. Hage & M. Meeus (Ed.), ***Innovation, science, and institutional change***: 38. Oxford: Oxford University Press.

Damanpour, F. 1987. The adoption of technological, administrative and ancillary innovations - impact of organizational factors. ***Journal of Management***, 13(4): 675-688.

Damanpour, F., Walker, R., & Avellaneda, C. 2009. Combinative effects of innovation types and organizational performance: A longitudinal study of service organizations. ***The Journal of management studies***, 46(4): 650.

Damanpour, F. 1991. Organizational innovation: A meta-analysis of effects of determinants and moderators. ***Academy of Management Journal***, 34(3): 555-590.

Damanpour, F., & Evan, W. M. 1984. Organizational innovation and performance: The problem of "organizational lag". ***Administrative Science Quarterly***, 29(3): 392-409.

Damanpour, F., & Schneider, M. 2006. Phases of the adoption of innovation in organizations: Effects of environment, organization and top managers. ***British Journal of Management***, 17(3): 215-236.

Damanpour, F., Szabat, K. A., & Evan, W. M. 1989. The relationship between types of innovation and organizational performance. ***Journal of Management Studies***, 26(6): 587-601.

Denis, D. J., & Denis, D. K. 1995. Performance changes following top management dismissals. ***The Journal of finance***, 50(4): 1029-1057.

Downs, G., & Mohr, L. 1976. Conceptual issues in the study of innovation. ***Administrative Science Quarterly***, 21(4): 700-714.

Drazin, R., Glynn, M.A., & Kazanjian, R.K. 2004. Dynamics of structural change. In M.S. Poole & A.H. Van de Ven (Ed.), ***Handbook of organizational change and innovation***: 161-189. Oxford: Oxford University Press.

Edquist, C., Hommen, L., & McKelvey, M. 2001. ***Innovation and employment: Process versus product innovation***. Cheltenham: Edward Elgar Publishing Limited.

Ehigie, B. O., & McAndrew, E. B. 2005. Innovation, diffusion and adoption of total quality management (TQM). ***Management Decision***, 43(6): 925-940.

Evangelista, R., Perani, G., Rapiti, F., & Archibugi, D. 1997. Nature and impact of innovation in manufacturing industry: Some evidence from the italian innovation survey. ***Research Policy***, 26(4-5): 521-536.

Fligstein, N. 1985. The spread of the multidivisional form among large firms, 1919-1979. ***American Sociological Review***, 50(3): 377-391.

Ford, J. D., Ford, L. W., & McNamara, R. T. 2002. Resistance and the background conversations of change. ***Journal of Organizational Change Management***, 15(2): 105-121.

Foss, N. J. 2003. Selective intervention and internal hybrids: Interpreting and learning from the rise and decline of the oticon spaghetti organization. ***Organization Science***, 14(3): 331-349.

Frenz, M., & Ietto-Gillies, G. 2009. ***The impact on innovation performance of different sources of knowledge: Evidence from the UK community innovation survey***North-Holland.

Furnham , A. 1986. Response bias, social desirability and dissimulation. ***Personality and Individual Differences***, 7(3): 385-400.

Giangreco, A., & Peccei, R. 2005. The nature and antecedents of middle manager resistance to change: Evidence from an italian context. ***International Journal of Human Resource Management***, 16(10): 1812-1829.

Gibson, C. B., & Birkinshaw, J. 2004. The antecedents, consequences, and mediating role of organizational ambidexterity. ***Academy of Management Journal***, 47(2): 209-226.

Greenwood, R., & Hinings, C. R. 1993. Understanding strategic change: The contribution of archetypes. ***Academy of Management Journal***, 36(5): 1052-1081.

Greenwood, R., & Hinings, C. R. 1996. Understanding radical organizational change: Bringing together the old and the new institutionalism. ***Academy of Management Review***, 21(4): 1022-1054.

Guler, I., Guillén, M. F., & Macpherson, J. M. 2002. Global competition, institutions, and the diffusion of organizational practices: The international spread of ISO 9000 quality certificates. ***Administrative Science Quarterly***, 47(2): 207-232.

Gupta, A., & Govindarajan, V. 2000. Knowledge flows within multinational corporations. ***Strategic Management Journal***, 21(4): 473-496.

Gupta, A., & Wilemon, D. 1990. Accelerating the development of technology-based new products. ***California management review***, 32(2): 24-53.

Håkonsson, D.D., Obel, B., & Burton, R.M. 2008. Rational emotionality: Integrating emotion into psychological climate. In R.M. Burton, B. Eriksen, D.D. Håkonsson, T. Knudsen, & C.C. Snow (Ed.), ***Designing organizations: 21st century approaches***: 59-81. Boston: Springer.

Hambrick, D. C., & Mason, P. A. 1984. Upper echelons: The organization as a reflection of its top managers. ***The Academy of Management Review***, 9(2): 193-206.

Hamel, G. 2006. The why, what, and how of management innovation. ***Harvard business review***, 84(2): 72-84.

Hamel, G. 2007a. ***The future of management***Harvard Business School Press.

Hamel, G. 2007b. Management innovation. ***Leadership Excellence***, 24(1): 5-5.

Hannan, M. T., & Freeman, J. 1984. Structural inertia and organizational change. ***American Sociological Review***, 49(2): 149-164.

Hansen, M. T. 2002. Knowledge networks: Explaining effective knowledge sharing in multiunit companies. ***Organization Science***, 13(3): 232-248.

Harder, M. 2011. ***Management Innovation Capabilities: A typology and propositions for management innovation research***. SMG Working Paper, Copenhagen Business School.

Helfat, C., & Peteraf, M.A. (Eds.). 2010. ***Cognitive capabilities and the microfoundations of dynamic managerial capabilites***Conference Paper, August 2010, Academy of Management Conference, Montreal, Canada.

Helmich, D. L., & Brown, W. B. 1972. Successor type and organizational change in the corporate enterprise. ***Administrative Science Quarterly***, 17(3): 371-381.

Imai, K., Ikujiro, N., & Takeuchi, H. 1985. Managing the new product development process: How japanese companies learn and unlearn. In R.H. Hayes, K. Clark, & C. Lorenz (Ed.), ***The uneasy alliance: Managing the productivity-technology dilemma***: 337-375. Boston: Harvard Business School Press.

Jassawalla, A., & Sashittal, H. 2000. Cross-functional dynamics in new product development. ***Research Technology Management***, 43(1): 46-49.

Kimberly, J. R., & Evanisko, M. J. 1981. Organizational innovation: The influence of individual, organizational, and contextual factors on hospital adoption of technological and administrative innovations. ***Academy of Management Journal***, 24(4): 689-713.

Knight, K. E. 1967. A descriptive model of the intra-firm innovation process. ***Journal of Business***, 40: 478-496.

Knudsen, T., & Levinthal, D. A. 2007. Two faces of search: Alternative generation and alternative evaluation. ***Organization Science***, 18(1): 39-54.

Kogut, B., & Parkinson, D. 1993. The diffusion of american organizing principles in europe. In B. Kogut (Ed.), ***Country competitiveness: Technology and the organization of work***: 179-202. Oxford: Oxford University Press.

Laursen, K., & Salter, A. 2006. ***Open for innovation: The role of openness in explaining innovation performance among UK manufacturing firms***. Hoboken, NJ: Wiley Sons.

March, J.G., & Simon, H.A. 1958. ***Organizations***. New York: John Wiley & Sons.

March, J. G. 1991. Exploration and exploitation in organizational learning. ***Organization Science***, 2(1): 71-87.

March, J. G. 1996. Continuity and change in theories of organizational action. ***Administrative Science Quarterly***, 41(2): 278-287.

March, J. G. 2006. Rationality, foolishness, and adaptive intelligence. ***Strategic Management Journal***, 27(3): 201-214.

Meeus, M., & Edquist, C. 2006. Introduction to part I. In J. Hage & M. Meeus (Ed.), ***Innovation, science, and institutional change***: 23. New York: Oxford University Press.

Meyer, M. W. 1975. Leadership and organizational structure. ***The American Journal of Sociology***, 81(3): 514-542.

Meyer, C. B., & Stensaker, I. G. 2006. Developing capacity for change. ***Journal of Change Management***, 6(2): 217-231.

Meyer, J. P., Srinivas, E. S., Lal, J. B., & Topolnytsky, L. 2007. Employee commitment and support for an organizational change: Test of the three-component model in two cultures. ***Journal of Occupational & Organizational Psychology***, 80(2): 185-211.

Miller, D. 1991. Stale in the saddle: CEO tenure and the match between organization and environment. ***Management Science***, 37(1): 34-52.

Mol, M., & Birkinshaw, J. 2009. The sources of management innovation: When firms introduce new management practices. ***Journal of business research***, 62(12): 1269.

Mol, M., & Birkinshaw, J. (Eds.). 2006. ***The antecedents and performance consequences of management innovation***Working Paper, London Business School and University of Reading.

Mol, M., & Birkinshaw, J. 2007a. ***Giant steps in management: Innovations that change the way you work***. Harlow: Financial Times Prentice Hall.

Mol, M., & Birkinshaw, J. (Eds.). 2007b. ***The sources of management innovation: Under what conditions do firms introduce new management practices?***Working Paper, University of Reading and London Business School.

Moorman, R., & Podsakoff, P. 1992. A metaanalytic review and empirical-test of the potential confounding effects of social desirability response sets in organizational-behavior research. ***Journal of Occupational and Organizational Psychology***, 65: 131-149.

Nelson, R.R., & Winter, S.G. 1982. ***An evolutionary theory of economic change***. Cambridge: Belknap Press.

Nonaka, I., & Takeuchi, H. 1995. ***The knowledge creating company. how japanese companies create the dynamics of innovation***. New York: Oxford University Press.

Nonaka, I., & Yamanouchi, T. 1989. Managing innovation as a self-renewing process. ***Journal of business venturing***, 4(5): 299-315.

Ocasio, W. 1997. Towards an attention-based view of the firm. ***Strategic Management Journal***, 18: 187.

O'Mahoney, J. 2007. The diffusion of management innovations: The possibilities and limitations of memetics. ***Journal of Management Studies***, 44(8): 1324-1348.

Oreg, S. 2003. Resistance to change: Developing an individual differences measuer. ***Journal of Applied Psychology***, 88(4): 680-693.

Penrose, E.T. 1959. ***The theory of the growth of the firm***. Oxford: Oxford University Press.

Peteraf, M., & Reed, R. 2007. Managerial discretion and internal alignment under regulatory constraints and change. ***Strategic Management Journal***, 28(11): 1089-1112.

Pfeffer, J. 1981. ***Power in organizations***. Marshfield: Pitman.

Pfeffer, J. 1992. Understanding power in organizations. ***California Management Review***, 34(2): 29-50.

Pfeffer, J., & Salancik, G.R. 1978. ***The external control of organizations. A resource dependence perspective***. London: Harper & Row Publishers.

Pierce, J.L., Boerner, C.S., & Teece, D.J. 2008. Dynamic capabilities, competence and the behavioral theory of the firm. In D.J. Teece (Ed.), ***Technological know-how, organizational capabilities, and strategic management***: 53-68. New Jersey: World Scientific.

Pitelis, C. N. 2007. A behavioral resource-based view of the firm: The synergy of cyert and march (1963) and penrose (1959). ***Organization Science***, 18(3): 478-490.

Podsakoff, P., & Organ, D. 1986. Self-reports in organizational research - problems and prospects. ***Journal of Management***, 12(4): 531-544.

Reger, R. K., Gustafson, L. T., Demarie, S. M., & Mullane, J. V. 1994. Reframing the organization: Why implementing total quality is easier said than done. ***Academy of Management Review***, 19(3): 565-584.

Reichers, A. E., Wanous, J. P., & Austin, J. T. 1997. Understanding and managing cynicism about organizational change. ***Academy of Management Executive***, 11(1): 48-59.

Rogers, E.M. 2003. ***Diffusion of innovations*** (5th ed.). London: Simon & Schuster.

Romanelli, E. 1991. The evolution of new organizational forms. ***Annual Review of Sociology***, 17(1): 87-103.

Romanelli, E., & Tushman, M. L. 1994. Organizational transformation as punctuated equilibrium: An empirical test. ***Academy of Management Journal***, 37(5): 1141-1666.

Rothwell, R., & Robertson, A. B. 1973. The role of communications in technological innovation. ***Research Policy***, 2: 204-225.

Salancik, G. R., & Pfeffer, J. 1977. Who gets power - and how they hold on to it. ***Organizational Dynamics***, 5(3): 3-21.

Santos, M. V., & Garcia, M. T. 2006. Organizational change: The role of managers' mental models. ***Journal of Change Management***, 6(3): 305-320.

Schumpeter, J.A. 1934. ***The theory of economic development: An inquiry into profits, capital, credit, interest and the business cycle***.

Scott, W.R. 1995. ***Institutions and organizations***. Thousand Oaks: Sage Publications.

Shen, W., & Cannella, A. 2002. Revisiting the performance consequences of CEO succession: The impacts of successor type, postsuccession senior executive turnover, and departing CEO tenure. ***The Academy of Management Journal***, 45(4): 717-733.

Simon, H. 1997. ***Administrative behavior*** (4rd ed.). New York: Free Press.

Simon, H.A. 1947. ***Administrative behavior: A study of decision-making processes in administrative organizations***. Chicago: Macmillan.

Simon, H. A. 1955. A behavioral model of rational choice. ***Quarterly Journal of Economics***, 69(1): 99-118.

Spector, P. 2006. Method variance in organizational research - truth or urban legend? ***Organizational Research Methods***, 9(2): 221-232.

Stjernberg, T., & Philips, Å. 1993. Organizational innovations in a long-term perspective: Legitimacy and souls-of-fire as critical factors of change and viability. ***Human Relations***, 46(10): 1193-1219.

Strebel, P. 1996. Why do employees resist change? ***Harvard business review***, 74(3): 86-92.

Teece, D. J. 1980. The diffusion of an administrative innovation. ***Management Science***, 26(5): 464-470.

Teece, D. J. 2007. Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. ***Strategic Management Journal***, 28(13): 1319-1350.

Teece, D. J., Pisano, G., & Shuen, A. 1997. Dynamic capabilities and strategic management. ***Strategic Management Journal***, 18(7): 509-533.

Trist, E., & Murrey, H. (Eds.). 1993. ***The social engagement of social science, vol II: The socio-technical perspective***. Pennsylvania: University of Pennsylvania Press.

Tushman, M., & Anderson, P. 1986. Technological discontinuities and organizational environments. ***Administrative Science Quarterly***, 31(3): 439.

Tushman, M. L., & Rosenkopf, L. 1996. Executive succession, strategic reorientation and performance growth: A longitudinal study in the U.S. cement industry. ***Management Science***, 42(7): 939-953.

Tushman, M. L., & O'Reilly III, C. A. 1996. Ambidextrous organizations: Managing evolutionary and revolutionary change. ***California Management Review***, 38(4): 8-30.

Urabe, K., Child, J., & Kagono, T. 1988. ***Innovation and management: International comparisons***. Berlin: de Gruyter.

Utterback, J., & Abernathy, W. 1975. A dynamic model of process and product innovation. ***The International Journal of Management Science***, 3(6): 639.

Virany, B., Tushman, M., & Romanelli, E. 1992. Executive succession and organizational outcomes in turbulent environments - an organizational learning approach. ***Organization Science***, 3(1): 72-91.

Walsh , J. 1995. Managerial and organizational cognition - notes from a trip down memory lane. ***Organization science***, 6(3): 280-321.

Weick, K. 1979. ***The social psychology of organizing***. Reading, Massachussets: Addison-Wesley.

Weick, K. E., & Roberts, K. H. 1993. Collective mind in organizations: Heedful interrelating on flight decks. ***Administrative Science Quarterly***, 38(3): 357-381.

Wernerfelt, B. 1984. A resource-based view of the firm. ***Strategic Management Journal***, 5(2): 171-180.

Winter, S. G. 2003. Understanding dynamic capabilities. ***Strategic Management Journal***, 24(10): 991-995.

Wiseman, R. M., & Bromiley, P. 1996. Toward a model of risk in declining organizations: An empirical examination of risk, performance and decline. ***Organization Science***, 7(5): 524-543.

Wolfe, R. 1994. Organizational innovation - review, critique and suggested research directions. ***The Journal of management studies***, 31(3): 405.

Zollo, M., & Winter, S. G. 2002. Deliberate learning and the evolution of dynamic capabilities. ***Organization Science***, 13(3): 339-351.

SMG – Working Papers
www.cbs.dk/smg
2003

2003-1: Nicolai J. Foss, Kenneth Husted, Snejina Michailova, and Torben Pedersen: Governing Knowledge Processes: Theoretical Foundations and Research Opportunities.

2003-2: Yves Doz, Nicolai J. Foss, Stefanie Lenway, Marjorie Lyles, Silvia Massini, Thomas P. Murtha and Torben Pedersen: Future Frontiers in International Management Research: Innovation, Knowledge Creation, and Change in Multinational Companies.

2003-3: Snejina Michailova and Kate Hutchings: The Impact of In-Groups and Out-Groups on Knowledge Sharing in Russia and China CKG Working Paper.

2003-4: Nicolai J. Foss and Torben Pedersen: The MNC as a Knowledge Structure: The Roles of Knowledge Sources and Organizational Instruments in MNC Knowledge Management CKG Working Paper.

2003-5: Kirsten Foss, Nicolai J. Foss and Xosé H. Vázquez-Vicente: "Tying the Manager's Hands": How Firms Can Make Credible Commitments That Make Opportunistic Managerial Intervention Less Likely CKG Working Paper.

2003-6: Marjorie Lyles, Torben Pedersen and Bent Petersen: Knowledge Gaps: The Case of Knowledge about Foreign Entry.

2003-7: Kirsten Foss and Nicolai J. Foss: The Limits to Designed Orders: Authority under "Distributed Knowledge" CKG Working Paper.

2003-8: Jens Gammelgaard and Torben Pedersen: Internal versus External Knowledge Sourcing of Subsidiaries - An Organizational Trade-Off.

2003-9: Kate Hutchings and Snejina Michailova: Facilitating Knowledge Sharing in Russian and Chinese Subsidiaries: The Importance of Groups and Personal Networks Accepted for publication in *Journal of Knowledge Management.*

2003-10: Volker Mahnke, Torben Pedersen and Markus Verzin: The Impact of Knowledge Management on MNC Subsidiary Performance: the Role of Absorptive Capacity CKG Working Paper.

2003-11: Tomas Hellström and Kenneth Husted: Mapping Knowledge and Intellectual Capital in Academic Environments: A Focus Group Study Accepted for publication in *Journal of Intellectual Capital* CKG Working Paper.

2003-12: Nicolai J Foss: Cognition and Motivation in the Theory of the Firm: Interaction or "Never the Twain Shall Meet"? Accepted for publication in *Journal des Economistes et des Etudes Humaines* CKG Working Paper.

2003-13: Dana Minbaeva and Snejina Michailova: Knowledge Transfer and Expatriation Practices in MNCs: The Role of Disseminative Capacity**.**

2003-14: Christian Vintergaard and Kenneth Husted: Enhancing Selective Capacity Through Venture Bases**.**

2004

2004-1: Nicolai J. Foss: Knowledge and Organization in the Theory of the Multinational Corporation: Some Foundational Issues

2004-2: Dana B. Minbaeva: HRM Practices and MNC Knowledge Transfer

2004-3: Bo Bernhard Nielsen and Snejina Michailova: Toward a Phase-Model of Global Knowledge Management Systems in Multinational Corporations

2004-4: Kirsten Foss & Nicolai J Foss: The Next Step in the Evolution of the RBV: Integration with Transaction Cost Economics

2004-5: Teppo Felin & Nicolai J. Foss: Methodological Individualism and the Organizational Capabilities Approach

2004-6: Jens Gammelgaard, Kenneth Husted, Snejina Michailova: Knowledge-sharing Behavior and Post-acquisition Integration Failure

2004-7: Jens Gammelgaard: Multinational Exploration of Acquired R&D Activities

2004-8: Christoph Dörrenbächer & Jens Gammelgaard: Subsidiary Upgrading? Strategic Inertia in the Development of German-owned Subsidiaries in Hungary

2004-9: Kirsten Foss & Nicolai J. Foss: Resources and Transaction Costs: How the Economics of Property Rights Furthers the Resource-based View

2004-10: Jens Gammelgaard & Thomas Ritter: The Knowledge Retrieval Matrix: Codification and Personification as Separate Strategies

2004-11: Nicolai J. Foss & Peter G. Klein: Entrepreneurship and the Economic Theory of the Firm: Any Gains from Trade?

2004-12: Akshey Gupta & Snejina Michailova: Knowledge Sharing in Knowledge-Intensive Firms: Opportunities and Limitations of Knowledge Codification

2004-13: Snejina Michailova & Kate Hutchings: Knowledge Sharing and National Culture: A Comparison Between China and Russia

2005

2005-1: Keld Laursen & Ammon Salter: My Precious - The Role of Appropriability Strategies in Shaping Innovative Performance

2005-2: Nicolai J. Foss & Peter G. Klein: The Theory of the Firm and Its Critics: A Stocktaking and Assessment

2005-3: Lars Bo Jeppesen & Lars Frederiksen: Why Firm-Established User Communities Work for Innovation: The Personal Attributes of Innovative Users in the Case of Computer-Controlled Music

2005-4: Dana B. Minbaeva: Negative Impact of HRM Complementarity on Knowledge Transfer in MNCs

2005-5: Kirsten Foss, Nicolai J. Foss, Peter G. Klein & Sandra K. Klein: Austrian Capital

Theory and the Link Between Entrepreneurship and the Theory of the Firm

2005-1: Nicolai J. Foss: The Knowledge Governance Approach

2005-2: Torben J. Andersen: Capital Structure, Environmental Dynamism, Innovation Strategy, and Strategic Risk Management

2005-3: Torben J. Andersen: A Strategic Risk Management Framework for Multinational Enterprise

2005-4: Peter Holdt Christensen: Facilitating Knowledge Sharing: A Conceptual Framework

2005-5 Kirsten Foss & Nicolai J. Foss: Hands Off! How Organizational Design Can Make Delegation Credible

2005-6 Marjorie A. Lyles, Torben Pedersen & Bent Petersen: Closing the Knowledge Gap in Foreign Markets - A Learning Perspective

2005-7 Christian Geisler Asmussen, Torben Pedersen & Bent Petersen: How do we Capture "Global Specialization" when Measuring Firms' Degree of internationalization?

2005-8 Kirsten Foss & Nicolai J. Foss: Simon on Problem-Solving: Implications for New Organizational Forms

2005-9 Birgitte Grøgaard, Carmine Gioia & Gabriel R.G. Benito: An Empirical Investigation of the Role of Industry Factors in the Internationalization Patterns of Firms

2005-10 Torben J. Andersen: The Performance and Risk Management Implications of Multinationality: An Industry Perspective

2005-11 Nicolai J. Foss: The Scientific Progress in Strategic Management: The case of the Resource-based view

2005-12 Koen H. Heimeriks: Alliance Capability as a Mediator Between Experience and Alliance Performance: An Empirical Investigation Into the Alliance Capability Development Process

2005-13 Koen H. Heimeriks, Geert Duysters & Wim Vanhaverbeke: Developing Alliance Capabilities: An Empirical Study

2005-14 JC Spender: Management, Rational or Creative? A Knowledge-Based Discussion

2006

2006-1: Nicolai J. Foss & Peter G. Klein: The Emergence of the Modern Theory of the Firm

2006-2: Teppo Felin & Nicolai J. Foss: Individuals and Organizations: Thoughts on a Micro-Foundations Project for Strategic Management and Organizational Analysis

2006-3: Volker Mahnke, Torben Pedersen & Markus Venzin: Does Knowledge Sharing

Pay? An MNC Subsidiary Perspective on Knowledge Outflows

2006-4: Torben Pedersen: Determining Factors of Subsidiary Development

2006-5 Ibuki Ishikawa: The Source of Competitive Advantage and Entrepreneurial Judgment in the RBV: Insights from the Austrian School Perspective

2006-6 Nicolai J. Foss & Ibuki Ishikawa: Towards a Dynamic Resource-Based View: Insights from Austrian Capital and Entrepreneurship Theory

2006-7 Kirsten Foss & Nicolai J. Foss: Entrepreneurship, Transaction Costs, and Resource Attributes

2006-8 Kirsten Foss, Nicolai J. Foss & Peter G. Klein: Original and Derived Judgement: An Entrepreneurial Theory of Economic Organization

2006-9 Mia Reinholt: No More Polarization, Please! Towards a More Nuanced Perspective on Motivation in Organizations

2006-10 Angelika Lindstrand, Sara Melen & Emilia Rovira: Turning social capital into business? A study of Swedish biotech firms' international expansion

2006-11 Christian Geisler Asmussen, Torben Pedersen & Charles Dhanaraj: Evolution of Subsidiary Competences: Extending the Diamond Network Model

2006-12 John Holt, William R. Purcell, Sidney J. Gray & Torben Pedersen: Decision Factors Influencing MNEs Regional Headquarters Location Selection Strategies

2006-13 Peter Maskell, Torben Pedersen, Bent Petersen & Jens Dick-Nielsen: Learning Paths to Offshore Outsourcing - From Cost Reduction to Knowledge Seeking

2006-14 Christian Geisler Asmussen: Local, Regional or Global? Quantifying MNC Geographic Scope

2006-15 Christian Bjørnskov & Nicolai J. Foss: Economic Freedom and Entrepreneurial Activity: Some Cross-Country Evidence

2006-16 Nicolai J. Foss & Giampaolo Garzarelli: Institutions as Knowledge Capital: Ludwig M. Lachmann's Interpretative Institutionalism

2006-17 Koen H. Heimriks & Jeffrey J. Reuer: How to Build Alliance Capabilities

2006-18 Nicolai J. Foss, Peter G. Klein, Yasemin Y. Kor & Joseph T. Mahoney: Entrepreneurship, Subjectivism, and the Resource – Based View: Towards a New Synthesis

2006-19 Steven Globerman & Bo B. Nielsen: Equity Versus Non-Equity International Strategic Alliances: The Role of Host Country Governance

2007

2007-1 Peter Abell, Teppo Felin & Nicolai J. Foss: Building Micro-Foundations for the Routines, Capabilities, and Performance Links

2007-2 Michael W. Hansen, Torben Pedersen & Bent Petersen: MNC Strategies and Linkage Effects in Developing Countries

2007-3 Niron Hashai, Christian G. Asmussen, Gabriel R.G. Benito & Bent Petersen: Predicting the Diversity of Foreign Entry Modes

2007-4 Peter D. Ørberg Jensen & Torben Pedersen: Whether and What to Offshore?

2007-5 Ram Mudambi & Torben Pedersen: Agency Theory and Resource Dependency Theory: Complementary Explanations for Subsidiary Power in Multinational Corporations

2007-6 Nicolai J. Foss: Strategic Belief Management

2007-7 Nicolai J. Foss: Theory of Science Perspectives on Strategic Management Research: Debates and a Novel View

2007-8 Dana B. Minbaeva: HRM Practices and Knowledge Transfer in MNCs

2007-9 Nicolai J. Foss: Knowledge Governance in a Dynamic Global Context: The Center for Strategic Management and Globalization at the Copenhagen Business School

2007-10 Paola Gritti & Nicolai J. Foss: Customer Satisfaction and Competencies: An Econometric Study of an Italian Bank

2007-11 Nicolai J. Foss & Peter G. Klein: Organizational Governance

2007-12 Torben Juul Andersen & Bo Bernhard Nielsen: The Effective Ambidextrous Organization: A Model of Integrative Strategy Making Processes.

2008

2008-1 Kirsten Foss & Nicolai J. Foss: Managerial Authority When Knowledge is Distributed: A Knowledge Governance Perspective

2008-2 Nicolai J. Foss: Human Capital and Transaction Cost Economics.

2008-3 Nicolai J. Foss & Peter G. Klein: Entrepreneurship and Heterogeneous Capital.

2008-4 Nicolai J. Foss & Peter G. Klein: The Need for an Entrepreneurial Theory of the Firm.

2008-5 Nicolai J. Foss & Peter G. Klein: Entrepreneurship: From Opportunity Discovery to Judgment.

2008-6 Mie Harder: How do Rewards and Management Styles Influence the Motivation to Share Knowledge?

2008-7 Bent Petersen, Lawrence S. Welch & Gabriel R.G. Benito: Managing the Internalisation Process – A Theoretical Perspective.

2008-8 Torben Juul Andersen: Multinational Performance and Risk Management Effects: Capital Structure Contingencies.

2008-9 Bo Bernard Nielsen: Strategic Fit and the Role of Contractual and Procedural Governance in Alliances: A Dynamic Perspective.

2008-10 Line Gry Knudsen & Bo Bernhard Nielsen: Collaborative Capability in R&D Alliances: Exploring the Link between Organizational and Individual level Factors.

2008-11 Torben Juul Andersen & Mahesh P. Joshi: Strategic Orientations of Internationalizing Firms: A Comparative Analysis of Firms Operating in Technology Intensive and Common Goods Industries.

2008-12 Dana Minbaeva: HRM Practices Affecting Extrinsic and Intrinsic Motivation of Knowledge Receivers and their Effect on Intra-MNC Knowledge Transfer.

2008-13 Steen E. Navrbjerg & Dana Minbaeva: HRM and IR in Multinational Corporations: Uneasy Bedfellows?

2008-14 Kirsten Foss & Nicolai J. Foss: Hayekian Knowledge Problems in Organizational Theory.

2008-15 Torben Juul Andersen: Multinational Performance Relationships and Industry Context.

2008-16 Larissa Rabbiosi: The Impact of Subsidiary Autonomy on MNE Knowledge Transfer: Resolving the Debate.

2008-17 Line Gry Knudsen & Bo Bernhard Nielsen: Organizational and Individual Level Antecedents of Procedural Governance in Knowledge Sharing Alliances.

2008-18 Kirsten Foss & Nicolai J. Foss: Understanding Opportunity Discovery and Sustainable Advantage: The Role of Transaction Costs and Property Rights.

2008-19 Teppo Felin & Nicolai J. Foss: Social Reality, The Boundaries of Self-fulfilling Prophecy, and Economics.

2008-20 Yves Dos, Nicolai J. Foss & José Santos: A Knowledge System Approach to the Multinational Company: Conceptual Grounding and Implications for Research

2008-21 Sabina Nielsen & Bo Bernhard Nielsen: Why do Firms Employ foreigners on Their Top Management Teams? A Multi-Level Exploration of Individual and Firm Level Antecedents

2008-22 Nicolai J. Foss: Review of Anders Christian Hansen's "Uden for hovedstrømmen – Alternative strømninger i økonomisk teori"

2008-23 Nicolai J. Foss: Knowledge, Economic Organization, and Property Rights

2008-24 Sjoerd Beugelsdijk, Torben Pedersen & Bent Petersen: Is There a Trend Towards Global Value Chain Specialization? – An Examination of Cross Border Sales of US Foreign Affiliates

2008-25 Vikas Kumar, Torben Pedersen & Alessandro Zattoni: The performance of business group firms during institutional transition: A longtitudinal study of Indian firms

2008-26 Sabina Nielsen & Bo B. Nielsen: The effects of TMT and Board Nationality Diversity and Compensation on Firm Performance

2008-27 Bo B. Nielsen & Sabina Nielsen: International Diversification Strategy and Firm Performance: A Multi-Level Analysis of Firm and Home Country Effects

2009

2009-1 Nicolai J. Foss: Alternative Research Strategies in the Knowledge Movement: From Macro Bias to Micro-Foundations and Multi-Level Explanation

2009-2 Nicolai J. Foss & Peter G. Klein: Entrepreneurial Alertness and Opportunity Discovery: Origins, Attributes, Critique

2009-3 Nicolai J. Foss & Dana B. Minbaeva: Governing Knowledge: The Strategic Human Resource Management Dimension

2009-4 Nils Stieglitz & Nicolai J. Foss: Opportunities and New Business Models: Transaction Cost and Property Rights Perspectives on Entrepreneurships

2009-5 Torben Pedersen: Vestas Wind Systems A/S: Exploiting Global R&D Synergies

2009-6 Rajshree Agarwal, Jay B. Barney, Nicolai J. Foss & Peter G. Klein: Heterogeneous Resources and the Financial Crisis: Implications of Strategic Management Theory

2009-7 Jasper J. Hotho: A Measure of Comparative Institutional Distance

2009-8 Bo B. Nielsen & Sabina Nielsen: The Impact of Top Management Team Nationality Diversity and International Experience on Foreign Entry Mode

2009-9 Teppo Felin & Nicolai Juul Foss: Experience and Repetition as Antecedents of Organizational Routines and Capabilities: A Critique of Behaviorist and Empiricist Approaches

2009-10 Henk W. Volberda, Nicolai J. Foss & Marjorie E. Lyles: Absorbing the Concept of Absorptive Capacity: How To Realize Its Potential in the Organization Field

2009-11 Jan Stentoft Arlbjørn, Brian Vejrum Wæhrens, John Johansen & Torben Pedersen: Produktion i Danmark eller offshoring/outsourcing: Ledelsesmæssige udfordringer

2009-12 Torben Pedersen: The 30 Largest Firms in Denmark

2010

2010-1 Dana B. Minbaeva, Kristiina Mäkelä & Larissa Rabbiosi: Explaining Intra-organizational Knowledge Transfer at the Individual Level

2010-2 Dana B.Minbaeva & Torben Pedersen: Governing Individual Knowledge Sharing Behavior

2010-3 Nicolai J. Foss & Peter G. Klein: Alertness, Judgment, and the Antecedents of Entrepreneurship

2010-4 Nicolai J.Foss & Joseph T.Mahoney: Exploring Knowledge Governance

2010-5 Jasper J. Hotho, Florian Becker-Ritterspach & Ayse Saka-Helmhout: Enriching Absorptive Capacity Through Social Interaction

2010-6 Nicolai J. Foss & Bo B. Nielsen: Researching Collaborative Advantage: Some Conceptual and Multi-level Issues

2010-7 Nicolai J. Foss & Nils Stieglitz: Modern Resource-Based Theory(ies)

2010-8 Christian Bjørnskov & Nicolai J. Foss: Do Economic Freedom and Entrepreneurship Impact Total Factor Productivity?

2010-9 Gabriel R.G. Benito, Bent Petersen & Lawrence S. Welch: Mode Combinations and International Operations: Theoretical Issues and an Empirical Investigation

2011

2011-1 Peter D. Ørberg Jensen & Bent Petersen: Human Asset Internalization and Global Sourcing of Services – A Strategic Management Analysis on Activity-level

2011-2 Mie Harder: Management Innovation Capabilities: A Typology and Propositions for Management Innovation Research

2011-3 Mie Harder: Internal Antecedents of Management Innovation: The effect of diagnostic capability and implementation capability

2011-4 Mie Harder: Explaining Management Innovation Pervasiveness: The Role of Internal Antecedents

2011-5 Mie Harder: Internal Determinants of Product Innovation and Management Innovation: The Effect of Diagnostic Capability and Implementation Capability