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Dynamic capabilities and firm performance in a financial crisis ☆

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ABSTRACT

In this study, an organization means an active actor that can, at least to some extent, adapt to the environment, mainly within the limits of its resources and capabilities. The article enhances understanding of and explains organizational adaptive behavior in weathering the storm in the business environment resulting from the global financial crisis of 2008. The literature on dynamic capabilities, organizational change, and innovation in the context of organizational performance and survival captures this kind of adaptive behavior. The empirical study builds on a quantitative survey and a qualitative case study covering the food processing, maritime, and media industries. Structural equation modeling, group analysis, and qualitative case comparisons shed light on the connection between the constructs in question. Implications for theory and practice culminate in suggestions for future research.

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1. Introduction

The link between the organization and its operational environment is a central research theme and a source of debate among organization theorists. A basic conceptual distinction exists between the closed-system and the open-system approaches. The former concentrates on internal organizational matters, excluding interaction with the environment, whereas the latter works on the assumption that organizations exist to convert external inputs through value-adding processes into outputs that go back to the environment (see Thompson, 1967). This fundamental cycle from the external to the internal evolves continuously and relates strongly to organizational performance. Different schools of thought converge around the internal–external relation and the performance link (see e.g., Lin & Carley, 1997, 125).

Contingency theorists (cf. Lawrence & Lorsch, 1967) emphasize the fit or match between the organization and the environment that determines organizational performance. Again, two extremes exist in terms of fit: the deterministic and the voluntaristic. According to the voluntaristic view, organizations actively take strategic actions to influence fit, rather than passively drift at the mercy of environmental changes (see Child, 1972; Cyert & March, 1963). Proponents of the deterministic side share this view of fit and its role in organizational performance or survival, but argue that a single organization's survival rests on its more fixed and given characteristics: no firm adapts to changes in its environment. For example, population ecologists (Hannan & Freeman, 1977) consider the link between the organization and the environment a one-sided mechanism similar to natural selection, which separates organizations with a better or worse fit (see Lin & Carley, 1997; Subramanian & Nilakanta, 1996).

This study assumes the open-system view: the organization is an active actor that adapts to the environment, at least to some extent, mainly within the limits of its resources and capabilities. The literature on dynamic capabilities emphasizes the need for firms to change their resource and capability base to counter inertia inherent in routines that effectively prevent them from observing external environmental changes and adapting to them (cf. Helfat et al., 2007). In line with the theme of this special issue, "Avoiding/Responding to Global Economic-Management Disasters", this article sheds light on how organizations adapted their behavior to weather the storm in the business environment that the global financial crisis of 2008 unleashed. The literature on dynamic capabilities, organizational change, and innovation in the context of organizational performance and survival captures this kind of adaptive behavior.

The research on dynamic capabilities focuses on the dynamism in the competitive environment (Teece & Pisano, 1994; Teece, Pisano, & Shuen, 1997). The literature shows that both operational and dynamic capabilities benefit the firm, and that the environment moderates the need for and the effect of these higher-order capabilities (Ambrosini, Bowman, & Collier, 2009; Eisenhardt & Martin, 2000; Zahra, Sapienza, & Davidsson, 2006). In most cases, research focuses on dynamic versus stable environments, in which dynamism refers to the rate of technological change or environmental volatility in general (e.g., Ambrosini et al., 2009; Teece et al., 1997). However, instability comes in different forms in the market environment, and the significance of dynamic capabilities varies depending

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on the nature of the instability. This study approaches the relationship between dynamic capabilities and environmental instability from the perspective of the financial crisis of 2008, which led to a drastic economic downturn. The study sheds light on how dynamic capabilities affect performance in unstable environments. However, firms differ in how they experience crisis: some suffer considerably, whereas others avoid the worst effects.

The paper also contributes to the literature in reporting an empirical analysis of both quantitative and qualitative data, testing for an indirect link with evolutionary fitness, and investigating the relationship between dynamic capabilities and the mediating elements (e.g., Barreto, 2010). Studying how firms utilize and deploy dynamic capabilities in a financial crisis furthers understanding of this multidimensional construct and the relationships between the different sub-dimensions.

The Finnish economy is the empirical context of the analysis, specifically the maritime, media and food-processing industries, all of which face the recession in their own way. Finland is a small open economy with a strong dependency on global economic development. The challenges that the three industries face relate to both long-term development and economic fluctuation. Furthermore, economic downturn typically triggers deep industrial changes. The maritime industry exports the final product in the most open way. The value of one purchase is hundreds of millions of U.S. dollars, which makes the demand very volatile. The industry has thus experienced a continuous state of crisis for the last 30 years, and most successful companies utilize their core competences in several compatible areas. Developments in ICT affect the business environment in media industries more than in either of the other two: new business opportunities arise, and on the other hand technology renders some traditional printing services obsolete. The food-processing industry is somewhat ambiguous in terms of development — the international trend of concentrating on the retail sector drives industry agglomeration, but at the same time health issues and preferences for local food leave room for small innovative local players.

The article proceeds as follows. The next two sections describe the theoretical background and the research model, and set out the respective hypotheses. The empirical study applies both quantitative and qualitative approaches to explain and enhance understanding of the connections between dynamic capabilities, organizational change, innovativeness, and organizational performance. The fourth section focuses on the research methods. In the fifth section, structural equation modeling, group analysis, and qualitative case comparisons provide the basis for the analysis and results. The final section discusses the conclusions, the implications for theory and practice, and potential avenues for future research.

2. Theoretical background

The theoretical framework builds on evolutionary economics and the Schumpeterian view on innovation. The Schumpeterian view posits that capabilities and routines comprise the firm's fundamental structure, and the evolutionary fit between the firm and the environment is the measure of performance (Nelson & Winter, 1982; Schumpeter, 1934). Schumpeter (1934) describes innovation as a combination of the entrepreneur's prior knowledge and resources. This combination constitutes the fundamental element of competition and is vital to the survival of firms in the perennial gale of creative destruction.

In line with the Schumpeterian notion, more recent literature questions the capacity of firms to produce innovations in conjunction with their routine operations (cf. Fagerberg, 2003), and calls for new ways of combining resources in and through organizational activities (see Eisenhardt & Martin, 2000). A growing body of literature targets the concept of capabilities and their role in transforming static resources and competences into innovative products or processes. This stream of literature builds on the evolutionary theory of the firm, which depicts a firm as a set of skills and capabilities that form the basis of innovation and competitive advantage (see e.g., Hodgson, 1998; Nelson & Winter, 1982; Teece et al., 1997). Capability-enabled innovativeness and innovation facilitate adaptation to the environment and success on the markets (see e.g., Hill & Rothaermel, 2003).

Organizational activities leading to value creation and the crossing of boundaries between the focal organization and other actors in the business network are exploitative or explorative (on organizational ambidexterity see e.g., Duncan, 1976; March, 1991; Raisch & Birkinshaw, 2008). Exploitation concerns the refining of existing capabilities, whereas exploration refers to finding new ways of transforming existing ideas (e.g., March, 1991). Most successful firms are consistent and efficient in their management of current business demands (i.e. exploitation), and at the same time adapt to changes in the environment (i.e. exploration). This classification reflects various concepts in business studies, including organizational learning (e.g., March, 1991), technological innovation (e.g., Danneels, 2002), organizational adaptation (e.g., Zahra & George, 2002), strategic management (e.g., Burgelman, 1991), organizational design (e.g., Duncan, 1976), market orientation (Kohli & Jaworski, 1990; Slater & Narver, 1995), and entrepreneurial orientation (see e.g., Lumpkin & Dess, 1996; Miller, 1983). All these concepts explicitly or implicitly build on the division between exploitative and explorative organizational activities. This distinction also enables the categorization of organizational capabilities as operational or dynamic. Operational capabilities include the means and practices of efficiently configuring existing resources into products and services, whereas dynamic capabilities reflect the explorative side of the organization (see Winter, 2000; Zahra et al., 2006).

Dynamic capabilities allow the realization of new opportunities in a business environment, and the conversion of organizational resources into both tangible and intangible assets and capabilities (Easterby-Smith, Lyles, & Peteraf, 2009). Value-creation processes exploit these opportunities through the efficient and effective development of new products and services. Consequently, dynamic capabilities reflect the organization's capacity to purposefully create, extend, and modify the existing resource base. These capabilities thus facilitate the change and renewal of current processes, and promote innovation to achieve a better fit with the environment (see Eisenhardt & Martin, 2000; Helfat et al., 2007; Winter, 2003; Zahra et al., 2006; Zollo & Winter, 2002).

As population ecologists point out, firms are prone to inertia, which is a prevalent and even necessary characteristic of routine and operational capabilities (Nelson & Winter, 1982; Newey & Zahra, 2009). For example, firms adopt different innovation strategies with a long-lasting effect on innovation outcomes (Clausen, Pohjola, Sapprasert, & Verspagen, 2011). However, inertia inhibits strategic change and may lead to the failure of the firm. Valuable organizational capabilities may become rigidities if the function they relate to becomes obsolete (Leonard-Barton, 1992). The firm changes sustainably through dynamic capabilities. They govern the rate of change in operational capabilities (Collis, 1994; Winter, 2003; Zahra et al., 2006), and thus the firm can evolve in a sustainable manner, overcome inertia, and adapt to environmental change (Eisenhardt & Martin, 2000; Helfat et al., 2007; Newey & Zahra, 2009) without resorting to ad hoc problem solving.

Dynamic capabilities relate to organizational change that promotes innovation and as a result improves the firm's evolutionary fitness. Different higher-order capabilities focus on different organizational elements and purposes (Helfat et al., 2007). The literature on dynamic capabilities distinguishes several types or dimensions (e.g., Bowman & Ambrosini, 2003; Madsen, 2010; Teece, 2007), and more recent contributions describe the construct as multidimensional (Barreto, 2010; Edwards, 2001; Protogerou, Caloghirou, & Lioukas, 2011). A construct that refers to several distinct dimensions as a single entity is multidimensional (Law, Wong, & Mobley, 1998). On the other hand, conceptual distinctions between different levels of dynamic capabilities depend on their role in governing change in the firm (see e.g., Ambrosini et al., 2009; Collis, 1994; Helfat et al., 2007). Winter (2003), for example, describes two levels: first-order capabilities, which reflect change in the firm's operational, zero-level capabilities and resources, and higher-order capabilities that include the capacity to modify or create new first-order capabilities.

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