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Competitive advantage and strategy formulation

The key role of dynamic capabilities

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Abstract

Purpose – The aim of this paper is to promote the use of dynamic capabilities as a strategic tool of the highest order in terms of firm management.

Design/methodology/approach – The content of the article is developed from a table that offers some insights into the relationship between the three theoretical perspectives analyzed in the paper: resource-based view, knowledge-based view and dynamic-capabilities view.

Findings – The paper describes the evolution that can be discerned in the process of developing competitive advantage, from a resource-based view to a dynamic-capabilities framework.

Originality/value – The objective of the article was not to bring to light any new revelations in this field of investigation, but is intended as a theoretical reflection on the implications of dynamic capabilities for firms and managers.

Keywords Competitive advantage, Management strategy, Knowledge management, Learning organizations, Resource management

Paper type Conceptual paper

Introduction

The intentions of this paper are three-fold. On the one hand, as a result of our own investigations, we will provide a comparative analysis of how relevant academic literatures has evolved in such a way that dynamic capabilities are presently considered a business asset of the highest order. Dynamic capabilities are complex, higher order organizational processes which provide adequate conditions for the modification and renewal of the firm's stock of business assets. Secondly, we will discuss the dynamic-capabilities view (DCV) as having a central role to play in the analysis and interpretation of complex organizational processes allowing firms to remain competitive and adapt to external changes.

Lastly, and as a result of the previous points, we will highlight the use of dynamic capabilities as an essential element in the development of knowledge-based assets, which have a high chance of creating and sustaining competitive advantage in what is, today, an unsettled and globalized business environment. In short, we will present a framework for identifying the elements that make up the organizational processes involved in learning and the creation of assets and knowledge. We will also indicate key points for special consideration by managers in their role as strategists, planners and designers of the future of their organizations.

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The beginning: the resource-based view (RBV)

The dominant paradigm in strategic management until the 1990s was that business management was determined by the appeal of the sectors in which the company was competing and by the competitive position of the company in those sectors (Rumelt, 1991; McGahan and Porter, 1999, 2002; Wiggins and Ruefli, 2002). This focus provides an external explanation for a firm's competitive advantage, based on capitalizing on the relative imperfections of the sector in which the firm is competing.

However, in recent years the idea of analysing firm's competitive advantage from an intraorganizational perspective according to its own capabilities has made the targeting of business strategies easier (Priem and Butler, 2001; Ray *et al.*, 2004). It is likely that this model presents a more solid basis for analysis than one entirely based on the need of the company to meet the demands of a given economic activity.

This intraorganizational focus began to gain general acceptance towards the end of the 1980s and was fully taken on board by firms in the 1990s. It involved a switch towards an introspective search for the origin of and an explanation for competitive advantage. From the perspective of a RBV, the firm is regarded as a unit; a single, organized group of heterogeneous assets that is created, developed, renewed, evolved and improved with the passage of time. The acceptance of the concept of the firm as a unit of resources and capabilities has prompted interest in identifying the nature of these varying resources and in evaluating their potential for generating profits.

This heterogeneity in the firm's assets appears as the central factor in explaining varying performance between one firm and another. For this reason, the RBV gives special attention to studying the factors that cause these differences to persist (Grant, 1991; Mahoney and Pandian, 1992; Amit and Schoemaker, 1993; Barney, 2001). It does not, however, analyse their causes or the process which determines them; increasingly essential aspects of analysis in a dynamic context. The diverse nature of resources is an essential element in the development of economic activity and also plays a key role in the evolution of technology and organizational structures.

The logical response to this question has been the interest shown in a new kind of organizational capability; the capacity for the self-renewal of resources, routines, capabilities and core competences (Collis, 1994). This has paved the way for a new asset or highest order, naturally dynamic process; the capacity to learn within organizations (individual learning) and about the organizations themselves (organizational learning) (Teece *et al.*, 1997; Zollo and Winter, 2002). In this way, dynamic capabilities are formed as a subgroup of the firm's capabilities, allowing the creation of new products and processes, permitting the company to respond to changing external conditions. In this sense, dynamic capabilities lead the company to achieve a complex fit between activities that exploit their resources to the full and capabilities that assure good short-term results. At the same time, enough resources must be designated to the task of exploration (innovation) that ensures the development of the necessary resources for future strategies and the capacity to adapt to changing external conditions. In short, these exploratory activities should generate assets which guarantee the organization's future viability (March, 1991).

The firm's assets, knowledge, learning and dynamic capabilities

As was mentioned in the previous section, the analysis of the factors that lead to particular companies enjoying a sustainable competitive status constitutes one of the principal concerns of strategic literature. It is necessary, though, not only to explain how companies defend a position of competitive advantage they already maintain, but also the way in which they reach and build upon these positions in a dynamic and changing environment.

From the RBV, emerged the knowledge-based view (KBV), in which knowledge is considered the key or strategic asset for firms, the latter being defined as the body or social context in which knowledge will be developed, sustained and, consequently, protected (Grant, 1996). There have been numerous contributions to the birth and development of this approach, though a particular mention should go to those of Nelson and Winter (1982), Penrose (1959), the RBV, the business capabilities approach (Prahalad and Hamel, 1990) and the literature on organizational learning. Thus the process and generation of knowledge become an essential element of analysis to understand the development of strategies for company evolution and transition (Kogut and Zander, 1992, 1996; Orlikowski, 2002; Lei, 2003).

Both the RBV and the KBV, however, are still of an essentially static nature. Consequently, taking a more dynamic approach, where the processes of learning, uncertainty and the impact of external changes are taken into account, would bring about a more realistic analysis and a greater explanatory capacity to a knowledge-based focus. As pointed out by Mahoney and Pandian (1992), what is today widely referred to as the resource and capabilities approach is the result of the confluence of literature on the RBV and the dynamic capabilities approach. They both provide an analysis of core competences and their value as a source of competitive advantage; the first being a static approach and the second a dynamic one. These concepts are explained in the following figures and texts.

The KBV

This approach considers firms as bodies that generate, integrate and distribute knowledge (Narasimha, 2000, 2001; Miller, 2002; McEvily and Chakrabarthy, 2002). The ability to create value is not based as much upon physical or financial resources as on a set of intangible knowledge-based resources. Moreover, as stated by Ranft and Lord (2002), firms that possess stocks of organizational knowledge associated with the creation of value that could be described as uncommon or idiosyncratic, stand a good chance of generating and sustaining high returns.

From this perspective, knowledge is considered a key or strategic resource for firms and is thus established as a basic element of analysis. Therefore, the processes of generation, development and application of knowledge assume special importance (Wikström and Normann, 1994; Nonaka and Takeuchi, 1995; Nonaka and Konno, 1998). The outcome of this research perspective has been a model of knowledge creation (Figure 1) through a spiral-based process.

Organizational learning

In this paper it is assumed that the KBV (an essentially strategic approach) and Organizational Learning perspective (an organizational one) are complementary (Shrivastava, 1983). This is in line with the conceptual approach of the RBV which is based on the distinction between two elemental kinds of firm's assets: resources of a mainly static nature and capabilities which are fundamentally dynamic.

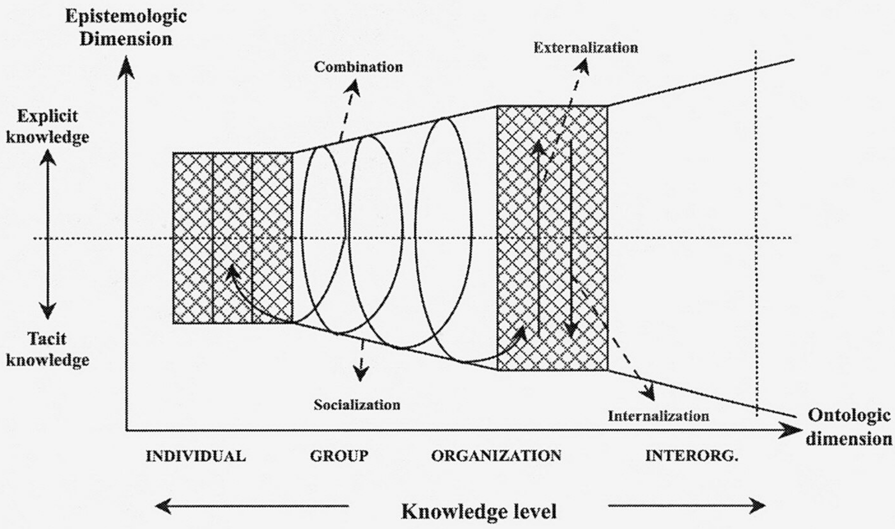

Figure 1.
The spiral process of organizational knowledge creation

Source: Adapted from Nonaka and Takeuchi (1995) and Nonaka and Konno (1998)

This elemental and conceptual distinction can also be verified in knowledge-based assets. In an organizational context, the part played by managers in their role as strategists and decision-makers is principally centred upon two knowledge-based business assets. Firstly, there are stocks of knowledge (both of a collective and individual nature), which are resources possessed and/or controlled by the firm. Such resources are primarily analysed from the KBV. Secondly there are dynamic learning processes (collective and individual), which are developed from these stocks of knowledge. These learning processes are business capabilities that are described and studied by different academic schools of thought as Organizational Learning.

The desired convergence of the KBV and the literature on organizational learning is still yet to materialize and they exist as parallel models, the former having economic roots and the latter being more of a sociological nature. The two approaches overlap a considerable amount, working on the same four ontological levels in which organizational learning occurs: individual, group, organizational and interorganizational.

As a result of our own investigations, we will provide a comparative analysis of how relevant academic literatures (the RBV and the KBV) has evolved in such a way that dynamic capabilities are presently considered a business asset of the highest order. Dynamic capabilities are complex, higher order organizational processes which provide adequate conditions for the modification and renewal of the firm's stock of business assets.

The DCV

We have pointed out that the RBV does not adequately explain the process via which some firms reach positions of competitive advantage in dynamic markets or in situations of change. An approach based on dynamic capabilities (Table I) endows the

Table I. The eclectic nature of the DCV as compared with the RBV and KBV

Dimensions	Characteristics	RBV	DCV	KBV
Theoretical foundations	Behavioural assumptions	Bounded rationality (cognitive constrained)	Path dependence (cognitive and Experience constrained	Rule-based rationality (inertia constrained)
	Component emphasis	Strong normative component (prescriptions)	Balanced (realism in description and operativism in prescription)	Strong positive component (descriptions)
	Unit of analysis	Resources	Resources, knowledge, market position, market opportunities and dynamic capabilities	Knowledge
	Disciplinary traditions	Economic (primary based on industrial organization)	Strategic (integration of economic and behavioural trends)	Conductual (primary based on organizational theory)
	Theoretical roots	Neoclassical economics Transaction cost Economics agency Theory Neo-Austrian economics	RBV KBV Positioning school Strategic behaviour economics	Organizational learning Evolutionary economics Organizational sensemaking Organizational change
Strategy research implications	Methodological approach	Positivism/functionalism	Mixed (conversation between positivism and interpretivism)	Interpretivism/constructionism
	Inquiry focus	Resource stocks	Stocks and flows (among resources, knowledge and markets)	Knowledge flows
	Time modelling	Primary static	Combined (static for stock effects and dynamic for flows effects)	Primary dynamic
	Content/process modelling	Content-oriented	Mixed (content for stocks analysis and process for flows analysis)	Content-oriented

(continued)

Table I.

Dimensions	Characteristics	RBV	DCV	KBV
Managerial implications	Strategic process emphasis	Biased (toward strategy formulation)	Balanced (formulation and implementation are equally key)	Biased (toward strategy implementation)
	Strategy role emphasis	Strategy as leverage (exploitation role stressed)	Strategy as stretch and leverage (through dynamic capabilities)	Strategy as stretch (exploration role stressed)
	Rent creation sources	Resource superiority and insolating mechanisms	Deployment of resources and knowledge into markets through dynamic capabilities and acquisitions of new ones	Organizational learning continuous improvement, knowledge acquisition and absorptive capacity
	Sustained competitive advantage	Possible in any environment through a competitive resource stock position	Difficult in high-velocity environments even from dynamic capabilities due to equifinality	Possible in any environment through continuous learning and improvement
	Strategic initiatives	Strategies for resource acquisition, accumulation and protection	Strategies for aligning resources and knowledge to current markets while preparing for future opportunities	Strategies for knowledge learning, absorption and intra-organizational transfer
	Type of competition	Ricardian competition (unconstrained strategic factor markets competition)	Schumpeterian competition (moderately constrained entrepreneurial discovery)	Evolutionary competition (strongly constrained competitive paths)
	Industry role	One-way endogenous industry structure (firm behaviour built up industry structure	Two-way and co-evolving endogenous industry structure (mutual effects without inertia)	Co-evolutionary endogenous industry structure (mutual effects and inertia)
	Managerial role	Adaptive (selecting the firm resource bundle among available resource pool)	Proactive (choosing right options for exploitation and exploration in a context of equifinality)	Interactive (creating knowledge assets through learning and improvement)

basic RBV perspective with a more dynamic nature which emphasizes the strategic value of higher order resources (dynamic capabilities) allowing the generation of and renewal of core competences and competitive advantage (organizational learning process).

Teece, Pisano and Shuen emphasize the key role of managers in appropriately adapting, integrating and reshaping organizational skills and resources as well as internal and external functional competences. According to these authors, the term 'dynamic capabilities' refers to the firm's ability to integrate, build upon and reconfigure internal and external resources and functional competences to deal with environments which are constantly evolving (Teece *et al.*, 1997, p.515).

Eisenhardt and Martin (2000) talk on similar lines when they define dynamic capabilities as organizational routines of strategic nature through which firms obtain new configurations of resources when markets emerge, collide, divide, evolve and die. In Table I we show a comparative analysis which demonstrates the eclectic nature of the DCV. In fact, Table I illustrate a synthesis of how theory has evolved within the field of Strategic Management and which, along with other perspectives of theoretical analysis, has led to the establishment of the DCV approach. It clearly shows that the DCV not only introduces dynamic elements into theories on the process of the development of business assets and the formation of strategies, it also balances out the biases caused by studies based solely on the RBV and the KBV both on a theoretical level and in managerial practice.

At this juncture, it is useful to lay down some of the managerial implications that are derived from the use of dynamic capabilities as a strategic management tool. In relation to the data shown in Table I, three of these implications should be underlined: rent creation sources, strategic initiatives that should be adopted and the managerial role.

Everyday use of the analytical perspective on dynamic capabilities endows strategic processes with greater fluency and rationality. These are the processes that allow transition between activity and those markets where the firm is already established, as well as providing opportunities it may develop at any time in the future.

In short, when a firm is regarded as a continuous well-ordered flow of dynamic capabilities aimed at attaining strategic objectives, this enables managers to arrive at more balanced decisions, affecting aspects such as resources, the firm's activities, present markets (exploitation) and any new opportunities which may arise in the future (exploration) (March, 1991).

Conclusions

In previous sections, the DCV was described as an evolved strategic trend that emerged from the RBV and the KBV and which endows them with a more dynamic nature. The DCV lays emphasis on the strategic value of certain higher order resources (dynamic capabilities) for managers, which allow the generation and renewal of core competences as well as competitive advantages. Therefore, the DCV centres its attentions on all aspects of knowledge and abilities which generate the firm's core competences. In this way it becomes an exceptional instrument of strategic analysis for managers. It expressly allows them access to certain strategic resources which are capable of nourishing the firm's future core competences.

In conclusion, for strategists, planners and managers in general, an evolution can be discerned in the objectives of analysing the process of formulating strategies and the creation of competitive advantage as a result of the organization's internal analysis. In the first stage of development (the RBV and KBV), the interest was centred on understanding the nature of the varying assets of the firm and to know which conditions would make it possible to turn them into lasting and sustainable competitive advantage. However, during the second phase, interest was shifted towards the dynamic processes of generation, development and accumulation of assets. Here, the importance of possessing organizational dynamic capabilities must be stressed. They allow the creation of new products and respond to the changing external conditions, conceived as higher order resources or meta-resources, amongst which the capacity to learn and adapt must be underlined.

Capabilities of a dynamic nature, aside from being a source of new resources for the company, provide a solid instrument for the organization's strategists. These capabilities will allow the activation and redirection of the complex framework of economic and organizational factors which can slow down the company's evolution and hold back the organization's wealth of opportunity. Dynamic capabilities are therefore key factors in optimizing the strategic course of the company's future.

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