



Relevance of Resource Based View Themes for Capability Evolution

Sunil Sharma

W.P. No. 2015-03-30

March 2015

The main objective of the working paper series of the IIMA is to help faculty members, research staff and doctoral students to speedily share their research findings with professional colleagues and test their research findings at the pre-publication stage. IIMA is committed to maintain academic freedom. The opinion(s), view(s) and conclusion(s) expressed in the working paper are those of the authors and not that of IIMA.



INDIAN INSTITUTE OF MANAGEMENT
AHMEDABAD-380 015
INDIA

Relevance of Resource Based View Themes for Capability Evolution

Sunil Sharma

Business Policy Area

Indian Institute of Management, Ahmedabad

sunilsharma@iimahd.ernet.in

Abstract

RBV implicitly assumes omnipotent nature for certain firms. These are the firms that can create rent generating capabilities anytime and therefore forever. While theoretically, it seems plausible, empirically it may remain a utopian imagery. This paper breaks free of such grandiose assumptions and proposes an evolutionary trajectory for idiosyncratic capabilities wherein capabilities evolve by interactive effects among industry participants. The concept of capability life cycle has been extended to include process dimensions through which change occurs. This paper extends concept of capability life cycle by suggesting dimensions of change under each phase.

Introduction

One important preoccupation of strategy researchers has been to understand and investigate determinants of superior performance of firm. In Andrews (1971) framework, differences come from finding match between a firm's internal resources (Strengths and weaknesses) and external environment (opportunities and threats). In 80's Structure-Conduct-Performance (hereafter called SCP) paradigm made popular by Porter (1980) looked at linkage between strategy and external environment. In SCP, above-average performance resulted from finding superior location and building barriers around it. This position was later challenged by Resource based view (hereafter called RBV). In RBV, sustainable competitive advantages is associated with possession, accumulation and deployment of valuable, rare, inimitable, and non-substitutable resources and capabilities (Penrose, 1959; Barney,1991;Wernerfelt, 1984,& Petraf, 1993). Empirical evidences also show that firms within the same industry and probably with same position differ in performance (Rumelt, 1991). However, RBV implicitly recognizes certain firms as omnipotent. These are the firms which can continue generate superior resources and capabilities and therefore rents forever. Probably, the view arises because of overwhelmingly use of firm as unit of analysis in RBV. Evolutionary theories (Nelson & Winter, 1982, Helfat, 2000) are more sensitive towards the dynamic nature of RBV and importance of context in the evolution of capabilities. Concept of capability life cycle (CLC) (Helfat & Petraf , 2003) captures changes in capabilities over a period of time. This paper makes an attempt to theoretically enrich the concept of CLC and thereby contribute to the emerging literature on evolution of capabilities. RBV provides an explanation of competitive heterogeneity among close competitors due to R&C emerging out of evolutionary process (Helfat & Petraf, 2003).

Process by which capabilities evolve is a huge research gap (Helfat, 2000). Mcgrath et.al. (1995) favor studies that examine not just the specific factors that create a *specific* advantage but also f studies that focus on process by which these factors are generated.

The paper is organized as follows. It begins with a discussion on theoretical moorings of the topic. Under this section, important topics in RBV like foundation

and reincarnation of RBV, conceptualization, dynamic RBV and research gap have been covered. Next, it discusses two relevant themes of evolution of capabilities and strategic behaviour of new entrants and incumbent in detail to develop theoretical understanding and conceptualization. The concluding section proposes a theoretical framework and discusses implications of this research for both practitioners and researchers.

Theoretical Moorings

Two dominant paradigms in strategy literature, which attempt to explain sustained superior performance, are Structure-conduct-performance and Resource based view. While the S-C-P school of thought rooted in industrial economics concepts (Porter, 1980) attributes superior performance to industry factors, RBV attributes ability to generate rents (above average returns) i.e. sustained competitive advantage to a firm's idiosyncratic bundles of resources and capabilities.

Foundations of RBV

The concepts of RBV with their focus on idiosyncratic characteristics of firms are founded on the seminal work of Selznick (1957), Penrose (1959), Chandler (1962) and Andrews (1971). Selznick (1957) used the term 'distinctive competence' to refer to things that an organization does better than its competitors and one that emerge as institutionalization proceeds. Penrose (1959) conceptualized firm as a bundle of resources, especially managerial expertise available within the firm. Chandler (1962) who studied evolution of large American firms reasoned that the expansion undertaken by these firms was in response to excess capacity (resource) available with them. Andrews (1971) further strengthened the concept of distinctive competence by distinguishing between what organizations could do and what they do well relative to their competitors. His strength and weaknesses framework became the basis for entire rationale of RBV.

Reincarnation of RBV

The field of RBV got a fresh impetus after the seminal work of Wernerfelt (1984). According to him, resources and products represent two sides of the same coin. He argued that most Industrial organization studies operate on product market side (opportunities and threats) of Andrew's (1971) strategy framework, however, the

same problem can be phrased in terms of resource position (strengths and weaknesses) of the firm. He defined resources as those assets (tangible or intangible) which are tied semi permanently to the firm. Although he didn't make a distinction between resources and capabilities, he emphasized dynamic resource management by arguing that most resources can be used in multiple products and firms need to keep growing their resources viz. technological capabilities in order to protect their position. Since then, several authors (Barney, 1986 & 1991; Diericks and cool, 1989; Grant, 1991; Amit and Shoemaker, 1993, and Petraf, 1993) have taken the field further forward. The field has got enriched by contributions from several studies with different focus and approach. For example, studies with evolutionary perspective (Nelson & Winter, 1982; Winter, 2000 and Helfat, 2000) have analyzed the way companies adapt to the changing environment and build capabilities; Studies with focus on dynamic capabilities (Teece, Pisano & Shuen, 1997 and Eisenhardt & Martin, 2000), have highlighted the strategic value of higher order capabilities which facilitate the generation and reconfiguration of other capabilities; studies on impact of institutional environment on strategic responses (Oliver, 1991); studies with competence based orientation (Sanchez & Heene, 1997) have looked at process of generation and development of competencies; and studies with knowledge based theory (Kogut and Zander, 1992; Grant, 1996; Crosson & Berdrow, 2003) as their base have emphasized on organizational learning. In fact today the field with its myriad branches occupies an esteemed yet controversial position in strategic management area calling it tautological. Some authors have attempted to identify status, evolution, and trend of RBV (Barney, 2001; Makadok, 2001) with an objective to categorize the field and highlight important issues. Recently, Acedo et.al. (2006) by using co-citation method and by identifying specific focus research area, have categorized the field into three categories viz. RBV, knowledge based view, and relational view. However, for this position paper, I intend to use an alternate classification (see Exhibit-1) which address questions of 'What', 'Where', and 'How' of capabilities. The questions of 'what' covers content (nature) of resources and capabilities (hereafter called R&C), 'where' covers exploitation of R&C, and 'how' covers dynamic nature (process aspects) of R&C captured in concepts of development and evolution. Since objective of this paper is to study evolution of capabilities, I believe that the two questions of what and how are more pertinent and therefore

would occupy most of the attention in this paper. The question of exploitation while being relevant to RBV, especially related to exploitation of R&C for diversification, does not warrant attention for probing the research questions of this study.

Empirical support for RBV

The empirical support for RBV has come from studies which conclude that business effects are more important than industry effects and therefore looking at business effect makes more sense. Rumelt (1991) found out that the stable business-unit effects are six-times more important than stable industry effects. Similarly, Cool and Schendel (1988) found significant and systematic differences among firms belonging to the same strategic group within the U.S pharmaceutical industry. In a sense, both these papers empirically proved that competitive advantages are not derived solely due to industry effects, but more importantly because of the unique R&C endowments of individual business.

Conceptualization of nature of resources and capabilities(R&C)

Two important issues under this theme pertain to definition (conceptualization) of R&C and their characteristics that lead to sustainable competitive advantage. Authors have used several conceptualizations and terminology for R&C leading to a situation of conceptual proliferation and ambiguity. I now present all important and relevant definitions of resources, capabilities, dynamic capabilities, and competence. The objective of this exercise is to look for an acceptable and appropriate conceptualization of resources and capabilities which can be used for the proposed empirical study.

Definitions

Wernerfelt (1984) defined resources as those assets (tangible or intangible) which are tied semi permanently to the firm. Hall (1993) conceptualized intangible assets of a firm as resources. Barney(1991) defined resources as inclusive of all assets, capabilities, organizational processes, firm attributes, information, knowledge etc. controlled by a firm. So, for him resources meant all the strengths of a firm. Amit and Schoemaker (1993) made distinction between resources and capabilities. They defined resources as stocks of available factors owned or controlled by the firms and capabilities as a firm's capacity to deploy resources using organizational processes to

attain a desired end. These capabilities are information based, firm specific, subject to market failure, and tangible or intangible processes that are developed often in functional areas over a period of time through complex interaction among the firm's resources. He referred to certain resources and capabilities that are subject to market failure as strategic assets (SA). These SA overlap with strategic industry factors (SIF) determined at a market level through complex interactions among various market participants and stake holders. Further these SIFs change and cannot be predicted ex ante. Later, other concepts like dynamic capabilities (Teece et. al., 1997) emerged. These are discussed separately later under dynamic RBV. Winter (2003) defined organizational capability as a high-level routine (or collection of routines as conceptualized by Nelson and Winter (1982). Sanchez and Heene (1997) defined competence as an ability to sustain the coordinated development of assets in a way that helps a firm to achieve its goals.

Thus a plethora of definitions and conceptual frameworks exist and it is left to the researcher to decide on the definition, which he feels most appropriate for his research questions. As this study attempts to investigate evolution of capabilities, and not resources, definition of R&C given by Amit and Shoemaker(1993) which makes distinction between resources and capabilities seems to be most appropriate for theoretical conceptualization. For the purpose of operationalization of capabilities, I intend to use winter's (2003) conceptualization of capabilities as Meta routine or set of routines (Nelson and Winter, 1982).

Attributes of resources and capabilities

Barney (1991) theoretically argued that not all assets are strategic. To derive sustainable competitive advantage from resources they need to be valuable, rare, imperfectly imitable, and non-substitutable (Barney, 1986, Miller, 2003) (hereafter called VRIN resources). A similar argument that knowledge is the only strategic resource has been put forward by Knowledge based studies (Grant, 1996).

Dynamic RBV: Resource accumulation Process

Barney (1986) introduced the concept of strategic factor markets (SFM) which he conceptualized as a market from where the necessary resources required to implement a strategy can be acquired. He argued that in a perfect strategic factor

market, no firm would be able to generate rent. However, SFM are imperfectly competitive due to asymmetry in expectations about the future value of a strategic resource. Therefore, firms which control unique resources due to superior information or are plain lucky or have both can generate superior rent. Barney (1991) and Petraf (1993) laid down necessary theoretical conditions (VRIN resources, resource heterogeneity, ex-post limit to competition, imperfect resource mobility, and ex-ante limits to competition) to prevent costs from offsetting the rents. Dierickx and cool (1989) further extended this argument by arguing that certain assets may not at all be tradeable, for example, assets like customer loyalty or reputation are not available in strategic factor markets and therefore firms deploy both tradeable and non-tradeable assets. Williamson (1979) also pointed towards the idiosyncratic nature of firm specific assets which precludes their tradeability in open markets. From the arguments, it can be inferred that firms need to focus on building their unique set of R&C internally as attempts to obtain VRIN assets may prove to be elusive and thus no competitive advantage is gained by possessing assets which are tradeable.

This brings back our focus on process of asset accumulation. In fact one key focus of firm's strategy should be on making appropriate strategic investments with a view to accumulate required resources and skills Chandler (1990). This essentially means that it is possible for firms to build privileged asset position. However, sustainability would depend on how easy or difficult it is to replicate or substitute that position. Dierickx and cool (1989) identify four characteristics associated with process of stock accumulation that makes imitation or substitution of capabilities difficult to achieve. Lippman and Rumelt (1982) call causal ambiguity as 'uncertain imitability' which acts as a barrier to imitation even in a perfectly competitive industry setting.

Research Gap

Issues related to characteristics of resources and capabilities which allow firms to generate rents have been discussed threadbare in strategy literature. We now have ample understanding of the characteristics of process which inhibit imitability. But little is known about the process of evolution/change in R&C. In fact the process of evolution is still considered to be some sort of black-box and has been identified as a big research gap in the field of RBV.

Themes

Having identified evolution of capabilities as a research gap and a focus area for this position paper, I now review literature on two related themes of evolution of capabilities and strategic behaviour of new entrants and incumbents. The first relates to process issues and the second with motivation and determinants of entry, renewal, or exit of various industry players.

Evolution of capabilities

Dynamic Resource based view

Most of the work associated with defining characteristics of resources and capabilities gives it a hint of being static in nature (Priem and Butler, 2001). If we take this as a valid critique of RBV, the concept of dynamic capability (DC) (Teece, Pisano, and Shuen, 1997) marks a departure point. DC with its focus on adaptation and change by building, integration, and reconfiguration of other resources and capabilities provides dynamic flavour to the resource based area. In recent years, research on RBV has taken a distinct shift towards a dynamic resource based theory (Helfat, 2000). Factors that influence evolution of capabilities in a firm are: role of prior industry experience and organizational learning (Helfat and Raubitschek, 2000); impact of aspirations on satisficing in capability development (Winter, 2000). Most of these studies were single firm case studies.

Organizational learning and Knowledge based view

KBV extends our understanding of issues like capabilities transfer (Zander and Kogut, 1995). In nutshell, KBV as an outgrowth of RBV has enriched research by bringing role of organizational learning in building capabilities. Organizational learning papers ascribe (Zollo and Winter, 2002, Crosson and Berdrow) important role of learning mechanism in development of dynamic capabilities and strategic renewal of firms.

Networks

Collaboration among firms is rampant in technology-intensive industries (Contractor and Lorange, 1988). In fact in industries with complex and distributed

knowledge base it is not uncommon to find locus of innovation in networks of firms and not in individual firm.

Capability Life cycle

The concept of Capability life cycle (CLC) by Helfat and Peteraf (2003) has provided further impetus to dynamic resource based theory. CLC explains how heterogeneity in resources and capabilities among firms arises. While proponents of DC (Teece et.al, 1997, Collis, 1994 and Winter, 2003) consider it to determine the rate of change of ordinary capabilities, CLC main argument differs in the sense that all capabilities (even ordinary) have the potential to accommodate change. Thus presence of DC is not required for other (operational) capabilities to change. The capability in question is an operational capability (Winter, 2000) constituted of routine(s) which confers upon an organization an ability to perform an activity. Thus the focus here is only on evolution of operational capabilities. CLC propose a conceptual model of the lifecycle of a specific operational capability. The lifecycle had three stages: the founding stage, development stage, and maturity stage. The founding stage involves creation of a capability, new to the organization, not necessarily to the world. In the development stage, capability inches towards perfection. In the maturity stage, the focus is on maintaining capability and capability branching occurs.

Strategic behaviour of incumbents and new entrants

The preceding section concluded by saying that CLC provides a useful conceptual model for evolution of specific operational capabilities in a particular industry. The framework assumes a starting point for evolution of capabilities that begins after the industry undergoes discontinuous changes viz. deregulation or technological changes. Such discontinuous changes in an industry lead to entry of new players and exit of existing players (Tushman and Anderson, 1986). Since the objective of this paper is to study evolution of capabilities idiosyncratic to an industry, it is imperative that we study strategic behaviour related to initiatives for building idiosyncratic capabilities of both new entrants and incumbents.

Since, the focus is on strategic behaviour (determinants and mechanisms) related to building/ reconfiguring capabilities; this paper doesn't attempt survey of

entire literature on new entrants and incumbents. Nevertheless, findings and scope of some important studies are produced below.

Incumbents:

Authors	Research focus areas	Study	Industry
Rosenbloom (2000)	Determinants and mechanisms of capability reconfiguration processes	Single firm case Study	Semiconductor
Tripsas and Gavetti (2000)	Role of organizational and human factors in shaping response to environmental changes	Single firm case Study	Photo films
Leonard (1992)	Impact of path dependence	Multiple case study	Multiple

Studies on strategic behaviour of incumbents conclude that incumbents face difficulties in responding to change due to factors like managerial cognition (Tripsas and Gavetti, 2000) and organizational inertia. It happens because the core capabilities (Prahalad and Hamel, 1990), which enable an existing firm to survive, often leads to ossification into core rigidities (Leonard, 1992) and competency trap (Cohen and Levinthal, 1990). It constrains their absorptive capacity (Levitt and March, 1988) i.e. ability to exploit new information which is so important to adapt to a changed environment. However, reconfiguration of capabilities is possible through a process of reignition of learning which requires an external trigger (Winter, 2000). Lovie (2006) suggest substitution, evolution, and transformation as three mechanisms of capability reconfiguration.

New entrants:

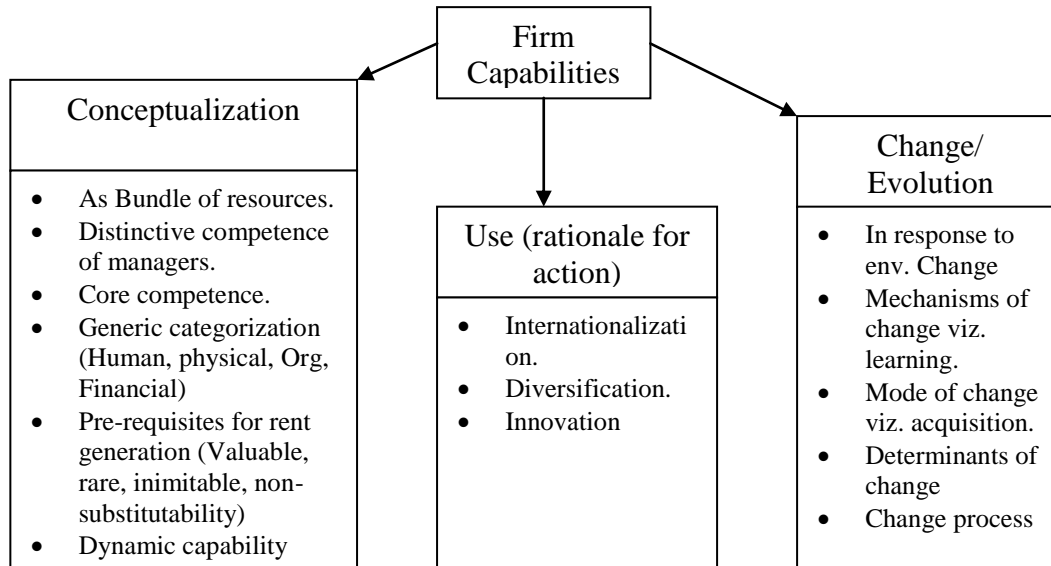
Authors	Research focus areas	Study	Industry
Klepper and Simons (2000)	Role of pre-industry experience on likelihood of entry	Multi-firm case study	Television
Holbrook, Cohen, Hounshell, and Klepper (2000)	Role of founder's prior experience/beliefs; process of search and adaptation	Multi-firm case study	Semiconductor

Change in environment or technology may see entry of new entrants as new technologies may require new supply-side capabilities (Holbrook et.al., 1994). The studies listed in above table point towards the importance of attacker's advantage usually associated with new entrants and the role of pre-industry experience and

founder's prior experience/beliefs on chances of their success. Many of these startups focus more on building competitive capabilities independent of networks and connections (Peng, 2003).

Conclusion

Studies on strategic behavior of incumbents and new entrants show that incumbents tend to dominate where innovation required is incremental i.e. more of the same, whereas new entrants do well where radical innovations are concerned (Henderson, 1993; Tushman and Anderson, 1986)). From these findings, it is inferred that both incumbents and new entrants have their strengths and weaknesses. From an evolutionary perspective, these strengths and weaknesses would shape the development or change in idiosyncratic capabilities specific to an industry. However, if the process of capability evolution was so deterministic, we might expect to see demise of all incumbents faced with the entry of new entrants. Since that hasn't happened (Mitchell, 1991), it is exciting to examine what actually happens during the different phases of industry evolution. In fact Mitchell (1991) argues that incumbents have advantage over new entrants in the early stage of new technology because of their prior familiarity and existing relationship with customers. This gives incumbents time to respond to changes in the market place. To explore these questions, this paper identifies important themes relevant to capability development and anchors this discussion in the unfolding competitive dynamics between incumbents and new entrants.

Exhibit-1**Nomological Map of RBV**

References:

- Acedo, F.J., Barroso, C., & Galan, J.L. (2006). The resource-based theory: dissemination and main trends. *Strategic Management Journal*, 27, 621-636.
- Amit, R. & Schoemaker, P.J.H. (1993). Strategic assets and organizational rent. *Strategic Management Journal*, 14, 33-46.
- Amran, M. & Kulatilaka, N. (1999). *Real options: Managing strategic investments in an uncertain world*. Harvard Business School Press, Boston, Massachusetts.
- Andrews, K. R. (1971). *The Concept of Corporate Strategy*, Irwin, Homewood, II.
- Barney, J. (1986). Strategic factor markets: expectations, luck, and business strategy. *Management Science*, 32, 1231-1241.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17, 99-120.
- Barney, J. (2001). Resource-based theories of competitive advantage: a ten year retrospective on the resource based view. *Journal of Management*, 27, 643-650.
- Chandler, A.D. (1962). *Strategy and Structure*. Cambridge, MA: MIT Press
- Chandler, A.D. (1990). *Scale and Scope: The dynamics of capitalism*. Cambridge, MA: Harvard university press.
- Cohen, W.M. & Levinthal, D.A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35, 128-152.
- Collis, D.J. (1994). Research note: how valuable are organizational capabilities? *Strategic Management Journal*, Winter Special Issue 15, 143-152.
- Contractor, F.J. & Lorange, P. (1988). *Cooperative strategies in international business*. Lexington, MA: Lexington Books.
- Crosson, M.M. and Berdrow, I. (2003). Organizational learning and strategic renewal. *Strategic Management Journal*, 24, 1087-1105.
- Dierickx, I. & Cool, K. (1989). Asset stock accumulation and sustainability of competitive advantage. *Management Science*, 35, 1504-1511.
- Dutta, S., Narasimhan, O., & Rajiv, S. (2005). Conceptualizing and measuring capabilities: Methodologies and empirical approach. *Strategic Management Journal*, 26, 277-285.
- Dyer, J.S., Lund, N.R., Larsen, J.B., Kumar, V. & Leone, R.P. (1990). A decision support system for prioritizing oil and gas exploration activities. *Operations Research*, 38, 386-396.
- Eisenhardt K.M., & Martin, J. (2000). Dynamic capabilities: what are they? *Strategic Management Journal*, 21, 1105-1121.
- Garud, R. & Van de Ven, A.H. (2002). Strategic Change Processes. In Pettigrew, A., Thomas, H., & Whittington, R.(eds.), *Handbook of Strategy and Management*. Sage Publications, Cromwell Press, Wiltshire.
- Grant, R.M. (1991). The resource-based theory of competitive advantage: implications for strategy formulation. *California Management Review*, 33, 114-135.
- Grant, R.M. (1996). Towards a knowledge-based theory of the firm. *Strategic Management Journal*, 17, 109-122.
- Hahn, J.D.P. (1998). Firm and environmental influences on the mode and sequence of foreign research and development activities, *Strategic Management Journal*, 19, 149-168.
- Hall, R. (1993). A framework linking intangible resources and capabilities to sustainable competitive advantage. *Strategic Management Journal*, 14, 607-618.
- Helfat, C.S. (1997). Knowhow and asset complementarity and dynamic capability accumulation: The case of R&D. *Strategic Management Journal*, 18, 339-360.

- Helfat, C.E. (2000). Guest editor's introduction to the special issue: the evolution of firm capabilities. *Strategic Management Journal*, 21, 955-959.
- Helfat, C.E. & Petraf, M.A. (2003). The dynamic resource-based view: capability lifecycles. *Strategic Management Journal*, 24, 997-1010.
- Henderson, R. (1993). Underinvestment and incompetence as responses to radical innovation: evidence from the photolithographic alignment equipment industry. *RAND Journal of Economics*, 24, 248– 270.
- Henderson, R. & Cockburn, I. (1994). Measuring competence? Exploring firm effects in pharmaceutical research. *Strategic Management Journal*, 15, 63-84.
- Holbrook, D., Cohen, W.M., Hounshell, D.A. & Klepper, S. (2000). The nature, sources, and consequences of firm differences in the early history of the semiconductor industry. *Strategic Management Journal*, 21, 1017-1041.
- Keefer, D.L., Smith Jr., F.B. & Back, H.B. (1991). Development and use of a modeling system to aid a major oil company in allocating bidding capital. *Operations research*, 39, 28-41.
- Klepper, S. & Simons, K.L. (2000). Dominance by birthright: entry of prior radio producers and competitive ramifications in the US television receiver industry. *Strategic Management Journal*, 21, 997-1016.
- Leonard-Barton, D. (1992). Core capabilities and core rigidities: A paradox in managing new product development. *Strategic Management Journal*, 13, 111-125.
- Levitt, B. & March, J.G. (1988). Organizational learning. *American Review of Sociology*, 14, 319-340.
- Lippman, S.A. & Rumelt, R.P. (1982). Uncertain imitability: an analysis of interfirm differences in efficiency under competition. *Rand Journal of Economics*, 13, 418-438.
- Lorino, P. & Torondeau, J.C. (2002). From Resources to Processes in Competence-based strategic management. In Morecroft, J., Sanchez, R., & Heene, A.(eds.) *system perspectives on resources, capabilities, and management processes*(127-152) . London: Elsevier Science.
- Lovie, D. (2006). Capability reconfiguration: an analysis of incumbent responses to technological change, *Academy of management review*, 31, 153-174.
- Makadok, R. (2001). Towards a synthesis of the resource-based and dynamic – capability views of rent creation. *Strategic Management Journal*, 22, 363-380.
- McGrath, R.G., MacMillan, I.C., & Venkataraman, S. (1995). Defining and developing competence: A strategic process paradigm. *Strategic Management Journal*, 16, 251-275.
- Miller, D. (2003). An asymmetry-based view of advantage: towards an attainable sustainability. *Strategic Management Journal*, 24, 961-976.
- Mitchell, W. (1991). Dual clocks: entry order influences on incumbents and newcomer market share and survival when specialized assets retain their value. *Strategic Management Journal*, 12, 85-100.
- Nelson R, Winter S. (1982). *An evolutionary theory of economic change*, Cambridge, MA: Harvard Press.
- Oliver, C. (1997). Sustainable competitive advantage: combining institutional and resource based views. *Strategic Management Journal*, 18, 697-713.
- Peng, M.W. (2003). Institutional transitions and strategic choices. *Academy of Management Review*, 28, 275-296.
- Penrose, E. (1959). *The Theory of the Growth of Firm*, Wiley, New York.
- Petraf, M.A. (1993). The cornerstones of competitive advantage: A resource based view. *Strategic Management Journal*, 14, 179-191.
- Porter, M.E. (1980). *Competitive Strategy*. New York: Free Press.

- Powell, W.W., Koput, K.W. & Doerr, L.S. (1996). Interorganizational collaboration and the locus of innovation: Networks of learning in Biotechnology. *Administrative Science Quarterly*, 41, 116-145.
- Prahalad, C.K. & Hamel, G. (1990). The core competence of the corporation. *Harvard Business Review*, 66, 79-91.
- Preim, R.L. & Butler, J.E. (2001). Is the resource-based view a useful perspective for strategic management research? *Academy of Management Review*, 26, 22-40.
- Rosenbloom, R.S. (2000). Leadership, capabilities, and technological change: the transformation of NCR in the electronic era. *Strategic Management Journal*, 21, 1083-1103.
- Rumelt, R.P. (1991). How much does industry matter? *Strategic Management Journal*, 12, 167-185.
- Sanchez, R., & Heene, A. (1997). Competence-based strategic management: Concepts and issues for theory, research and practice. In A.Heene & R. Sanchez(eds), *Competence-based strategic management*. Chichester: John Wiley and Sons.
- Selznick, P. (1957). *Leadership in Administration*. Harper & Row, New York.
- Teece D, Pisano G, & Shuen A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal* 18, 509-533.
- Tena, A. B.E. & Llusar, J.C.B. (2005). A model for evaluating organizational competencies: An application in the context of a quality management initiative. *Decision Sciences*. 36, 221-257.
- Tripsas, M. & Gavetti, G. (2000). Capabilities, cognition, and inertia: evidence from digital imaging. *Strategic Management Journal*, 21, 1147-1161.
- Tushman, M. & Anderson, P. (1986). Technological discontinuities and organizational environments. *Administrative Science Quarterly*, 31, 439-465.
- Van de Ven, A.H. & Poole, M.S.(1995). Explaining development and change in organizations. *Academy of management Review*. 20, 510-540.
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, 5, 171-180.
- Williamson, O.E. (1979). Transaction cost economics: the governance of contractual relations. *Journal of Law and Economics*, 22, 223-261.
- Winter, S.G. (2000). The satisficing principle in capability learning. *Strategic Management Journal*, 21, 981-996.
- Winter, S.G. (2003). Understanding dynamic capabilities. *Strategic Management Journal*,24, 991-995.
- Yin, R.K. (2003). *Case study research: design and methods*. 3rd ed. Sage publications.
- Zander, U. and Kogut, B. (1995). Knowledge and the speed of the transfer and imitation of organizational capabilities: an empirical test. *Organizational Science*, 6, 76-92.
- Zollo, M. & Winter, S.G. (2002). Deliberate learning and the evolution of dynamic capabilities. *Organization Science*, 13, 339-351.