

International Journal of Management Science and Business Administration

Volume 4, Issue 1, November 2017, Pages 34-44

DOI: 10.18775/ijmsba.1849-5664-5419.2014.41.1005

URL: <http://dx.doi.org/10.18775/ijmsba.1849-5664-5419.2014.41.1005>



Can Small Banks Lead the Way out of the Crisis in the OECD Area?

Carsten Martin Syvertsen

Ph.D., Department: Econ.and Business Administration, Ostfold University College, Norway

Abstract: The economic shock of 2008, and the Great Recession that followed, created uncertainty of the direction of the global economy. With slow economic growth in the OECD area, political unrest and lack of a clear direction from academics there is a need for new organizational models helping executives out of the financial crisis. The article illustrates how small banks can achieve a competitive advantage by focusing on economic growth through radical innovations by using tacit knowledge in a marketing context. Such an entrepreneurial orientation will, in turn, lead to tailoring of services which will, we argue, lead to growth in the banking industry in the OECD area. We claim that small banks are leading the way in the race for innovation and an entrepreneurial orientation.

Keywords: Banking, Small-scale, OECD area, Entrepreneurship, Schumpeter, Marketing theory, Knowledge management.

1. How Innovation can Create Value in the Banking Sector in Times of Crisis

1.1 Innovation and the Economic Recession

The 2008 financial crisis has severely reduced the short-term willingness of companies to invest in innovation (Paunov, 2012; Archibugi and Filippetti, 2011). There are a number of empirical studies that explore firms' innovative behavior before and during economic recessions. Kanerva and Hollanders (2009) find no association between firm size and a decline in investment during 2008. Their results suggest that highly innovative firms continued to invest in innovation also during downturns. Alvarez et al. (2010), in their analysis of Chilean manufacturing firms, explore the firms' responses to the financial crisis of 1998. They find a positive association between firm size and organizational innovations.

In contrast, Antonioli et al. (2010) find that small and medium-sized firms located in Italy's Emilia-Romagna region were more innovative compared with large firms during the recent crisis. Paunov (2012) show that the current crisis led many firms to stop ongoing innovation projects using firms in eight Latin American countries as the empirical setting. The rising financial constraint and the negative demand shock affected the decisions of firms to abandon innovation projects. Filippetti and Archibugi (2011) explore firms' innovation in Europe and find that (a) the crisis brings about a reduction in the willingness of firms to increase innovation investment, and (b) strong national systems of innovation help firms to retain their investment in innovation.

1.2 Innovation in Small and Medium-Sized Firms

Economic turbulence makes it possible for new and small firms to emerge in a competitive market through innovation (Tushman and Anderson, 1986; Henderson and Clark, 1990; Simonetti, 1996; Freeman and Lauca, 2001; Perez, 2002, 2009). Schumpeter (1942) and his followers (Freeman et al., 1982) suggested that economic cycles are the consequences of innovation, but also that innovative activities are re-shaped by the economic crisis. Firms carry out innovation along established technological trajectories and develop innovation almost as a routine (Schumpeter, 1942). An economic turmoil generates a shakeout in established industries and technological fields; new firms in new sectors play a relatively bigger role than incumbent firms in generating innovations.

New firms are eager to exploit new technological opportunities also as a way to challenge incumbent corporations, as Schumpeter suggested: “it is no the owner of the stage-coaches who builds railways” (Schumpeter, 1911 (1934), p. 66). Competition among companies is fierce and the role played by entrepreneurial spirits is crucial (Nelson and Winter, 1982; Patel and Pavitt, 1994; Bresschi et al., 2000).

1.3 Technological and Market-Based Innovations

The types of innovations we are interested in studying more closely are technological innovations and market-based innovations. Technological innovations can be regarded as links between components, methods, and processes leading to new products and services (Afuah, 1998). Market-based innovations refer to how new knowledge can be embodied in distribution channels, products, applications, and in customer needs (Afuah, 1998).

Authors have combined and technological innovations and market-based innovations (Abernathy and Clark, 1985; Henderson and Clark, 1990; Tushman et al., 1997). By focusing on technological and market-based innovations, it may be possible for banks to tailor-make services to well-defined market segments. By combining technological innovations with market-based innovations, it may be possible to analyze what makes banks move from a situation with unclear priorities to a situation with unclear priorities to a situation with a more clean-cut strategic orientation. Even if we can explain, ex-post, how and why a bank moved from archetype X to archetype Y, or from position A to position B, it would not be fine-tuned enough to show how, de facto, change takes place (James, 1996). By emphasizing radical change as a result of technology-based and market-based innovation, we believe that it might be possible to illustrate how small and medium-sized banks in the OECD area can achieve a competitive advantage.

Over the last decades, the debate has been enriched by new theoretical developments and empirical research. The interest has shifted from a technology regime/industry-level to a micro-level analysis focusing on marketing. Firstly, there is increasing awareness that firm-level characteristics play a greater role in shaping innovation activity within industries. Secondly, greater availability of micro-data, such as the CIS, has made it possible to investigate empirically firms' heterogeneity in innovation-related behavior (Srholec and Verspagan, 2008; Evangelista and Vezzani, 2010; Frenz and Lambert, 2010).

2. Entrepreneurship in the Banking Industry

We live in a time characterized by change, a time where the only constants are confusion and uncertainty. The Newer theory maintains that uncertainty is a driver of change, enhancing the possibilities for achieving competitive advantage (Eignatten and Galen, 2002; Eignatten and Simonse, 1999; Fitzgerald and Eijnatten, 1998; Meyer et al., 2002).

In times of change, we have an opportunity to move into new levels of value creation by identifying and exploring business opportunities by taking an entrepreneurial posture, building on strong performance incentives. Banks can benefit from using new knowledge, as existing knowledge has a tendency to become outdated, particularly in complex business environments (Kuhn, 1970; Lloyd, 1970; Boorstin, 1998; Gottlieb, 2000).

The concept of technological accumulation and creative destruction are the core of Schumpeterian economics. Schumpeter looked at innovation as an event that could revolutionize economic life by focusing on new entrepreneurs, new companies, and new industries. Schumpeter (1947) introduced the notion of "creative destruction" noting that following technological change certain rents become available to entrepreneurs, which later diminish as innovations become established practices in a given industry. These rents are called Schumpeterian rents and are defined as rents stemming from the risky initiative. Creative destruction is a regime of low cumulative and high technological opportunities, where entry and exit in technological areas are low.

A strong entrepreneurial orientation captures organizational processes and methods that are important for technological and marketing performance (Covin and Slevin, 1991; Lumpkin and Dess, 1996). Entrepreneurial orientation can illustrate how organizational resources can provide a sustainable competitive advantage (Lado and Wilson, 1994; Zahra et al., 1999; Knight, 1997; Lumpkin and Dess, 1996; Lee et al., 2001).

We can add Neo-Schumpeterian stream of research has enriched those insights from Schumpeter, that to a certain extent contradicts the rather clean-cut logic on growth in small- and medium-sized firms in banking found in this article. Antonelli et al., (2010), confirmed that there are several industries where the innovators of today were also the innovators of the past. Following Nelson and Winter (1982) and Dosi (1982), it emerged that there are important differences across

technological regimes and industrial sectors (Malerba and Orsenigo, 1995, 1997). The literature on the persistence of innovation, empirically supported by the analysis of patent data and innovation counts (Geroski et al., 1997; Ceflis and Orsenigo, 2001) and innovation survey data (Peters, 2007; and Roper and Hewitt Dundas, 2008).

2.1 The Resource-Based View and Social Capital Theory

To describe how banks may embrace entrepreneurial processes, we distinguish between the resource-based view (RBV) and social capital theory. While the resource-based view stresses the use of internally accumulated resources, social capital theory underscores its relational characteristics with external entities. RBV is related to the exploitation of knowledge (technological focus), while we are of the opinion that social capital to a greater extent is related to the exploration of knowledge (marketing focus). The two theories may be synthesized since banks can procure firm-specific knowledge, and obtain complementary resources through their external networks.

2.1.1 The Resource-Based View

Exploitation of knowledge can be linked to the resource-based view. This research stream suggests that internal resources may facilitate the definition of durable competitive advantages (Wernerfeldt, 1984; Barney, 1986; Grant, 1996). The RBV of the firm, which builds on Schumpeter's perspective on entrepreneurship, views the firm as a bundle of resources.

The RBV states that marshaling and uniquely combining a set of complementary and specialized resources may lead to entrepreneurial processes (Penrose, 1959; Wernerfeldt, 1984; Barney, 1986; 1991; Amit and Schoemaker, 1993; Peteraf, 1993). The supposition is that, even in equilibrium, firms may differ regarding the resources they control, and that such asymmetric firms may coexist, until some exogenous change or Schumpeterian shock occurs. Examples of such shocks include "radical technological innovation, social and political turmoil" (Haveman et al., 2001, p. 253).

Because they are socially complex and more difficult to understand and imitate, intangible resources are more likely to lead to a competitive advantage than is the case for tangible resources (Barney, 1991; Hitt et al., 2001). One important intangible resource is a firm's reputation (Deephouse, 2000). Reputation can be an important strategic resource since it can give access to resources (e.g., financial capital) and that that it can help firm take advantage of information asymmetries (Hitt et al., 2001).

2.1.2 Social Capital

Exploration of knowledge can be linked to social capital, as this research stream suggests that a firm's external network is seen as a contributor to firm performance (Leenders and Gabbay, 1999). The ability to mobilize external resources, attract customers, and identify entrepreneurial opportunities can make economic transfers possible, and confer organizational legitimacy (Bunt, 1992; Uzzi, 1996; Pennings and Lee, 1999). The extent to which banks manage to acquire external knowledge from its key customers depends on the ability to recognize and make use of external resources (Cohen and Levinthal, 1990; Dyer and Singh, 1998; Gulati et al., 2000).

2.2 Innovation and knowledge creation

We aim to illustrate how the banking industry can become more competitive by focusing on innovation and knowledge creation. Innovation and knowledge creation result from new combinations of knowledge (Cohen and Levinthal, 1990). The accumulation of knowledge through learning constitutes a driving force for explaining firms' growth (Penrose, 1959; Spencer and Grant, 1996). Knowledge creation and innovation have a strong and complex relationship, however, seldom examined.

2.2.1 Knowledge creation

Researchers such as Nonaka and Takeuchi (1995) have focused at how tacit knowledge can be transferred into explicit knowledge. We take the opposite approach as we believe that the use of tacit knowledge may be a strategic weapon and that it can be a change agent in the banking industry (Polanyi, 1962, 1967). According to our reasoning, explicit knowledge is related to exploitation of knowledge (technological focus), while tacit knowledge to a greater extent is related to exploration of knowledge (marketing focus).

In order to address the question "where does knowledge come from?", it might be worthwhile to focus on learning, or to be more concrete, how different stimuli can be turned into knowledge (Moreno-Luzon and Lloria, 2007), thus avoiding a possible curtain between explicit and tacit knowledge woven by certain authors, including the contribution of Nonaka and Takeuchi (1995). Explicit and tacit knowledge are not two ends of a continuum but two sides of the same coin.

Learning new capabilities can help firms to compete effectively and efficiently (Autio et al., 2000). Learning new knowledge may be necessary to help a firm to adapt to its environments. Newman (2000) argues that learning can help organizations to change. Learning is a common reason for establishing and participating in strategic alliances (Gulati, 1999; Inkpen, 2000; Steensma and Lyles, 2000).

The trade-off between exploitation and exploration, or long-run and short-run strategies, was put forward by March (1991) who suggests that to survive firms need to maintain an appropriate balance between exploitation associated with cost-cutting and exploration associated with new product or market development. Levinthal and March (1993, p. 105) make the point in the following way: "the basic problem confronting an organization is to engage in sufficient exploitation to ensure its current viability and, at the same time, to devote enough energy to exploration to ensure its future viability."

The balancing between exploitation and exploration is at the core of O'Really and Tushman's (2004) conceptualization of the ambidextrous organization. The importance of a simultaneous exploitation and exploration strategy is also implicit in the concept of dynamic capabilities initially developed by Teece and Pisano (Teece and Pisano, 1994; Teece et al., 1997). By definition, the use of dynamic capabilities involve adaptation and change, building on foundations provided by Schumpeter (1934, 1939, 1942, 1947, 1949), Penrose (1959), Nelson and Winter (1982) and Barney (1986).

We pay attention to the use of heterogeneity of resources when using knowledge in a dynamic manner. There are some conceptual avenues that can be followed when studying knowledge in dynamic settings. We use an approach derived from evolutionary economics (Nelson and Winter, 1982), and describe the evolutionary trajectories of knowledge (Helfat and Peteraf, 2003). Our analysis focuses on the regularities among trajectories and describes both patterns and paths of knowledge evolution. Specifically, we try to illustrate that the use of knowledge is dependent upon routines (Nelson and Winter, 1982). Routines may be given the form as a set of norms, or "theories of action" (Argyris and Schon, 1978).

2.2.2 Exploitation of Knowledge (Technological Focus)

We regard exploitation of knowledge as for how to use technology in efficient ways. The use of technology resembles the concept of arbitrage used in the financial sector. The arbitrator's role is buying and selling the same item in different markets in order to profit from price differences. Arbitrage as a concept is also applied more broadly to include trading that takes advantage of discrepancies in pricing among groups of assets that are close substitutes. This means that there is a business potential in financial dealing, using technologies as means.

Exploitation of knowledge is illustrated through market imperfections. Solow (1997) claims that steady-state situations are convenient but are less relevant in globalized hypercompetitive business environments. This means that attempts to achieve concentration power may be short-lived because competitors will use innovation and imitation strategies (Grant, 1996, p. 375).

We may add that banks may fail when trying to achieve advantages resulting from technological innovations, as they can find themselves paralyzed by old-fashioned management practices (Leonard-Barton, 1992), and handicapped by a lack of relevant knowledge (Cohen and Levinthal, 1990). Old routines can reinforce status quo (Nelson and Winter, 1982; Gersick and Hackman, 1990). Routines may provide a source of resistance to change, and remain an under-explained factor in the technical literature (Edmondson, 1999).

2.2.3 Exploration of Knowledge (Marketing Focus)

Exploration of knowledge focuses on profits stemming from innovations, and not as a result of concentration tendencies (Jacobsen, 1992). The objective is to innovate through radical steps, and not to influence market factors, per se. By using insights from marketing it is possible for banks to build relation-specific knowledge, and come in closer contact with clients through value-creating processes.

During the 1990s and continuing into the 2000s, the issue of value creation through entrepreneurship has gained interest in the marketing literature. The prevailing view is that the value for customers is embedded in products that are outputs of firms' manufacturing process. The view is called value-in-exchange. This logic is challenged by an alternative viewpoint called value-in-use, where more focus is placed on value-generating processes (Normann, 2001; Vargo and Lusch, 2004; Gronroos, 2006). According to this view, a value is not created by the provider but rather by customers' value-generating processes (Gronroos, 2000). As Vargo and Lush (2004) pointed out, this is not a new approach to value-

creation. In the economics and business economics literature it has long been overshadowed by the value-in-exchange notion. In one of their original propositions of the service-dominant logic, Vargo and Lusch (2004) viewed customers as co-producers but later changed this view into customers as co-creators of value (Vargo and Lusch, 2008). By looking at customers as co-creators will also affect the supplier side as it can make it possible to tailor-make services (Gronroos, 2006).

The classical topic of customer satisfaction/dissatisfaction is still important as it is believed that customer satisfaction has long-term benefits, including customer loyalty, and increased profitability (Anderson et al., 2004; Rust et al., 2000). There is empirical research suggesting that by satisfied customers are more loyal, are involved in cross-selling and positive word-of-mouth advertising (e.g., Fornell, 1992; Fornell et al., 1996).

Such behaviors translate into the superior performance as measured by traditional metrics. For example, customer satisfaction has been found to have a positive impact on customer loyalty and usage behavior, as well as a reduction in customer complaints (Bolton, 1998; Fornell, 1992). Increased customer loyalty may increase usage levels (Bolton et al., 2000) and secure future revenues (Rust et al., 2000) as well as minimize the likelihood of customer defection (Anderson and Sullivan, 1993; Mithas et al., 2002). Recently, a study by Anderson and Mazvancheryl (2004) found a positive association between a firm's current level of customer satisfaction and contemporaneous financial market measures, such as stock market ratio and market-to-book ratio. Although promising, more research is needed (Gruca and Rego, 2005).

The characteristics of customers' preferences are the antecedents to response to marketers' offers, including individually customized offers. The emerging consensus among researchers of consumer decision making is that buyers often do not have well-defined preferences that can be retrieved. They often construct their preferences when faced with the need to make decisions (for a review, see Fischhoff 1991; Slovic, 1995).

3. What is the Relationship between Innovation and Knowledge Creation?

We regard innovation as being dependent on knowledge creation. According to our reasoning resource-based theory is related to knowledge exploitation while there is a closer link between social capital and the exploration of knowledge. While traditional banking is related to the exploitation of knowledge, newer practices in banking are to a larger extent related to the exploration of knowledge.

The exploitation of knowledge is reflected in organizational outputs. The accumulation of knowledge through learning constitutes a driving force as it enhances the ability to exploit business opportunities. Banks engage in the exploration of knowledge for the purpose of developing combinations of knowledge. Exploration involves discovery and experimentation, which can lead to increased productivity through repeated practices. In this article, we suggest that banks can use tacit knowledge to a greater extent by focusing on radical marketing innovations.

We believe that the exploration of tacit knowledge within new processes is the main driver for the creation of new knowledge within banks. Such a mental framework can be used as a basis for designing new marketing programs in banks, which in turn can lead to path-breaking innovations (Schumpeter, 1947; Nelson and Winter, 1982; Galinic and Rodan, 1998; Fleming, 2001; Nerkar and Roberts, 2004). How explicit knowledge is transferred into tacit knowledge is illustrated in figure two, found at the next page.

Transferring explicit knowledge into tacit knowledge may be difficult. The character of tacit knowledge can prevent other organizations from becoming aware of its existence and can hamper transmissions (Miller et al., 2007). Banks can actively try to keep tacit knowledge secret as such knowledge can be a source of competitive advantage (Lieberkind, 1996). Banks can compensate some of the difficulties connected with the transfer of explicit knowledge into tacit by moving into inter-organizational alliances (Grant, 1996; Liebeskind, 1996; Rosenkopf and Almeida, 2003).

More than sixty years since one of Schumpeter's latest contributions ((Schumpeter, 1949), researchers are struggling to come to grips with entrepreneurship within the constraints of the conventional Newtonian paradigm. Researchers have to a certain extent attempted to apply linear approaches are studies of complex business relationships such as the financial crisis within the OECD area. When turbulence and disorder dominate, and there is an accelerating rate of change, traditional management models will have to be used with a greater degree of care. We suggest that rather than looking for causal relationships we can benefit from using more pragmatic concepts such as bottom-up approaches suited for transformation processes found in the OECD area.

Using a bottom-up perspective to tailor-make services, we argue that the days of mass-marketing are numbered. Today, firms are turning back to the competitive value of craftwork as an end in itself. Increasingly, companies succeed by offering tailor-made services to carefully targeted market segments. Whenever and wherever they seek a combination of unique features, customized contents, or creating a variety of products and services, there is an element of craftwork involved.

Bottom-up organizations typically have an incredible appetite for experimentation with new ideas. They allow people to experiment and to test to come up with what might be a pioneer way to conduct business. Business renewal is at the center of the firm's attention, striving to create its internal context for breakthrough performance, and to grow proactively, always searching for new business opportunities.

Knowledge creation

Innovation (technology and marketing)	Exploitation of knowledge Use of technology/ explicit knowledge (the resource based view)	Exploration of knowledge Use of marketing/ tacit knowledge (social capital theory)
New processes	Regular innovations (A) Incremental innovations (B)	Revolutionary innovations (A) Major process innovations (B) Technological innovations (D)
Existing processes	Niche innovations (A) Modular innovations (B)	Radical innovations (B) Process/product and service innovations (C) Market breakthroughs (D)

Figure 1: Innovation and knowledge creation in the banking industry

- (A) Abernathy and Clark (1985)
- (B) Henderson and Clark (1990)
- (C) Tushman et al. (1997)
- (D) Chandy and Tellis (1998)

4. Conclusion, Implications and Future Research

The economic geography of the post-industrialized world is characterized by fundamental processes of restructuring, an increased mobility of capital and a pursuit of new growth activities, particularly in the service sector (Binns and Nel, 2002). Traditional means of investing and conducting technology work and marketing have undergone dramatic changes. In recent years, the service sector has become more important worldwide, for example when it comes to customer preferences, wealth mobility, and location mobility, for example in the financial community which is the empirical setting for this article.

Given the financial crisis in the OECD area, profitable growth remains top-priority. For this purpose, we focus on radical innovations models with a focus on marketing. These insights are linked to entrepreneurial literature that might give direction as to how small and medium-sized banks can help countries in the OECD area out of the crisis.

A link between innovation and knowledge creation may open new research areas. Such an approach can be suited for studies of complex business practices, leading to more radical ways of organizing than traditionally found in the management literature. By combining technological innovation with market-based innovations, it may be possible to shed light on how banks can create new knowledge.

We suggest that entrepreneurship literature is studied to a larger extent in future writings on the financial sector as such literature often breaks with traditional business practices. We also believe that future research can benefit from using concrete business cases, more so than what has been done in this research. Studies of extreme business cases are welcome as they may give great possibilities for learning about the need for radical innovations. As cases in the OECD area, we suggest that the banks focusing on economic growth within regions are studied more closely.

References

- Abernathy, W. and Clark, K.B. (1985), "Mapping the winds of creative destruction", *Research Policy*, Vol. 14, pp. 3-22. [Crossref](#)
- Afuah, A. (1998), *Innovation Management: Strategies, Implementation, and Profits*, Oxford University Press, New York, NY.
- Alvarez, R., Benjavente, J.M. and Grespi, G. (2010), "Economic crisis and organizational change in developing countries: evidence from Chile", *International Journal of Technological Learning, Innovation and Development*, 3(1), pp. 67-86. [Crossref](#)
- Amit, R. and Schoemaker, P. (1993), "Strategic assets and organizational rent", *Strategic Management Journal*, Vol. 14, No. 1, pp. 33-46. [Crossref](#)
- Anderson, E.W. and Mazvancheryl, K. (2004), "Customer Satisfaction, Productivity, and Profitability: Differences Between Goods and Services", *Marketing Science*, Vol. 16, No. 2, pp. 129-45. [Crossref](#)
- Anderson, E.W., Fornell, C. and Mazvanchery, S.K. (2004), "Customer Satisfaction and Shareholder Value", *Journal of Marketing*, Vol. 68, pp. 172-85. [Crossref](#)
- Anderson, E.W. and Sullivan, M.W. (1993), "The Antecedents and Consequences of Customer Satisfaction for Firms", *Marketing Science*, Vol. 12, No. 2, pp. 125-43. [Crossref](#)
- Antonelli, C., Crepi, F. and Scellato, G. (2010), "Inside Innovation Persistence: New Evidence from Italian Micro-Data", WP Laboratorio di Economia dell'Innovazione Franco
- Archibugi, D. and Filippetti, A. (2011), "Innovation and Economic Crisis. Lessons and Prospects from the Economic Downturn", Routledge, London.
- Argyis, C. and Schon, D. (1978), *Organizational Learning*, Addison-Wesley, Reading, MA.
- Autio, E., Sapienza, H.J. and Almeida, J.G. (2000), "Effects of age at entry, knowledge intensity, and imitability on international growth", *Academy of Management Journal*, Vol. 43, pp. 909-24. [Crossref](#)
- Barney, J. (1986), "Strategic factor markets: expectations, luck and business strategy", *Management Science*, Vol. 21, pp. 489-506. [Crossref](#)
- Barney, J.B. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17, pp. 99-120. [Crossref](#)
- Binns, T. and E. Nils (2002), "Tourism as a local development strategy in South Africa", *The Geographical Journal*, 16(3), pp. 235-47. [Crossref](#)
- Bolton, R.N. (1998), "A Dynamic Model of the Duration of the Customer's Relationship with a Continuous Service Provider: The Role of Satisfaction", *Marketing Science*, Vol. 17, No. 1, pp. 45-65. [Crossref](#)
- Bolton, R.N., Kannan, P.K. and Bramlett, M.D. (2000), "Implications of Loyalty Program Membership and Service Experience of Customer Retention and Value", *Journal of Academy of Marketing Science*, Vol. 28, No. 1, pp. 95-108. [Crossref](#)
- Boostin, D.L. (1998), *the Seekers. The Story of Man is Continuing Quest to Understand His World*, Random House, New York.
- Breschi, S., Malerba, F. and Orsenigo, L. (2000), "Technological regimes and Schumpeterian patterns of innovation", *The Economic Journal*, 10 (463), pp. 388-410. [Crossref](#)
- Bunt, R. (1992), *Structural Holes*, Harvard University Press, Cambridge, MA.
- Cefis, E. and Orsenigo, L. (2001), "The persistence of innovative activities: A cross-country and cross-sectors comparative analysis", *Research Policy*, 30 (7), pp. 1139-55. [Crossref](#)

- Chandy, R.K. and Tellis, G.J. (1998), “Organizing for radical product innovation: the overlooked role of willingness to cannibalize”, *Journal of Marketing Research*, Vol. 35, No. 4, pp. 119-35. [Crossref](#)
- Cohen, W.H. and Levinthal, D.A. (1990), “Absorptive capacity: a new perspective on learning and innovation”, *Administrative Science Quarterly*, Vol. 35, pp. 128-52. [Crossref](#)
- Covin, J.G. and Slevin, D.P. (1991), “A conceptual model of entrepreneurship as firm behavior”, *Entrepreneurship: Theory, and Practice*, Vol. 16, No. 1, pp. 724.
- Deephouse, D.L. (2000), “Media reputation as a strategic resource: an integration of mass communication and resource-based theories”, *Journal of Management*, Vol. 26, pp. 1091-1112. [Crossref](#)
- Edmondson, A.C. (1999), “Psychological safety and learning behavior in work teams”, *Administrative Science Quarterly*, Vol. 44, pp. 350-83. [Crossref](#)
- Eijnatten van F.M. and Simonse, L.W.L. (1999), “Organizing for creativity, quality and speed in product creation processes”, *Quality and Reliability International*, 15, pp. 411-16. [Crossref](#)
- Eijnatten van F.M. and van Galen, M. (2002), “Chaos, dialogue and the dolphin’s strategy“, *Journal of Organizational Change Management*, 15(49), pp. 391-92. [Crossref](#)
- Evangelista, R. and Vezzani, A. (2010), “The economic impact of technological and organizational innovations. A firm-level analysis“, *Research Policy*, 39 (10), pp. 1253-63. [Crossref](#)
- Feldman, M. (2000), “Organizational routines as a source of continuous change”, *Organization Science*, Vol. 11, No. 6, pp. 611-29. [Crossref](#)
- Fichhoff, B. (1991), “Value Elicitation: Is There Anything There?” *American Psychologist*, Vol. 46, no. 8, pp. 835-47. [Crossref](#)
- Filippetti, A. and Archibugi, D. (2011), “Innovation in times of crisis: national system of innovation, structure and demand”, *Research Policy*, 40(2), pp. 179-92. [Crossref](#)
- Fitzgerald, L.A. and Eijnatten, van F.M. (1998), “Letting go for control. The art of managing the chaotic enterprise”, *International Journal of Business Transformation*, 1(14), pp. 261-79.
- Fleming, L. (2001), “Recombinant uncertainty in technical search”, *Management Science*, Vol. 47, pp. 117-32. [Crossref](#)
- Fornell, C. (1992), “A National Customer Satisfaction Barometer: The Swedish Experience”, *Journal of Marketing*, Vol. 56, January, pp. 6-21. [Crossref](#)
- Fornell, C., Johnson, M.D., Anderson, E.W., Cha, J., and Bryant, B. E. (1996), “The American Customer Satisfaction Index: Nature, Purpose, and Findings”, *Journal of Marketing*, Vol. 58, October, pp. 6-21. [Crossref](#)
- Freeman, G. and Louca, F. (2001), *As Times Goes By: From the Industrial Revolution to the Information Revolution*, Oxford University Press, Oxford.
- Frenz, M. and Preverzer, M. (2012), “What does CIS tell us about technological regimes and persistence of innovation“, *Industry and Innovation*, 19(4), pp. 285-306. [Crossref](#)
- Galinic, D.C. and Rodan, S. (1998), “Resource recombinations in the firm: knowledge structures and the potential of Schumpeterian innovation”, *Strategic Management Journal*, Vol. 19, pp. 1193-1201. [Crossref](#)
- Geroski, P.A., Van Reenen, J., and Walters, C.F. (1997), “How persistently do firms innovate?” *Research Policy*, 26(1), pp. 33-48. [Crossref](#)
- Gersick, C.J. and Hackman, J.R. (1990), “Habitual routines in task performing teams”, *Organizational Behavior and Human Decision Processes*, Vol. 47, pp. 65-97. [Crossref](#)
- Gottlieb, A. (2000), *the Dream of Reason: The History of Philosophy from Greeks to the Renaissance*, Penguin Books, London.
- Grant, R.M. (1996), “Toward a knowledge-based theory of the firm”, *Strategic Management Journal*, Vol. 17, pp.109-22. [Crossref](#)
- Grant, R.M. (1991), “A resource-based theory of competitive advantage. Implications for strategy formulation”, *California Management Review*, Vol. 33, No. 3, pp. 114-35. [Crossref](#)
- Gronroos, C. (2000), *Service Management and Marketing: A Customer Relationship Approach*, 2nd ed, Wiley, Chichester.
- Gronroos, C. (2006), “Adopting a service logic for marketing”, *Marketing Theory*, Vol. 6, No. 3, pp. 317-33. [Crossref](#)
- Gruca, T.C. and Rego, L.L. (2005), “Customer Satisfaction, Cash Flow, and Shareholder Value”, *Journal of Marketing*, Vol. 69, July, pp. 115-130. [Crossref](#)
- Gulati, R. (1999), “Network location and learning. The influence of network resources and firm capabilities on alliance formation”, *Strategic Management Journal*, Vol. 20, no. 5, pp. 397-420. [Crossref](#)

- Gulati, R., Nohria, N. and Zaheer, A. (2000), "Strategic networks". *Strategic Management Journal*, Special Issue, Vol. 21, Vol. 3, pp. 203-15. [Crossref](#)
- Haveman, H.A, Russo, M.V. and Meyer, A.D. (2001), "Organizational environments in flux: The impact of regulatory punctuations on organizational domains, CEO succession, and performance", *Organization Science*, Vol. 12, pp. 253-73. [Crossref](#)
- Helfast, C.E. and Peteraf, M. (2003), "The dynamic resource-based view, Capability life cycles", *Strategic Management Journal*, 24, pp. 997-1010. [Crossref](#)
- Henderson, R.M. and Clark, K.B. (1990), "Architectural innovation: the reconfiguration of existing product technologies and the failure of established firms", *Administrative Science Quarterly*, Vol. 35, No. 1, pp. 9-22. [Crossref](#)
- Hitt, M.A., Bierman, L., Shimizu and K., Kochhar, R. (2001), "Direct and moderating effects of human capital on strategy and performance in professional service firms: a resource-based perspective". *Academy of Management Journal*, Vol. 44, pp. 13-28. [Crossref](#)
- Huber, C.P (1991), "Organizational learning: the contributing process and the literature", *Organization Science*, Vol. 2, No. 1, pp. 88-115. [Crossref](#)
- Hunt, J.W. (1990), "Changing Pattern of Acquisition Behavior in Takeovers and Consequences for Acquisitions Process", *Strategic Management Journal*, Vol. 11, no. 1, pp. 69-77. [Crossref](#)
- Inkpen, A.C. (2000), "A note on the dynamics of learning alliances: competition, cooperation, and relative scope", *Strategic Management Journal*, Vol. 21, no. 7, pp. 775-79. [Crossref](#)
- Ireland, R.D., Hitt, M.A., Camp, S.M. and Sexton, D.L. (2001), "Integrating entrepreneurship actions and strategic management actions to create firm wealth", *Academy of Management Executive*, Vol. 15, No. 1, pp. 49-63. [Crossref](#)
- Jacobsen, R. (1992), "The Austrian School of Strategy", *Academy of Management Review*, 17(4), pp. 782-807.
- James, W. (1996), *A Pluralistic Universe*, University of Nebraska Press, Lincoln, NE.
- Kanerva, M. and Hollanders, H. (2009), *The Impact on the Economic Crisis on Innovation*, INNO Metrics Thematic Paper. European Commission, DG Enterprise, Brussels.
- Knight, G.A. (1997), "Cross-cultural reliability and validity of a scale to measure firm entrepreneurial orientation", *Journal of Business Venturing*, Vol. 12, pp. 213-25. [Crossref](#)
- Lado, A.A. and Wilson, M.C. (1994), "Human resource systems and sustained competitive advantage: a competency-based perspective", *Academy of Management Review*, Vol. 19, No. 4, pp. 699-728.
- Lee, K. and Pennings, J.M. (2001), "Internal capabilities, external networks, and performance. A study on technology-based ventures", *Strategic Management Journal*, Vol. 22, pp. 615-40. [Crossref](#)
- Leenders, R.T.A. and Gabbary, S.M. (1999), "An agenda for the future", In *Corporate Social Capital and Liability*, Leenders, R.T.A. and Gabbary, S.M. (eds.), Kluwer: New York, pp. 483-94. [Crossref](#)
- Leonard-Barton, D. (1992), "Core capabilities and core rigidities: a paradox in managing new product development", *Strategic Management Journal*, 13(1), pp. 111-126. [Crossref](#)
- Levinthal, D.A. and March, J.G. (1993), "The myopia of learning", *Strategic Management Journal*, 14(2), pp. 95-112. [Crossref](#)
- Liebeskind, J.P. (1996), "Knowledge, strategy and the theory of the firm", *Strategic Management Journal*, Vol. 17, pp. 93-108. [Crossref](#)
- Lloyd, G.E.R. (1970), *Early Greek Science. Thales of Aristotle*, W.W. Norton, New York.
- Louca, F. and Mendonca, S. (1999), *Steady change: the 200 largest US manufacturing firms in the twentieth century*, Working Paper no. 14/99, CISEP-ISEG, Lisbon.
- Lumpkin, G.T. and Dess, G.G. (1996), "Clarifying the entrepreneurial orientation construct and linking it to performance", *Academy of Management Review*, Vol. 21, pp. 135-73.
- Malerba, F. and Orsenigo, L. (1995), "Schumpeterian patterns of innovation", *Cambridge Journal of Economics*, 19(1), pp. 47-65.
- Malerba, F. and Orsenigo, L. (1997), "Technological regimes and sectoral patterns of innovational activities", *Industrial and Corporate Changes*, 6(1), pp. 83-118. [Crossref](#)
- March, J. (1981), "Footnotes to organizational change", *Administrative Science Quarterly*, Vol. 26, pp. 563-77. [Crossref](#)
- McDermott, C. T. and O'Connor, G.C. (2002), "Managing radical innovation: An overview of emergent strategy issues", *Journal of Product Innovation Management*, Vol 19, no. 6, pp. 227-47. [Crossref](#)
- Meyer, D.A., Loch, C.H. and Pich, M.T. (2002), "Managing project uncertainty: From variation to chaos", *MIT Sloan Management Review*, pp. 60-67. [Crossref](#)

- Miller, D.J., Fern, M.J. and Cardinal, L.B. (2007), “The use of knowledge for technological innovation within diversified firms”, *Academy of Management Journal*, Vol. 50, No. 2, pp. 308-26. [Crossref](#)
- Mithas, S., Jones, J.L. and Will, M. (2002), “Non-Contractible Factors in Determinants of Electronic Market Adoption”, in *Proceedings of the 23rd International Conference on Information Systems*, Applegate, L., Galliers, R. and DeGross, A. (eds.), Association for Information Systems, Barcelona.
- Momiliano, Dipartimento di Economia S. Cognetti de Martiis, Università degli Studi di Ferrara, Università di Torino and BRICK, Collegio Carlo Alberto (Italy).
- Moreno-Luzon, M.D. and Lloria, M. (2007), “The role of Non-structural and Informal Mechanisms of Integration and Coordination as Forces in Knowledge Creation”, *British Journal of Management*, Vol. 19, pp. 250-76. [Crossref](#)
- Morgan, N.A., Anderson, E.W. and Mittal, V. (2005), “Understanding Firms’ Customer Satisfaction Information Usage”, *Journal of Marketing*, Vol. 69, July, pp. 131-51. [Crossref](#)
- Nelson, R.R. and Winter, S.G. (1982), *An Evolutionary Theory of Economic Change*, Belknap Press of Harvard University Press, Cambridge, MA.
- Newman, K.L. (2000), “Organizational transformation during institutional upheaval”, *Academy of Management Review*, Vol. 25, pp. 602-19.
- Nonaka, I. and Takeuchi, H. (1995), *The Knowledge-Creating Company-How Japanese Companies Create The Dynamics Of Innovation*, Oxford University Press, New York, NY.
- Normann, R. (2001), *Reframing Business: When the Map Changes the Landscape*, Wiley Chichester.
- O’Really, C. and Tushman, M. (2004), “The ambidextrous organization”, *Harvard Business Review*, (April), pp. 74-81.
- Patel, P. and Pavitt, K. (1994), “Uneven (and divergent) technological accumulation among advanced countries. Evidence and a framework of explanation”, *Industrial and Corporate Change*, 3(3), pp. 359-87. [Crossref](#)
- Paunov, C. (2012), “The global crisis and firms’ investments in innovation”, *Research Policy*, 41(1), pp. 24-35. [Crossref](#)
- Pennings, J.M., Lee, K. and Wittenloostuijn, A. (1998), “Human capital, social capital, and firm dissolution”, *Academy of Management Journal*, Vol. 41, pp. 425-40. [Crossref](#)
- Penrose, E.T. (1959), *The Theory of the Growth of the Firm*, Wiley, New York, NY.
- Perez, C. (2002), *Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages*, Edward Elgar, Cheltenham. [Crossref](#)
- Perez, C. (2009), “The double bubble at the turn of the century: technological roots and structural Implications”, *Cambridge Journal of Economics*, 33(4), pp. 779-805. [Crossref](#)
- Peteraf, M.A. (1993), “The cornerstones of competitive advantage: a resource-based view”, *Strategic Management Journal*, Vol. 14, No. 3, pp. 179-92. [Crossref](#)
- Peters, B. (2007), “Persistence of Innovation: stylized facts and panel data evidence”, *The Journal of Technology Transfer*, 34 (2), pp. 226-243. [Crossref](#)
- Polanyi, M. (1962), *Personal Knowledge: Towards a post-critical philosophy*, University of Chicago Press, Chicago, IL (corrected ed.).
- Polanyi, M. (1967), *The Tacit Dimension*, Anchor Books, Garden City, NY.
- Roper, S. and Hewitt-Dandas, N. (2008), “Innovation persistence: survey and case-study evidence”, *Research Policy*, 37(1), pp. 149-162. [Crossref](#)
- Rosenkopf, L. and Almeida, P. (2003), “Overcoming local search through alliances and mobility”, *Management Science*, Vol. 49, No. 6, pp. 751-66. [Crossref](#)
- Rust, R.T., Zeithaml, V. and Lemmon, K. (2000), *Driving Customer Equity: How Customer Lifetime Value is Reshaping Corporate Strategy*, The Free Press, Boston, MA.
- Schumpeter, J.A. (1911), *The Theory of Economic Development*, Harvard University Press, Cambridge.
- Schumpeter, J.A. (1942), *Capitalism, Socialism, and Democracy*, Harper & Brothers, New York, NY.
- Schumpeter, J.A. (1934), *The Theory of Economic Development*, Harvard University Press, Cambridge, MA.
- Schumpeter, J.A. (1939), *Business Cycles: A Theoretical, Historical and Statistical Analysis of the Capitalist Process*, McGraw-Hill, New York, NY.
- Schumpeter, J.A. (1947), “The creative response in economic history”, *Journal of Economic History*, Vol. 7, pp. 149-159. [Crossref](#)
- Schumpeter, J.A. (1949), *The Theory of Economic Development*, Harvard University Press, Cambridge, MA.

- Sheth, J.N. and Paravatiyar, A. (1985), “Relationship Marketing in Consumer Markets: Antecedents and Consequences”, *Journal of the Academy of Marketing Science*, Vol. 23, No. 4, pp. 255-71. [Crossref](#)
- Simonetti, R. (1996), Technological change and firm growth: “Creative Destruction” in the Fortune list, 1963-87. In Helrnstadter, E. and Perlman, M. (Eds.), *Behavioral norms, technological progress, and economic dynamics: studies in Schumpeterian economics*. The University of Michigan Press, Ann Arbor (USA).
- Slovic, P. (1995), “The Construction of Preferences”, *American Psychologist*, Vol. 50, No. 5, pp. 364-71. [Crossref](#)
- Solow, R.M. (1997), *Learning from learning by doing: Lessons for economic growth*, Stanford University Press, Stanford, California.
- Spender, J-C. and Grant, R.M. (1996), “Knowledge and the firm: an overview”, *Strategic Management Journal*, Winter Special Issue, Vol. 17, pp. 5-9. [Crossref](#)
- Srholec, M. and Verpagen, B. (2008), “The voyage of Beagle in innovation system land. Exploration on sectors, innovation, heterogeneity and selection”, UNU-Merit Working Paper.
- Steensma, H.K. and Lyles, M.A. (2000), “Explaining IJV survival in a transnational economy through social exchange and knowledge-based perspectives”, *Strategic Management Journal*, vol. 21, no. 8, pp. 831-51. [Crossref](#)
- Stopford, J. (2001), “Should strategy makers become dream weavers?” *Harvard Business Review*, Vol. 79, Vol. 1, pp. 831-51.
- Teece, D.J. and Pisano, G.P. (1994), “The dynamic capabilities of firms: an introduction”, *Industrial and Corporate Change*, 3 (3), pp. 537-55. [Crossref](#)
- Teece, D.J. Pisano, G.P. and Shuen, A. (1997), “Dynamic capabilities and strategic management”, *Strategic Management Journal*, 18(7), pp. 509-33. [Crossref](#)
- Tushman, M.L, Anderson, P.C. and O’Reily, T. (1997), “Technological cycles, innovation streams and ambidextrous organizations: organizational renewal through innovation and strategic change”, in *Managing Strategic Innovation and Change: A Collection of Readings*,
- Tushman, M.L. and Anderson, P.C. (eds), Oxford University Press, New York, NY.
- Uzzi, B. (1996), “The sources and consequences of embeddedness for economic performance of organizations: the network effect”, *American Sociological Review*, Vol. 61, pp. 674-98. [Crossref](#)
- Vargo, S.L. and Lusch, R.F. (2004), “Evolving to a new dominant logic of marketing”, *Journal of Marketing*, Vol. 68, January, pp. 1-17. [Crossref](#)
- Vargo, S.L. and Lusch, R.F. (2008), “Service dominant logic: continuing the evolution”, *Journal of the Academy of Marketing Science*, Vol. 36, No. 1, pp. 1-10. [Crossref](#)
- Wernerfeldt, B. (1984), “A resource-based view of the firm”, *Strategic Management Journal*, Vol. 5, No. 2, pp. 171-80. [Crossref](#)
- Zahra, S.A, Nielson, A.P. and Bogner, W.C. (1999), “Corporate entrepreneurship, knowledge and competence development”, *Entrepreneurship: Theory and Practice*, Vol. 23, No. 3, pp. 169-89.
- Zahra, S.A. and Dess, G.G. (2001), “Entrepreneurship as a field of research: encouraging dialogue and debate”, *Academy of Management Review*, Vol. 26, pp. 8-10. [Crossref](#)