Departamento de Dirección de Empresas

Working papers series

WP BSAD 07.02

Corporate Entrepreneurship: Building a Knowledge-based View of the Firm

Isabel Pizarro-Moreno (U. Pablo de Olavide)

Juan C. Real (U. Pablo de Olavide)

Elena Sousa-Ginel (U. Pablo de Olavide)

Keywords: organizational knowledge creation; corporate entrepreneurship; knowledge-base view; innovation; development of capabilities.

Universidad Pablo de Olavide Sevilla

Department of Business Administration

Corporate Entrepreneurship: Building a Knowledge-based View of the Firm

May 2007

Isabel Pizarro-Moreno
Department of Business Administration
Universidad Pablo de Olavide
Carretera de Utrera Km 1
41013 Seville
Spain
email: lcortsan@upo.es

Abstract

Increasing globalisation and dynamism in the economy has made it necessary for established companies to regenerate themselves and renew their ability to compete. This is the goal of Corporate Entrepreneurship (CE) activities, which involve extending the firm's domain of competence and corresponding opportunity set, through internally generated new resource combinations. The purpose of this study is to contribute to the understanding of the way the process of CE is developed within the organizations. In order to achieve this, a model relating key components of the CE process (opportunity, initiative and capability) to five phases of knowledge creation taken from Nonaka & Takeuchi is proposed.

Keywords: organizational knowledge creation; corporate entrepreneurship; knowledge-base view; innovation; development of capabilities

INTRODUCTION

Accelerating technological change and increasing worldwide competition in the last few years, have created a need for managers to adopt a more entrepreneurial approach when formulating their strategies. For this reason, academics and managers have recently begun showing a great interest in the phenomenon of corporate entrepreneurship (CE) as a process which allows the revitalization and improvement of corporate performance (Burgelman, 1983, 1985; Guth & Ginsberg 1990; Kanter 1984; Pinchot, 1985; Rule & Irwin, 1988; Shollhammer, 1982; Zahra, 1991). The value of CE is that it allows for the transformation of organizations through a process of strategic renewal based on the acquisition of new capabilities (Guth & Ginsberg, 1990; Zahra, 1993, 1995, 1996).

The majority of research on CE has focused on issues such as process benefits (Zahra & Covin, 1995), consistency in the definition of the phenomenon itself (Covin & Thousands, 1999; Sharma & Chrisman, 1999), the attributes a company must have to be considered entrepreneurial (Covin & Slevin, 1989, 1990; Jennings & Lumpkin; 1989; Karagozoglu & Brown, 1988; Miller, 1983; Morris & Paul, 1987;), and the role of the individual entrepreneur as a catalyst for the process (Greene *et al.* 1999). Nevertheless, there are still inconsistencies and ambiguities regarding the dynamics of CE, such that the logic of this process has still not been adequately explained (Covin & Miles, 1999).

Therefore, the purpose of this study is to contribute to the understanding of the way the process of CE is developed within organizations. In order to achieve this, a view based on the general theory of knowledge creation is applied, and particularly the spiral model of knowledge creation taken from Nonaka (1994), which has not been used in the field of CE yet. This approach has value for two reasons.

First, it has been shown in recent years that CE adds value not only by using resources in a novel way but also, and more importantly, by creating new resources. A key resource is knowledge, which can be used to redefine the business concept of a company and its competitive approach (Floyd & Wooldridge, 1999; Hitt *et al.* 1999; Zahra *et al.* 1999). Therefore, understanding the way new knowledge is generated will clarify the processes underlying CE activities.

Second, CE has been defined as the process that transforms individual ideas into collective actions through the management of uncertainties (Chung & Gibbons, 1997). In this context, we consider the model of Nonaka (1991, 1994), Nonaka & Takeuchi, 1995) to be a suitable framework for the study of such a process, since this model involves the conversion of tacit knowledge at the individual level into explicit knowledge at the organizational level.

This paper is organized into three sections. First, we analyze the different phenomena included in the term CE, through a brief overview of the different definitions found in the literature. Next, we propose a model that helps to understand the process of CE from a knowledge creation perspective, offering propositions that would be analyzed in a future case study. Finally we present conclusions and reflections for future research.

CORPORATE ENTREPRENEURSHIP: CONCEPT REVISION

Corporate entrepreneurship is a broad term that encompasses a great variety of phenomena and aspects. As it is impossible to treat them all, here we begin with a brief introduction on what we mean by CE and what aspects of it we are going to consider.

Before defining corporate entrepreneurship, however, we should understand the term entrepreneurship. The nearest reference term goes back to Richard Cantillon (1734), who consider entrepreneurship as self-employment with unknown salary. For Schumpeter (1934) an entrepreneur is a person who, through new combinations creates new forms of products, processes, markets, and organisational forms. Hisrich (1989) defines entrepreneurship as a process of creation of something new with value, employing the necessary time and effort and assuming a financial, physical and social risk, and ultimately receiving a reward in terms of money as well as satisfaction and independence. Entrepreneurship has become an abstract term associated with any individual or group that creates new combinations in their existing organisations (Lumpkin & Dess, 1996), in such a way that the three entrepreneurial dimensions, risk assumption, innovativeness and proactivity that are developed in a new and independent business unit, can be associated to corporate process. This is known as corporate entrepreneurship (Covin & Slevin, 1991).

What differentiates entrepreneurship from CE is the context in which the entrepreneurial act is developed. Entrepreneurs innovate for themselves while the intrapreneurs or corporate entrepreneurs do it for the firm in which they are employed. CE has long been recognized as a potentially viable means for promoting and sustaining corporate competitiveness. CE can be used to improve competitive positioning and transform corporations, their markets, and industries, as opportunities for value-creating innovation are developed and exploited (Guth & Ginsberg, 1990; Khandualla, 1987; Lumpkin & Dess, 1996; Miller, 1983; Naman & Slevin, 1993; Scholhammer, 1982). For example, as shown in Figure 1, many terms are utilised to describe entrepreneurial efforts inside the existing organization, including corporate entrepreneurship (Burgelman, 1983; Zahra, 1993), corporate venturing (Biggadike, 1979), intrepreneuring (Pinchot, 1985), internal corporate entrepreneurship (Jones & Butler, 1992), internal entrepreneurship (Schollhammer,1982; Vesper,1984), strategic renewal (Guth & Ginsberg,1990), venturing (Hornsby *et al.*, 1993).

The existence of such a large number of terms to refer to the same phenomena has slowed the development of this field of research (Sharma & Chrisman, 1999). Therefore, we now turn to a discussion of some of the definitions found in the literature to identify those we are consider more relevant for this research.

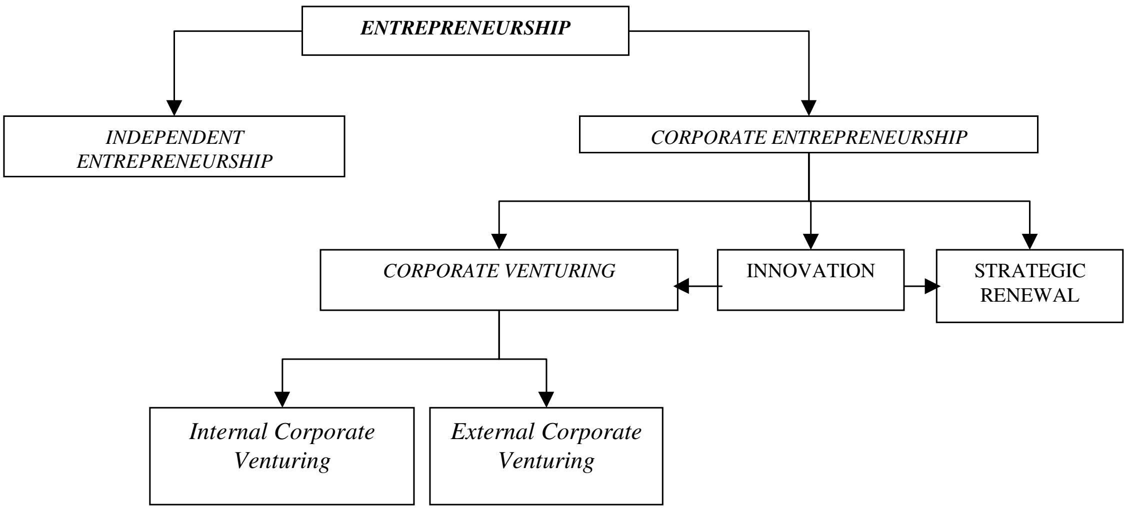

Figure 1 Entrepreneurship terminology

Source: Adapted from Sharma & Chrisman (1999)

In one way, CE has been conceptualised similar to the process whereby the firms engage in diversification through internal development. Such diversification requires extending the firm's domain of competence and corresponding opportunity set, through internally generated new resource combination (Burgelman, 1983, 1984).

A result of the process of CE can be innovation, venturing and strategic renewal (Zahra, 1995, 1996). Innovation means creating and introducing products, production processes, and organization systems. Renewal means revitalizing the company's operations by changing the scope of its business, its competitive approaches or both. It also means building or acquiring new capabilities and then creatively leveraging them to add value for shareholders. Venturing means that the firm will enter new business by expanding operations in existing or new markets (Zahra, 1995, 1996).

Although the literature remains imprecise, most authors accept that all types of entrepreneurship are based on innovations that require changes in the pattern of resource deployment, and that the creation of new capabilities can be undertaken at many different organizational levels, involving widely differing combinations of resources and having a wide range of outcomes (Stopford & Baden-Fuller, 1994).

Based on the discussion above, we will consider CE as a process of new capabilities creation, without focusing specifically on the different expressions. Using this perspective, the process is sustained by three basic elements (Figure 2): opportunity recognition and new idea generation, transformation of the new idea in a tangible result or initiative, and the development of the capacity (Floyd & Wooldridge, 1999; Stevenson *et al.*, 1989).

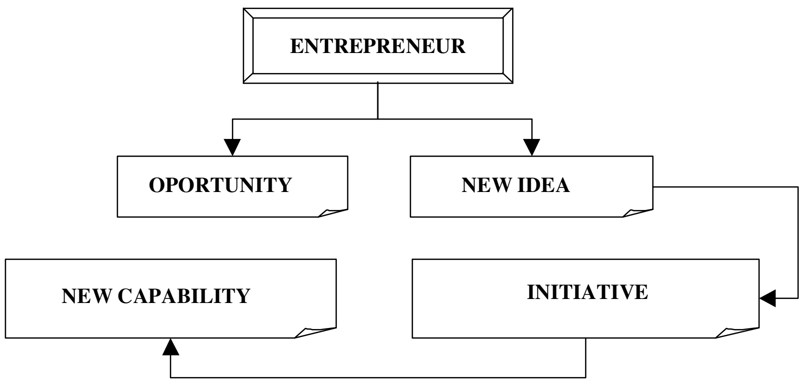

Figure 2 The entrepreneur as generator of new capabilities

In addition to these definitions, which are more focused on outcomes and the way to attain them, we can find others in the literature that stress the role developed by the entrepreneur. This is why in Figure 2 the entrepreneur is situated at the starting point.

Based on all of this, we view CE as the organizational process whereby individual ideas are transformed into collective actions through the management of uncertainties (Chung & Gibbons, 1997). In other words, CE is the process by which an individual or a group of individuals in association with an existing organization, creates a new organization or adds to the renewal or innovation of an existing organization (Sharma & Chrisman, 1999). Moreover, we purport that the study of CE should address the extension of the existing firm's domain of competence as well as the transformation of individual ideas in collective actions. Therefore, both of these facets of CE are incorporated into the development of the knowledge creation model that we present below.

CORPORATE ENTREPRENEURSHIP ACTIVITIES: A KNOWLEDGE-BASED VIEW

The spiral model of organizational knowledge creation (Nonaka, 1994; Nonaka & Takeuchi, 1995) has become a key issue for any research to be done within the knowledge-based theory. We will apply this model in order to clarify the processes underlying CE activities, thus helping to facilitate the management of these activities.

Among all the definitions mentioned above, there are specially two that are useful for the purpose of our study, and so we have based our justification of the use of the knowledge creation model on them. The first one is Burgelman's (1984) definition, which presents the goal of CE as the extension of the firm's domain of competence through internally generated new resource combinations. In this sense, organizational knowledge is defined as the way in which resources are combined and manipulated to carry out a productive activity that may allow the creation of value (Galunic & Rodan, 1998; Grant, 1996a; Kogut & Zander, 1992). Therefore, capability development through the generation of new resource combinations necessarily implies creating new knowledge. On the other hand, as Zahra *et al.* (1999) have argued, CE adds value not only by using existing resources in a novel way, but also by creating new resources, which is more important. The organizational knowledge has become the most important resource from a strategic point of view as a result of the difficulty to imitate it.

The second definition is that of Chung and Gibbons' (1997). According to these authors, CE is the organizational process, which transforms individual ideas into collective actions. An idea is merely tacit knowledge that resides in an individual's mind; and unless this tacit knowledge is shared with other individuals in the organization and articulated to form concrete concepts, it will not give rise to collective action. Consequently, we consider that this definition fits the spiral model of knowledge creation (Nonaka, 1994), according to which the creation of organizational knowledge must be understood in terms of a process that organizationally amplifies and justifies the knowledge created by individuals and that crystallizes it as a part of the organization knowledge network. Therefore, we state that understanding the knowledge creation process and its triggering elements facilitates the management of CE activities.

Taking into account the preceding discussion, we propose a model (Figure 3) that integrates the key elements of the CE process (Figure 2), which are, entrepreneurial opportunity, entrepreneurial initiative and organizational capability, with the five-phase spiral model of knowledge creation by Nonaka (1991, 1994), Nonaka & Takeuchi, 1995). As shown in this model, the prime mover in the CE process, as well as in the organizational knowledge creation, is the individual entrepreneur who identifies an opportunity and generates a new idea or new tacit knowledge. Individuals and not organizations create knowledge. Therefore, the role of the organization in the process is to support creative individuals and provide the appropriate context for these individuals to generate knowledge (Nonaka, 1994). In the same way, and although the individual entrepreneur is not the focus of our study, we consider that he/she plays a fundamental role as the engine of the CE process, whereas the company must only generate the suitable atmosphere. Individuals accumulate tacit knowledge through direct experience. The quality of this tacit knowledge is influenced by the variety in an individual's experience. If his/her experience is limited to routine operations, the amount of tacit knowledge thus obtained will tend to decrease over time. Routine tasks mitigate creative thinking and the formation of new knowledge. However, variety is not sufficient in itself to raise the quality of tacit knowledge. If the individual finds various experiences to be completely unrelated, there will be little chance that they can be integrated to create a new perspective (Nonaka, 1994). From the above discussion we derive the first proposition:

P1a: Individuals who carry out various tasks that are related to each other are more likely to find entrepreneurial opportunities than those whose work deals with repetitive and monotonous tasks or with completely unrelated ones.

Another critical issue for understanding how corporate entrepreneurs are able to identify opportunities that are not obvious to others in the organization is what network theorists refer to as "weak ties" (Granovetter, 1974). Social networks become increasingly established and bureaucratised over time in such a way that in carrying out the day-to-day work, individuals routinely interact with certain others while having relatively little interaction with others (Floyd & Wooldridge, 1999). This leads to the concepts of "structural equivalents" and structural holes. Structural equivalents are individuals or groups that have similar social relationships, and because social networks are channels for the flow of knowledge and information within the organization, structural equivalents should have access to the same knowledge; this becomes an important source of inertia that prevents the organizational learning and mitigates the creation of new knowledge (Floyd & Wooldridge, 1999). On the other hand, the notion of established social relationship and "structural equivalents" leads to the existence of "structural holes", that is to say the lack of a relationship or tie between individuals or groups. Such holes prevent the flow of knowledge and information between groups and, thereby inhibit the development of new organizational capabilities (Floyd & Wooldridge, 1999). Casual acquaintances play a very important play filling structural holes as sources of unique information (Granovetter, 1974). Weak ties have information that the individual and others within his/her network do not have. The more weak ties, the more information the individual has. Bridging relationships outside an individual's dominant social network, both within and outside the organization, can be important sources of new ideas and they explain information asymmetries between individuals within the same social network and therefore, some individuals are able to identify entrepreneurial opportunities while others are not. Weak ties when they are outside the organization are important sources to introduce new external knowledge. Based on these arguments we propose the following question:

P1b: Individuals who maintain relationships not necessarily associated with their formal position are more likely to identify entrepreneurial opportunities and generate new ideas.

In this point we were at the individual tacit level, the idea resides in the mind of the entrepreneur of abstract form, and it cannot be shared with the other members. The new idea will be still personal, unless it is articulated and extended through the social interaction.

So that personal knowledge can come into a social context in which it can be extended, it is necessary to create an interaction field that provides a place in which the individual perspective is articulated and the conflicts are solved with the formation of a higher level. In business organizations the field for the interaction is usually proportionate in form of social network generated by self-organizing teams with autonomy and constituted by members that come from different functional departments (Hedlund, 1994; Hedlund & Nonaka, 1993; Nonaka, 1991, 1994; Nonaka & Takeuchi, 1995).

The creation of working teams or fields of interaction between individuals allows the individuals, by means of socialization (Phase 1), to share perspectives, ideas and experiences with no need to use the language, but through the joint performance of activities, so the knowledge obtained on an individual scale happens without reduction in quality and becomes an asset owned by the group. It emphasizes the role of self-organizing teams, the personal communication and sharing a same culture. A self-organizing group constitutes a field for interaction where the knowledge of each individual is shared during the process of sharing experiences, creating confidence and concepts (Nonaka & Takeuchi, 1995). From these foundations we extract the following proposal:

P2: Organizations that carry out CE activities must provide an interaction field that allows the individuals to share experiences and perspective. This field of interaction is pronounced in form of cross-functional and self-organizing teams.

This provides a common perspective of tacit knowledge and the development of similar mental schemes within the group that will facilitate for the entrepreneur the work of externalization (Phase 2) or articulation of his idea so that it can be understood and shared by the others members. New ideas must leave the subjective experience and become part of the collective experience, taking the form of entrepreneurial initiative, after which the knowledge becomes explicit. The influence of a person becomes critical in this process (Floyd & Wooldridge, 1999). The individual plays, a decisive role in the creation of new concepts, through the use of metaphors and analogies that allow members of the group to reveal tacit knowledge, which would be otherwise difficult to communicate (Nonaka & Takeuchi, 1995). The continuous dialogue, in the form of face to face communication among people, makes the idea materialize in the form of new product or business concepts (Nonaka, 1994). For example, the successive rounds of dialogue used in brainstorming, allow the members of the group to enunciate their insight revealing a hidden tacit knowledge which would be difficult to communicate in another way (Nonaka &Takeuchi, 1995).

Now we leave the individual abstract level and the idea is transformed into explicit knowledge of the group, or collective initiative. But, before continuing to advance in the process, we must justify the created knowledge (Phase 3) or, the evaluation of the validity of the knowledge relative to organizational intention, or the organization's aspirations to obtain its objectives (Nonaka & Takeuchi, 1995). In our case, the new concept is justified when contributing to the objective of renovation of the organizational capabilities, that is the intention the CE process tries to achieve (Covin & Slevin, 1991). This validation and justification process requires resources that are not under the control of the entrepreneurial individual. In this effort to assure the necessary resources to turn the idea into initiative, the entrepreneurial individual facilitates the development of emergent social networks, in which the central actor may not be the individual that identified the opportunity, but they have the capacity and necessary ability to obtain the resources. Middle managers, when acting as the connection between top managers and lower-level managers, have greater capacity to obtain resources and, therefore, to become the centre of this new social network.

The externalizated knowledge, once justified, can be then combined (Phase 4) with the information and the existing knowledge outside the network, in a search for more concrete and easy to share specification, being the new knowledge turned into an archetype or prototype of new products, services or management systems. This combination is facilitated by the co-ordination among different functional areas and by documentation from existing knowledge. In this process middle managers play a central role once more, allowing a dynamic co-operation among departments. From the previous arguments we have deduced that:

P3: The knowledge creation is facilitated to the maximum by means of a process in which middle management as central actors facilitate interpersonal and interdepartmental co-operation, allowing the created knowledge at the individual level to be able to mobilize into a group and organizational level.

Finally, through an iterative testing process of trial and error (Phase 5), the new knowledge is crystallized into the development of new capabilities that are integrated in the existing knowledge base. Through this experience, the individuals internalize the created knowledge and develop new abilities, with which we are again in the individual tacit level (Grant, 1996b; Hedlund, 1994; Kogut & Zander, 1992; Nonaka, 1994; Nonaka & Konno, 1998). In order for the new capability to generate an innovation that allows the company to renew its competitive advantages, the innovation must be developed into new activities that can be used with commercial aims. The value of the innovation resides in its potential to generate rents. In addition, the application of the knowledge allows more opportunities to grow and renovate, through which the process begins again (Galunic & Rodan, 1998; Nonaka, 1994).

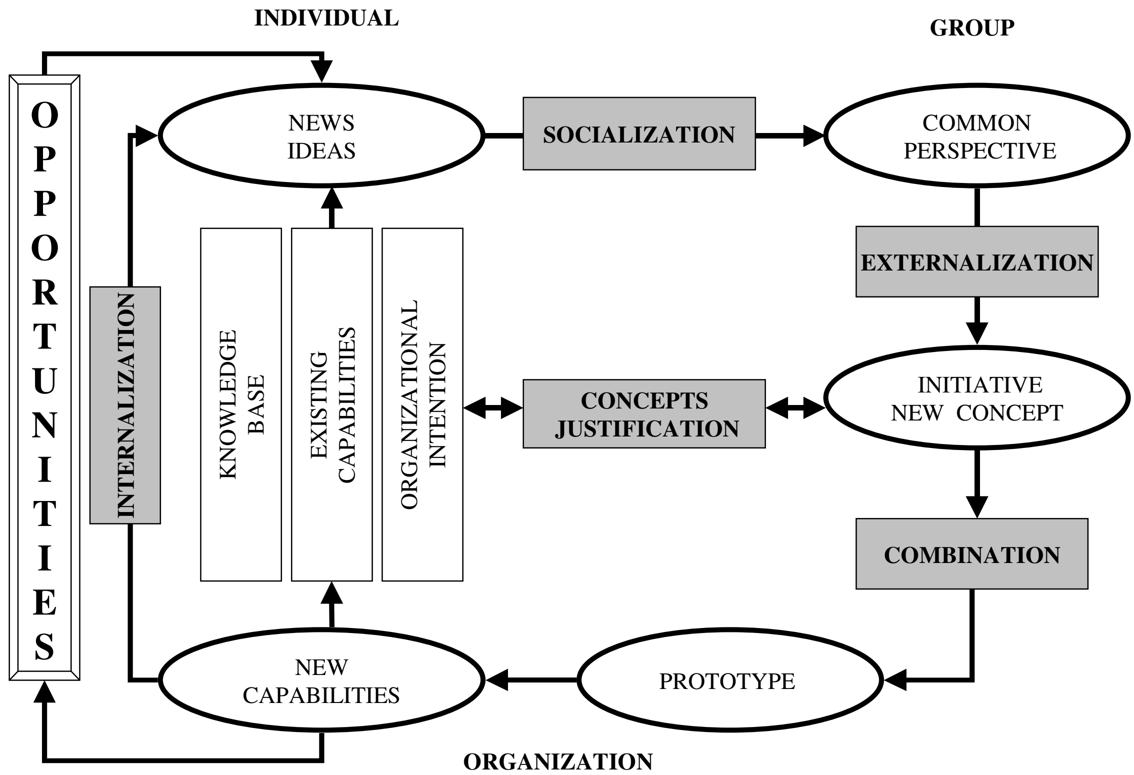

Figure 3 Model of five phases of the entrepreneurial behaviour within the process of organizational knowledge creation

Source: Adapted from Nonaka &Takeuchi (1995, p. 96); Floyd & Wooldridge (1999, p. 132)

CONCLUSION

In this work we have analyzed the importance of CE in the creation of organizational capabilities, and identified three critical mechanisms in the development of this cycle: (1) the identification of entrepreneurial opportunities, (2) the importance of the entrepreneurial initiative, and (3) the renovation of organizational capabilities. The model proposes that the individual becomes an essential factor when identifying an opportunity and generating a new idea or tacit knowledge. To explain this process, we used knowledge-based theory as a framework for combining the essential elements of a process of CE with the five phases of Nonaka's organizational knowledge creation model (1994). Using this spiral model of knowledge creation, we deduce several proposals in which we emphasize the importance of the horizontal extension of the workstation for the discovery of opportunities. Also we analyzed the role of self-organizing teams as interaction fields that provide the context for facilitating group activities and the creation and accumulation of knowledge at the individual level. Moreover, we emphasized the importance of middle management, who, as entrepreneurs, plays a key role in knowledge creation. All these proposals will be tested in a future study of case, which will allow us to corroborate the adaptation of Nonaka' knowledge creation model (1994) to the study of the CE process.

REFERENCES

Biggadike R (1979) The risky business of diversification. *Harvard Business Review* 57(3), 103-111.

Burgelman RA (1983) Corporate entrepreneurship and strategic management: insights from a process study. *Management Science* 29(12), pp. 1349-1364.

Burgelman RA (1984) Design for corporate entrepreneurship. *California Management Review* 26(2), 154-166.

Burgelman RA (1985) Managing the new venture division: research findings and implications for strategic management. *Strategic Management Journal* 6(1), 39-54.

Cantillon R (1734) *Essai sur la Nature du Commerce en General.* MacMillan, London.

Chung LH and Gibbons PT (1997) Corporate entrepreneurship: the roles of ideology and social capital. *Group and Organization Management* 22(1), 10-30.

Covin JG and Miles MP (1999) Corporate entrepreneurship and de pursuit of competitive advantage. *Entrepreneurship Theory and Practice* 23(3), 47-63.

Covin JG and Slevin DP (1989) The strategic management of small firms in hostile and benign environment. *Strategic Management Journal* 10(1), 75-87.

Covin JG and Slevin DP (1990) New venture strategic posture, structure, and performance: an industry life cycle analysis. *Journal of Business Venturing* 5(2) 123-135.

Covin JG and Slevin, DP (1991) A Conceptual model of entrepreneurship as firm behavior.

Entrepreneurship Theory and Practice 16(1), 7-25.

Floyd SW and Wooldridge B (1999) Knowledge creation and social networks in corporate entrepreneurship: the renewal of organizational capability. *Entrepreneurship Theory and Practice* 23(3), 123-143.

Galunic DC and Rodan S (1998) Resource recombinations in the firm: knowledge structures and the potential for schumpeterian innovation. *Strategic Management Journal* 19(12), 1193-1201.

Gatner W (1990) What are we talking about when we talk about entrepreneurship? *Journal of Business Venturing* 5(1), 15-28.

Granovetter MS (1974) *Getting a Job: a Study of Contacts and Careers*. Harvard University Press, Cambridge, MA.

Grant RM (1996a) Prospering in dinamically-competitive environments: organizational capability as knowledge integration. *Organization Science* 7(4), 375-387.

Grant RM (1996b) Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17 (Winter Special Issue), 109-122.

Green P, Brush C and Hart M (1999) The corporate venture champion: a resource-based approach to role and process. *Entrepreneurship Theory and Practice*, 23(3), 103-122.

Guth WD and Ginsberg A (1990) Guest editor's introduction: corporate entrepreneurship. *Strategic Management Journal* 11 (Summer Special Issue), 5-15.

Hamel G and Prahalad CK (1994) *Competing for the Future*. Harvard Business School Press, Boston.

Hedlund G (1994) A model of knowledge management and de N-form corporation. *Strategic Management Journal* 15 (Summer Special Issue), 73-90.

Hedlund G and Nonaka I (1993) Models of knowledge management in West and Japan. In I*mplementing strategic process, change, learning and cooperation* (Lorange, P, Chakravarthy BG, Roos, J and Van de Ven H, eds), pp 117-144, Basil Blackwell, London.

Hisrich P (1989) *Entrepreneurship.* McGraw-Hill, International Edition.

Hitt MA, Nixon RD, Hoskisson RE and Kochhar R (1999) Corporate entrepreneurship and cross-functional fertilization: activation, process and disintegration of a new product design team. *Entrepreneurship Theory and Practice* 23(3), 145-167.

Hornsby JS, Naffziger DW, Kuratko DF and Montagno RV (1993) An integrative model of the corporate entrepreneurship process. *Entrepreneurship Theory and Practice* 17(2), 29-37.

Jennings DF and Lumpkin JR (1989) Functioning modelling corporate entrepreneurship: an empirical integrative analysis. *Journal of Management* 15(3), 485-502.

Jones GR and Butler JE (1992) Managing internal corporate entrepreneurship: an agency theory perspective. *Journal of Management* 18(4), 733-749.

Kanter RM (1984) *The Change Masters*, Simon & Shuster, New York.

Karagozoglu N and Brown WB (1988) Adaptive responses by conservative and entrepreneurial firms, *Journal of Product Innovation Management* 5(4), 269-281.

Khandwalla PN (1987) Generators of pioneering-innovative management: some Indian evidence. *Organization Studies* 8(1), 39-59.

Kogut B and Zander U (1992) Knowledge of the firm, combinative capabilities and the replication of technology. *Organization Science* 3(3), 383-397.

Lumpkin GT and Dess GG (1996) Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review* 21(1), 135-172.

Miller D (1983) The correlates of entrepreneurship in three types of firms. *Management Science* 29(7), 770-791.

Morris MH and Paul GW (1987) The relationship between entrepreneurship and marketing in established firms. *Journal of Business Venturing* 2(3), 247-259.

Naman JL and Slevin DP (1993) Entrepreneurship and the concept of fit: a model and empirical tests. *Strategic Management Journal* 14(2), 137-153.

Nonaka I (1991) The knowledge-creating company. *Harvard Business Review* 69(6), 96-104.

Nonaka I (1994) A dynamic theory of organizational knowledge creation. *Organization Science* 1(1), 14-37.

Nonaka I and Konno N (1998) The concept of “Ba”: building a foundation for knowledge creation. *California Management Review* 40(3), 41-54.

Nonaka I and Takeuchi H (1995) *The Knowledge-Creating Company*. Oxford University Press, New York.

Pinchot G (1985) *Intrapreneuring: Why you Don’t Have to Leave the Company to Become an Entrepreneur*. Harper & Row, New York.

Rule EG and Irwin DW (1988) Fostering intrapreneurship: the new competitive edge, *The Journal of Business Strategy* 9(3), 44-47.

Schollhammer H (1982) Internal corporate entrepreneurship. In *Encyclopedia of entrepreneurship* (Kent CA, Sexton DL and Vesper KH, eds), pp 209-229, Prentice

Hall, Englewood Cliff, NJ.

Schumpeter JA (1934) *The Theory of Economic Development*. New Brunswick, NJ, Transaction Publishers.

Shane S and Venkataraman S (2000) The promise of entrepreneurship as a field of research. *Academy of Management Review* 25(1), 217-226.

Sharma P and Chrisman J (1999) Toward a reconciliation of the definitional issues in the field of corporate entrepreneurship. *Entrepreneurship Theory and Practice* 23(3), 11-27.

Stevenson H, Roberts M and Grousbeck H (1999) *New Business Ventures and the Entrepreneurs*. Irwin/McGraw-Hill, Boston.

Stopford JM and Baden-Fuller CWF (1994) Creating corporate entrepreneurship. *Strategic Management Journal* 15(7), 521-536.

Vesper KH (1984) Three faces of corporate entrepreneurship: a pilot study. In *frontiers of entrepreneurship research* (Hornaday, JA, Tarpley F, Timmons JA and Vesper KH, pp. 294-326, Babson College, Wellesley, MA.

Zahra SA (1991) Predictors and financial outcomes of corporate entrepreneurship: an exploratory study. *Journal of Business Venturing* 6(4), 259-285.

Zahra SA (1993) A conceptual model of entrepreneurship as firm behavior: a critique and extension. *Entrepreneurship Theory and Practice* 17(4), 5-21.

Zahra SA (1995) Corporate entrepreneurship and financial performance: the case of management leveraged buyouts. *Journal of Business Venturing* 10(3), 225-247.

Zahra SA (1996) Governance, ownership, and corporate entrepreneurship: The moderating impact of industry technological opportunities. *Academy of Management Journal* 39(6), 1713-1735.

Zahra SA and Covin JG (1995) Contextual influences on the corporate entrepreneurship-performance relationship: a longitudinal analysis. *Journal of Business Venturing* 10(1), 43-58.

Zahra SA, Nielsen AP and Bogner WC (1999) Corporate entrepreneurship, knowledge, and competence development. *Entrepreneurship Theory and Practice* 23(3), 169-189.