



Corporate entrepreneurship and innovation part 2: a role- and process-based approach

Entrepreneurship
and innovation

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Abstract

Purpose – To extend the discussion held in part 1, and develop a two-tier fifth-generation model of corporate entrepreneurship and innovation.

Design/methodology/approach – The components that have been synthesized from a review of the literature in Part 1 are extended using evidence from the literature. These components are used to construct a two-tier model of corporate entrepreneurship and innovation; a macro model which presents the high-level environmental drivers of innovation and a micro model that discusses the contextual factors that underpin the corporate entrepreneurship and innovation process.

Findings – From the analysis conducted in part 1 it is evident that there is a strong relationship between the role of the corporate entrepreneur and the innovation process. It is suggested that by separating the corporate entrepreneur from the innovation process previous models have been overly reductionist in their construction, and their utility has, as a consequence, been severely constrained. The study therefore combines the role and activities of the entrepreneur with the innovation process into a unified framework. In doing so the paper develops a two-tier fifth-generation model of corporate entrepreneurship and innovation. The final sections of the paper present the model's implications for management and suggestions for further research.

Originality/value – This paper fulfils an identified gap in the literature, namely the development of a new holistic model of corporate entrepreneurship and innovation, which illustrates the environmental and contextual relationships between the corporate entrepreneur and the innovation process.

Keywords Entrepreneurs, Innovation, Communication processes, Visual perception, Social psychology

Paper type Conceptual paper

Introduction

As illustrated in part 1, earlier frameworks have tended to focus on either entrepreneurship or innovation as independent processes, thereby limiting their application and utility (Baum *et al.*, 2001; Chesbrough, 2003; Cunningham and Lischeron, 1991; Dooley and O'Sullivan, 2001; Jin, 2000). The model presented here conforms with Rothwell's (1992) fifth-generation model development, illustrating the links between the two concepts and highlights the different elements of corporate entrepreneurship that influence the innovation capability of an organization.

The paper briefly reviews the concept of corporate entrepreneurial innovation (CEI) and culminates in the development of the corporate entrepreneurship and innovation



model, which is presented in two stages; the macro and micro views, and then concludes by presenting implications for researchers and managers.

Corporate entrepreneurial innovation

In part 1, the relationship between corporate entrepreneurship and innovation (CE&I) was clearly established, and a new definition was constructed linking the two components together:

Corporate entrepreneurship can be defined as the effort of promoting innovation in an uncertain environment. Innovation is the process that provides added value and novelty to the organization and its suppliers and customers through the development of new procedures, solutions, products and services as well as new methods of commercialization. Within this process the principal roles of the corporate entrepreneur are to challenge bureaucracy, to assess new opportunities, to align and exploit resources and to move the innovation process forward. The corporate entrepreneur's management of the innovation process will lead to greater benefits for the organization.

In the following sections a new model of CE&I is constructed which complies with Rothwell's (1992) fifth-generation model construction namely that the model includes strategic integration with suppliers and strong links with customers; co-development with stakeholders; emphasis on corporate flexibility and development speed; use of computer-aided systems and manufacturing; collaborative research and marketing arrangements; increased focus on quality; with innovation placed at leading edge of corporate strategy.

Development of a new model of corporate entrepreneurship and innovation

A multilevel framework has been adopted. First, a macro-model of corporate entrepreneurship and innovation is developed and explained, and then the micro-model of corporate entrepreneurship and innovation is presented, which synthesizes the key factors and aligning themes from the literature.

The macro-model of entrepreneurship and innovation

The macro-model focuses on the context of corporate entrepreneurship and innovation, and concentrates on the environmental drivers of innovation; society's needs and new technological advances, as well as the frequency and rate of innovation development. These are described in more detail below and illustrated in Figure 1.

Drivers of innovation. Innovation is the response to environmental challenges or future opportunities (Hitt *et al.*, 1997; Li and Atuahene-Gima, 2001). It invariably needs a purpose and, therefore, the introduction and identification of a new consumer need or the development of additional technology within the market place usually initiates the process. This is more commonly identified as the push-pull process (Tidd *et al.*, 2001). Consequently, the key precipitating environmental factors for innovation are uncertainty, risk and change (Amit *et al.*, 1993; Braganza and Ward, 2001).

Consumers perceive a new that which leads towards innovation (Rothwell, 1992). Factors that provide the stimulus for the new needs of the organizations, society and the market place, include unexpected events, alterations in demographics or changes in industry structure, and consumer need recognition (Koontz and Wehrich, 1990). This emphasizes the market-pull aspect of the model (Rothwell, 1992).

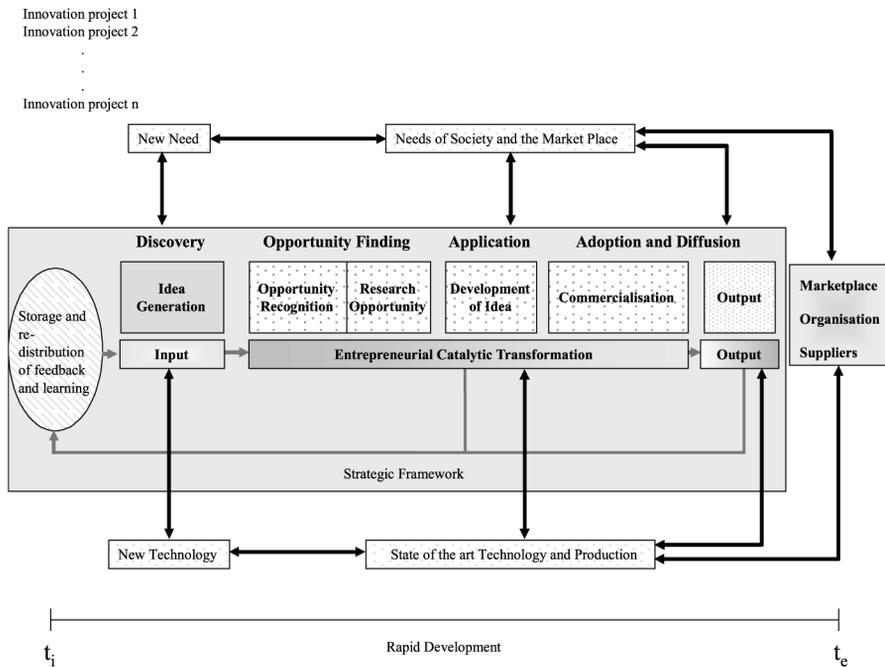


Figure 1.
The macro-model of
corporate
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New technology also impacts innovation (Roberts, 1988). This emphasizes the technological-push characteristics of the model (Rothwell, 1992). The interplay of technology and need, in turn, influences the market place. New technology has the potential to alter industry structure (Porter, 1998) thereby changing the marketplace and hence influencing consumer needs. Recognition and exploitation of the competitive significance of technological change is important, as this can also change the rules and parameters under which organizations operate (Dooley and O'Sullivan, 2001; Means and Faulkner, 2000; Porter, 1998; Roberts, 1988). Opportunity recognition is, in essence, the development of the idea that the corporate entrepreneur seeks to manage and exploit.

Innovation process. Innovation is conceptualized by using Roger's (1995) six-stage innovation model. In the discovery phase the emphasis is on finding an idea that stimulates opportunity finding (Roberts, 1988). There are two distinct stages; opportunity recognition and researching and evaluating the identified opportunity. The application phase is where the development of the idea takes place. Adoption and diffusion of the new product, process or service includes the commercialization and output stages of innovation. During this phase, the output can be defined as either a successful and profitable product launch or an unsuccessful launch, which is a loss maker. These innovation phases will be discussed in more detail in the micro level model, which focuses on supporting roles and processes.

Relationships between factors. Innovation leads to both new market and new technological knowledge, which is fed-back to assist with new innovations (Afuah, 2003). This is a continual cycle and may be either radical or purely incremental.

Rapid development. Rapid development is concerned with the amount of time it takes for an innovation to evolve from the idea stage to a commercialized product. Rapid innovation development is due to the increased pace of change within the marketplace (Means and Faulkner, 2000; Rigby and Zook, 2002), the high rates and discontinuities of technological change, as well as the orientation of the organization and the individual(s) involved in the innovation process (Dooley and O'Sullivan, 2001; Rothwell, 1994; Schaffer and Paul-Chowdhury, 2002). Technology tends to evolve in cycles with each stage associated with varying degrees of innovation development (Freeman, 1982). For example, the early stage is associated with rapid and frequent development, which slows down to a more regulated pace as the technology matures (Roberts, 1988).

The micro-model of corporate entrepreneurship and innovation

The micro-model highlights the important factors that underpin the corporate entrepreneurship and innovation processes. These are detailed under five basic categories; inputs, entrepreneurial catalytic transformation, outputs, contextual factors, and relationships between the different elements.

Innovation activity is often perceived as an unpredictable, illogical process (Blanchard, 1999). As a consequence, innovating can be difficult and it is therefore important to proactively manage the innovation process. The micro model illustrates how innovation can be effectively managed in an environment of high risk and uncertainty.

Inputs. Evidence from the literature suggests that creativity is fundamental in configuring the innovation process (Amabile, 1996a; Couger, 1995). In other words, creativity assists in the emergence of new and novel ideas that will initiate and support the innovation process. It provides the originality of thought based on a platform of existing knowledge and motivation (Amabile, 1996b). Existing knowledge is important because, in order to be creative, innovators must go beyond the established status quo. It is also suggested that knowledge can, and will be packaged and repackaged as different things (Felton and Finnie, 2003). By changing the relationships between different elements of information, new and novel ideas can be developed (McFadzean, 1999; Nagasundaram and Bostrom, 1995). Sternberg *et al.*, 1997, p. 13) note that: "The years that it takes to build up the necessary knowledge to make a major creative contribution. . . is not spent on passive learning, but rather in constant experimentation, revising, discarding, playing and pulling one's hair out." In fact, many innovators have only been successful because of their patience and desire to succeed (Amabile, 1996b). For example, Thomas Edison learned 1800 ways on how not to build a light bulb before he was finally successful (Harrington *et al.*, 1998) (Figure 2).

Entrepreneurial catalytic transformation: the entrepreneurial lens

The catalytic transformation phase or entrepreneurial lens incorporates the reconfiguration events that are performed to take the creative ideas forward.

Central to this aspect of the model is the corporate entrepreneur who permits certain processes and information to pass through the entrepreneurial lens while blocking

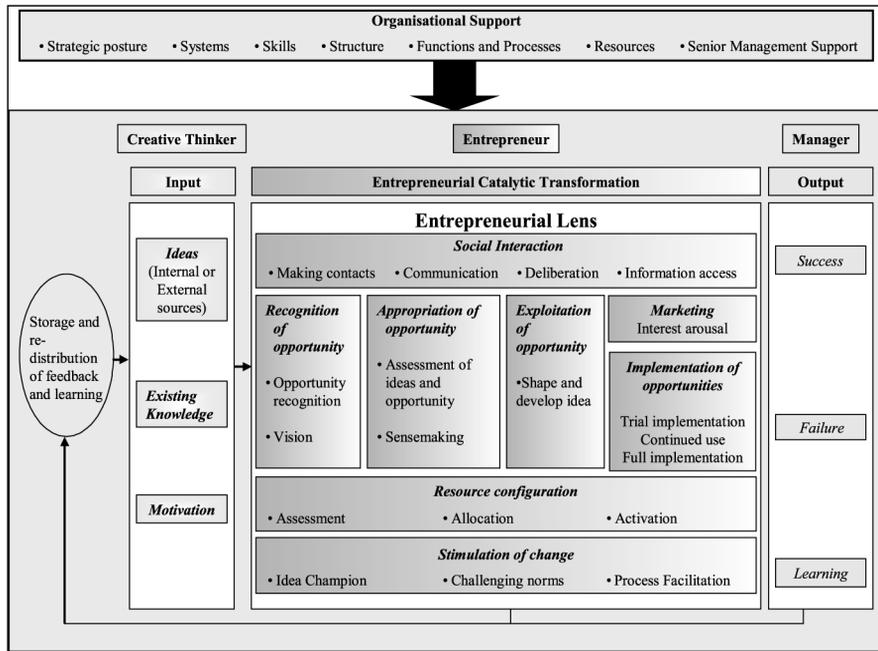


Figure 2.
The micro-model of
corporate
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others. To ensure success, the corporate entrepreneur must proactively manage the innovation process, rather than passively allowing all ideas and concepts to pass through.

Recognition of opportunity. There is considerable disagreement over how corporate entrepreneurs recognize opportunities. Ardichvili and Cardozo (2000) found that corporate entrepreneurs discover or recognise opportunities as they occur, rather than purposefully searching for them. Ronstadt (1988, p. 34) calls this the corridor principal:

The act of starting a new venture moves an entrepreneur down a venture corridor that allows him or her to see intersecting corridors, leading to a new venture opportunity.

Although Ronstadt is largely referring to the development of new businesses this also applies to corporate entrepreneurs, who can use their first innovation to spark off further ideas.

Yu (2001) and (Shane, 2000) suggest that, although entrepreneurial activity might not be deliberate, opportunity recognition is clearly determined by entrepreneurial alertness and intuition. Here, the corporate entrepreneur is able to recognise an opportunity that has previously been overlooked (Kirzner, 1973). However, Kaish and Gilad (1991, p. 59) dispute this and claim that:

Entrepreneurs do seem to expose themselves to more information and their alertness takes them to less obvious places...the volume of search is significantly larger for entrepreneurs...and more off-hours time is spent searching for information.

This clearly fits with the entrepreneurial lens acting as a filter, rather than corporate entrepreneurs engaging solely in a push-pull process.

Other prerequisites for opportunity recognition include a wide social network and prior knowledge of markets and consumer problems (Ardichvili and Cardozo, 2000). Opportunity recognition serves to connect the idea to the evaluation phase (O'Connor and Rice, 2001), with entrepreneurial orientation providing the lens to examine the components for reconfiguration and commercialization based on the perceived opportunities.

Vision is also important as this provides a context for subsequent guiding actions (Langfield-Smith, 1992). The corporate entrepreneur has the ability and experience to see the path between the current state of affairs and the proposed reality and, through the lens, is able to translate this into a vision, which conveys the rationale and potential for exploiting an opportunity and investing in an idea (Afuah, 2003).

Appropriation of opportunity. The appropriation of the opportunity is based on Giddens' (1984) structuration theory. This theory suggests that rather than seeing human action take place solely within the context of the constraints of social structure, it should be seen as a duality; that is, action and structure being seen as two aspects of the same whole (Walsham, 2002). Giddens (1984, p. 377) defines structure as, "Rules and resources, recursively implicated in the reproduction of social systems. Structure exists only as memory traces, the organic basis of human knowledgeability, and as instantiated in action."

In other words, the rules of behavior and the ability to deploy resources exist in the human mind itself rather than as outside constraints (Jones, 1998; Walsham, 2002). Thus, the appropriation of opportunities is not automatically determined by technology design or consumer needs. Rather, corporate entrepreneurs may relate the structures and resources to other structures, constrain or interpret the structures in a creative way or directly use the structures as they see them. For example, the Internet was constructed by relating two different structures, the telephone and the computer, to form a new method of communication (McFadzean *et al.*, 1998).

It should be noted that this assessment is the process where this section of the Entrepreneurial Lens allows various ideas to pass through, while others are trapped or discarded. In addition, it is here that ideas are focused towards specific organizational objectives or corridors (Roberts, 1988; Ronstadt, 1988). Consequently, not all ideas are appropriated because they may not be suitable for the present opportunity and strategic orientation of the organization. Some ideas will therefore pass through to implementation and commercialization, while others will remain within the entrepreneurial lens. Those ideas and concepts that remain within the lens wait for innovation-readiness, when a potential opportunity to be exploited by the corporate entrepreneur presents itself. At that time these ideas will be re-assessed and may be utilized or discarded depending on whether they are in-line with the organizational strategy (O'Loughlin and McFadzean, 1999).

More importantly, the lens acts as a focal point, performing a convergent activity, drawing together the inputs for sense making. It is the catalyst for creative transformation, with sense making through decomposition of the inputs and their subsequent reconfiguration as business opportunities (Amit *et al.*, 1993).

Exploitation of opportunity. This forms part of the innovation development phase that is uncertain, ambiguous and risky (Nicholson *et al.*, 1998). These factors have been noted as preconditions for both corporate entrepreneurship and innovation (Knight, 1921; Zahra, 1991). As already noted the corporate entrepreneur thrives under these

conditions. During this process, framing of the strategic opportunity through creative opportunism is being conducted to transform ideas and opportunities into commercialised outputs.

This is supported by Rickards (1999) who sees opportunity exploitation as a process of innovation combined with maximised cost advantage, which is in turn held to be intrinsically linked to the rational, humanistic and creative behavior of the corporate entrepreneur. It is this unique combination of characteristics that gives corporate entrepreneurs their distinctive advantage (Rickards and Jones, 1991).

Marketing and interest arousal. Innovation functionality is held by Klein and Sorra (1996) to exist on a continuum, which extends from application avoidance through to committed use. It is therefore crucial that the corporate entrepreneur prepares the marketplace for the introduction of any new innovation, by raising interest and awareness concerning its intended application (Tidd *et al.*, 2001).

The role the corporate entrepreneur plays in marketing has also been highlighted by Drucker (1955, p. 53) who states, "Because it is its purpose to create a customer, any business enterprise has two – only these two – basic functions: marketing and innovation. They are the entrepreneurial functions." The principle problem for corporate entrepreneurs is that a precise definition of entrepreneurial marketing remains elusive, and has tended to be combined with strategic activity (Lawrence and Thomas, 1971; Mintzberg, 1994; Thomas and Gardner, 1985). Simmons (1986) goes on to point out that marketing's relationship with innovation and its importance to the corporate entrepreneur has often been overlooked, and in so doing its affiliation with strategy overstated. This is important because it is the corporate entrepreneur that is often seen as the catalyst in bringing all three components into a unified framework (Day, 1994; Doyle, 1994; Kotler, 1991).

The key to marketing is communication (Doyle, 1994), while the key to innovation is implementation (Rickards, 1999), and the key to strategy is integration (Mintzberg, 1994). The question is why is this important to the corporate entrepreneur? Traditionally organizations placed products and production at the centre of the organization, and in doing so focussed on the development of corporate strategies (Kotler, 1991; Levitt, 1960). A traditional focus, however, misses one of the cornerstones of entrepreneurial activity within organizations, which is where the market and consumer are placed firmly at the core of innovation development and exploitation. The micro-model suggests that it is the market place and the needs of the consumer, as well as technological changes, which help to trigger innovation, and not solely the strategic direction of the organization, which although important is not the principal guiding agent of change.

Implementation of opportunities. Innovation implementation is the attainment of committed use of the innovation (Klein and Sorra, 1996). The activities detailed within the model lead towards implementation and enable creative transformation, the formation of value-added outputs (Bird and Jelinek, 1988), and the commercialization of opportunities (Drucker, 1985). A trial implementation period can be adopted as a transitory phase where user awareness, the ability to utilize the innovation and the user's decision to adopt the innovation can be addressed (Tidd *et al.*, 2001). Continued use of the innovation should eventually lead to full implementation (Klein and Sorra, 1996; Utterback, 1971).

Social interaction. Social interaction is an important aspect of the entrepreneurial process as it creates a condition for the effective exchange of information and resources (Anderson and Jack, 2002), which in turn reduces uncertainty. This should have both an internal and an external focus (Roberts, 1988). Making contacts is an essential part of social interaction, providing access to a rich source of privileged information, opportunities and resources (Anderson and Jack, 2002). Briggs and Nunamaker (1996) also highlight the need for information access and suggest that communication and deliberation are central tenets and must be considered a core part of the process. Communication is paramount in the articulation of any vision of a potential innovation, and should be used to elicit and garner support from the rest of the organization (Afuah, 2003). The consequent deliberations are important for the development of intentions and action towards this vision and also assist with the cross-fertilisation of ideas (Briggs and Nunamaker, 1996; O'Connor and Rice, 2001).

Resource configuration. The resource component is equally important and includes elements, such as, individuals, funds, available time and materials, as required (Batten, 2002). The corporate entrepreneur ensures the assessment of resources as well as their allocation and the activation of employees

Furthermore, as the corporate entrepreneur progresses through any project, they can also be seen to align and acquire more resources (Afuah, 2003), as well as to monitor and configure their application (Rickards, 1999). To ensure maximization of any resource strategy the corporate entrepreneur seeks to team up with, block and activate the resource configuration framework for the project in hand (Iansiti, 1993; Levitt, 1983). In doing so this enables the corporate entrepreneur to maintain a first to market advantage over competitors (Afuah, 2003).

Stimulation of change. Within this process the inputs are subjected to constant change, with the entrepreneurial lens acting as the catalytic medium stimulating this transformation process. Entrepreneurial orientation involves various behaviors including, for example, proclivity for pro-action and determination (Mintzberg *et al.*, 1998). There are usually many barriers and difficulties involved in getting an idea to market, and the corporate entrepreneur has a crucial role to play in acting as an idea champion (Afuah, 2003; Roberts and Fushfeld, 1981), mobilising support ensuring acceptance and willingness to adopt change which is used to ensure the idea moves forward and norms are challenged (Roberts, 1988). Process facilitation is needed to manage and monitor the transformation phase ensuring optimization (Tidd *et al.*, 2001). The key issue to note here is that entrepreneurial orientation is a major catalyst in stimulating change.

Outputs

From the entrepreneurial catalytic transformation process emerges success value (Amabile, 1996b) or failure value (Wetlaufer, 1997), both of which will lead to new learning on how to improve future entrepreneurial activity (Ireland *et al.*, 2001).

Success and failure. Entrepreneurship is held to promote wealth creation through innovation (Drucker, 1985; Ireland *et al.*, 2001), and manifests itself through the development of new markets for differentiated or improved products and new applications, value creation, growth and organizational renewal (Aldred and Unsworth, 1999; Zahra, 1991). These are deemed to be desirable outcomes and can be classified as successes.

Successful innovation is due in part to the combined creative endeavor of many individuals (Couger, 1995; Tidd *et al.*, 2001). It is therefore important to have responsibilities allocated for the management of the various innovation phases (Dooley and O'Sullivan, 2001). This highlights the significance of individuals in the process, yet it must be noted that in order to be classified as a success any innovation must be both useful and appropriate (Amabile, 1996b).

It is important to note that the focus on newness must be tied in with value otherwise the idea is regarded as unnecessary (Wetlaufer, 1997). Failure is deemed to have occurred where the idea is superfluous to requirements, inappropriate, falls short of either an anticipated aspiration or an unanticipated but useful outcome, and leads to an innovation that is dysfunctional (McGrath, 1999; Rogers, 1995).

Learning. The final step in the innovation process is a reflective review which attempts to capture knowledge from the experience, through various forms of learning (Tidd *et al.*, 2001). The results of the innovation process, whether success, indirect or unintended consequences (O'Loughlin, 2001) or failure, should form the basis for further learning, leading to improved knowledge (McGrath, 1999; Schaffer and Paul-Chowdhury, 2002) and in some cases resulting in re-innovation (Rothwell and Gardiner, 1989).

Contextual factors: organizational support

The contextual factors focus on the internal organizational support structure. It is important to note that entrepreneurial context is bound up with the organizational support structure, which provides the flexible conditions conducive for innovation. Innovation is held to evolve from the organization's own activities (Gatignon and Xuereb, 1997). For example, an innovative and entrepreneurial climate is one where new ideas are encouraged and explored (Baden-Fuller and Stopford, 1992; Blanchard, 1999; Fitz-enz, 1997), through supportive senior management (Wetlaufer, 1997). Karagozoglu (1988) found that managers' attitudes were crucial in fostering an innovative environment, and this can affect an employee's level of commitment. A more recent study by Waters (2000) confirmed this, citing commitment as being positively correlated with innovation. The strategic position of the organization tends to act as a guide in the selection of ideas, and in turn ensures alignment with the organization's strategy (Sundbo, 1999). The suggestion here is that innovative and entrepreneurial organizations need to remain highly flexible in order to deal with innovation and entrepreneurial activity (Stevenson and Gumpert, 1985).

Relationships between factors

In considering organizational behavior theory, Honig (2001) found a relationship between learning and entrepreneurial activity. Learning and innovation are iterative processes and therefore consideration of feedback for learning within the model is important (Garnsey and Wright, 1990; Gopinath and Sawyer, 1999; McFadzean *et al.*, 1996). Throughout the process new insights are gained which may mean that previous stages are revisited (Roberts, 1988). Feedback has long been regarded as beneficial for assisting in improving future behavior (McFadzean, 1996). The innovation output is monitored and the information obtained from this monitoring is fed-back (O'Loughlin and McFadzean, 1999), and placed in a repository providing inspiration for subsequent

ideas (O'Loughlin, 2001). As a consequence everything is, therefore, built on a foundation of prior innovation (Ardichvili and Cardozo, 2000; Drucker, 1985; Yu, 2001).

Implications and future research

Implications for managers

At the micro-level, this paper has focused on the various activities and the different individuals required to move innovation forward. It should be noted that the micro-level model should not be viewed as a simple linear process. This is because although the stages are shown as separate elements in the framework, they are much more likely to be combined, overlapped or missed out depending on the situation and the prior knowledge of those involved (Rogers, 1995).

Organizations are consistently striving to innovate for a variety of reasons and the corporate entrepreneurship and innovation model has highlighted some key challenges for practicing managers engaged in this process. In particular, it gives managers insights into introducing innovation within their organizations and accelerating the development of innovative performance in their staff.

Organizations comprise of clusters of interdependent individuals (Nicholson *et al.*, 1998), one of the implications for practitioners is the emphasis on the varying roles within the process. No one individual has the experience and necessary competencies to facilitate all the phases (Nunamaker *et al.*, 1997). The model suggests that organizations need to recognize these differentiated roles (Roberts, 1988; Roberts and Fusfeld, 1981); the creative thinker, the corporate entrepreneur and the manager. In addition, organizations need to consider the necessity of employing and investing in each type of individual, as well as reflecting on what proportion of the organization these roles should be represented as, in order to successfully innovate.

The creative thinker is imperative for idea generation, while the vital role of the corporate entrepreneur is highlighted with their orientation towards idea development and commercialization in-line with opportunities, and managers are necessary for creating an environment that encourages entrepreneurship and innovation (Hornsby *et al.*, 2002) as well as monitoring the outcome of the innovation process.

In addition to the focus on the type of individual, corporate entrepreneurial activity requires the introduction and maintenance of a flexible approach developing a culture where a questioning attitude is de rigueur and experimentation is prevalent (Markides, 1998).

As McFadzean and O'Loughlin (2000) point out, in business it is not sufficient for models to remain purely theoretical and they must therefore add value to the management function. Consequently, the presented model provides a frame of reference and template for action, both in terms of its stages, as well as its vertical and horizontal phases and integrating qualities. Haapasalo and Kess (2001, p. 110) suggest that: "The concept of a systematic approach is rarely clearly understood or defined in business management." Consequently, the model has been designed to provide creative thinkers, corporate entrepreneurs and managers alike with a detailed checklist for monitoring innovative and entrepreneurial activity (Buggie, 2001), and establishing where support might be required in the wider project framework, as well as setting out next steps and stages. In addition, the model also has the ability to act as an aide memoir by acting as a codified guide for the corporate entrepreneur (Cross and Baird, 2000; Eppler and Sukowski, 2000).

Implications for further research

The models developed above present a number of consequences and directions for further research. For example, clarifying the management roles for each stage may be beneficial to organizations. While a great deal is known about the creative thinker, as well as the corporate entrepreneur and the manager, closer scrutiny is needed regarding their roles in each stage and the extent to which they are involved in the different processes (Jackson and Rodkey, 1994; Kirton, 1994, 2003). It would also be useful to examine the methods used by individual corporate entrepreneurs to facilitate these stages. For example, it would be beneficial to understand how they cope with emotional factors, such as motivation and drive, how they manage and communicate with others during the process and how they effectively transfer outcomes to the facilitator of the next phase. The use of language through storytelling can direct action through the expression of experience resulting in new modes of behavior (Denning, 2004; Jabri and Pounder, 2001). With the focus on inter-phase communication between the various roles, the consideration of the organization as a collective entity, together with its external collaborations, would be beneficial. For instance, an analysis of the use of technology in information exchange would be valuable (Rothwell, 1994), as would the examination of teamwork and the extent to which collaboration helps diversity and creativity (Rigby and Zook, 2002).

Finally, it is well documented that different organizations possess different levels of creativity and innovative ability (Afuah, 2003; Amabile, 1996a; Gundry and Prather, 1994; Hoegl and Gemuenden, 2001; McFadzean *et al.*, 1996; O'Loughlin, 2001). Creativity and innovation can clearly be taught through the management of various processes and functions (McFadzean, 1996, 1998; McFadzean and O'Loughlin, 2000). A question that remains unanswered, however, is whether employee exposure to the model might also assist in improving levels of creativity and innovation within organizations, through a more structured, intrapreneurial approach. This seems to be a very rich area requiring both longitudinal and experimental study.

Summary

This article presents a theoretical framework and related variables linking entrepreneurial orientation to innovation. It focuses on examining how an entrepreneurial orientation within the corporate arena can facilitate the innovation capability of an organization. The relationship and the interdependencies between corporate entrepreneurship and innovation have been examined and captured with the development of two new conceptual frameworks – a macro-level and a micro-level model – which explicitly link these two concepts.

The model is a multi-stage, multi-individual, complex process (Roberts, 1988), which helps to provide the insight for altering the organizational dynamics. It indicates that an entrepreneurial philosophy, which stimulates change, and the provision of a supportive environment, is most likely to foster innovation. Miller (1983) notes that entrepreneurial organizations are often the most proactive when it comes to innovation, which in turn provides the potential for competitive advantage.

As this is purely a conceptual paper the model needs to be tested and evaluated. Future application of empirical methodologies, such as the use of longitudinal research, will lead to further improvement in the understanding of the corporate entrepreneurship and innovation relationship, which is needed to further assist in

advancing the field of study. From a practical perspective, the model also gives managers further insight into how to introduce entrepreneurial activity into their organizations and the management of innovation.

There is also an issue of model sequencing, and whether corporate entrepreneurs follow a set pattern for the exploitation of innovation, or whether the sequence might differ every time (Rickards, 1999). Longitudinal research needs to be conducted to establish whether such sequencing is correct, and if not what exclusions or inclusions are necessary to make the model more robust. In addition, the question of whether the sequencing holds true for both corporate entrepreneurs and new venture entrepreneurs clearly requires further investigation.

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