Corporate Entrepreneurship: An Empirical Study of the Importance of Strategic Considerations in the Creation of Radical Innovation

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The recognition of the importance of entrepreneurial dynamics in corporate context is increasingly acknowledged in both entrepreneurship and strategic management literature, as firms today face a reality in which frame-breaking innovation is an important element of survival. From this understanding, the concept of Strategic Entrepreneurship (SE) has arisen, arguing a logic of focusing on the intersections between the two fields. This paper sets out to explore the SE construct empirically. Through seven case studies evolving around radical technological innovations, evidence is found of the importance of incorporation of strategic considerations taking place at several different levels of the organization, in order to obtain a desirable balance between entrepreneurial and strategic forces. An Integrative Model of Strategic Entrepreneurship is suggested based on this evidence.

Key Words: strategic entrepreneurship, radical innovation, case studies
JEL *Classification:* O31, O32

Introduction

In a reality characterized by intensified global competition, dynamic change and increasing uncertainty, the need for organizations to become more innovative in order to survive and grow is increasing rapidly. In this context, corporate entrepreneurship is more relevant than ever, as a viable means for existing organizations to continuously explore and exploit previously unexploited opportunities, thereby moving the organization (or some subset of individuals) to a new state of being (Stevenson and Jarillo 1990; Krackhardt 1995).

Researchers have suggested that the pursuit of corporate entrepreneurship requires established companies to strike a fragile balance between engaging in activities that make use of existing knowledge, while at the same time challenging themselves to embark upon new adventures, seeking new knowledge and opportunities to rejuvenate themselves (Hannan and Freeman 1989; Floyd and Woolridge 1999).

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Radical or breakthrough innovations often lie at the core of entrepreneurial activity; corporate entrepreneurial activity therefore differs dramatically from all else known to the firm (Ahuja and Lampert 2001). However, engaging in radical innovation as a periodical divergence from firm strategy in order to pursue corporate entrepreneurship may involve such a degree of unfamiliarity and risk that firms experience great difficulties in doing so, and consequently explore, manage and exploit the innovation poorly.

Focusing on this problematic aspect, a perspective has recently emerged within the field of entrepreneurship, calling for the integration of strategic advantage-seeking and entrepreneurial opportunity-seeking behavior. This perspective, called Strategic Entrepreneurship (SE) emphasizes the importance of managing entrepreneurial resources or activities strategically in order to obtain competitive advantage (Hitt, Ireland, Camp, and Sexton 2001; Ireland, Hitt, and Sirmon 2003). In this light, corporate entrepreneurship should be interpreted as an on-going strategic consideration of entrepreneurial opportunities rather than as an isolated activity diverging from strategy, and this way as the 'locus of contact' between the fields of entrepreneurship and strategic management (Sandberg 1992).

Most literature on SE has to date focused on arguing a logical theoretical construct, integrating aspects from the fields of strategic management and entrepreneurship based on the understanding that both fields are concerned with firm growth and wealth creation and hence are often mutually supportive (Ireland, Kuratko, and Covin 2003). However, the empirically based understanding remains to be further developed.

Acknowledging and building upon the theoretical contributions of SE, as well as the Schumpeterian perspective on the degree of innovation involved in entrepreneurial activity, the research presented in this paper aims at exploring empirical relationships between strategic advantage-seeking and opportunity-seeking behavior leading to radical innovation in a corporate context.

Initially a theoretical background of the topic in question will be accounted for, providing the analytical frame of the empirical data. Secondly, the research method applied will be discussed. Hereafter, the findings of the qualitative research will be discussed in relation to the existing understanding of SE, and conclusions on the research question will be drawn.

Theoretical Background

The fields of strategic management and entrepreneurship are becoming increasingly intertwined, in a reality where firms need to be able to manage continuous change and maintain flexibility in order to survive. Hence, the concept of Strategic Entrepreneurship (SE) has seen the light of day, as a highly relevant topic.

The idea behind SE has progressively emerged over the past decades as a perspective on the intersecting dynamics between entrepreneurship and strategic management; Miles and Snow (1978) consider the entrepreneurial problem as a fundamental issue faced by all firms; Stevenson and Jarillo (1990) and Day (1992) express this idea as entrepreneurial management; Mintzberg, Lampel, and Ahlstrand (1998) through his discussion of the entrepreneurial and cognitive schools within the strategic management literature; Sandberg (1992) views it in terms of corporate entrepreneurship; Dess, Lumpkin and Covin (1997) as entrepreneurial strategy making; and McGrath and McMillan (2000) discuss strategy as discovery and the need for an entrepreneurial mindset. As such, the idea of interrelatedness between strategic management and entrepreneurship has through a range of contributions been discussed in different terms, underlining the need for addressing this intersection explicitly. This need has in particular been addressed by Hitt, Ireland, Camp and Sexton (2002), uniting thoughts by various scholars under the term Strategic Entrepreneurship.

One of the major hurdles in doing so lies in the fact that where strategic management has traditionally been concerned with large corporations, entrepreneurship has mainly focused on start-up ventures and small firms. As such, the challenges and opportunities in focus in the two fields respectively have been at different units of analysis and consequently influenced by different dynamics. Strategic management of large corporations has been largely concerned with optimizing the use of existing resources, making judicious allocation decisions and controlling correct utilization, while entrepreneurship implies identifying non-addressed needs, proposing original solutions and creating new organizations. As such, SE initially seems to entail a contradiction in terms.

But, there are forces within both fields driving forth thoughts of integration. Within the field of strategic management there has been a shift in paradigms, highlighting the dynamic nature of organizations and the need for all organizations to be entrepreneurial. This is, for example, seen through the transition towards defining strategy as a perspective rather than a position, meaning that strategy is seen in wide terms, as the 'theory of the business' (Drucker 1994) and a 'pattern that is consistent in behavior over time' (Mintzberg, Lampel, and Ahlstrand 1998).

Entrepreneurship literature has also paid increasing attention to existing companies, through terms such as; intrapreneurship (Pinchot 1985; Kuratko et al. 1993; Antoncic and Hisrich 2001); corporate entrepreneurship (Kuratko, Montagno, and Hornsby 1990; Zahra 1991; 1993), internal corporate entrepreneurship (Schollhammer 1982), corporate ventures (MacMillan et al. 1986; Ellis and Taylor 1988); venture management (Veciana 1996), internal corporate venturing (Burgelman 1984), entrepreneurial posture (Covin and Slevin 1986; 1991) and entrepreneurial orientation (Lumpkin and Dess 1996). This paper focuses on firm level entrepreneurship and is built on the definition of this phenomenon being: 'a scholarly field that seeks to understand how opportunities to bring into existence future goods and services are discovered, created and exploited, by whom, and with what consequences' (Shane and Venkatamaran 2000, 218), which is seen through 'emergent activities and orientation based on the effective combination of autonomy, innovativeness, risk-taking, proactiveness and competitive aggressiveness' (Lumpkin and Dess 1996, 162).

A unifying factor between strategic management and entrepreneurship is also found in the fact that researchers in both fields use firm performance as a primary dependent variable. For example, Schollhammer (1982), Miller (1983), Venkataraman and Ramanujam (1986), Khandwalla (1987), Guth and Ginsberg (1990), Naman and Slevin (1993), and Lumpkin and Dess (1996) have all noted that organizational level entrepreneurship can be used to improve competitive positioning and transform organizations, their markets, and industries as opportunities for value-creating innovation are developed and exploited. As such, the traditional barriers between strategic management and entrepreneurship theory have become increasingly transparent, and a need to address the overlaps in thoughts has become apparent.

When addressing the overlaps between entrepreneurship and strategic management it is furthermore relevant to focus on the notion of *innovation,* as there is a very strong relationship between innovation and entrepreneurship (Antoncic and Hisrich 2003). Depending on the perspective applied, innovation can be perceived as either the firm performance achieved through entrepreneurial behavior, or as the grounds on which entrepreneurial behavior grows. In this paper the relationship is seen in the fact that the essence of entrepreneurship is perceived to be *newness:* new resources, new customers, new markets, and/ or new combinations of existing resources, customers or markets. In this sense, *opportunity recognition* is highly related to *departure from the customary.*

The notion of 'newness' has, however, also been treated from different angles in entrepreneurship literature and needs further clarification before considering the overlaps with strategic management. Following a Kirznerian perspective, entrepreneurial newness is accomplished through equilibrating actions that are based on the combination of existing and related resources that revise existing knowledge about markets and fill out asymmetries (Kirzner 1982). As such, entrepreneurship is in this perspective placed in the context of exploitation and incremental innovation. In contrast, a Schumpeterian perspective is the notion of disequilibrating actions that are based on a combination of existing but unrelated knowledge that is incompatible with prevailing mental models (Schumpeter 1934). In this sense, entrepreneurial newness disrupts existing patterns and structures in order to create new ones. Disequlibrating actions can produce long-term competitive advantage because they are complex and will be difficult for competitors to identify and especially imitate. In this sense, entrepreneurship is connected to exploration and holds the potential of setting the stage in new arenas of competition, and leaving competitors far behind.

As such, entrepreneurial innovation can be thought of as a continuum from incremental to radical innovation. Incremental innovation is critical to sustaining and enhancing shares of mainstream markets (Baden-Fuller and Pitt 1996) and focuses on improving existing products and services to meet evermore demanding customer requirements (Bessant 2003). Radical breakthroughs, on the other hand, serve as the basis for future technologies, products, services and industries (Christensen 1997; Hamel 2000; Abetti 2000), and are of a highly revolutionary or discontinuous nature. Radical innovation represents a new paradigm that can generate new wealth whilst transforming or displacing some or all of an established market (Christensen 1997).

In this paper, a Schumpeterian perspective on entrepreneurial newness is adopted, as radical and disequilibrating innovation is considered to pose an obvious and interesting contrast to strategic and planning oriented activities, which could provide additional insights into the different patterns of growth covered by the term Strategic Entrepreneurship.

For the purpose of this paper, radical innovation is defined following the definition of O'Connor and Ayers (2005) as the commercialization of products or technologies that have a strong impact on (1) the market, in terms of offering wholly new benefits, and (2) the firm, in terms of generating new business. To specify this somewhat more in detail, Leifer's definition is also considered, stating that a radically innovative project must entail at least one of the following: (1) new to the world performance features, (2) significant (5–10×) improvement in known features or (3) significant (30–50%) reduction in cost (Leifer et al. 2000). As a significant contribution, March (1991) furthermore, made the distinction between exploitation of existing technology and exploration of new technology. Adopting this thought, the definition is thereby driven by the degree of new value added to the marketplace through exploration of new opportunities.

It is clear that the rationale behind SE is highly relevant and well-argued by both fields. This has led to the development of a model of Strategic Entrepreneurship by Ireland, Hitt, and Sirmon (2003), describing the process of combining advantage-seeking behavior and opportunity-seeking behavior. The outset, the 'entrepreneurial mindset', the 'entrepreneurial culture' and the 'entrepreneurial leadership', reflects opportunity-seeking behavior; followed by the advantage-seeking strategic management of financial, human and social capital. Next, creativity is applied in the development of the actual innovation, which will provide the competitive advantage and wealth creation. The model serves as point of departure for the analysis of the empirical data.

Method and Research Question

Using a holistic multi-case design (Yin 1989), case studies in seven established firms were carried out. The case firms were selected based on criteria for corporate entrepreneurship defined through theory and involvement in radical innovation. The case firms are all placed within high-tech industries, and each evolves around a radical technological innovation. The case firms differ in size, age and specific industry, and this does to some extent influence the circumstances surrounding the innovation process. However, the essential elements of comparison between the cases were the fact that they have all achieved a radically innovative performance through the projects which were followed, and the fact that they can all be characterized as entrepreneurial. As such, the similarities in entrepreneurial dimensions involved and innovative performance are considered to be a central unifying factor. The differences between the cases are perceived to be useful in highlighting different angles of the relationship between strategic considerations and corporate entrepreneurship. By selecting cases based on the involvement in corporate entrepreneurship rather than industry specific characteristics, Yin's (1989) recommendations of not falling into the trap of trying to select a representative set of cases in order to create generalizability were considered, as no set of qualitative cases is likely to deal satisfactorily with this. Instead, the intent is to generalize the different qualitative findings to theoretical patterns. Through the analysis of the cases the central research question of the paper is answered:

> *Which roles do strategic considerations play in a corporate context in relation to the recognition and development of radically innovative opportunities?*

The cases are based on between 3 and 10 in-depth qualitative interviews with top-management, middle-managers and R&D professionals over a period of one year. As such, the process of innovation was followed through considerations about the past, the present and the future, made by the interviewees at different points in time during the process. This research approach is an expression of an explorative and reflective approach, allowing for a gradual development of the understanding of the case through a dialectic process between interviewee and interviewer Validity in the qualitative data is obtained through emphasis not on the repeatability of the interviews but rather on their quality by focusing on the careful training of the interviewer, the use of interview protocols and the quality control of the data-analysis done by sharing the information and analysis with the interviewee.

Time was additionally spent on the premises of the firms, observing the day to day working of each organisation. This enabled the development of insights into organisational culture and establishment of impressions from other employees which would have been difficult to obtain through interviews only.

Relevant documentation was furthermore provided by the respondents both prior to and after the interviews. This included; strategic documentation, product development roadmaps and funding proposals. These data have been used to cross reference findings from the interviews and to provide added historic background on the case studies.

TABLE 1 Overview of case firms

Case	Characteristics of the firm	Innovation
A	Established in 1976. *Profile:* Develops, manufactures and markets professional audio products. *Size:* 185 employees.	Unique technology within digital signal processing.
B	Established in 1925. *Profile:* Develops, manufactures and markets high-design audio/visual products. *Size:* 2300 employees.	Unique audio power conversion technology.
C	Established in 1956. *Profile:* Analytical solutions for food and agricultural products. *Size:* 1100 employees.	Variations of existing technologies applied in unrelated fields.
D	Established in 1922. *Profile:* Healthcare firm focused on diabetes care. Size: app. 20,250 employees.	Monitor of intracellular events and protein translocation in real time.
E	Established in 2001 as independent spin-in to a British firm. *Profile:* Wireless communication. *Size:* 32 employees.	Front edge silicon IP for wireless terminals.
F	Established in 1933. *Profile:* Refrigeration and air-condition, heating and motion control (case within Heating and Water division). *Size:* 17,500 employees.	Radical rethinking of CO_2 sensor technology.
G	Established in 2002. *Profile:* Audio development firm. *Size:* 5 employees.	Unique 3D sound.

TABLE 2 Radical innovation in cases

Indication of radical innovation in the cases	A	B	C	D	E	F	G
Offering wholly new benefits to the market	•	•	•	•	•	•	•
Generating new business within the organization	•	•	•		•	•	•
New to the world performance features	•	•	•	•			•
Significant (5–10×) improvement in known features	•	•	•	•	•	•	•
Significant (30–50%) reduction in cost		•			•	•	

Tables 1 and 2 respectively give an overview of the case firms and illustrate the radicalism of the innovation in each of the cases, following the definitions of Ayers and O'Connor (2005) and Leifer et al. (2000).

Findings and Discussion

Although it is possible to interpret the findings from the case studies in somewhat different ways, it is suggested in this section that distinctive and valuable insights arise on the strategic considerations involved in the recognition and development of radical innovation in the cases. Looking at the cases in a cross-case perspective three distinct patterns arise. Each case is not presented separately; instead the observations in the cases are grouped, adding representative highlights, to allow for reflection on the central question.

Initiating the analysis, the cases are evaluated in relation to the overall corporate strategies of the firms in which the cases took place, in order to create a picture of the possible different strategic patterns to consider in the continued research. This instantly revealed a high variety between the cases. Cases B and C were examples of technologies developed in line with the overall firm strategy. These were based on a consciously intended course of action, and with the strategy being formulated ahead of the events leading to the innovation. Top-management were instigators behind the projects, and had clear views on why the innovations were developed, how they would fit/differ from the existing product portfolio, and which markets could be targeted or created with this innovation.

A second grouping, consisting of cases D and F, was clearly not related to the overall firm strategies. These projects were highly influenced by individual entrepreneurs with great personal involvement in the projects, and were *developed in an atmosphere of conflict* where they found resources and leeway on a 'on and off' basis, only due to the ever-changing opposing internal political agendas.

Cases A, E and G on the other hand were peripherally related to the firm strategy, and the strategic decision making seemed to develop in the absence or maybe even in spite of explicit intentions – in this way developing and *revealing the strategy in step with the development* of the innovation. A changing range of different individuals, from top-management to R&D, were involved in the experimentation, conceptualisation and creation of the innovation at different points in time, and clear formal procedures did not lead the process.

This initial grouping of the cases provides a useful pattern of very different roles played by strategic considerations in entrepreneurial innovation, which in the following is used as point of departure for the continued analysis. The three groupings are referred to as 'the pre-defined journey', 'the personal quest' and 'the infinite journey of opportunity creation'.

THE PRE-DEFINED JOURNEY

Case B tells the story of how top-management teams from two sources of existing knowledge realized that through research-cooperation, radically new *knowledge in a mutually beneficial area could be created. Hence, a strategic partnership was formed, a plan for the entrepreneurial journey was specified, and the right innovative individuals to undertake the journey were appointed. This journey was focused on the development of a radically new technological platform, used in audio power suppliers, audio amplifiers and audio transducers, which diminishes the loss of effect by more than 10 times. This offered possibilities of supplying customers with far better, much cheaper and more environmentally safe sound as well as new, smaller and very different designs of the products in which it was to be implemented. The technological invention was in focus and the specific project idea had an obvious home when it matured and was ready for commercialization. Thus, a constructive relationship between the business unit and the project was established and organizational uncertainty was reduced. The infrastructure for contacting customers, understanding markets and delivering the innovation was also well understood. The performance of the technology gave the firm strong advantages in comparison to competitors.*

It was, however, also realized that the new technology held the additional possibility of being applied and creating profit in a range of unfamiliar markets, which the firm of origin did not wish to enter itself. Hence, the project was spun off into a separate firm, which gave the parent firm clear competitive advantages in markets not prior addressed.

The source of the initial opportunity recognition in this first group (cases B and C) is the top-management; setting the stage for entrepreneurial innovation based on top-down strategic considerations. The strategic management of resources (human, social and financial) aligns the innovative activity very well with existing products, markets and known customers, and the management-teams are highly oriented towards opportunity recognition within a strategically well-defined context.

Both cases are characterized by being projects aimed at replacing existing technologies for essentially the same customers and markets, and the radical innovations consist mainly of offering new features and dramatic cost reductions. As such, the main aim of the entrepreneurial innovations is to strengthen the firms' position in a familiar market. Additional opportunities were discovered and exploited as the innovations evolved, which indicates a strategic flexibility of the firms, but the main part of innovation process evolved according to a formal plan, showing the high influence of strategic planning. This furthermore has the effect that the innovation processes are largely controllable and risk is reduced significantly. The competitive advantages gained through the two cases are considered to be results of an intended advantage-seeking behavior and deliberate strategic planning of the entrepreneurial innovation.

Relating the knowledge of the characteristics of this group to the model of SE by Ireland, Hitt, and Sirmon (2003), it is found that there is a high degree of similarities between the model and the empirical evidence; At the outset, the process is initiated based on the entrepreneurial mind-set of top-management and is made possible by a corporate culture embracing highly innovative and knowledgeable individuals, who are assigned to the projects. The strategic management of resources is a primary activity in the process, taking place before the actual application of creativity and development of the innovation. This process leads to competitive advantages and significant wealth creation largely within the context it was originally planned to target.

However, the element of entrepreneurial leadership is not clearly present in the empirical evidence. Entrepreneurial leadership is defined by Covin and Slevin (2002) as consisting of: the nourishment of an entrepreneurial capability, protection of innovations that threaten current business models, sense-making of opportunities, questioning the dominant logic, revisiting the 'deceptively simple questions' and linking entrepreneurship to strategic management. Sense-making of opportunities and linking entrepreneurship to strategic management are clearly present, but the remaining elements are not found.

Looking closer at the dominant logic reflected through the cases, a plausible explanation for the absence of the before-mentioned elements is reached. Using the metaphor of a journey, it became clear that the destination/performance of the entrepreneurial journey was in focus from the very outset, and that the boundaries of the journey were clearly defined through planning. The management of this process was hence largely within a comfortable zone, because the course of events was predictable, and no particular risks were necessarily taken. This reflects a *dominant logic of causation;* taking a particular effect as given and focusing on selecting between means to cause this effect (Sarasvathy 2001). This illustrates a view on entrepreneurship as the inevitable outcome of mechanical forces, stochastic processes, or environmental selection, rather than as creation of artifacts by imaginative actors fashioning purpose and meaning out of contingent endeavors. Nourishment of entrepreneurial capabilities, protection of innovations that threaten current business models and questioning the dominant logic of a firm, imply the ability to picture the unforeseen, rather than the planned, as the driving force of the entrepreneurial capability, and are as such opposing the dominant logic depicted in the cases. Hence, the leadership portrayed was strategic to a much higher degree than it was entrepreneurial.

Hence, an approach reflecting SE as a 'pre-defined journey' does not necessarily foster a continuous entrepreneurial ability, which will provide firms with a foundation for repeatedly exploring new arenas and the ability to exploit the possibilities emerging. This perspective rather presents a way of managing processes aimed at combining and exploiting known resources, and is in this sense not *departing from the customary,* which is an essential part of entrepreneurship. As such, the optimal balance between entrepreneurship and strategic management is not reached.

THE PERSONAL QUEST

Case D tells the story of a how a few innovative individuals in a large healthcare firm discovered a radically new technique for monitoring and using protein translocation as a readout for the activity of cellular signaling pathways. As such, the technique offered a way of testing and comparing the effect of millions of different components on protein-based medical products at a very high speed, and was able to lead healthcare research on the track of new effective components to substitute old and increasingly ineffective ones. The development of the invention therefore had the potential of serving new customers in new ways as well as adding value for old customers. The invention in itself was not a core business area for the firm, but nevertheless fell within the context of the firm.

The idea originally won resources for project funding through an internal contest in the firm, but the project was closed down after a change in management, as it did not match the narrow but very profitable corporate strategy. The inventor was, however, still highly committed to the project and placing personal pride in the survival of the idea, as he was convinced that it held the potential for new market creation and wealth. Using political skills and his power as a central research figure, the inventor gradually convinced management to support the creation of a spin-off firm, which he would head himself. The spin-off has since then been able to create unique results in cooperation with a wide range of other healthcare firms.

A second group (cases D and F) is characterized by high personal involvement of particularly entrepreneurial individuals within the firm. The initial opportunity recognition is made by the individuals and the development of the opportunity is also largely dependent on the personal efforts rather than on a formal process. As such, the entrepreneurial mind-set of top-management is in these cases less important than that of the individuals for recognition of the opportunity and development of the innovation.

The projects are characterized by being radical new technologies which fall 'between' existing businesses, meaning that they do not have obvious homes from the initiating stage, but could possibly end up as either new business units or in existing divisions that are prepared to expand the scope. Although the markets served by these innovations would be new for the firm, they would still be related to the firms' existing contexts. However, as the projects in the cases are not clearly aligned with the overall firm strategies, they face difficulties at all stages of the process, and they developed in an atmosphere of on-going conflict. The cases depict bottom-up entrepreneurial activities that are carried out as personal opportunity-seeking quests, rather than advantage-seeking behaviour.

Considering the development of the innovations in light of risk vs. control, it is found that both cases are considerably risky projects that are difficult to evaluate in terms of traditional criteria, such as time, need of resources, potential return on investment etc. As such, the possibilities of control during the process are limited, which constitutes a serious challenge in relation to the strategic management.

Although top-management in both cases consider themselves to be entrepreneurial and both firms do have an innovative organizational culture, it is clear that entrepreneurial activity is allowed only within certain pre-defined limits, and that projects breaking these boundaries are handled only with great difficultly. This indicates that management apply a dominant logic of causation, which in this group is causing a conflict since the dominant logic of the individual entrepreneurs is not in line with that of the top-management. The *dominant logic* of individual entrepreneurs is based on *effectuation* (Sarasvathy 2001), where they as imaginative actors seize contingent opportunities and exploit any and all means at hand to fulfill a plurality of current and future aspirations, many of which are shaped and created through the very process of decision making and are not given a priori.

The opposing forces of the corporate strategy and the entrepreneurial individual are also seen in relation to competitive advantage. In case D, the entrepreneurial individual breaks away from the corporate strategy as the project is spun off, and the competitive edge, which the innovation could have provided for the parent firm, is now shared with a range of competitors. Case F is, on the other hand, still living a life in the skunks of the parent firm, trying to adjust to conformity in such ways that it will be able to fit into corporate strategy. This, in spite of the fact that the project has demonstrated the potential of significant improvements in known features leading to significant cost reductions, and possible application in a wide cross-sectional selection of the products of the firm, creating radically new effects in performance of these.

As such, the innovation process depicted through cases D and F deviates noticeably from the one pictured in the model of SE (Ireland, Hitt, and Sirmon 2003). The initiation is based on the entrepreneurial mindset of the individual rather than the management of the firm. This is closely interlinked with the firms' entrepreneurial culture, yet lack of entrepreneurial leadership. The application of creativity and the development of the innovation are central activities in this process, and only hereafter is the strategic management of resources considered. Due to the conflicting forces, the competitive advantage and wealth creation gained by the parent firm on the basis of the innovations is limited.

It is evident that cases D and F demonstrate the exact conflict between a largely strategically oriented firm and the entrepreneurial forces, which SE wishes to overcome. As such, an approach reflecting corporate entrepreneurship as a 'personal quest' is considered to entail the risk of the entrepreneurial forces creating strong contradictions to the strategic forces of a firm. However, in order for a firm to successfully nourish an entrepreneurial culture, the ability to embrace and incorporate 'personal quests' must be present as a means of continuous exploration. The conflict portrayed by this group is highly relevant for the understanding of SE, as it draws attention to the importance of the individual in entrepreneurship.

THE INFINITE JOURNEY OF OPPORTUNITY CREATION

Case A tells the story of a firm which repeatedly has been able to move in new directions, leapfrogging competitors, and creating rapid growth. The firm was started as an entrepreneurial venture by two brothers, based on their personal interest in how to develop new technological advances for guitar pedal-effects. When adding a professional management-team, the firm experienced rapid growth over several years, and became world-leader within digital signal and effect processing for professional audio environments, for example recording-studios, TV, and radio stations.

The case evolves around the development of digital signal-processing equipment, which revolutionized possibilities in audio products, and the case pictures how re-thinking a technological platform from hardware to software meant that the firm was able to expand existing markets, move into different markets, and direct the creation of new markets. This embodied a high organizational uncertainty and implied that the strategic context of the firm had to be reset. This was done through a process where the project was initially spun off into a separate venture and later integrated again, as the innovation and its possibilities had matured and become more manageable in connection with existing resources. The management of the firm considers the abilities to explore and integrate new knowledge on an on-going basis, and the willingness to break existing frames of conduct as core competences of the firm. This spirit is highly reflected in the employees. One of the main difficulties experienced by the firm is how to make sure that the ability to create cutting edge innovations does not overshadow the focus on and the ability to exploit all innovations to the fullest.

The third group, consisting of cases A, E and G, showed a very different pattern from the two prior groups. Slightly different roads were followed by the three cases in the group, but essentially the patterns for opportunity recognition and development were highly similar.

The initial opportunity recognition did not have an obvious starting point as a top-down or bottom-up initiative. Instead a changing range of individuals from top-management to R&D were involved, and the opportunity recognition consisted of thoughts about the technological possibilities, the markets that could be targeted, as well as markets that could be created. The projects were as such not held to a specific plan based on the existing strategy, but rather *expanded and created the strategy* as the possibilities of the innovation became clear. The top-down management was reflected as leadership rather than management and the significance of self-organized groups around motivating individuals was defining. These individuals were in some cases members of the top-management, but in others individuals with specific insight into marked and/or technological conditions. As such, the actual management took place in the groups and through the motivating key individual. This approach highlighted a culture with high focus on the capabilities and responsibilities of the individual, and the symbolic 'hero' in the firms was the highly knowledgeable developer with the ability to depart from the customary.

The type of innovation engaged in was predominantly highly exploratory and thus subject to risk. The risk management, however, did not use planning and control parameters as the primary tool to reduce this risk. Instead, risks were reduced through deliberate sharing of knowledge across a wide spectrum of people, discussing many different angles of the projects continuously. This approach reflects a *dominant logic of effectuation,* where a set of means is created and focus is placed on selecting between the range of possible effects that can be created with this set of means. This brings a unique 'rationality' to the management applied in the absence of preexistent goals and high uncertainty.

Effectuation-logic was also reflected through the strategic management of resources, as considerations on human- social- and financial resources were highly interlinked with the top-management's efforts to create a balance between being market oriented and exploring unknown arenas. The competitive advantages were achieved by establishing several different rhythms in the firm, for example one focusing on exploiting existing cash-cows and one focusing on the exploration and creation of new initiatives. The entrepreneurial activities in case firms A, E and G were as such perceived to be 'infinite journeys of opportunity creation' rather than isolated events initiated at strategically planned points in time.

Seen in relation to SE, this group reveals a very high ability to integrate strategic and entrepreneurial forces. An approach reflecting corporate entrepreneurship as an 'infinite journey of opportunity creation' therefore illustrates the thoughts put forward in SE.

However, the model of the innovation process seen through this group evolved somewhat differently than the process suggested in the model of SE by Ireland, Hitt and Sirmon (2003). The entrepreneurial mindset in the organization was an integrated part of the entrepreneurial culture, and as such, the two elements did not stand out from one another; the shared system of values and beliefs that shaped the firms' structural arrangements and the actions of their members continuously reinforced the entrepreneurial mindset and vice versa. The integrated entrepreneurial orientation in the firms provided the essential foundation for initiation of the opportunity recognition as well as the development of the innovation.

A strong influential factor was the entrepreneurial leadership, which created a frame of innovation and creativity in the firm, consisting of development of opposing scenarios, a flexible use of resources, and a dynamic changeability in structures and processes. The entrepreneurial leadership was found to be expressed through, respectively, the self-management by the individual, the top-management, and the dynamics of self-organization at group-level. This approach ensured that leadership and strategic management of resources is not merely a concern of the top-management, but is an integrated part of the way, in which the entrepreneurial individuals in the organization perceive and develop opportunities.

An Integrative Model of Strategic Entrepreneurship

Considering the different patterns in relation to SE, it has become evident that the process of the 'pre-defined journey' corresponds highly to the process illustrated in the model of SE; the organizational mind-set and culture is innovative, and the specific innovations developed are products of intended planning through a primary process of strategic management of the existing resources of the organizations.

However, lacking from this picture is the entrepreneurial leadership allowing for questioning of the dominant logic, protection of innovations that might threaten the current business models, and innovations based on emergent strategies. As such, the 'pre-defined journey' approach is not fully able to capture the exploratory nature of entrepreneurship, but remains predominantly focused on the strategic exploitation of the existing.

The 'personal quest' approach illustrates exactly the conflicts caused by the lack of entrepreneurial leadership in the before-mentioned approach, when an entrepreneurial individual seeks to explore new venues. The approach reflecting an 'infinite journey of opportunity creation', however, captures the logic underlying SE; the integration of *emergent activities based on the effective combination of autonomy, innovativeness, risk-taking, pro-activeness and competitive aggressiveness* (Lumpkin and Dess 1996) with advantage-seeking behavior through *strategy as discovery* (McGrath and McMillan 2000). This shows an integration of the entrepreneurial culture, the entrepreneurial leadership and the strategic management of resources in such a way that both opportunity-seeking behavior and advantage-seeking behavior become a concern of the entire organization. The level of responsibilities allocated to group-level stands out and indicates that this level is of primary importance for the successful integration of the two opposing forces.

Based on this understanding, a revisit of the model on SE by Ireland, Hitt, and Sirmon (2003) is suggested and an illustration, which high-

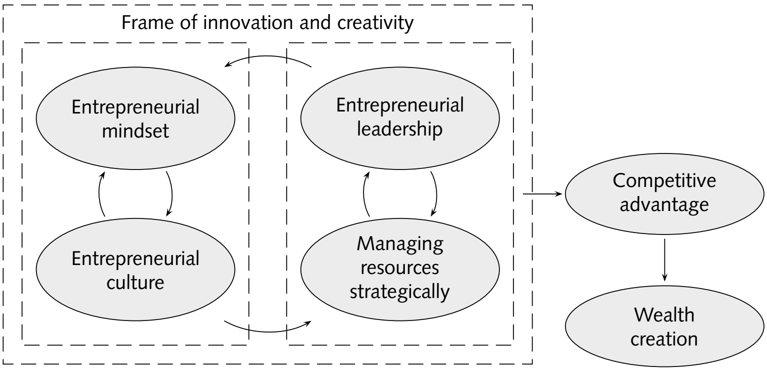

FIGURE 1 An integrative model of Strategic Entrepreneurship

lights an iterative integration rather than a sequential development of the Strategic Entrepreneurship process, is proposed (see figure 1).

The Integrative Model of Strategic Entrepreneurship calls for a continuous organizational readiness to explore new arenas and recognize possibilities, and the ability to act on and exploit the recognized possibility. This requires an integration of entrepreneurial as well as strategic considerations made at the individual level, the group-level and at level of top-management, as strategic decisions are the result of much more than the characteristics of a top management team. The entrepreneurial mindset and the entrepreneurial culture found in the firm become mutually reinforcing, and the entrepreneurial leadership and the strategic management of resources stimulates this posture and is likewise in reverse influenced by it. Especially the development of an SE consciousness at group-level is considered to be of essential importance, as the empirical evidence shows that this is where the actual development of innovations takes place and where an understanding of direction must ensure that disequlibrating activities are undertaken yet not overshadowing exploitation. Also, it is at this level, in the everyday interactions between actors, that a corporate culture of SE is created and reinforced on the base of the joint knowledge, experience, cognitive skills, and other resources of the organization. As such, group processes in strategic decisions and the effectiveness hereof must be in focus.

Conclusion

This paper closes as it began; reflecting on the fragile balance between strategic advantage-seeking behavior and entrepreneurial opportunity-seeking behavior. The research presented has shown that the construct of Strategic Entrepreneurship is not implemented without difficulties in reaching the right level of balance between entrepreneurial forces and strategic forces. In answer to the research question, three different roles played by strategic considerations influencing the patterns of recognition and development of radically innovative opportunities were identified. It was suggested that strategy as a pre-planned behavior does not entirely capture the emergent and exploratory nature of entrepreneurship. Instead, firms which do manage to successfully integrate advantage-seeking behavior and opportunity-seeking behavior, apply a dominant logic of effectuation and incorporate advantage-seeking considerations from several different levels of the organization. These results gave inspiration to the development of an Integrative Model of Strategic Entrepreneurship, highlighting the necessity of perceiving SE as a continuous organization-wide attitude rather than a periodical divergence from corporate strategy allowing for entrepreneurship within well-defined boundaries.

The contributions of this paper are considered to be both theoretically and practically valuable. Theoretically, the paper contributes to the development and further underpinning of the field of SE, as the empirical evidence points to distinct forms of strategic considerations involved in successful entrepreneurial activities in a corporate context. On a practical level, the insight into which strategic considerations are made in connection to the successful recognition of radically innovative opportunities adds to the existing body of knowledge on management practices of corporate entrepreneurship.

Further research opportunities for the SE construct include testing of the generalizability of the three patterns found in this research, using quantitative research methods, as well as paying explicit attention to the types of performance and wealth creation connected to the different patterns. By effectively doing so, a more solid empirical understanding of the SE construct can be created, providing useful insights to academia as well as practitioners.

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