Entrepreneurial Features of the Creators of Innovative Enterprises

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Abstract. This study aims to deepen the knowledge of innovative entrepreneurs and what motivated them to establish their businesses in an environment full of rapidly changing technology and economic globalization. Particular attention has been paid to the creation and development of innovative enterprises with high knowledge content. In this study about the creators of innovative enterprises, it is necessary to consult the literature on innovative entrepreneurship. To reach this goal, we begin by questioning the concept of innovative enterprises and showcase their particularities. Then, we turn our attention to the specific qualities of the innovative entrepreneur. Finally, we will try to identify the decisive environmental determinants advanced by the work carried out on innovative entrepreneurship and determine their influence on the creation of innovative enterprises.

Key words: entrepreneur, environmental determinants, innovative companies, particularity.
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1 Introduction

Leave Currently, countries are looking for innovative companies, citizens, modern and satisfying for job creation needs and collective wealth (Gasse, 2004). These companies have an incontestable contribution to regional development and economic dynamics (Borges, Simard and Filion, 2005). From that moment; many authors have retained special attention to technological entrepreneurship by focusing on the particularities of creating innovative companies and especially their entrepreneurs. It should be noted, however, that the creation of a technology company is a particularly delicate exercise because of the risk on its activity and the uncertainty of the environment (Bernasconi, 2003). This has led many authors to ask this question: What leads some individuals to create innovative enterprises? What specific determinants in the creation of this type of enterprises?

In this regard, the aim of this article, first, is to present the particularities of these enterprises and second to study the determinants leading the individual to create an innovative company. These determinants are linked to the innovative entrepreneur and the environment in which it is inserted.

2 Innovative companies:
2.2 Definition of an innovative company:

Many studies conducted on innovative companies, indicated a number of criteria differentiating these enterprises from other forms of companies including traditional companies. Hedlund (1994) emphasized the need to distinguish between a traditional enterprise and innovative enterprise as much as the first has a form oriented towards rational and appropriate goals for a stable environment, against the second has a form suitable to changing conditions and problems and unpredictability of the action. Similarly, Albert (2000) makes a distinction between traditional enterprise and innovative enterprises in terms of uncertainty. He stated that while uncertainty is huge for high-tech companies, it is less for traditional companies that operate in a more stable environment and for large companies with a portfolio of activities allowing them to diversify their risks.

In the literature, several names have been given to innovative companies. We mainly cite High-Tech enterprises, advanced technology companies, innovative companies (according to the French translation) or High Tech Firm, Knowledge-Based Firm or New Technology-Based Firm (NTBFs) in English (Albert, 2000).
Albert and Mougenot (1988: 106) propose a classification of these companies into three groups, based on the technological intensity of the change introduced. Thus, they distinguish innovative companies, having a general feature of innovation, the two other subset have a special feature of the innovation. Innovative companies include the two other types of companies namely, innovative firms and advanced technology companies (ETA).

- Enterprises advanced technology: these are companies that "develop and / or exploit new technologies in different applications for different markets."
- Innovators "Businesses that launch new products or new processes with technological content, from classical and advanced technologies."
- Innovative companies: These are companies that "launching new products or new services or who use processes, new marketing or new modes of management without there is necessarily being a technological content."

Park (2005), on his part, defines a high-tech enterprise like an enterprise that uses or invests in an emerging technology or rapidly evolving as a key factor in the development of its product, its production and its marketing strategy.

For their part, Ayadi, Arlotto and Jourdan (2005: 5) propose a wider definition of the innovative company by adding other features such as: age, size and the existence of a technological nonindustrial innovation (in the service sector). Thus, they specify that innovative company is a "young company (under the age of 10 years), medium-sized or using or significantly invests in emerging technological innovations or rapidly growing as key part of its development process, of its production, its delivery or its service."

2.2 Specificities of innovative companies

High-tech companies allow specific studies to address a number of specificities distinguishing them from other more traditional companies.

Albert (2000) illustrates these specificities in five principal characteristics, namely:

- They Operation very unstable sectors of activities because of the rapid evolution of technologies such as electronics, computers and telecommunications. This speed technology, combined with the new products, emerging markets and the unpredictability of the competition mean that these companies are facing considerable in economic uncertainty which is the common feature of innovative companies.
- Their Expenditures in research and development are more important than others enterprises. They are related to the scientific community (universities and research laboratories). The products and / or services offered by these companies have a high added value and often characterized by a short life cycle or quite short.
- They upset the balance of the market by introducing innovations and by changing in demand and creating new markets.
- They are characterized by specific needs and financing methods involving very specific actors (Venture Capital, Business Angels, etc.).
- Their Activity requires higher investments than other non-innovative companies.

After presenting the main definitions and specificities of innovative companies, it seems important to study the peculiarities of their creative process.

2.3 Features of the process of creating innovative companies

Some authors have shown that the process of creating high-tech enterprises have certain features including high needs in terms of resources, a significant dependence on knowledge and new technologies, a remarkable difficulty for the development and commercialization of product / service, considerable existence of entrepreneurship team and the presence of partnerships with other social actors (Albert, 2000; Benavent and Verstraete, 2000; Bernasconi, 2000; Samuelson, 2001) . Indeed, in their comparative study of 77
technology companies and 115 traditional companies, Borges, Filion and Simard (2006) showed that the process of creation of technology companies is longer and more difficult because of the need to develop the technology, features of their market and their increasing resource needs. A similar result was found by Samuelson (2001) in his study of 233 companies in Sweden. It indicates that the process of creating this type of enterprises is longer and less linear. The author stresses that traditional companies usually imitate the creative process of existing companies, while innovative companies must find their own path and even invent new markets. In that vein, we note that innovative companies and their creative process differ from other companies. Therefore, it is legitimate to try to explain the phenomenon of creating this type of enterprises. To this end, we discuss in what follows the theme of the actor of this phenomenon who is the innovative entrepreneur and the specific environmental determinants in the creation of innovative companies.

3 The innovative entrepreneur

In the literature on the creation of innovative companies, the character of the innovative entrepreneur is considered central. Very particular characteristics have been given to this individual. In what follows, we try to present studies interested in the profile of innovative entrepreneur and typologies that can be mobilized to better understand its course.

3.1 The particular profile of innovative entrepreneurs

3.1.1 Gender and age

The creation of technology companies interested in men more than women, such as highlighting Ayadi, Arlotto and Jourdan (2005) and 35 to 44 years for Borges, Filion and Simard (2006). Many studies have shown that innovative entrepreneurs are distinguished from other creators by their high quality education (Bernasconi, 2000). In fact, in their exploratory study of 22 innovative companies, Danjou and Dubois-Grivon (1999) found that 95% of them have at least a level "Bac + 5" and half are doctors or engineers Drs. Similarly, Ayadi, Arlotto and Jourdan (2005) note that in 2005 and in the national competition for the creation of innovative technology companies in France, 50% of promoters are PhD students and 34% are engineers. In the same vein, Borges, Filion and Simard (2006) confirm that the creators of technology companies are more educated than the creators of traditional companies. In fact, technology entrepreneurs with a bachelor's degree or more represent 67% against 39% only for other entrepreneurs. In addition, 26% of technology entrepreneurs hold mastery or doctorate against 9% other.

3.1.2 Level of Education

According to Tesfaye (1997) and Fayolle (1999), technology entrepreneurs create their enterprises after working in related sectors of the industry in the new company which they acquired their skills and experience with the product and the technology used. So they have a good knowledge of markets, technologies or industry (Gasse, 2002). This professional experience can last an average of 12 years (Danjou and Dubois-Grivon, 1999). For Borges, Filion and Simard (2006) These entrepreneurs have a 16 years’ experience on average in the labor market, 9 years in the business sector created, 8 years in a management position and more than half (54.5%) have created already another company. From them, Lee and Wong (2004) emphasize the importance of such an experience in identifying business Opportunities. Hills et al. (1999) confirms this view by showing that between 50 and 90% of business ideas come
from previous experiences. However, despite the high level of training and experience of technology entrepreneurs, some authors have shown that most of these entrepreneurs are often concerned about the technical performance, lack of the necessary skills to perform management activities, particularly those such as marketing (Borges, Filion and Simard, 2006; Albert, 2000; Gartner, Starr and Bhat, 1999; Jones-Evans, 1999) . Thus, they have not acquired at the time of the creation of their business, sufficient skills to develop a major project (Albert, 2000).

3.1.4 Team contractors

Several authors have recognized the collective character of the creation of innovative companies (Bernasconi, 2003) . In fact, these authors showed that the majority of entrepreneurs in high technology create a team (Borges, Bernasconi and Filion, 2003; Cooper and Daily 1997; Cooney, 1999; Gasse, 2002) . This team is formed by an average of three people who are usually family members, friends or co-workers (Prevezer, 2001; Reynolds et al, 2004).

For their part, Martinez Sanchez and Urbina Perez (1998) found that 91% of technology companies located in the north of Spain are created by more than one contractor. They stressed that the partners are highly qualified and are able to complete the contractor's competences. The formation of a team allows, according to Bernasconi (2000), to entrepreneurs to join resources and complementary skills. Oakey (2003) confirms this reality by focusing on the need to bring together expertise and managerial skills to successful high-tech companies.

3.1.5 Motivations

There are several motivations leading to create technologique enterprise. They borrow some motivations related to the creation of Non-technology company such as the need for independence (Urbla Martinez Sanchez and Perez, 1998), the need for achievement and family background (Park, 2005; Danjou, 1999; Albert and Mougenot, 1988) . However, other specific motivations to technology entrepreneurs have been demonstrated. Park (2005) speaks of the desire to achieve innovation, Colombo Delmastro (2002) highlight the conviction to introduce something new. This view is similar to that of Schumpeter (in Mustar, 1997) that an individual will engage in entrepreneurial path if it is safe to be able to reward his efforts and enjoy a monopoly, even temporary. Vesper (1980) and Blais and Toulouse (1992), on their part, note that individuals passionate about technology development are more likely to create technology companies, as well, Bruno, and Mcquarrie Torgrimson (1992) in their study of 250 new technology companies in northern California, have compiled loyalty to a product or technology as a particular motivation for innovative entrepreneurs.

3.2 Typology of innovative entrepreneurs

The study of typologies of entrepreneurs is interesting in that it allows a better understanding of technology entrepreneurs and pathways leading to undertake (Bernasconi, 2003) . The typology the best known is that of Bernasconi (2000) offers five types of configurations of entrepreneurs in high technology:

3.2.1 Orchestra man

It is an engineer or a scientist who, alone, is launching a project based on a technology that he overcome. Dynamics of the project will depend on the qualities and skills of the entrepreneur. This type of entrepreneur is now quite rare due to the need to form a team for the creation and development of a high tech company.

3.2.2 Essaimage Of researchers

This type is for researchers who create their enterprises in order to valorize the work that they have made in their research laboratories
The control of the most advanced technologies allows these researchers to initiate and develop highly innovative projects. Essaimage is through the creation of a new enterprise agreement with the laboratory.

### 3.2.3 Professional Essaimage

Involves the creation of a new company by a team that pilots an activity in an existing enterprise. The expertise of the team members has already been acquired and initial costs and risks are often supported by the company left.

### 3.2.4 The orchestra professionals

Corresponds to the formation of a team of professionals in order to launch a project recognized as especially innovative. The team is formed by individuals with complementary skills. The proper functioning of the founding team will give credibility to the project and reduce risk.

### 3.2.5 Young adventurers

These are young entrepreneurs who have created their enterprises, just after graduation or two or three years after or even before completing their training through an opportunity that has appeared particularly in new technologies and the Internet. These young entrepreneurs lack the skills related to the field of management, marketing and finance. This typology is close to that proposed by Jones-Evans (1995), which has four types of entrepreneurs "technological" based on their previous experience. IL distinguished as follows:

- The "researcher", which is from public laboratories and university research environments.
- The "producer", this type of entrepreneur participated in the production or development of a product or a process often within a large company.
- The "user", he performed a peripheral role in the development of a technology (for example, in sales or marketing).
- The "opportunistic", is an entrepreneur who has little or no experience in the technology field and has identified a technological opportunity. After this work on innovative entrepreneur, you should address the specificities of environmental determinants leading to the creation of innovative companies.

### 4 Environmental determinants of the creation of innovative companies

The characteristics of a dynamic environment that attracts and facilitates the creation of innovative companies have been the subject of several theories; the most important are the "clusters" or "innovative environments."

#### 4.1 The innovative environment

The theory of "innovative Environments" was developed by the work of GREMI (European Research Group on Innovative Environments) to explain the spatial concentration of innovative companies in very specific areas (Aydalot 1986; Quevit 1991; Perrin, 1991; Maillat, 1992). These areas that may be technopolis (Zghal and Labidi, 2007) consist of technology companies, research centers, universities and support structures for the creation of companies such as incubators and financing networks (Bernasconi, 2003) and whose principle is based on the notion of proximity (Gilly and Torre, 2000; Rallet and Torre, 2001). This latter generates synergy effects (Haddad and Poncet, 2006) to develop interaction between these actors and therefore the "dissemination of knowledge" and "access and exploitation of technological complementarities" (Mezouaghi 2002: 8). Bernasconi (2003: 17) illustrates the benefits of innovative environments in five main families:

- "Advantage in terms of experience and motivation for the entrepreneur (entrepreneurial culture" success stories ", favorable policies)"
- Advantages in terms of costs (land economy)"
Advantages in terms of resources (human, financial, contracting)
Advantages in terms of access to the first customers
Advantages in terms of learning and innovation.

The region of Silicon Valley in the US is the ideal model of an innovative environment consisting of a large number of companies with high technological potential and supporting a dynamic regional economy and rapid growth (Collinson and Gregson, 2003; Castells, 1998).

Thus, the existence of such an environment offers special attractions to potential entrepreneurs and encourages them to create technology companies. Besides this environment, it is also necessary to highlight the role played by the supporting devices to enterprise creation.

4.2 The devices support business creation

Verstraete and Saporta (2006) emphasize that support mechanisms for entrepreneurship have overriding objective to promote the creation of new enterprises in a well-defined territory. According to these authors, these devices are structured in three main axes: financial support, development consulting and training networks (in order to reduce information asymmetry and reduce the risk of failure of young entrepreneurs) and logistical support (through the creation of structures accompanying such as nurseries and incubators).

Financial support may be manifested by the participation of specific actors such as capital investment companies risk (SICAR) and individual investors called "Business Angels". The SICARs are specialized in corporate finance through participation in capital and the sharing of risks and opportunities, and "Business Angels" are former entrepreneurs who aim to bring money and advice to young entrepreneurs. Conversely other investors, "Business Angels" do not seek immediate returns.

Jacquemin (1999) gives the example of the French government has taken several fiscal and regulatory measures in order to encourage the creation and development of innovative companies.

He cited mainly the impetus of the law on Innovation July 1999 (which aims to increase support for innovation), the foundation of regional incubators and research networks and technological innovation, creating seed funds (these are funds for financing the first phase of the business creation process, including the design and maturation of ideas) and the contest for the creation of innovative technology companies.

Research into innovative entrepreneurship, dealing with devices supporting entrepreneurship, however, paid particular attention to the role of nurseries and incubators hatch innovative companies.

4.3 The importance of the role of incubators and innovative business incubators

Messeghem and Sammut (2007) state that incubators and business incubators are support structures whose mission is to ensure the reception, accommodation and support for project managers and business leaders. They add that in addition to these missions, nurseries should facilitate the creative integration in his environment by putting it in relation to the different actors from the technology community, economic (customers, suppliers ...) and institutional (access to devices aid, subsidies, public procurement, venture capital, legal knowledge ...) . The nurseries also provide management training to improve the profile of a technician to become an innovator responsible for Business (op. cit).

Cullière (2005) concluded that to enroll in a nursery or incubator can contribute to the credibility of the creative project and increase its legitimacy and therefore the legitimacy of his business with external actors.

All these findings led some to characterize this type of accelerator structure or catalyst of the entrepreneurial process. Indeed, Colombo Delmastro (2002) note that the technology incubator is a catalyst for the decision to embark on the creation of an innovative company. Similarly, Berger-Douce (2003) points out that the regional incubator has a
entrepreneurial. Les results process enabling character of a qualitative study by Fitzgerald, Murphy and O’Connor (1984), confirm this reality showing that the specialized training, availability of resources and the existence of incubators have a major role in facilitating the creation and development of technology companies.

In addition to these effects of acceleration and facilitation of the entrepreneurial process, Chabaud et al. (2003) demonstrate, through the results of a 2002 study of the European Commission, the mortality rate is two to four times lower when companies are accompanied by incubators or business incubators. The impact of support structures on the survival of young companies has been emphasized by many authors (Doku et al., 2000; Chabaud et al., 2003; Sammut, 2003; Lasch, 2004).

The importance of environmental determinants inherent in the creation of innovative companies is thus undeniable in the development of a positive perception of the environment surrounding the contractor and the impetus of innovative business initiatives.

5 Conclusions

This study had the ambition to explore the factors stimulating the emergence of innovative entrepreneurs. The findings reveal that prepared the courses leading to the creation of innovative companies interact with factors related to the contractor and external factors inherent in its environment.

Regarding technological entrepreneur, the literature reveals the existence of some special features on it that prompt start a business. It appeared that there was consensus among researchers about the importance of education, experience, motivation and the existence of an entrepreneurial team. As an illustration, let us remember that technological entrepreneur is a man in the majority of cases, highly qualified, with previous experience in the field of activity of the new company and that often begins by forming an entrepreneurial team. This individual is generally passionate about the development of technology. All these make the innovative entrepreneur has some expertise in its field allowing him to bring something new.

To these individual characteristics, literature proves the importance of the environment surrounding the creator in favoring and facilitating the creation of innovative companies. Thus, innovative environments as technology parks and support mechanisms for the creation (such as financial institutions, consulting and training networks, nurseries and incubators) developed to mitigate the risks inherent to the particular of these companies and boost entrepreneurial initiatives.

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