

The Influence of Family Business on innovation capacity: evidence from an Italian sample.

Abstract

The paper studies the influence of family characteristics, about family owned firms, on innovation capacity. We focus on the differences in innovative behaviour between family and non family firms. Entrepreneurial firms have been characterized by their commitment to innovation and, in the field of innovation research, distinguishing organizations by type is crucial. Family business is an alternative organizational typology that crosses all the segments as size, sector, strategy, and so on, used to identify organizational types. Family business is the primary organizational type all over the world and innovation has long been considered vital for all firms to grow and survive, but research between the linkages of family firms and innovation is scant and not so investigated empirically.

Our study, and the empirical results found, show that family firms, contrary to conventional thinking, are more innovative than non-family, in particular referring to a resource perspective based on human, social and marketing capital. The findings suggest that linkages between family firms and innovation may be substantially stronger than currently assumed by many.

Key words: family business, innovation, resource perspective.

1. Introduction

Family business is a significant organizational typology in the global economy, responsible of a large part of country's GNP and employment of labour force.

In Italian country more than 85% of firms are family, and more than 82% of the labour force is absorbed by family businesses (Ifera, 2003).

Family firms compete into the global and dynamic market with unique resources, making them different from non family firms.

A family business is an entrepreneurial organization in which one or several families exert their influence on the properties and/or on the management of the business itself (Demattè and Corbetta, 1993). More specifically family firms differ in terms of goals (Tagiuri and Davis, 1992), size and financial structure (Romano *et al.*, 2000), international structures and strategies (Zahra *et al.*, 2004), corporate governance (Golinelli, 2000; Montemerlo, 2000;) and entrepreneurial behaviour (Zahra and Sharma. 2004).

The three main elements characterizing a business family are: (a) the influence of the family on the firm, justified by the legal ownership of all (or part of) the risk capital; (b) the entrepreneurial activity intimately identified with one (or several) families for one or more generations; (c) the relatives who work in the family firm run and own (jointly or separately) the family asset in a complex environment, often marked by family conflicts (Devecchi, 2007).

Innovativeness is an important strategic resource that family-run firms can use to achieve competitive advantage, and to determine whether family and non-family businesses differ in their processes of innovation is a crucial point to understand the capabilities of this kind of firms and their possibility to survive and compete in the global economy (Tanewski *et al.*, 2003).

Entrepreneurship and innovation are of fundamental importance to our economy as they spur economic growth and wealth creation (Barringer and Ireland, 2008).

Innovation stimulates firms growth and, importantly, this growth occurs almost regardless of the condition of the larger economy. Interest in understanding the factors associated with innovation has continued in line with an ever-increasing competitive marketplace. Competition among firms arises as they try to increase profits by devoting resources to creating new products and developing new ways of making existing products. The competition posed by new products is more important than marginal price changes to existing products (Schumpeter, 1934).

Already in 1934, Schumpeter emphasized the process of “creative destruction” indicating how entrepreneurial innovations make current products and technologies obsolete and fuel economic activity for new products.

Uncovering how to promote innovation and acquire and utilize knowledge and apply this to the development of new products preoccupies many, regardless of organization or industry (Tardivo, 2008).

The Schumpeterian view of innovation concentrates on the way a firm manages its resources overtime and develops capabilities that influence its innovation performance.

However, studying firms over time is difficult. For example, as small family-orientated firms grow from concentrating their resources on a single activity to diversifying into a range of products and services, many are absorbed by larger firms that subsequently develop into diversified functional enterprises. Others remain family controlled and reach considerable size, with varying levels of diversity.

The role of innovation has been studied in large and publicly traded firms and high-tech ventures. However, those firms that have remained family owned have been largely ignored by innovation researchers.

The paper studies the influence of family characteristics, about family owned firms, on innovation capacity with a focus on the differences in innovative behaviour between family and non family firms. So, the paper is structured as follows. First, in the Section 2 we give a definition of the concepts of innovation and family business. This part allows to set the hypotheses of the Section 3. Then, in the Section 4 we presents the method, describing the sample and the statistical tools used in the analysis. Finally, in the Sections 5 and 6 we present the results, we discuss them and we offer conclusions.

2. Determinants of innovation in family businesses: a resources perspective.

It is difficult to find a unique definition of both family business and innovation. Moreover, it is more and more difficult to find a definition of the link between them, as the terms have assumed a wide range of meanings. So, in this paper according with Chua, Chrisman and Sharma we define a family business as “a business governed and/or managed with the intention to shape and pursue the vision of the business held by a dominant coalition controlled by members of the same family or a small number of families in a manner that is potentially sustainable across generations of the family or families” (Chua, Chrisman, & Sharma, 1999, p. 25); on the other hand, according with Lumpkin and Dess we define innovation as “a firm’s tendency to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or technological processes. Although innovations can vary in their degree of radicalness, innovativeness represents a basic willingness to depart from existing technologies or practices and venture beyond the current state of the art” (Lumpkin & Dess, 1996, p. 142).

Initial studies regarding innovation in family firms found that they were less innovative than non-family (Donckels and Fröhlich, 1991, Morck eand Yeung 2003). In fact, family businesses present aversion to risk and resisting change to invest in new ventures and tend to lack innovative capacity since they are more likely to maximize their profits by investing in political rent-seeking behaviour rather than in innovation. That is the reason why the literature often criticizes family firms for their lack of innovation (Carney, 2005).

From a strategic point of view, family business is considered a business that develops across generations. It follows that innovation is family-based if and only if spontaneous interaction between family members across generations takes place and it is relevant to the process's outcome. It's difficult for innovation in family business to take place without both generations being involved. The secret of innovation in family business stays with the capacity of dynamically balancing power and trust, control and freedom in the developmental process of a senior-junior relationship. Both roles contribute to the quality of this relationship. On the one hand, parents should be able to set their children free to follow their pathway, but at the same time it is their responsibility trying to stimulate their children to develop the necessary competencies to continue in the family business. They should not force them to follow their career and, on the other hand, children should have a vision and be ready to take full responsibility for developing of that vision. Intergeneration innovation does not take place in a context where each party is set free to follow his or her own interest and career (Litz and Kleysen, 2001).

Then, family firms are characterized by specific generational evolutionary stages. It is possible to recognize three broad stages of family business evolution: the controlling-owner stage, in which the founder exercises the control rights; the sibling partnership stage, in which several members of a single generation (sibling team) control the firm and the cousin consortium stage, in which several family branches represent ownership (Lubatkin et al., 2005). This evolution may be detrimental to the long term investment perspective and the pursuit of more innovative strategies. In addition, Westhead and Howorth (2006) argue that multi-generation family firms may also have a lower entrepreneurial drive than first-generation family firms.

Moreover, referring to managerial determinants of innovation several authors, into entrepreneurship, strategy and management literature, have emphasized the importance of managerial characteristics in explaining performance differences in terms of innovation (Hoffman and Hegarty, 1993; Wu, Levitas and Priem, 2005; Elenkov, Judge and Wright, 2005). The hypotheses formulated in these studies are based on top managers capacity to influence or challenge strategic decisions with certain personality attributes, or the influence of executives' experience on strategic firm choices, known as CEO locus of control, CEO-tenure, and top management heterogeneity (Van Gils *et al.*, 2008). They all have a positive influence on innovation process.

Next to managerial determinants, several studies also suggest that specific family-related variables may explain variation in innovative output (e.g. Sirmon and Hitt, 2003; Le Breton- Miller and Miller, 2006; Kellermanns et al., 2008). The theoretical arguments behind this rationale are mainly resource and agency based. In fact empirical evidence of the relationship between innovation and family characteristics is scant.

In literature family determinants of innovation are built on the resource-based view.

The patient financial capital is one of the main resources that provide family firms with potential advantages over non-family firms. Family firms have a longer investment time horizon and could focus more on long term results. The effective management of this financial capital is especially important given the primary objective of continuing the firm as a family firm. Hence, patient capital creates the necessary conditions for pursuing more creative and innovative strategies (Sirmon and Hitt, 2003).

Regarding family management, and more specific family CEOs, it is often argued that the presence of family members in the board team may reduce agency costs and increase stewardship attitudes. In addition, family CEOs are expected to perform better than non-family CEOs (Bennedsen *et al.*, 2007). The distinction between a family and a non-family CEO and its relationship with innovation has been recently investigated finding a result that show how family CEOs negatively influence organizational innovation (Van Gils *et al.*, 2008).

The aim of our study is to extend the knowledge about how family business compete in innovation, taking into account their characteristics and their differences between non family firms. In particular we refer to the "familiness" of firms: their human, social and marketing capital (Sirmon and Hitt, 2003, Miller and LeBreton-Miller, 2005, Llach Pagès and Nordqvist, 2009). We focus these resources

thinking that family firms have a potential advantage and it should positively affect their innovative behaviour, with a difference from non-family firms and against the conventional wisdom that family firms are less innovative than non-family.

“Familianness” is described as the unique bundle of resources created by the interaction of family and business (Habberson and Williams, 1999). Familianness can be a point of difference that contributes to competitive advantage. One of the main advantages is the use of a unique language, which allows members to communicate more efficiently and to exchange more information. It is a resource that shows a deep linkage with human, social and marketing capital.

3. Hypotheses

As we have just stated, we are going to extend the knowledge about how family business competes in innovation referring to the “familianness” of firms: their human, social and marketing capital.

Human capital can be defined as “the knowledge and skills embodied in people” (Hatch and Dyer, 2004). Human capital is an important family firm resource because it can give the firm a competitive advantage through skills, abilities or attitudes (Sirmon and Hitt, 2003). However, most related literature suggests that family firms are constrained by their limited pool of human capital which often lacks qualified employees. The main reason for the lack of qualified employees lies in the difficulty of attracting and retaining non-family qualified employees into the firm due to certain long-term barriers (Donnelley, 1964). For these reasons, it is possible to formulate the following hypotheses:

Hp1: To support innovation, family firms devote a lower proportion of human capital than non-family firms.

Then, following Adam (2006) and Pagès and Nordqvist (2009) models, we can investigate that:

Hp1a: The percentage of qualified employees is lower in family firms than in non-family.

Hp1b: The percentage of employees devoted to R&D activities is lower in family firms than in non-family.

Following Putnam (1993), we define social capital as the resources that exist in relationships among people. Keeping a high social capital is important to gain access to other forms of capital (e.g., intellectual, human, financial capital) that are needed for a firm to survive (Sirmon and Hitt, 2003). Social capital provides information, technological knowledge, access to markets, and complementary resources; it can reduce transaction costs, facilitate information flows, knowledge creation, creativity and alliance success (Nahapiet and Ghoshal, 1998).

Family firms may have some advantages in developing social capital, especially with customers who can sustain the business in times of trouble. They also enjoy long-term relationships with external stakeholders and through them develop and accumulate social capital. As a result, social capital is one of the factors contributing to high firm performance. Cooperation often is a means of complementing the lacking internal resources: firms find solutions in their closest environment provided by competitors, suppliers, customers, research centres and/or universities. Consequently, it is possible to investigate the following hypotheses:

Hp2: The use of cooperation agreement to support innovation is higher in family firms than in non-family.

In order to deeply analyze the degree of cooperation we can split the sample in three sub-samples which permit us to formulate the following sub-hypotheses:

Hp2a: Family firms have an higher number of cooperation than non-family in production.
Hp2b: Family firms have an higher number of cooperation than non-family in purchasing.
Hp2c: Family firms have an higher number of cooperation than non-family in services/sales/distribution.

While the human capital is important for the initial and developing stages of the innovation process, in the stage of launching and implementation other capabilities gain importance such as market investigation, market testing and promotion. Family firms, due to their high social capital, have access to different resources such as information, technology, knowledge, financial capital and distribution networks (Arregle *et al.*, 2007). These resources also permit them to communicate closer to the costumers, and build marketing capital with possible direct effects on the firm's innovativeness or more indirect effects, such as facilitating the development of innovation. Last flexibility of family firms, especially small and medium, gets additional advantages for the customization of product and service: in fact, the demand structure has changed from 'mass production' goods to high quality 'individualized' products. Family firms from this point of view are likely close to the customer rather than non family firms. According to Adams *et al.* (2006), one of the most important factor for the success of a company is its capacity to successfully introduce new products and services into the market. So, the last hypotheses can be the follow:

Hp3: The proportion of new products launched into the market is higher in family firms than in non-family.

4. Method

The research was done in two separate phases: in a first phase we selected a sample of 400 Italian firms from AIDA, a database of company accounts, ratios, activities of more than 700,000 Italian companies; in a second phase we sent a structured questionnaire to the 400 firms of the sample. 127 firms answered the questionnaire, with a response rate of 32 per cent.

In this paper, the model of analysis is the same used by Llach Pagès and Nordqvist (2009), while to identify family firms we refer to Chua *et al.* (1999) statement, according to a family firm is every firm that has the perception to be a family firm by itself.

Table 1 shows some basic descriptive statistics of the responding companies. Family firms are more than non-family (59.8% vs 40.2%), according to the Italian scenario. The biggest number of family firms is in the manufacturing sector (41 firms, i.e. 53.9%).

Table 1: number of firms by economic activity and family vs. non-family.

Main activity	Family	Non-family	% Family firms	Total
Manufacturing	41	26	61.2%	67
Services	12	9	57.1%	21
Finance	4	9	30.8%	13
Food&Beverage	17	5	77.3%	22
Pharma	2	2	50.0%	4
TOTAL	76	51	59.8%	127

4.1 Factor analysis

In order to verify that the items of each stream only load on a single factor and the discriminant validity and to validate the convergent validity of the measures detected in the literature, it was performed a principal component analysis.

Factor analysis is a statistical method used to describe variability among observed variables in terms of fewer unobserved variables called factors. The observed variables are modelled as linear combination of the factors, plus “error” terms. The information gained about the interdependencies will be used to reduce the set of variables in a dataset. Company size is related to size and “family”, so it is necessary to verify its potential effect.

We have verified the possibility to use the factor analysis model thanks to two different test: Barlett’s sphericity test and the Kaiser-Meyer-Olkin (KMO) index. The Barlett statistic puts in evidence a value $\chi^2=1433.96$ (p value 0.0001); the KMO (0.550) also confirms the analysis.

Table 2 puts in evidence the result due to the factor analysis. It was applied a varimax rotation in order to better analyze the components. The analysis extracted four factors choosing those which presented eigenvalues greater than one. These four factors explained 89.24% of the total variance.

As it is possible to see from the Table 2, there is a strong relation between: (1) the two measures defining human capital, that it means that firms with qualified employees devote a high number of them to R&D; (2) the measures defining social capital, that it means that the co-operations in production, purchasing, and services/sales/distribution are strongly linked; (3) the measures defining marketing capital, that it means that many new firm products are new for the market too; (4) the two control variables, that it means there is no effect on the other variables.

Table 2: Rotated Component Matrix

	Component			
	1	2	3	4
Human capital				
Qualified employees	0.933	-0.042	0.022	0.111
Employee in R&D	0.925	-0.005	0.030	0.220
Social capital				
Co-operation in production	0.051	0.909	0.005	0.060
Co-operation in purchasing	0.087	0.927	0.027	0.120
Co-operation in services/sales/distribution	-0.050	0.805	0.008	0.070
Marketing capital				
Proportion of new product into the market	0.048	0.045	0.997	0.210
Proportion of new market products into the market	0.033	-0.010	0.998	0.098
Company size				
Employees	0.170	0.055	0.078	0.843
Turnover (log)	0.230	0.072	-0.013	0.793

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization
a. Rotation converged in 4 iterations.

5. Results and discussion

In this session we present the result of the comparison between family and non-family firms using the constructed analysis based on human capital, social capital and marketing capital. Using the Mann-Whitney U-test it is possible to compare family and non-family firms.

Table 3 puts in evidence that family firms outperform non-family firms in all the variables considered. Moreover, five out of eight measures are statistically significance.

These results are in the same directions of Llach Pagès and Nordqvist (2009) but in contrast with the most literature. As we described in Section 1 and 2, in fact, most literature states that family firms are less innovative than non-family firms. The evidences, here, are very clear and can be summarize as follow.

For human capital, family firms have an higher average value both in qualified employee and in employees devoted to R&D. So, the hypotheses 1 has to be reject.

Table 3: Summary of basic descriptive statistics and Mann-Whitney U test

	Non-family firm		Family firm		
	Mean	St.Desv.	Mean	St.Desv.	Signif.
Human capital					
Qualified employees	127.02	368.38	247.23	553.11	0.0200*
Employee in R&D	20.32	58.94	61.81	138.28	0.0001**
Social capital					
Co-operation in production	0.65	0.84	1.25	0.87	0.0001**
Co-operation in purchasing	0.29	0.50	1.30	0.73	0.0001**
Co-operation in services/sales/distribution	0.69	0.88	1.38	0.80	0.0001**
Marketing capital					
Proportion of new product into the market	0.17	0.04	0.19	0.06	0.3250
Proportion of new market products into the market	0.12	0.04	0.13	0.06	0.6680

* indicate that the Mann-Withney U-test is significant ($p < 0.05$)

** indicate that the Mann-Withney U- test is significant ($p < 0.0005$)

For social capital, family firms outperform non-family in every area considered. However, the higher difference is in purchasing. So, cooperation and relationship are one of the key competitive factors of family firms in comparison with non-family. For all these reasons, hypotheses 2 is accepted.

Finally, for marketing capital there is no statistically significant difference. In any case the average data are very similar between family and non-family, with a very little prevalence of family firms.

6. Conclusion

The main goal of the paper was to study the influence of family characteristics, about family owned firms, on innovation capacity. We focused on the differences in innovative behaviour between family and non family firms.

To achieve competitive advantage, as we know, family firms can use innovation. Although there are not many studies about innovation in family firms, we know that there are research on the link between innovation and aversion to risk in family firms. In other words, it is very common to say that family firms are not useful to risk, so their level of innovation is lower. However, our study analyzes innovative behaviour of the family firms to a comparison between three resources: human capital, social capital and marketing capital.

Llach Pagès and Nordqvist (2009), using the same model on a Spanish sample, found that family firms are more innovative than non-family firms. These was a so different result from existing literature that we decided to apply the same model to an Italian sample. The result was, more or less, the same: family firms outperform non-family firms in human and social capital.

Also family firms have the need to attract and use qualified employee (see hypotheses 1); the high number of collaboration of family firms (see hypotheses 2) seems to put in evidence their heavy link with territory. These findings might have been expected in marketing capital (see hypotheses 3) due to the fact that family firms base a big part of their competitive advantage with a strong connection with the surrounding.

These findings are even more relevant in the Italian case, where clusters are based on the flexible specialization between a large number of SMEs sharing a complementary technological specialization in a territorial network of common norms and values. This competitive frame has been until recently source of advantages both for the firms belonging to this network and for the regions where these networks have emerged. However, the main source of this competitive advantage, the possibility to share the costs of learning and innovation in a territorial network, is closed to be exhausted. The main reason is that the extension of the network is insufficient to metabolize the degree of complexity generated by the global process of interaction between people, institutions and firms. The local network of shared norms and values has become a barrier to local knowledge creation because it constrains interaction rather than leverage it across geographical boundaries.

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