



International Journal of Control Theory and Applications

ISSN : 0974-5572

© International Science Press

Volume 9 • Number 44 • 2016

Innovation in Family Enterprises: Application to the Graphic Communication Sector in Colombia

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Abstract: This study presents a comparative analysis of the management of innovation between family and non-family companies applied to a sample of 56 companies of the Printing and Graphic Communication Industry in Colombia. The criterion for the classification and definition of the chosen family companies was that stipulated by the Superintendency of Corporations - more than 50% of the capital of the company must belong to the family. Subsequently, they were applied a questionnaire to know the divergences in front of the process of innovation carried out by these two types of organizations. From this, it was possible to identify some characteristics of innovation management and divergences with unfamiliar companies, among them: a tendency towards the type of preferential innovation, the different sources and objectives to innovate, and the factors that make it difficult its innovation process.

Keyword: Family business, non-family business, innovation management.

1. INTRODUCTION

Innovation in any organization is vital to achieving successful performance and long-term survival [1]. The positive relationship between the company's capacity for innovation and results is well established and applies equally to all companies, including family firms [2]. This type of organization is of great importance for the economic development of the Society, since, according to a study carried out by the Center for Family Business of the University, family firms constitute between 80% and 90% of companies worldwide [3]. Therefore, this study characterized the management of innovation that family companies perform to determine their differences with non-family companies in the Colombian Graphic Industry.

2. METHODOLOGY

This study has a descriptive and analytical scope on the graphic industry in Colombia in which some strategies and innovative results characteristic of the companies that compose it were approached.

On the other hand, family and non-family businesses were considered as a unit of analysis, for which a census of the most representative companies of the sector was carried out according to their level of sales obtained in 2013, formally established (with NIT and Commercial register), obliged to report their financial statements to the Superintendency of Corporations, in which 104 companies were obtained.

Subsequently, a questionnaire was designed taking into account the purpose of the research, as input from it were taken into account other measurement instruments used in surveys already applied such as: The survey of innovation in business 2010-2013, National Institute of Statistics of Spain [4], [5], survey and the survey form proposed in the Bogotá Manual [6], in addition to the work done by The Family Business Observatory, in its barometer of the Family Business of the Region of Murcia (2012).

This was structured in eight blocks of questions: (1) Basic information of the company, (2) Incidents in the period 2009-2013, (3) Personnel dedicated to the activities of Innovation and Research and Development (R & D), (4) Activities carried out For the generation of innovations, (5) Innovations developed between 2009-2013, (6) Sources of information used for the development of innovation, (7) Objectives of innovation for the company and (8) Factors that hinder innovation.

The first block of the questionnaire identifies each of the companies and classifies them first by their size, and then by their family character or not. The second block, wants to know if the company has made any changes, such as a merger, sale or outsourcing in the last 5 years. The third block, aims to identify the type of personnel that these companies have and their level of training. The fourth block tries to know the form in which the respondent performs the R & D activity, the entity in which it develops it and other characteristics of its organizational performance. The fifth block seeks information on innovations generated in products, services, processes, organizational or commercial. The sixth block seeks to know the sources on which entrepreneurs were based for the generation of innovations. Finally, in the seventh and eighth blocks, we review the reasons for or why innovations were developed and what were their main obstacles or difficulties when innovating respectively. The questions that compose each of these blocks were also complemented by studies by [7] and [8], [9].

For the analysis of the data collected, descriptive statistical methods were applied and the method of Exploratory Data Analysis (EDA) of [10], [11], which develops a series of graphic and analytical techniques to obtain a prior knowledge of the data to be analyzed, Always from an exploratory perspective.

Finally, a response was obtained from 53% of the companies selected in the census, that is, a total of 56 companies.

3. RESULTS

Of the 56 companies in the sample, there are 23 non-family companies and 33 family companies. Table 1 shows the distribution of these companies by type of processed products.

Table 1
Number of companies by product type and classification in Family and Non-family

	<i>Kind of product</i>										<i>Total</i>
	<i>Books</i>	<i>%</i>	<i>Packaging</i>	<i>%</i>	<i>Tags</i>	<i>%</i>	<i>Commercial Public</i>	<i>%</i>	<i>Agendas</i>	<i>%</i>	
Non-family business	5	9	5	9	2	4	9	16	2	4	23
Family business	10	18	8	14	4	7	11	20	0	0	33
Total	15	27	13	23	6	11	20	36	2	4	56

The descriptive analysis previously carried out on the various aspects and dimensions that characterize the Graphic Industry in Colombia, allows to affirm that it is a dynamic sector with a high evolution of the business influenced by the new technological tendencies that have led companies to rethink the Business model and with a high level of internal competence.

In the last decades this sector has received a special boost, favored by the development of technology and communications, which has allowed to expand its spectrum of activity towards other sectors and markets with innovative products [12]. In the Graphic Sector in Colombia the way people access information has changed, both the media and publishers are constantly changing, has changed from paper to digital form. This technological development has produced the variant of the net activity of printing to the activity of the communication and, therefore, has demanded new skills and abilities in the direction of the companies.

It is anticipated that the trends of the Graphic Communication Industry will continue in the digital and ICT sphere. Strong dynamics are perceived in the research and innovation of topics such as hypermedia, digital content, electronic and virtual platforms and supports.

As for the specific characteristics of the management of innovation carried out by the companies studied, it was obtained that the innovation process in family and non-family businesses, if it differs in some specific cases, among them:

- As regards the objectives of companies in the Graphic Sector to innovate, they are highlighted both for family and non-family firms, the following in their order: Higher quality of goods and services, greater production capacity, penetration in new markets, obtaining a wider range of goods or services.
- Regarding the qualification of the personnel, the non-family companies have a greater percentage of doctors dedicated to R & D activities by 20%, compared to the family ones with 13%. In the same way, it can be observed that non-family companies in terms of professionals (Engineers, Designers, among others) devote a greater proportion in R & D activities by 41%, compared with family members by 36%. But in technical personnel, it was found that family companies spend more people on R & D activities by 21% compared to non-family by 14%.
- Family companies have directed the strategy of acquiring external R & D towards the design of services and processes that allow the creation of an added value to the customer and, therefore, an important degree of customer loyalty. The great challenge of family businesses is survival and to overcome it, they need to grow with added value that differentiate them over time, because this group of family businesses is faced with very changing conditions, both business and the environment, So they can be more innovative. As for the non-family companies, as well as those of the family, they continue to direct the innovation activities towards the service but in a lower percentage of participation.
- In the face of the acquisition of other external knowledge for Innovation, this strategy is highly used by family companies aimed at improving processes that allow them to optimize resources.
- As for the factors that make the innovation process more difficult for family businesses, costs have a greater impact because there is a greater lack of funds and, therefore, it is more complicated to finance sources outside the company. Firm, thus fulfilling the theoretical characteristics associated with financial capital, in that in family businesses this element may affect different aspects of its innovation process, such as the orientation to operate in dangerous investments to the detriment of the security of the company. Family or financial sources used to finance different innovation projects. And also factors related to knowledge for family companies are important the lack of qualified personnel and the difficulty to find cooperation partner for innovation, as for the lack of information on technology and the market, are aspects of medium relevance. And for the market factors, the uncertainty regarding the demand for innovative goods and services is very important, more than the market is dominated

by already established companies. The factors mentioned have a medium to low relevance for the non-family business, and are proportional in the different options offered.

- The survey allowed to collect information on the different types of innovation, which shows that in product-oriented innovation, family firms show better impacts than those of non-family. Faced with organizational innovation, the survey allows us to see that family companies perceive that they have higher and higher impacts than those of non-family in aspects such as:
 - Reduction of response time to customer needs.
 - Lower costs per unit produced.
 - Improvement of information exchange within your company or with others

And for non-family companies, they show greater results than those of the family in: improvement in skills for the development of new products or processes.

4. CONCLUSIONES

Table 2 shows the conclusions obtained from this study, indicating the general differences between the family and non-family enterprises, and their comparison with the theoretical and three dimensions studied: strategy, organization and climate within the innovation process.

Table 2
Differences between the Family and Non-Family Companies in the innovation process [12, 16]

Strategy	<p>Radical versus incremental innovation</p> <ul style="list-style-type: none"> – According to the description of the innovations generated by the family companies, these are usually of an incremental rather than radical nature, therefore, the theory is fulfilled. Family firms focus on incremental innovations, while non-family firms are more often involved in new radical innovation projects. <p>Focus on closed front Focus on open</p> <ul style="list-style-type: none"> – Within the companies of the graphic industry studied, the first vision regarding the “opening” of the innovation process is maintained, which shows that family companies are much more likely to draw on external sources of knowledge and technologies during the activities Of innovation. Above all this strategy is highly used by family companies aimed at improving processes that allow them to optimize resources. Since they are a little more closed in the development of innovations related in products. While non-family businesses take a much more closed and inward approach. – In this case it is not evident that the perspective of behavioral theory, centered around the concept of socio-emotional wealth, limits the opening of family businesses because they are focused on their well-being and fulfillment of non-economic objectives. – From the model of types of strategies of Miles and Snow (1978) analyzed by Pittino and Visintin (2009), it is considered that the family companies are of Analytical type, since they are in the search and adaptation of the new knowledge to the needs of the client.
Organization	<p>Functional Organization front Multifunctional equipment</p> <ul style="list-style-type: none"> – This variable is not scrutinized thoroughly through the survey, although it seems that its innovation processes were sufficiently formalized by giving a high relevance both to internal and external R & D activities, when asked about it and the Actions taken in this regard. Only the largest companies generate formal innovation projects. – The family and non-family companies of this industry, use mostly a functional and non-multifunctional organization. Differing in theory as such, compared to the multifunctionality of non-family businesses. – Faced with R & D personnel: non-family companies have a greater percentage of doctors dedicated to R & D activities by 20%, compared to 13%. Non-family companies in terms of professionals (Engineers, Designers, among others) devote a greater proportion in R & D activities by 41%, compared with family members by 36%. But in technical personnel, it was found that family companies spend more people on R & D activities by 21% compared to non-family by 14%.

Organizational climate **Risk takers or risk aversion**

– It is maintained by the theory that family businesses are characterized by a climate of risk aversion that permeates their decisions in innovation, while non-family businesses are predominantly risk takers.

High degree of formalization vs Low degree of formalization

– Family and non-family businesses are making great efforts to manage innovation activities with highly formal and structured methods.

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