

# ***Entrepreneurship and Family Firm Research: A Bibliometric Analysis of An Emerging Field\****

by M<sup>a</sup> Concepción López-Fernández, Ana M<sup>a</sup> Serrano-Bedia, and Marta Pérez-Pérez

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*This work carries out a comprehensive and systematic review of academic research on entrepreneurship in family firms applying bibliometric indicators. We review the literature published on these topics on the database ISI Web of Knowledge's Social Sciences Citation Index. The results provided show that it is a relatively recent field of study, highly interconnected with high co-citation between authors, which verifies compliance with Lotka's Law, and where the most productive authors and journals do not necessarily coincide with those most cited. Finally, the co-word analysis has identified research topics classified into widely developed issues and specialized peripheral issues.*

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## ***Introduction***

There is general agreement among scholars about the relevance of both the entrepreneurship and the family firm fields, and several claim that family is “the oxygen that feeds the fire of entrepreneurship” (Rogoff and Heck 2003). To date, however, there remains much to know about the kind of relationship between the two fields. Thus, some authors argue that there is an overlap between the entrepreneurship and family firm domains (Debicki et al. 2009), an argument confirmed in terms of what are the most relevant journals in both fields (Benavides-Velasco, Quintana-García, and Guzmán-Parra 2013; Chrisman et al. 2010; Debicki et al. 2009; Shane 1997; Teixeira 2011). Other authors, for their part, claim that they are

related disciplines (Anderson, Jack, and Dodd 2005) that have to a great extent been developed independently (Nordqvist and Melin 2010). And finally, a third group sees the growing family firm literature as the emergence of a specialty in the entrepreneurship field (Teixeira 2011).

A detailed and in-depth analysis of objective reviews conducted in both literatures could help to bring to light a more accurate perception of reality. On the one hand, the bibliometric analyses of entrepreneurship literature show that the family firm is practically absent as a research area of interest among entrepreneurship scholars (Cornelius, Landström, and Persson 2006; Grégoire et al. 2006; Reader and Watkins 2006; Schildt, Zahra, and Sillanpää 2006). On the other hand, the bibliometric analyses conducted in the

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M<sup>a</sup> Concepción López-Fernández is associate professor of management in the Department of Business Administration at the University of Cantabria.

Ana M<sup>a</sup> Serrano-Bedia is associate professor of operations management in the Department of Business Administration at the University of Cantabria.

Marta Pérez-Pérez is Ph.D. student and assistant professor of operations management in the Department of Business Administration at the University of Cantabria.

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Address correspondence to: María Concepción López-Fernández, University of Cantabria, Department of Business Administration, Santander, Cantabria, Spain 39005. E-mail: lopezm@unican.es.

family firm literature confirm this vision to the extent that they estimate in about 5 percent the studies on the field researching the issues of entrepreneurship and innovation (Benavides-Velasco, Quintana-García, and Guzmán-Parra 2013; Chrisman, Chua, and Sharma 2003; Debicki et al. 2009; Yu et al. 2012).

Despite the fact that the fields of entrepreneurship and family business have mainly been developed independently, it has recently been observed an increased scholarly interest in studies that integrate both research areas. The consolidation of a corporate entrepreneurship cluster, as evidenced by the bibliometric studies on entrepreneurship (Cornelius, Landström, and Persson 2006), points out in this line to highlight the need for further analysis of the phenomenon of entrepreneurship in the field of business in general and, by extension, of the family business. An additional indicator of such interest is the increasing number of papers and even special issues (e.g., *Entrepreneurship and Regional Development*, 2010; *Journal of Small Business Management*, 2008, or *Strategic Entrepreneurship Journal*, 2011) about this topic in the last years.

Nonetheless, to date, there is no systematic literature review about the intersection of both fields. The only review, to date, of the overlapping area was conducted by Nordqvist and Melin (2010) for their introductory article to the special issue of *Entrepreneurship and Regional Development*. They summarized 38 works subjectively selected and written from 1998 to 2008. This paper seeks to broaden and extend this line of work in several directions. First, the main objective of this work is to carry out a comprehensive, systematic, and objective review of academic research on entrepreneurship in family firms applying bibliometric indicators, a type of review that has not been carried out to date. With this purpose, we reviewed the literature published on these topics on the database ISI Web of Knowledge's Social Sciences Citation Index (SSCI). This review will allow us to have a more realistic view about the development and size of the field; to describe the evolution of publication activity as well as the most representative authors and journals; to synthesize and organize existing knowledge through the identification of research clusters; and to identify potential avenues for future research.

Second, the existing bibliometric studies both in the field of entrepreneurship (Cornelius,

Landström, and Persson 2006; Grégoire et al. 2006; Reader and Watkins 2006; Schildt, Zahra, and Sillanpää 2006) and family business (Casillas and Acedo 2007; Debicki et al. 2009) have mainly used bibliometric indicators that provide data on the volume and impact of research activities and productivity of authors and co-citation analysis to trace the connections between researchers and fields. This article incorporates, in addition to the above, a type of indicator that has only recently been used in some previous work in the field of family business (Benavides-Velasco, Guzmán-Parra, and Quintana-García 2011; Benavides-Velasco, Quintana-García, and Guzmán-Parra 2013), namely co-words analysis and construction of diagrams or clusters therefrom. This latter type of indicators are of particular interest to the researchers, because by focusing on content analysis of the articles to define and classify research subjects allow an overview of the scientific field decreasing the degree of subjective component accompanying traditional literature review processes. The rest of the article is organized as follows: in the next section, we describe the methodology for the systematic review and bibliometric analysis. The results of the process are explained in the third section, and finally, we present the main conclusions that can be drawn from our research.

## **Methodology**

This section first describes the methodology carried out in a first stage of systematic review of the scientific literature. Then, we briefly present the type of indicators used in the second stage of bibliometric analysis.

### **Methodology Used in the Systematic Review Process**

For the development of the research, we carried out a previous systematic search accessing the database ISI Web of Knowledge's SSCI during the month of July 2012 with the criteria detailed further. Although the selected time limit was the maximum allowed in order not to distort the results, it was found that the first article has been published in 1992. Furthermore, we did not include 2012 in our time limit because the complete results for that year will not be available until mid-2013. The use of the whole SSCI database avoids a potential bias and/or omission in the final set of the selected articles if we have considered only a set of relevant journals. Moreover, as both entrepre-

**Table 1**  
**Systematic Review of Search**  
**Conditions Process**

Keywords	("family business*" or "family firm*" or "family own*" or "family control*") AND ("entrepreneur*" or "venture*")
Type of Document	"article" AND "review" (but not "book review")
Language	"English"
Subject Area	Social Sciences

Source: Authors.

neurship and family firm are multidisciplinary fields (Benavides-Velasco, Quintana-García, and Guzmán-Parra 2013; Cornelius, Landström, and Persson 2006), the use of the SSCI database allows us to consider all the possible works published in a wide range of journals.

The search for data in SSCI was conducted with the conditions shown in Table 1, where the keywords were used as selection criteria for the *topic* or *subject* (title, keywords, or abstract). To ensure the comprehensive nature of our search, we have primarily included as keywords those that are generic to family firm—"Family Business\*" and "Family Firm\*" (Benavides-Velasco, Quintana-García, and Guzmán-Parra 2013). When defining the concept of family firm, it is important to differentiate between family and business. According to Nordqvist and Melin (2010), the enterprising family means the "family as an institution or social structure, which can both help and hinder business activity" (Nordqvist and Melin 2010), whereas the family firm is "a type of organization or organizational context, with certain characteristics that may facilitate or constrain business activities, processes and outcomes" (Nordqvist and Melin 2010). In our work, we have chosen to incorporate only the second dimension, which is the family firm, as the unit of analysis. The search also includes as keywords those referring to the family nature of the company ownership or management—"Family Owned\*" and "Family controlled\*"—according to the key features used by authors such as Shanker and Astrachan (1996) to propose the existence of a rising

continuum to define the degree of nonfamily firm–family firm.

Second, we have included both the generic term "Entrepreneur\*" (Cornelius, Landström, and Persson 2006; Reader and Watkins 2006; Schildt, Zahra, and Sillanpää 2006) as well as "Ventur\*" (Cornelius and Persson 2006; Cornelius, Landström, and Persson 2006), in order to incorporate in the analysis both dimensions of entrepreneurship as a process (Sharma and Chrisman 1999), that is not only the activity undertaken by the entrepreneur to start a new business—*independent entrepreneurship*—but also the activities carried out within a company—*corporate entrepreneurship* and *venture capital*.

With regard to the publication language in JCR magazines published in *Social Sciences* categories, a research study revealed that 95.06 percent of the journals were published in English, so it was chosen as the search language. With regard to the type of document, the decision was made to select the articles and reviews published in journals as the basis for analysis as both are the source of most up-to-date knowledge.

With these search criteria, we obtained an initial sample of 241 documents. With regard to this figure, it is clear that the literature review studies in the independent field of family business have identified about 700 articles (Benavides-Velasco, Guzmán-Parra, and Quintana-García 2011; Benavides-Velasco, Quintana-García, and Guzmán-Parra 2013); and a search on ISI with the terms of entrepreneurship and venturing taken together clearly shows a number higher than 2,000 articles, so it seems understandable that the intersection of both fields contain a smaller number of articles. Moreover, there are bibliometric studies with similar samples (Chao, Yang, and Jen 2007; Rojas, Real, and García-Silberman 2011; Vossen, Hage, and Karim 2000; Wallin 2012) or even lower (Pinheiro, Joao, Menagon, Nilton, and de Carvalho 2012; Sifrim, Barker, and Mate 2012; Wan, Anuar, and Zainab 2009) confirming that the sample size is suitable for the development of this type of methodology.

Given the multidisciplinary nature of both entrepreneurship and family firm fields, various authors may use those concepts (specifically entrepreneurship) differently (Cornelius, Landström, and Persson 2006). Moreover, we found documents that did not jointly analyze a

problem linked to entrepreneurship in the family firm. To avoid these problems, a filtering process consisting in independent reading of abstracts by two of the authors of this work was carried out reducing the sample to 129 articles (see the Supporting information). Once the final sample had been obtained, a second phase was the creation of a Microsoft Access database that was adjusted to perform the analysis without distorting the results. In a more precise way, adjustments of the errors during data download were made, verifying that references to the same author were carried out in the same manner or homogenizing the *keywords* from the text in plural and singular terms.

### Methodology Used in the Bibliometric Analysis

With regard to the process of bibliometric analysis, we start by pointing out that bibliometrics is defined as a part of scientometrics that applies mathematical and statistical methods in order to study and analyze the scientific activity in a field of research (Callon, Courtial, and Penan 1995). Particularly, we used diverse types of indicators, which can be classified into two categories:

- (1)—*Activity indicators*, which provide data about the volume and impact of research, allowing one to observe the quantitative evolution of the literature. In this particular case, we analyzed the productivity of authors and journals, the evolution of the field of study, and compliance with Lotka's Law (Lotka 1926).
- (2)—*First and second generation relation indicators*. Particularly we used Author Co-citation Analysis (ACA) and Co-words analysis. ACA allows us to trace the connections between researchers and fields emphasizing the idea that joint references contained by scientific articles let us identify the seminal documents, as well as the ones that contribute to develop the field. Co-words technique is based on the analysis of the co-occurrences of keywords, which allows the depiction of the state-of-the-art research, identifying and classifying clusters or research topics in a

strategic matrix associated according to their levels of development.

With regard to the tools used for the calculation of these indicators, for activity indicators and first-generation relation, we used the software program SITKIS (a free bibliometrics tool) along with UCINET and NETDRAW, whereas for the analysis of second-generation indicators (co-words analysis), the free bibliometrics software REDES 2005 was used.

## Results

Once the methodology has been presented as well as the main features of bibliometric indicators, in this section, we first present the main results of the application of the activity indicators. Second, we discuss the results obtained from the relationship indicators.

### Results of the Activity Indicators

The main results obtained in relation to the application of activity indicators are summarized in Table 2.

Regarding the first indicator, evolution of the field of study, the analysis shows a relatively recent field, as the first documents date from the early 1990s. Its evolution has confirmed the existence of two research cycles (see Figure 1). The first period covers the first decade (1992–2002), and in it the scientific production is both limited (always below the five articles per year mark) and irregular (with several years with no or very low production). The second period is marked by a surge in research starting in 2003, the year from which the trend has grown steadily, except for a sharp decline in 2008, with full recovery from 2009. It should be noted that the two research periods identified coincide with the start date and the consolidation of the corporate entrepreneurship cluster (Cornelius, Landström, and Persson 2006; Grégoire, Noël, Déry, and Bécharde 2006).

The analysis of Lotka's Law<sup>1</sup> allows to conclude whether the analyzed field is one in which most of the production is concentrated in a limited number of authors or not. In this case, the result 2,691 shows that, compared with other disciplines (such as the field of data mining with a value of 3,629 (Tsai 2012), there is a greater concentration of articles in few

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<sup>1</sup>Lotka's Law is formulated as  $Y = K/X^n$  where  $K$  and  $n$  are constants, usually  $n = 2$ ,  $Y$  is the number of authors publishing  $n$  papers and  $X$  the number of authors publishing one paper in an area of research over a period (Chung and Cox 1990).

**Table 2**  
**Activity Indicators**

Evolution of the field of study		2 research periods are identified (Figure 2):											
		First period: 1992–2002	Second period: 2003–present										
Lotka's Law		<i>n</i> = 2.691											
Productivity of authors and most cited authors													
Ranking of the most productive authors (number of articles per author													
First period 1992–2002		Second period 2003–2011											
Barkhatova N	1	Mulholland K	1	Chirico F	5	Barnett Tim	2	Hoy F	2	Sharma P	2	Dyer WG	67.00
Buck D	1	Paladino M	1	<b>Wright M</b>	5	Casillas JC	2	Le-Breton Miller, I	2	Sieger P	2	Habbershon G	57.00
Chung CN	1	Robbie K	1	Danes SM.	4	Chang S	2	Mazzola P	2	Singh G	2	Astrachan J	45.00
Dhaliwal S	1	Romano Ca	1	Nordqvist M	4	Chrisman JJ	2	Miller D	2	Simon David G	2	Zahra SA	38.33
Espinal R	1	Scranton P	1	Steier L	4	Chua J H.	2	Moreno A M	2	Sorenson R	2	Miller D	36.5
French M	1	Simmons C	1	Zahra SA	4	DeNoble A	2	Ozsoy O	2	Wiklund J	2	Chrisman JJ	34.0
Grasmuck S	1	Smyrnios KX	1	Perez PF	4	Eddleston KA	2	Pearson AW	2	Yan J	2	Sharma P	30.00
Johansson A	1	Tanewski GA	1	Kellermanns F	3	Ehrlich S	2	Puig N	2	Zellweger T	2	Chua JH	20.00
Kalantaridis C	1	Thompson S	1	Lumpkin G T	3	Fairlie RW.	2	Robb AM	2	Werbel J	2	Simon DG	18.00
Mcnylor P	1	<b>Wright M</b>	1	Salvato C	3	Gevrek D	2	Scholes ML	2	Carney M	2	Morris MH	18.00
Mellor R	1			Westhead P	3	Heck RKZ	2	Sciascia S	2		2		15.0



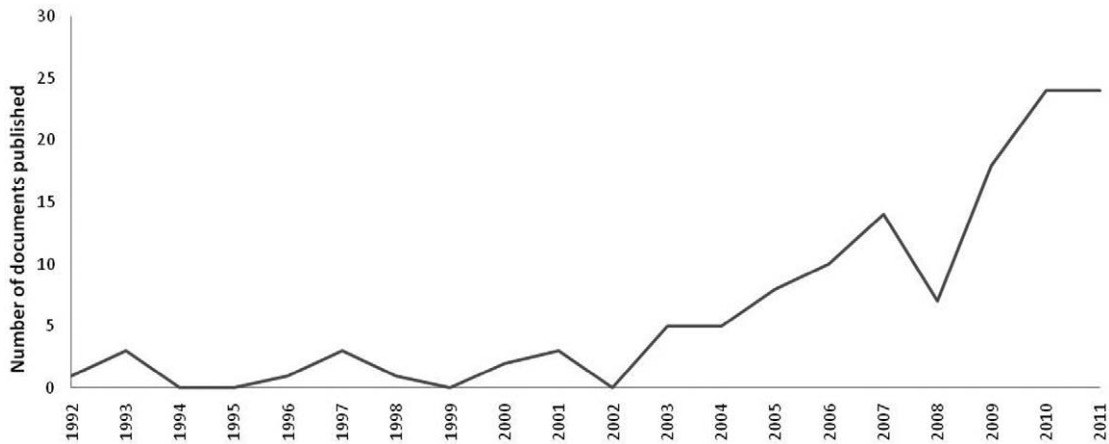
**Table 2**  
**Continued**

Most productive journals in the area and most cited journals				
Ranking of the most productive journals (number of articles per journal)		Ranking of journals most cited (average of references per journal)		
First period 1992–2002	Second period 2003–2011			
<i>Business History</i>	2 <i>Family Business Review</i>	24 <i>Journal of Management &amp; Organization</i>	2 <i>Organization Science</i>	79.00
<i>Journal of Business Venturing</i>	2 <i>Entrepreneurship Theory and Practice</i>	20 <i>Journal of Management Studies</i>	2 <i>Journal of Business Venturing</i>	52.57
British Journal of Sociology	1 <i>Entrepreneurial and regional Development</i>	6	<i>American Economic Review</i>	39.0
Business History Review	1 <i>International Small Business Journal</i>	5	<i>Family Business Review</i>	29.38
Environment and Planning	1 <i>Journal of Business Venturing</i>	5	<i>Journal of Management Studies</i>	27.00
<i>Journal of Business Research</i>	1 <i>Small Business Economics</i>	5	<i>Entrepreneurship Theory and Practice</i>	26.50
<i>Journal of Comparative Family Studies</i>	1 <i>Strategic Entrepreneurship Journal</i>	5	<i>Journal of Organizational Behavior</i>	26.0
<i>Journal of Management Studies</i>	1 <i>Journal of Small Business Management</i>	4	<i>Journal of Small Business Management</i>	24.0
<i>Journal of Rural Studies</i>	1 <i>African Journal of Business Management</i>	3	<i>Business Ethics—A European Review</i>	20.0
<i>Womens Studies International Forum</i>	1 <i>Business History</i>	3	<i>Journal of Labor Economics</i>	12.00
<i>Work Employment and Society</i>	1 <i>Journal of Business Research</i>	3	<i>Small Business Economics</i>	10.4
	<i>Corporate Governance—An International Review</i>	2	<i>Asia-Pacific Journal of Financial Studies</i>	10.0

Source: Authors.

Note: For second period, we only represent authors and journals that have published more than one paper.

**Figure 1**  
**Evolution of Scientific Research in the Field of Entrepreneurship and the Family Firm**



Source: Authors

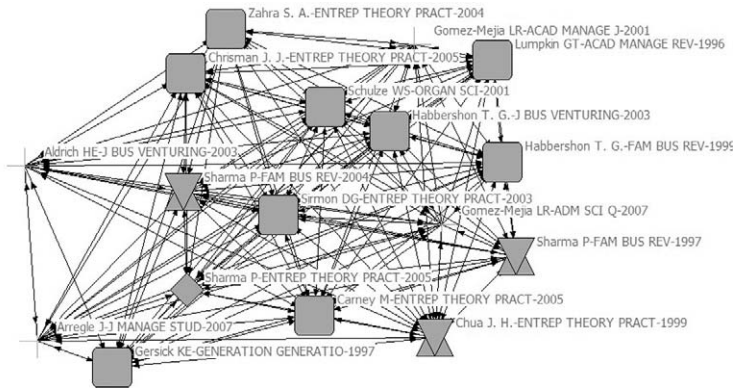
productive authors and most of scholars; therefore, there are not transients in the field because they have made one contribution. In compliance with this law, similar results were obtained as well by other authors, such as Benavides-Velasco, Guzmán-Parra, and Quintana-García (2011), who verified this indicator in their family firm literature review where the  $n$  value reached 2.68. According to the results, a total of 299 different authors have written 129 articles, of which 216 have posted only a single article (72.24 percent of the total).

The analysis was also carried out on the productivity of authors and journals and its comparison with the average of references within the sample. This comparison shows that not always the most productive authors/journals coincide with the most cited as it can be seen in Table 2. This conclusion could be biased by the fact that articles published earlier are likely to have received many more citations than recently published papers. As a consequence, this ranking is more likely to include well-established scholars that began publishing some time ago. Thus, first, with respect to the productivity of the authors, it was found that a total of 299 authors have written the 129 documents (2.31 authors per article) receiving 7,130 citations (55.27 citations per paper). Second, with

respect to the productivity of the journals, it was found that the final sample used in this analysis has been published by 46 different journals. In total, these articles have been cited in 2,268 journals, which is equivalent to an average of 17.58 citations to different journals per article.

Also, if we analyze the productivity of authors and journals considering the two research periods found in this field of study (1992–2002 and 2003–2011), we can highlight two aspects (see bold names on Table 2): (1) with respect to the productivity of the authors, it is noted that during the first period, no author published more than one document except for Wright, and none of them continued to publish in this field during the second period. Among the most productive authors, some seem to have specialized in this jointly field, such as Chirico, Danes, Nordqvist, or Zahra, along with others that seem to come from a more general field of entrepreneurship, like Wright, or the family business as Steier, among others; and (2) with respect to the productivity of the journals, analysis shows that only four of the 12 journals containing publications in the first period are among the ranking of the most productive journals of the second period (*Business History*, *Journal of Business Venturing*, *Journal of Business*

**Figure 2**  
**Network of Author Co-Citation**



**Source: Authors**

*Research*, and *Journal of Management Studies*). The rest of the journals in which research has mostly coalesced (*Family Business Review*, *Entrepreneurship Theory and Practice*, *Entrepreneurial and Regional Development*, *International Small Business Journal*, *Journal of Business Venturing*, *Small Business Economics*, *Strategic Entrepreneurship Journal*, or *Journal of Small Business Management*) emerged in the second period. It further notes that the latter journals mentioned are precisely those with greater expertise around both fields, which could indicate the consolidation of interest in this topic within the scholars of both fields.

### Results of the Relation Indicators

*Network of Co-Citation between Authors.* ACA allows us to trace the connections between researchers and fields, emphasizing the idea that joint references contained by scientific articles let us identify the seminal documents as well as the ones that contribute to develop the field. According to Sanz (2003), in order to measure the structure, organization, and level of integration of the joint reference network, one must consider two aspects: the first is the density of the graph, being a measurement expressed as a percentage of the ratio between the number of existing relationships with the maximum number of relationships that could exist if all nodes were connected directly with all others. The second aspect refers to the

centrality—defined through the range—which is based on the percentage of connections that a node has on the entire network (Freeman 1979).

Regarding the first aspect, the density of the graph, the same is made up of 270 relationships from the 272 maximum. In this sense, its 99.26 percent density reveals high connectivity among authors.

Regarding the second aspect, the centrality measure (Figure 2), one can appreciate the existence of several articles that allow greater access to information, identifying those best connected in the network. In this particular case, we can highlight the article by Sirmon DG (*Entrepreneurship Theory and Practice* 2003) followed by others such as Schulze WS (*Organization Science* 2001), or Gersick KE (*Generation to Generation* 1997). All of them are outsiders or, in other words, researchers whose work is cited by family-entrepreneurship researchers but are not part of the academic publishing group in the field. It is important to highlight that of the 17 researchers shown on Figure 2, 37.5 percent are outsiders, and the others could be regarded as insiders indicating family-entrepreneurship researchers citing other family-entrepreneurship scholars.

*Co-Words Analysis.* The co-words analysis is based on a simple principle: a research specialty can be identified by the particular asso-



ciations established between its keywords (Callon, Courtial, and Penan 1995). Though the analysis of citations, and especially the ACA, involves an intrinsic delay, the co-words analysis does not suffer from this limitation; therefore, it does not hamper more recent works. To perform such a task in a consistent and homogeneous mode, we created a list of keywords using terms that appeared in other articles and established new ones based on the articles' content (Benavides-Velasco, Guzmán-Parra, and Quintana-García 2011; Benavides-Velasco, Quintana-García, and Guzmán-Parra 2013). In the cases of the articles that did not contain keywords, we assigned them based on the titles, abstract, and the full text of the documents. When adding up all joint appearances and representing their relationships graphically, it is possible to identify various thematic groups or *clusters*. In these cases, the strength of the union of the words that comprise them is measured by a normalized index, whose value depends on both the appearance of the words individually as well as their joint appearances.

This is calculated as:

$$e_{ij} = \frac{c_{ij}^2}{c_i c_j}$$

where  $C_{ij}$  measures the strength of association between two words  $i$  and  $j$ , and  $C_i$  and  $C_j$  are the absolute frequency of occurrence of words  $i$  and  $j$  respectively.

The co-words analysis made it possible to obtain two types of results: (1) the definition of the themes present in the field and their classification within the strategic matrix in terms of their different levels of development; and (2) networks of keywords associated with each thematic cluster (Table 3).

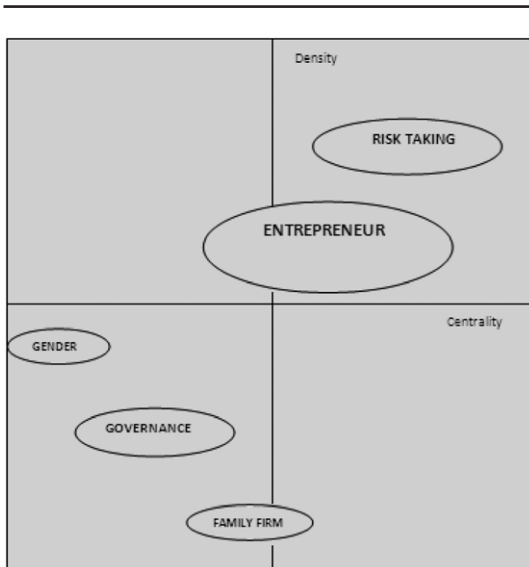
With respect to the first results, the analysis carried out identified a total of five clusters we called Risk Taking, Entrepreneurship, Gender, Family Firm, and Governance as shown in Figure 3. We defined the name of the cluster by the keyword, which is the main node and therefore is better connected with the rest of the cluster keywords.

The results of the strategic matrix correspond to a field whose structure is distributed around the first bisector (quadrant one-quadrant four), indicating that the field is arranged around a core of themes that are well developed and well structured and which are associated with a number of peripheral and underdeveloped themes. Themes were not identified in quadrant two (bottom right) that defines emergent topics that are important for

**Table 3**  
**Main Groups of Co-Words Identified Using Hierarchical Clustering Analysis**

Clusters	Co-words
Entrepreneurship	Entrepreneurship, network, culture, success, succession, agency cost, venture, embeddedness, firm, business, ownership structure, corporate governance, conceptual issues, consequence, dynamic, exploratory evidence, household, industry, and wealth.
Risk Taking	Risk taking, entrepreneurial orientation, moderating role, environment, linking, firm performance, perspective, orientation, compensation, generational involvement, model, family business, familiness, business performance, strategic management, performance, decision making, corporate entrepreneurship, and management.
Gender	Gender, female, women, leadership, and work.
Governance	Governance, ownership, growth, innovation, family ownership, strategy, opportunity, and agency.
Family Firm	Family firm, financial performance, organizational culture, competitive advantage, and small and medium enterprises.

**Figure 3**  
**Strategic Matrix of Themes**  
**Present in the Area of**  
**Entrepreneurship and**  
**Family Firm**



Source: Authors

the development of the field, or quadrant three (upper left corner) that identifies peripheral but well developed themes.

Thus, we found a first quadrant (upper right) that defines the widely developed central themes. Within the same, we found the Risk Taking and Entrepreneurship clusters. The fourth quadrant (lower left) defines the peripheral and underdeveloped themes, and here we found the Gender, Governance, and Family Firm clusters.

The analysis of co-words has yielded networks of keywords associated with each of the previously identified clusters in the field (Table 3). These networks of co-words group those keywords that best describe each of the themes present in the field. This information may be of particular interest to help future researchers to define the most important search keywords depending on the specific topic that they seek to address, as they represent the most important words that relate articles to each other and provide more information on the subject.

Thus, we proceed to describe the main lines of research identified in each cluster:

**Risk Taking Cluster.** The *Risk Taking* cluster is one of two large clusters identified and is defined as one of the dimensions of the Entrepreneurial Orientation (EO) construct. It is also one of the recurring themes in the study of family firms—that relates to risk. The cluster is composed of 34 items (26.4 percent), the vast majority published in the second period identified, which can be said to emerge from 2003 onward. The relevance of the cluster is defined not only by the number of items within it, but also by the significant presence of purely theoretical articles (44.12 percent), reflecting the effort to build and theoretically substantiate lines identified in it. On the other hand, and regarding the methodologies employed in studies that incorporate an empirical part, quantitative studies predominate slightly (52.63 percent) over qualitative studies.

Within the cluster, items can be categorized into five lines. First, there is a small group of general theoretical studies comprising three introductions to different special issues (*Journal of Small Business Management*, 2008; *Entrepreneurship and Regional Development*, 2010; and *Strategic Entrepreneurship Journal*, 2011), and an exploration of possible research areas with more potential for collaboration where entrepreneurship is identified as one of them (Stewart 2008).

The second block of work encompasses articles examining both theoretically and empirically the specific application of EO or some of its dimensions to the case of family businesses, reflecting the effort to incorporate into the field of family firm recent developments in the literature on EO (Chirico et al. 2011; Lumpkin, Brigham, and Moss 2010). To be precise, specific aspects of family firm incorporated are: generational involvement (Casillas, Moreno, and Barbero 2010), family involvement (Casillas and Moreno 2010), and ownership structure (Lim, Lubatkin, and Wiseman 2010). If we focus on the Risk Taking dimension, the results show that family businesses seem to take risks to a lesser extent and with worse outcomes than nonfamily firms (Naldi et al. 2007) and that the long tenure of the founder CEO also decreases their entrepreneurial behavior (Zahra 2005). It is further apparent that the public view is that family firms are less innovative than nonfamily firms (Chang, Wu, and Wong 2010).

The third and relevant body of work examines, both theoretically and empirically, how the particular context of the family business affects entrepreneurial behavior conditions therein. The results suggest that in either a general or particular case (new or corporate venturing, franchises, exit, or divestment), the family business offers a suitable environment to achieve a more effective and less costly use of resources (Ensley and Pearson 2005; Morris et al. 2010; Sharma and Manikutty 2005). A further conclusion drawn is that issues such as the succession process, “familiness” or spousal involvement should be taken into account in studies on innovative capacity and performance of family firms (Habbershon 2006; Mitchell et al. 2009; Van Auken and Werbel 2006).

The analysis of the influence of the organizational culture of family firms in their innovative behavior is the central theme of the fourth line identified (Chirico and Nordqvist 2010; Heck 2004; Zahra, Hayton, and Salvato 2004), which is emerging and poorly developed. It has been shown how certain traits pertinent to the culture of the family business can hinder (paternalism) or favor (orientation toward decentralization and the long term) the innovative behavior of these firms. Nevertheless, more research would be necessary to add knowledge in this area.

The fifth and final line identified is related to the role of identity. This is also very limited in terms of the number of studies and is also keeping a watchful eye on what is a genuine development since it emerged only in 2009 (Reay 2009; Shepherd and Haynie 2009) and lacks continuity. The works identified discuss how the concept of identity helps to deal with conflicts between business and family in the entrepreneurial process.

Entrepreneurship Cluster. This is one of the two major clusters identified and groups 64 articles (49.6 percent). This high number of studies, coupled with their location in the first quadrant of the strategic matrix, indicates that the cluster is organized around a core of well-structured and developed themes. A percentage of 93.6 of the articles in this cluster have been published in the second period identified, with the clear predomination of work of an empirical nature (85.5 percent) compared with theoretical or review. With regard to the methodologies used in empirical studies, quantitative studies are more predominant than

qualitative ones (66 versus 33 percent of the total, respectively). More specifically, one can identify six research lines within the same, which are analyzed further.

The largest group of studies is that dealing with the analysis of the stages of birth, success, and continuity of family businesses. Particular attention is paid to the effects that family, sociocultural, or economic environments may have on the results of these processes. In more precise terms, in this line of research, we find, on the one hand, studies that analyze the influence that family issues, such as Chinese “familism” (Au and Kwan 2009) or the African extended family concept (Khavul, Bruton, and Wood 2009; Robson and Obeng 2008; Smith 2009) may have on the creation and development of businesses in the south and east of Asia and Africa. On the other hand, there are studies focusing on the influence that belonging to a particular ethnic group, usually a minority within a geographical context (Adendorff and Boshoff 2011; Chang, Memili, Chirsman, Kellermanns, and Chua 2009; Fairlie and Robb 2007)—Greeks in South Africa, Koreans and African Americans in the USA—may have on the results of the company. Finally, several works analyze this issue in specific economic contexts, particularly in emerging economies or economically hostile environments (Carney 2007; Dyer and Mortensen 2005). More specifically, the majority of studies in this line have focused on the examination of family firms in the postcommunist transition economies, but other cases such as Turkey, Iran, and Fiji have also been researched.

A second area of interest has been the formation processes of relational capital in family firms and their influence on the creation of collaborative networks and groups of companies, concentrating on their role as a factor of local or national development (Anderson, Jack, and Dodd 2005; Chung 2001; Guo and Miller 2010; Zahra 2010). Again, the analysis of this topic in specific geographical areas, such as China, Taiwan, and Norway, allows for the consideration of social and cultural aspects that are also present in the first line mentioned within this cluster.

The third group of published studies analyzes the influence that the existence of parents with a history of creating self-employment or family business can have on the educational success of their children and their intentions

regarding their professional career upon completion of their studies (Kim 2006; Zellweger, Sieger, and Halter 2011).

A fourth group of very important studies places special interest in analyzing the influence of the role of the founder on various aspects related to strategy, funding opportunities, and business results (Miller, Le Breton-Miller, and Lester 2011; Randoy and Goel 2003). The literature in this case has addressed the analysis not only of the individual founder, but also of other possible types, such as the co-preneurship (Fletcher 2010) or founding teams (Ucbasaran et al. 2003). Along with their role in the creation and development of the company, the literature has also studied the founder of the firm, albeit by another family member or someone outside the organization (Winter et al. 2004). The individual founder is a topic widely discussed in the literature, bearing in mind the implications of this process on the renewal and/or continuity of the firm. In the latter case, analysis has been focused on the factors that determine the success of the succession (Salvato, Chirico, and Sharma 2010; Wasserman 2003), with particular reference to tax issues of the latter (Bjuggren and Sund 2005; Ellul, Pagano, and Panunzi 2010).

In the meantime, a small number of articles analyze the process of recognizing and identifying opportunities for entrepreneurship in the context of the family business, both in a local, national, or international contexts (Patel and Fiet 2011; Zucchella, Palamara, and Denicolai 2007). Finally, there is a group of theoretical studies that focuses on the development of models that allow a better understanding of issues such as interpersonal trust (Sundaramurthy 2008), or the potential advantages of the different types of ownership structure on funding opportunities and agency cost reduction in family firms (Wright et al. 2009; Wu, Chua, and Chrisman 2007).

**Gender Cluster.** This is one of the three minority clusters identified and groups together eight items (6.2 percent). Their presence indicates that this issue has its own clear definition although due to its size, the issues that have been investigated are limited in number. Seventy-five percent of the studies in this cluster have been published in the second period identified, and regarding to methodologies used, quantitative studies slightly predominate over

qualitative ones. Specifically, the articles can be categorized in three lines.

The most developed is the work that spotlights, in different geographical settings, the analysis of the role of women in family business creation from different points of view. These include: the resistance of patriarchal cultures toward allowing an active position of women (Dhaliwal 1998; Hamilton 2006); the influence of structural social and economic changes over long periods of time (Munoz and Perez 2007); and the differences between men and women in the support given to the spouse entrepreneur (Matzek, Gudmunson, and Danes 2010). The second line identified is the study of the incidence of gender of ownership on a firm's performance, and explanations are proposed for the worst results of women's businesses. The possible explanations are related to both the weaker starting conditions in terms of endowment of resources and capabilities (Fairlie and Robb 2009), as well as the differences in decisions on the allocation of income between business and family use or differences in the support received (Danes, Stafford, and Teik-Cheok Loy 2007; Espinal and Grasmuck 1997). Finally, there is a study that examines the influence of gender on leadership and the role of the CEO, with different patterns identified (Barrett and Moores 2009).

**Governance Cluster.** The "Governance" cluster brings together 15 articles (11.6 percent). Seventy-three percent of the works were published in the second period identified, and barely 20 percent of the studies are qualitative. The works may be classified into three different but connected lines centering on what bearing family ownership and involvement have on decision-making related to entrepreneurship in family businesses.

The largest group comprises the work that has studied the relationship between the degree of family ownership and involvement, and different strategic decisions related to entrepreneurship, such as strategies to address corporate entrepreneurship (Kellermanns and Eddleston 2006), innovation (Andrade et al. 2011), internationalization (Zahra 2003), or participation in Buy Outs (Scholes, Wright, Westhead, and Bruining 2010; Wright, Thompson, and Robbie 1992) among others.

A second line comprises the work analyzing how the priority to maintain the control of the company, very characteristic of family

businesses, influences their entrepreneurial behavior (Romano, Tanewski, and Smyrniotis 2001). The third line brings together the studies analyzing the figure of the CEO and how the different variables that can be used to characterize them (age, tenure, and generation) may influence different aspects of entrepreneurship in family firm, for instance EO (Miller and Le Breton-Miller 2011), the orientation toward the market (Beck et al. 2011) or entrepreneurial behavior (Kellermanns et al. 2008).

**Family Firm Cluster.** The cluster comprises eight articles (6.2 percent), indicating that the aspects investigated in the cluster have been limited. All the works in this cluster have been published in the second period identified and, as for the methodologies used in empirical studies and qualitative studies, case analyses are predominant.

Specifically, the studies can be categorized in two main lines. The first investigates the macroeconomic factors weighing on the process of internationalization of family businesses, although the analysis is limited to a very specific geographical context, as is Spain (Puig and Fernandez-Perez 2009). The second line includes issues related to the strategic management of the company from different perspectives. Thus, among the papers identified some focus on the decision-making process leading to the development of family firms in particular economic sectors, such as tourism (Getz and Carlsen 2005). Others study whether the ethnicity of the founding family affects the type of strategy developed by the company (Bhalla et al. 2009), and a further group examines the internal factors that may influence the implementation of the same (Bruque and Moyano 2007). This interest in internal dynamics and their relation to strategy is present in the remainder of the work identified in this line which, starting from the resource-based view (RBV) approach analyzes: (1) the relevant resources for the implementation of enterprise portfolio strategies in family firms (Sieger et al. 2011); and (2) how those resources are combined to furnish dynamic capabilities that allow the company to better adapt to their environment (Chirico and Salvato 2008). However, the total work is still insignificant in numerical terms, limiting itself so far to the analysis of resource knowledge and its integration and transfer within the company.

## Conclusions

This article constitutes a first attempt to carry out a comprehensive, systematic, and objective review of academic research on entrepreneurship in family firms applying bibliometric indicators. It uses as a basis the literature published on these topics on the database ISI Web of Knowledge's SSCI. A number of conclusions spring from the analysis.

First, the information provided by the activity indicators confirms that this is a relatively new area of study, as the earliest documents date from the early 1990s, and the area is experiencing an upward trend. We have identified two periods: the first (1992–2002) with low output and a second (2003–present) of clear growth, coinciding with the start of the corporate entrepreneurship cluster in the field of entrepreneurship. The analysis verifies compliance with Lotka's Law, which means that there is a higher concentration of items in few productive authors compared with other disciplines.

The analysis of activity indicators also reveals that the most productive authors and journals do not necessarily coincide with those most cited. Thus, the most productive journals are the *Family Business Review* and *Entrepreneurship Theory and Practice*; both of them clearly focused in these fields, whereas the most prominent in terms of averages of citations are *Organization Science* and *Journal of Business Venturing*. As for the authors, the most striking outcome is the lack of continuity of the same between the two periods identified, exemplified by the fact that only Wright is published in both periods. Among the most productive authors, some seem to have specialized in this joint field, such as Chirico, Danes, Nordqvist or Zahra, along with others that seem to come from a more general field of entrepreneurship, like Wright, or the family business as Steier, among others.

Regarding to the structure, organization, and level of integration of the co-citation network, the most notable result in this sense is the fact that this field is highly interconnected with high co-citation between authors. It is also noteworthy that a high percentage of the articles better connected come from outsiders or, in other words, researchers whose work is cited by family-entrepreneurship researchers but are not part of the academic publishing group in the field.



With regard to the co-words analysis and construction of diagrams or clusters to define and classify research subjects from the same, the analysis indicates that the field is structured around widely developed themes—*Risk Taking* and *Entrepreneurship*—and underdeveloped peripheral themes—*Gender, Governance and Family Firm*—without clusters in either peripheral or emerging quadrants. In this regard, it will be necessary to await future development to see if the *Family Firm* cluster becomes an emerging topic.

With regard to the study of the relationship between entrepreneurship and family firm, content analysis of the different clusters identified reveals that the bulk of the research conducted to date has developed around some very concrete themes: theoretical and empirical incorporation in the field of family firm of the latest developments in the literature on EO; the influence of the family nature of the business on entrepreneurial behavior; the relationship between the degree of ownership and family involvement and strategy, including in this case the analysis of CEO/founder, the influence of the founder's role on aspects of strategy; and the problems of succession and its impact on the renewal or continuity of the business.

Consistent with the above, the analysis has shown that future research on the relationship between entrepreneurship and family business can address issues such as the analysis of: the influence of the organizational culture of family firms in their innovative behavior; social and individual characteristics in the entrepreneurial process; the cultural and socioeconomic environment in the process of creation; the success and continuity of family businesses in contexts not yet analyzed—Latin America, North Africa, Arab countries; the role of family firms in creating collaborative networks and groups of enterprises; the influence of gender on leadership and the role of the CEO; or the internal factors of the family firm, including its resources and capabilities, which can influence the implementation of strategy. These results suggest that there are many opportunities to improve our knowledge available as to the relationship between the family business and entrepreneurship. This is relevant not only from an academic standpoint, but also to help promote entrepreneurial attitudes in subsequent generations of the family business, allowing this group of companies to continue to contribute over time to the maintenance and creation of economic wealth.

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