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Bibliometric analysis of studies on family firms

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ABSTRACT

Several authors have highlighted the importance of family firms in the worldwide generation of wealth, wellbeing, and employment. Recently, the importance of family firms has resulted in the proliferation of many academic works in prestigious journals. Hence, studying their development and evolution is deemed necessary. This study conducts a bibliometric analysis of the literature on family firms to show the research trends and guide researchers in their work; it is conducted using a detailed and systematic study of the scientific production of papers on family firms published in the Web of Science (WoS) between 1975 and May 2020. Its contributions are as follows. First, it consolidates family firms as an area of research, which reflects on several papers focusing on this topic (1990 papers published in the WoS database, 55982 total citations). Second, it finds that family firm research has mainly developed in the last few years. Third, it discovers that Kellermanns and Chrisman are the most relevant authors in this field. Fourth, it suggests that the most influential journal is Family Business Review. Fifth, it finds that that the Mississippi State University is the most renowned family firm research institution. Sixth, it discovers that the United States has the highest production in the field. Finally, the bibliometric map identifies four clusters, the most relevant being the family firm theory and its evolution.

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1. Introduction

Family businesses are the most widespread form of business organisations worldwide (Gedajlovic et al., 2012; Gómez-Mejía et al., 2007; Hernández-Perlines et al., 2019; Masulis et al., 2011; Poza & Daugherty 2013). This suggests that, in recent years, the growing research on business administration is focusing on family firms (Araya-Castillo et al., 2021; Chrisman et al., 2010; Sharma et al., 2012). Many researchers have taken an interest in analysing how these organisations work, especially in the field of business management (Benavides Velasco et al., 2011; Chrisman et al., 2008;

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Debicki et al., 2009; Rogoff & Heck, 2003; Sharma & Carney, 2012; Tàpies, 2011). From a strategic perspective, family firms have been studied using different theories and approaches (Araya-Castillo et al., 2021) as, from the very beginning, research on this subject has strived to be recognised and accepted as a rigorous and independent field of study (Astrachan et al., 2002).

Thus, due to the high relevance of this type of business, research on family firms has been proliferating in recent decades (Rovelli et al., 2021). This explains the increasing importance of scientific production on family firms as, from the 1960s and especially in recent years, research on family firms has developed extensively. This can be observed in the high number of published work (Benavides Velasco et al., 2011), which has opened the way to fields of study such as business management (Chrisman et al., 2008).

Since 1989, the family firm discipline has developed even more intensively (Casillas & Acedo, 2007). In early 2000s, several papers on family businesses were published in mainstream top tier management journals. Following this, mainstream scholars started focusing on this domain, which helped family firm topics (traditionally published in non-mainstream journals) find their way into the general management literature. In this line, the growth in this field may also be attributed to the generation and application of theories to study family business phenomena. This moved this field from the applied and descriptive setting to theory-based research, which rapidly increased its legitimacy in the top tier management journals.

However, it is still considered an emerging topic. So much so, that the consolidation of research on family firms as a scientific discipline depends on understanding the past and analysing the evolution of contributions in this field (Benavides Velasco et al., 2011).

Consequently, an in-depth study of the literature on family firms becomes necessary. Therefore, this study examines the state, trends, and potential lines of research in this discipline. To this end, it will carry out a bibliometric analysis using the VOSviewer software v. 1.6.15 (Van Eck & Waltman, 2010) and Excel tools (Araya-Castillo et al., 2021). By applying this analysis, it is possible to study the 1990 papers that have been published in the WoS between the period 1975 and May 2020.

This study tries answering the following research questions:

1. Which are the most relevant studies on family firms?
2. In which countries and institutions do the most influential researchers in the family firm field work?
3. In which research network are the main authors on family firms involved?
4. Which scientific journals generate more knowledge on family firms?
5. Which relevant research topics stand out in the field of family firms?

This study not only describes the scientific production in the field of family firm, but also provides a source of reference for researchers to identify its future prospects.

2. Theoretical framework

Many authors still question whether family firms should be considered as an independent research field within the business management area. Rodríguez Alcaide and

Rodríguez Zapatero (2004) admit that the importance of family firms as a field of study is not consistent with its relevance in the economies of many countries. Admittedly, in recent years, work focusing on the multidisciplinary perspective of family firms had proliferated. These new developments recognise that family firms are the most widespread form of organisation worldwide (Miller et al., 2008).

According to Hernández-Perlines et al. (2021), great diversity exists in the definition of family firms (Chua et al., 2012; Corbetta & Salvato, 2004). A review of the literature reveals three groups of definitions. The first are based on family involvement in both the ownership and management of the family business (Chua et al., 1999; Litz, 1995; Tatoglu et al., 2008). The second focus on the 'essence' of the family firm (Chrisman et al., 2005; Habbershon et al., 2003). Finally, the third centre on the dimensions through which families influence firms (Astrachan et al., 2002; Holt et al., 2010; Kellermanns et al., 2012).

Thus, 'family firm' has numerous definitions. It is, therefore, difficult to reach a consensus on the best, generally accepted definition (Hernández-Perlines et al., 2020). Nevertheless, there are two common features in most family firm definitions (Franco & Prata, 2019). The first is ownership of capital since, in family firms, most shares belong to one or more family members (Kellermanns et al., 2008). While, the second is management since, in family firms, several members of the family participate in the management of the business (Kallmuenzer et al., 2018). Analysing family firms is challenging because of the existence of a wide variety of family firms (Cennamo et al., 2012; Chrisman & Patel, 2012; Llanos-Contreras & Alonso-Dos-Santos, 2018) due to varying levels of family involvement in the business (Samara & Berbegal-Mirabent, 2018).

Considering the above, it is evident that family firms have an important role in the global economy as they lead many sectors (Credit Suisse, 2018; Mallon et al., 2018; Hernández-Perlines et al., 2020; PwC Global Family Business Survey, 2018). They are also the most widespread form of business organisations in any economy in the world (La Porta et al., 1999), and they are the most common type of business in the world, as reported by many authors (Gedajlovic et al., 2012; Gómez-Mejía et al., 2007; Hernández-Perlines et al., 2021; Masulis et al., 2011; Poza & Daugherty, 2013).

Besides, family firms are the most common business structure in the world (Gedajlovic & Carney, 2010; Gómez-Mejía et al., 2007; Masulis et al., 2011). They play a leading role in many economic sectors (Araya-Castillo et al, 2021), generating between 70% and 90% of the world's GDP (Araya-Castillo et al, 2021) and representing 85% of start-ups (Bettinelli, 2011; Family Firm Institute, 2017; Matthews et al., 2012; Tharawat Magazine, 2014). Many of them maintain or even improve their competitiveness by trying to globally expand their activities (Autio et al., 2000; Sapienza et al., 2006). When companies internationalize they become less dependent on local or national markets (Ciravegna et al., 2014).

In this context, one can argue that the growth and functioning of many economies depends on the activity of family firms (Astrachan & Shanker, 2003; Memili et al., 2015). This is because, in many countries and regions, these firms represent an important part of the productive system (Hernández-Perlines & Xu, 2018), as they are capable of generating stable employment (Fan et al., 2011; Hernández-Perlines, 2018; Matthews et al., 2012).

Hence, even when family firms struggle to survival (Eddleston et al, 2012), they account for a very important part of the business population (Instituto de la Empresa Familiar La Empresa Familiar en España, 2015) by creating most of the wealth and employment (Hernández-Perlines & Rung-Hoch, 2017). Thus, they are a very important part of the welfare of most countries (Araya-Castillo et al., 2021). Indeed, in many economies, growth (Sirmon et al., 2008; Hernández-Perlines & Mancebo-Lozano, 2016), welfare (Astrachan & Shanker, 2003; Hernández-Perlines & Ibarra Cisneros, 2018), wealth, and even employment (Chang et al., 2009; Fan et al., 2011; Matthews et al., 2012) are driven by family firms (Franco & Prata, 2019; Hernández-Perlines et al., 2021).

There are also other studies that review the literature on family firms. Among them, Casillas and Acedo's (2007) study is worth highlighting. It uses the co-citations analysis of papers that appeared in Family Business Review between the years 1998 and 2005. This presents a longitudinal analysis that establishes patterns in the evolution of family firms as a scientific discipline.

Benavides Velasco et al. (2011) reviewed the literature on family firms using a bibliometric approach applied to papers appearing between the years 1961 and 2008 in journals of the Social Science Citation Index.

Also, Wright and Kellermanns' (2011) theoretical review of family firm literature enabled the systematic organisation of knowledge around this topic, developing a theoretical framework for future research. These authors identified a number of issues to be focused on in family firm research.

Gedajlovic et al. (2012) theoretically studied the development of research in the field of family firms during that time and focused their analysis of family firms on the business management filed. They concluded that the firms differ in terms of their performance because of the institutional conditions that affect them.

Using the institutional approach, Bernadich and Urbano (2013) reviewed the literature on family firms based on the environmental factors influencing the creation and development of family firms. It is a bibliographic study of papers published in greatly relevant journals (indexed in the Journal Citation Reports (JCR)), books, and book chapters. The years between 1980 and 2011 were analysed.

Recently, Rovelli et al. (2021) have published a bibliometric study of 1381 papers appearing in the three main academic journals devoted exclusively to these businesses (Family Business Review, Journal of Family Business Strategy and Journal of Family Business Management). This study provides a comprehensive overview of the research on family firm and lays the groundwork for future developments.

This study conducts a bibliometric analysis of family firm research articles published in WoS-indexed journals between the period 1975 and May 2020. This study contributes to the literature because it is based on the WoS Core Collection, with which 1990 scientific papers on the subject were identified, with a total of 55,982 citations. Given this, the present investigation includes a greater number of articles in the review, and it is also more up-to-date (as of May 2020).

3. Methodology

This research reviews the different studies found in the literature on family firms and shows research trends with the main lines of action. With this in mind, bibliometric

techniques are used (Toro-Jaramillo, 2017). That is, mathematical and statistical methods are applied to books and other written media (Groos & Pritchard, 1969), and thereby, are typically used to summarise, classify, and provide representative results of a set of bibliographic documents (Rovelli et al., 2021).

This methodology is an emerging and cutting-edge field of research in library and information science, which has developed extensively in recent decades (e.g., Aström, 2007; Miguel & Dimitri, 2013; Vicencio-Ríos et al., 2020). This is relevant because, although bibliometrics is criticised for its inaccuracies and quantitative measurement limitations, it is very useful for a systematic literature review and the development of the state of the art (Toro-Jaramillo, 2017). This is because bibliometric resources allow the evaluation and analysis of academic production in different areas of science and knowledge (Martínez et al., 2015; Montero-Díaz et al., 2018).

Therefore, the growth of scientific production in recent decades and its indexing in automated bibliographic databases have boosted the use of bibliometrics and the generation of indicators used to measure the results of scientific and technological activities (Sanz-Valero & Wanden-Berghe, 2017). The bibliometric analysis provides a detailed and systematised source of information on scientific production in a specific discipline (Merigó et al., 2015). This can be used as reference by researchers (Morales et al., 2017), and makes it possible to assess scientific activity, the impact of publications, and the available sources to guide new research (Moreno & Rosselli, 2012).

This study uses the bibliometric analysis as a methodology for analysing the literature on family firms. This type of analysis applies mathematical and statistical techniques to study the patterns of the publications and the use of different documents (Diodato & Gellaty, 2013).

This bibliometric analysis has been systematised in such a way that it follows the phases proposed by Velt et al. (2020).

The first phase, called *formulation*, describes the objectives of the study and poses the research questions that this study seeks to answer. This study analyses the literature specialising in family firms, and is a conclusive descriptive study (Malhotra, 2004).

The second stage, called *identification*, establishes search patterns (Wang & Chugh, 2014) based on the identification keywords and the time span of the search. Conducting bibliometric studies to classify the research on a topic requires a careful selection of database records (Hasper-Tabares et al., 2017). Following Vega-Muñoz et al. (2020), 'Family Firms' was established in Web of Science (WoS) as the keyword for the search vector. This database was considered because it is one of the most influential sources for searching scientific information, it has high search accessibility, and it provides knowledge about authors, articles, and journals dealing with the development of this subject matter (Granda-Orive et al., 2013). In addition, the WoS includes different indexes such as the Social Science Citation Index (SCI-E), the Social Science (SCI-E), Social Science Citation Index, and Emerging Sources Citation Index (Vega-Muñoz et al., 2020). When using the WoS-indexed research, the focus was on the most important research, and only peer-reviewed papers were considered

(for instance, Keupp et al., 2012; Dada, 2018; Kauppi et al., 2018; Velt et al., 2020). The use of the keyword 'family firm' did not consider the different definitions of the term, as there is a great deal of controversy in specialised literature about its meaning (Hernández-Perlines et al., 2021). The time span of analysis was from 1975 to May 2020 in the WoS.

The third stage coincided with the selection. Sound bibliometric analysis requires a careful selection of records from a given database (Hasper-Tabares et al., 2017). In this case, the information available in the WoS was considered due to its relevance (Granda-Orive et al., 2013). The search was carried out in the WoS Core Collection using the term 'family firms'. With this criterion, 1990 scientific papers on the subject were identified, with a total of 55,982 citations. Neither books nor proceedings were taken into consideration.

The fourth step verified the dataset. This process was carried out by authors dealing with a specific line of research in family firms and the ones known for publishing in high impact journals in the JCR.

The fifth stage focuses on the analysis of the data using the appropriate tools according to the proposed objectives and research questions. The bibliometric indicators used for the analysis were: articles, citations, journals, institutions, authors, and countries. An analysis of the bibliometric map in family firms was also carried out. It was, therefore, possible to draw a detailed map of key concepts based on frequency data and their respective clusters. A map of collaboration between authors was also included, as this helps identify the main actors in a scientific collaboration network and to see how the different actors are grouped in different areas within a network. The Impact Factors 2018 of each scientific journal was also analysed according to the JCR, as it is one of the most widely used indicators in the field of bibliometrics (Bosch et al., 2001), and the H-index for measuring the professional quality of publications in terms of the citations received by the scientific papers (Gálvez Toro et al., 2006).

The bibliometric analysis conducted in this study was performed with the VOSviewer software, version 1.6.15 (Van Eck & Waltman, 2010) and Excel tools (Araya-Castillo et al., 2021).

4. Analysis of the results

The following pages show the studies conducted on the subject of family firms, and the undeveloped—or the ones with relatively minor scientific productions—lines of research. This situation is relevant because scientific production can only advance by building on previous work, with current work being the basis for future research and publications (for instance, Jiménez-Bucarey et al., 2020; Vicencio-Ríos et al., 2020; Araya-Castillo et al., 2021).

4.1. Papers and citations

Since the contribution of Jentoft's (1979) first paper to the literature on family firms, scientific production has been increasing. In 2020, there was a decrease in the

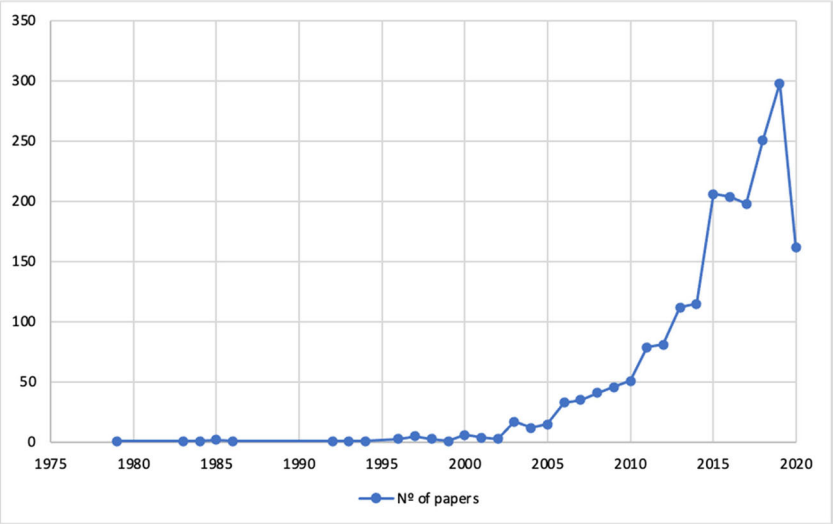

Figure 1. Number of papers published per year.
Source: Authors' own work.

number of publications, however, this is because the search was conducted in May (see Figure 1). Therefore, considering the historical evolution in the number of publications, scientific production in the family firm area is expected to exceed 2019 figures in 2020.

In relation to the above, the number of citations reported in the literature is also increasing. Indeed, the first reported citation dates back to the year 1985 and, since then, the number has increased significantly. The 2020 decrease is caused by the collection of databases in May (see Figure 2). Considering this, and the number of publications, the 2020 figures are expected to exceed those reached during 2019 accounting the historical evolution of the number of citations.

There are 55,982 citations in this topic. Table 1 shows that a low concentration of papers has a high number of citations, that is, only 11 papers (0.55% of the studies performed) out of a total of 1900 have over 500 citations. As for the rest, 18 papers have between 250 and 500 citations (0.90% of the studies conducted), 99 papers have between 100 and 250 citations (4.97% of the studies conducted), 143 papers have between 50 and 100 citations (7.19% of the studies conducted), and 1719 papers have fewer than 50 citations (86.38% of the studies conducted). A small part of the articles receiving more than 50 citations can be owed to the prolonged isolation of this field due to disconnection from the management areas.

In Table 2, considering the number of citations and the average number of citations per year, Anderson and Reeb's (2003) paper, published in the Journal of Finance, has the highest relevance in literature. It can also be observed that only two other papers exceed 1000 citations: Villalonga and Amit (2006) and Gómez-Mejía et al. (2007), published in the Journal of Financial Economics and Administrative Science Quarterly, respectively. It is, therefore, evident that the greatest impact of the literature on family firms has occurred recently, specifically in the last 20 years.

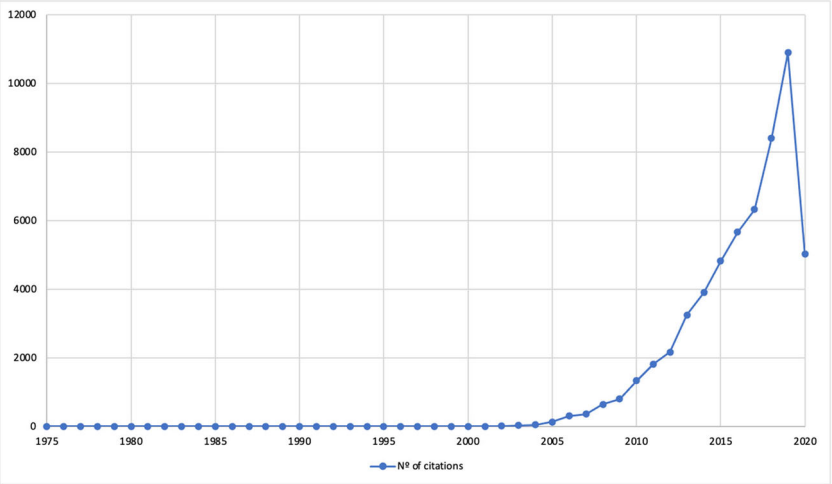

Figure 2. Number of citations per year.
Source: Authors' own work.

Table 1. General citation structure of family firms in WoS.

Number of citations	Number of papers	Percentage of papers
$\geq$ 500 citations	11	0.55%
$\geq$ 250 citations	18	0.90%
$\geq$ 100 citations	99	4.97%
$\geq$ 50 citations	143	7.19%
$<$ 50 citations	1719	86.38%
Total	**1990**	

Source: Authors' own work.

4.2. Authors

Table 3 shows the 10 most influential authors, listed according to their contribution to this discipline. To measure the impact of the publications, the order of the authors was based on the number of papers and citations on this topic. In addition, the following were analysed: the number of papers and citations of the authors, their H-index, the percentage of papers devoted to the study of family firms, and whether their publications are in the top 30.

Kellermanns has the largest number of published papers on family firms, with 2 of his papers in the top 30 most influential papers in the literature. Chrisman has the highest number of citations in literature on family firm, with 5 papers among the 30 most influential. He also has the highest H-index, papers, and citations (overall). Chua also stands out for having 4 papers among the 30 most influential articles in the literature on family firms, and Voordeckers for devoting the highest percentage of his papers (67%) to the subject under study.

In addition, the map of author collaboration in Figure 3 shows 9 scientific collaboration networks. Of these networks, 6 include the 10 most productive authors in family business research. Only the pink, brown, and orange networks do not include the most relevant authors in this field of literature.

Table 2. Thirty most influential papers on family firms.

R	Title	TC	C/Y	Author/s	Journal	Year
1	Founding family ownership and firm performance: Evidence from the S&P 500	1807	100.4	Anderson, RC; Reeb, DM.	Journal of Finance	2003
2	How do family ownership, control and management affect firm value?	1374	91.6	Villalonga, Belen; Amit, Raphael	Journal of Financial Economics	2006
3	Socioemotional wealth and business risks in family-controlled firms: Evidence from Spanish olive oil mills	1.219	87,1	Gómez-Mejía, Luis R.; Haynes, Katalin Takacs; Nunez-Nickel, Manuel; Jacobson, Kathyrn J. L.; Moyano-Fuentes, Jose	Administrative Science Quarterly	2007
4	Corporate governance in emerging economies: A review of the principal-principal perspective	676	52.0	Young, Michael N.; Peng, Mike W.; Ahlstrom, David; Bruton, Garry D.; Jiang, Yi	Journal of Management Studies	2008
5	Socioemotional Wealth in Family Firms: Theoretical Dimensions, Assessment Approaches, and Agenda for Future Research	624	69.3	Berrone, Pascual; Cruz, Cristina; Gómez-Mejía, Luis R.	Family Business Review	2012
6	The Bind that Ties: Socioemotional Wealth Preservation in Family Firms	605	60.5	Gómez-Mejía, Luis R.; Cruz, Cristina; Berrone, Pascual; De Castro, Julio	Academy of Management Annals	2011
7	Founding family ownership and the agency cost of debt	579	32.2	Anderson, RC; Mansi, SA; Reeb, DM.	Journal of Financial Economics	2003
8	Comparing the agency costs of family and non-family firms: Conceptual issues and exploratory evidence	540	31.8	Chrisman, JJ; Chua, JH; Litz, RA.	Entrepreneurship Theory and Practice	2004
9	Family firms	538	29.9	Burkart, M; Panunzi, F; Shleifer, A.	Journal of Finance	2003
10	Board composition: Balancing family influence in S&P 500 firms	506	29,8	Anderson, RC; Reeb, DM.	Administrative Science Quarterly	2004
11	Toward a theory of agency and altruism in family firms	504	28.0	Schulze, WS; Lubatkin, MH; Dino, RN	Journal of Business Venturing	2003
12	Are family firms really superior performers?	482	34.4	Miller, Danny; Le Breton-Miller, Isabelle; Lester, Richard H.; Cannella, Albert A., Jr.	Journal of Corporate Finance	2007
13	The role of family in family firms	441	29.4	Bertrand, Marianne; Schoar, Antoinette	Journal of Economic Perspectives	2006
14	Exploring the agency consequences of ownership dispersion among the directors of private family firms	439	24.4	Schulze, WS; Lubatkin, MH; Dino, RN.	Academy of Management Journal	2003
15	Variations in R&D investments of family and non-family firms: behavioral agency and myopic loss aversion perspectives	437	48.6	Chrisman, James J.; Patel, Pankaj C.	Academy of Management Journal	2012
16	Entrepreneurial risk taking in family firms	432	27.0	Zahra, SA.	Family Business Review	2005
17	Entrepreneurship in family vs. non-family firms: A resource-based analysis of the effect of organisational culture	421	24.8	Zahra, SA; Hayton, JC; Salvato, C.	Entrepreneurship Theory and Practice	2004

(*continued*)

Table 2. Continued.

R	Title	TC	C/Y	Author/s	Journal	Year
18	Entrepreneurial orientation, risk taking, and performance in family firms	419	29.9	Naldi, Lucia; Nordqvist, Mattias; Sjoberg, Karin; Wiklund, Johan	Family Business Review	2007
19	Are family firms more tax aggressive than non-family firms?	382	34.7	Chen, Shuping; Chen, Xia; Cheng, Qiang; Shevlin, Terry	Journal of Financial Economics	2010
20	Family firms and social responsibility: Preliminary evidence from the S&P 500	379	25.3	Dyer, W. Gibb, Jr.; Whetten, David A.	Entrepreneurship Theory and Practice	2006
21	Family Involvement, Family Influence, and Family-Centered Non-Economic Goals in Small Firms	377	41.9	Chrisman, James J.; Chua, Jess H.; Pearson, Allison W.; Barnett, Tim	Entrepreneurship Theory and Practice	2012
22	Corporate disclosures by family firms	377	26.9	Ali, Ashiq; Chen, Tai-Yuan; Radhakrishnan, Suresh	Journal of Accounting & Economics	2007
23	International expansion of US manufacturing family businesses: the effect of ownership and involvement	370	20.6	Zahra, SA.	Journal of Business Venturing	2003
24	Family ownership and firm performance: Empirical evidence from Western European corporations	360	24.0	Maury, B	Journal of Corporate Finance	2006
25	Toward a Theory of Familiness: A Social Capital Perspective	348	26.8	Pearson, Allison W.; Carr, Jon C.; Shaw, John C.	Entrepreneurship Theory and Practice	2008
26	Self-serving or self-actualising? Models of man and agency costs in different types of family firms: A commentary on comparing the agency costs of family and non-family firms: Conceptual issues and exploratory evidence	296	17.4	Corbetta, G; Salvato, C.	Entrepreneurship Theory and Practice	2004
27	Feuding families: When conflict does a family firm good	270	15.9	Kellermanns, FW; Eddleston, KA.	Entrepreneurship Theory and Practice	2004
28	Sources of Heterogeneity in Family Firms: An Introduction	258	28.7	Chua, Jess H.; Chrisman, James J.; Steier, Lloyd P.; Rau, Sabine B.	Entrepreneurship Theory and Practice	2012
29	Impact of ownership on the international involvement of SMEs	252	16.8	Fernandez, Zulima; Nieto, Maria Jesus	Journal of International Business Studies	2006
30	Family Control and Family Firm Valuation by Family CEOs: The Importance of Intentions for Transgenerational Control	249	27.7	Zellweger, Thomas M.; Kellermanns, Franz W.; Chrisman, James J.; Chua, Jess H.	Organisation Science	2012

Abbreviations: R: Ranking; TC: total citations of paper; C/Y: average citation per year.
Source: Authors' own work.

4.3. Journals

Research on family firms has been published in many scientific journals. A selection was made of the 20 most influential journals dealing with this topic (ranked

Table 3. The most influential and productive authors on family firms.

R	Author's Name	TP-FF	TC-FF	%TP-FF / TP	H	TP	TC	T30
1	Kellermanns FW	46	2790	53%	39	86	4959	2
2	Chrisman JJ	39	3864	41%	43	95	7420	5
3	De Massis A	39	1557	56%	28	70	2609	0
4	Miller D	28	1980	34%	31	83	4189	1
5	Eddleston KA	26	1704	46%	29	56	3435	1
6	Chua JH	25	2757	32%	36	79	5776	4
7	Chirico F	23	1073	27%	18	84	1486	0
8	Nordqvist M	23	1679	32%	33	71	3199	1
9	Le Breton-Miller I	22	1753	54%	22	41	4026	1
10	Voordeckers W	22	772	67%	18	33	1113	0

Abbreviations: R: author's ranking; TP-FF: author's total papers on family firms; TC-FF: author's total citations of papers on family firms; %TP-FF/TP: percentage of author's total papers on family firms only; H: H-index of the author; TP: total papers of the author; TC: total citations per author; T30: total papers of the author that are among the 30 most influential papers published at all times.
Source: Authors' own work.

according to the total number of published papers on family firms). As shown in Table 4, the five most influential journals are: (1) Family Business Review; (2) Journal of Family Business Strategy; (3) Entrepreneurship Theory and Practice; (4) Journal of Family Business Management; and (5) Journal of Business Research.

For the 20 journals under consideration, the average H-index value is 57.85, while for the 5 most influential journals it rises to 83.8. Likewise, all 20 journals show average values for the number of papers and citations on family firms of 44.95 and 1574, respectively, while for the 5 most influential journals these values rise to 101.4 and 4031.

Moreover, the 5 most influential journals stand out from the 20 under consideration in terms of length and depth of the publications. In the 20 journals, the average number of published papers is 1980.45 while the average number of citations is 35,697.6. As for the 5 most relevant journals, the average number of published papers and citations is 1666 and 56,557, respectively.

Their impact factor was considered to measure their quality. This information was extracted from the WoS platform in the JCR. In 2018, for the 20 journals the average impact factor is 3.3777. However, the impact factor of the 5 journals with the highest relevance in the literature is 4.91.

Finally, if the H-index is calculated considering only family firms, differences can also be observed between the 20 most influential journals and the sample of the top 5. Thus, the average H-index value for the set of 20 journals is 16.75, while for the group of 5 top-ranked journals this value rises to 30.2.

4.4. Institutions

Merriam-Webster (2008) points out that higher education institutions provide facilities for teaching and research activities (ÓBrien et al., 2010), where the nature of academic research is understood as the creation of knowledge (Adams et al., 2008). Based on this, Table 5 lists the 10 most influential institutions in family firm research.

In terms of the literature on family firms, the Mississippi State University has the highest H-index (35), papers published (80), and highest number of citations on this

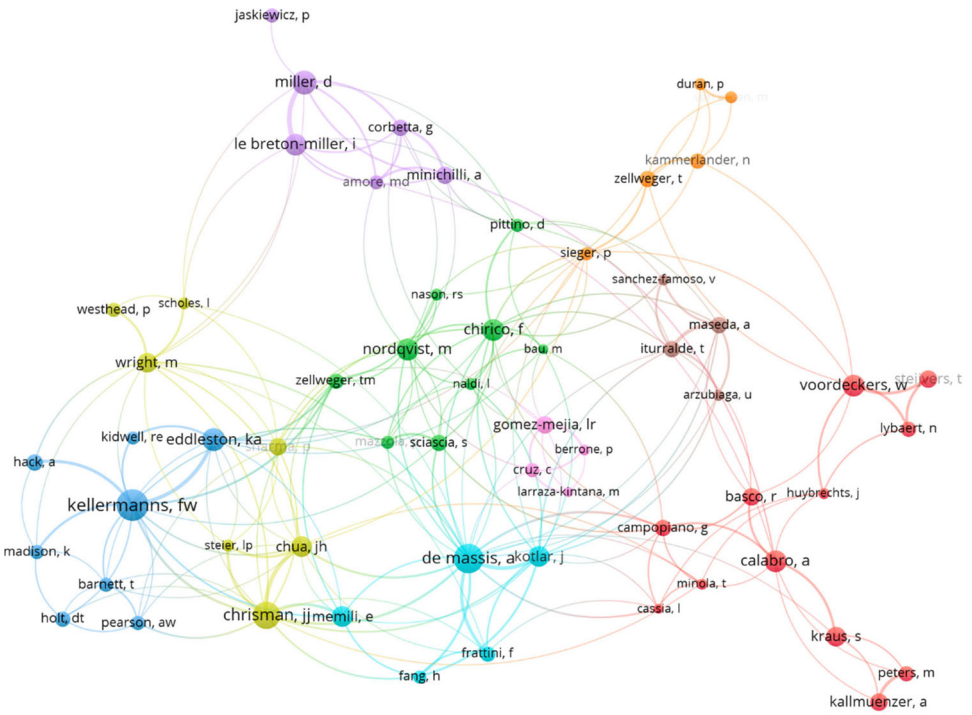

Figure 3. Author collaboration map of the research on family firms.
Source: Authors' own work.

topic (5973). The Jönköping International Business School has the highest proportion of its scientific production devoted to family firm literature (32.84%), and the University of North Carolina is the one with the highest number of publications in the last 5 years (37,719).

4.5. Countries

To develop as a country, the creation of knowledge as a central element to improve the quality of life and progress (Sebastián, 2007) is fundamental because, in the field of scientific dissemination and communication, the objective is to construct a map of accessible knowledge through citation indicators (Fernández & Martín, 2018). In this context, research on family firms is analysed according to their geographical distribution. The results, sorted by country, are shown in Table 6 and Figure 4.

However, there are peculiarities, such as the studies being written by researchers who are affiliated to institutions in different countries. This leads to an overestimation of the number of publications. The WoS platform counts the number of publications by also accounting for early access papers that are peer-reviewed, cited, and published. For this research, this implies that the absolute value of the number of published papers does not amount to 1990, and that the relative frequencies do not add up to 100%.

The United States is the leading country for family firm literature, with 29.6% of the scientific output. Next come Italy, Spain, and England, whose shares in the total

Table 4. Twenty most influential journals on family firms.

R	Journal	H-FF	TC-FF	TP-FF	%P FF	>250	> 100	> 50	>20	TP	TC	IF 2018	T 30	H
1	Family Business Review	51	7883	139	34%	3	19	30	34	407	16,422	6.188	3	71
2	Journal of Family Business Strategy	24	2023	132	56%	0	1	5	32	234	3197	3.225	0	28
3	Entrepreneurship Theory and Practice	50	8805	130	15%	8	22	20	31	867	62,762	6.193	8	135
4	Journal of Family Business Management	7	186	55	54%	0	0	0	1	102	309	1.28 *	0	9
5	Journal of Business Research	19	1256	51	1%	0	2	5	11	6720	200,095	4.028	0	176
6	Journal of Business Ethics	15	1003	45	1%	0	2	5	4	8257	236,159	3.796	0	168
7	Journal of Small Business Management	21	1622	44	4%	0	6	7	8	1021	34.921	3.12	0	94
8	Small Business Economics	20	1428	44	2%	0	4	6	10	1955	64,036	3.555	0	112
9	Journal of Corporate Finance	18	1790	38	3%	2	2	2	10	1470	33,935	2.349	2	85
10	Business History	12	351	33	1%	0	0	0	6	5043	9616	1.152	0	31
11	Corporate Governance an International Review	15	714	32	3%	0	1	1	11	982	24,518	3.39	0	69
12	Sustainability	5	76	23	0%	0	0	0	0	9828	8591	2.592	0	16
13	Asia Pacific Journal of Management	12	441	18	9%	0	0	3	5	206	1089	2.737	0	16
14	Journal of Banking Finance	11	511	18	2%	0	1	2	6	889	3881	2.205	0	23
15	International Journal of Entrepreneurial Behavior Research	6	121	17	7%	0	0	0	2	231	1038	2.391	0	16
16	Journal of Business Venturing	14	1969	17	8%	2	4	5	2	201	2404	6.333	2	26
17	European Journal of International Management	7	99	16	10%	0	0	0	0	157	527	1.349	0	10
18	International Small Business Journal Researching Entrepreneurship	10	423	16	7%	0	1	1	5	231	1673	3.706	0	20
19	Review of Managerial Science	7	157	16	8%	0	0	0	2	196	835	2.393	0	14
20	Strategic Management Journal	11	628	15	2%	0	2	4	1	612	7944	5.572	0	38

Abbreviations: R: Ranking; H-FF: H-index with family firms only ; TC-FF: total citations with family firms only ; TP-FF: total papers only with family firms in the journal; %P FF: percentage of papers with family firms in the journal; >250, >100, >50, >20, number of papers with more than 250, 100, 50 and 20 citations in the journal; TP: total number of papers in the journal; TC: total number of citations in the journal; IF 2018: impact factor of the journal in 2018; T 30: number of papers listed in the Top 30 ranking shown in the table above; H: H-index of the journal.

*Impact Factor of Scopus 2018.

Source: Authors' own work.

Table 5. Most influential institutions dealing with family firms.

R	Name	Country	H FF	TP-FF	TC-FF	%TP-FF/TP5	TP5
1	Mississippi State University	United States	35	80	5973	1.32%	6075
2	University of Alberta	Canada	34	70	4967	0.20%	34,497
3	Lancaster University	England	24	59	1982	0.61%	9662
4	Jönköping International Business School	Sweden	24	44	2317	32.84%	134
5	WHU - Otto Beisheim School of Management	Germany	20	42	1886	14.29%	294
6	Bocconi University	Italy	19	39	1338	2.87%	1360
7	University of North Carolina	United States	16	39	780	0.10%	37,719
8	HEC Montreal	Canada	18	35	2195	3.05%	1147
9	University of St. Gallen	Switzerland	23	34	2074	3.04%	1120
10	Hasselt University	Belgium	17	33	952	1.07%	3091

Abbreviations: R: ranking of the institution; H-FF: H-index of the institution dealing with family firms; TP-FF: total papers of the institution dealing with family firms; TC-FF: total citations of the institution dealing with family firms; %TP-FF/TP5: percentage of total papers of the institution in the last five years dealing with family firms only; TP5: total publications of the institution in the last five years.
Source: Authors' own work.

number of publications are over 10%. The remaining countries have shares of less than 10% of total scientific production. Publication in family firms is therefore concentrated in a few countries and regions: (a) North America (United States, Canada); (b) Europe (Italy, Spain, England, Germany, France, Sweden, Switzerland, Belgium, Netherlands, Austria); (c) Asia (China, Taiwan); and (d) Oceania (Australia).

The case of Spain is unique, because it occupies third place in the ranking of countries with the highest number of publications in the family business field, only below the United States and Italy. However, no Spanish university is among the top 10 in the ranking, unlike American, Italian or British institutions, among others. This could be because Spanish institutions publish articles in collaboration with institutions in other countries that occupy leading positions in the family business literature, but they are not the ones leading these projects. As a result, they do not appear as affiliation of the first author.

4.6. Bibliometric map

An analysis of the bibliometric map of family firms was conducted. These are graphical summaries of documents obtained from a database of citations, words or phrases, or some bibliometric elements (Guzmán-Sánchez & Trujillo-Cancino, 2013), which were performed with the VOSviewer software (Van Eck & Waltman, 2010), a tool used for the visualisation of bibliometric networks developed at the Centre for Science and Technology Studies (CWTS).

Figure 5 shows that the network comprises five clusters in different colours in order of importance: red, green, blue, purple, and yellow. Each cluster contains the most commonly used concepts in family firm research and the size of each concept is related to the frequency of each item. Their network connections show the relationships of the concepts, so that related cognitive topics are located in close proximity, while the unrelated or barely related ones are distant.

In the red network, the key concepts are the following: family firms, theory, model, family, business, strategy, innovation, process, and others. These concepts refer to the literature that focuses on the theory of family firms and their evolution over time, the

Table 6. Most productive countries on family firms.

R	Country	No. de Papers	% of 1990
1	United States	589	29.6%
2	Italy	272	13,7%
3	Spain	266	13.4%
4	England	222	11.2%
5	Germany	196	9.8%
6	Canada	162	8.1%
7	China	128	6.4%
8	Australia	99	5.0%
9	France	98	4.9%
10	Sweden	88	4.4%
11	Switzerland	79	4,0%
12	Belgium	73	3.7%
13	Taiwan	70	3.5%
14	Holland	59	3.0%
15	Austria	50	2.5%

Abbreviations: R: country ranking.
Source: Authors' own work.

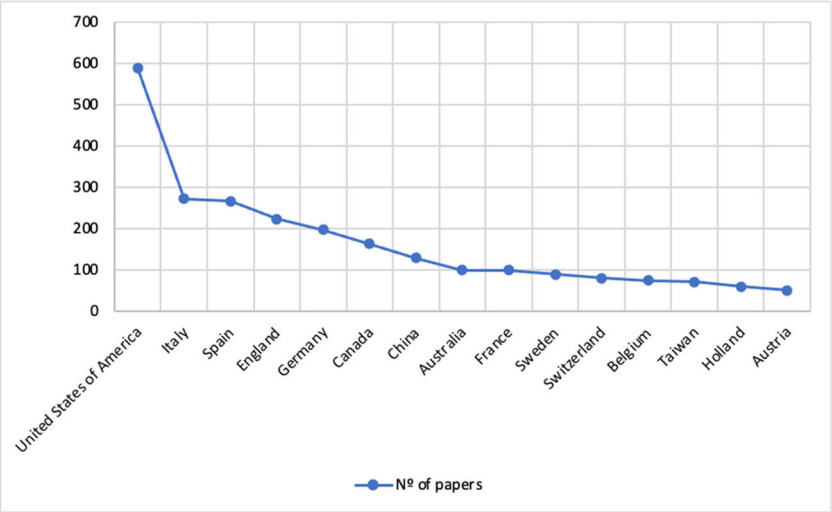

Figure 4. Total number of publications per country.
Source: Authors' own work.

understanding of family businesses, and the implications of these studies for knowledge generation.

In the green network, the key concepts are the following: firm, evidence, family ownership, ownership, family control, control, shareholder, and others. These concepts refer to the literature that analyses the type of ownership and corporate governance in family firms.

In the blue network, the key concepts are the following: firm performance, board, director, and family involvement. These concepts refer to the literature that studies the participation of family members in family firms, and the impact this has on performance.

In the purple network, the key concepts are the following: CEO and founder. The concepts refer to the literature that analyses the foundation and leadership in family firms.

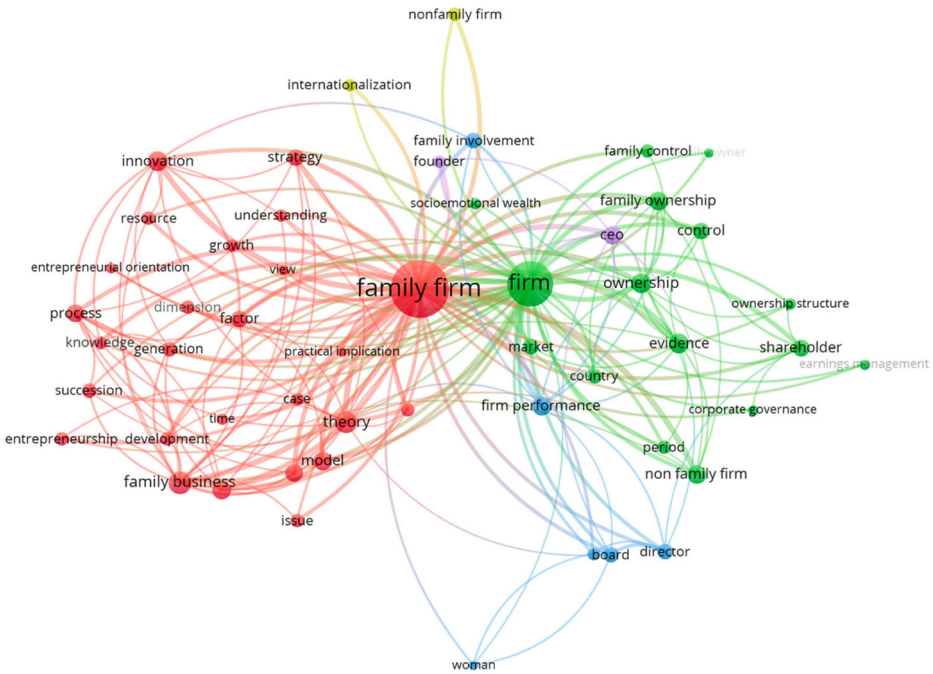

Figure 5. Bibliometric map of the research on family firms.
Source: Authors' own work.

Finally, in the yellow network, the key concepts are the following: internationalisation and non-family firm. The concepts refer to the literature that analyses the differences that arise in the internationalisation process of family firms compared to non-family ones.

5. Conclusions

According to Hernández-Perlines et al. (2020), in recent years, there has been a substantial increase in the number of publications studying family businesses to learn more about their behaviour (Chrisman et al., 2005; López-Fernández et al., 2016; Nordqvist & Melin, 2010; Sharma et al., 2012; Zahra et al., 2004). There are three reasons for this. First, family firms are the most common form of enterprise worldwide (Gedajlovic et al., 2012; Gómez-Mejía et al., 2007; Hiebl et al., 2018; Masulis et al., 2011; Poza & Daugherty, 2013). Second, family firms are responsible for a large part of the economic growth and wellbeing of many countries (e.g., Astrachan & Shanker, 2003; Jaskiewicz et al., 2015; Pejic Bach et al., 2018). Third, the family firm is the form of enterprise that creates most employment (for example, Chang et al., 2009; Fan et al., 2011; Matthews et al., 2012).

Therefore, considering the importance and influence on family firm literature in recent years, this research uses a bibliometric methodology to study the development and evolution of academic literature in the business management field.

The study was based on 1990 papers (with a total of 55,982 citations) found in the WoS database and dated between 1975 and May 2020. The bibliometric indicators

used for the analysis were: papers and citations, journals, institutions, authors and countries, which were used to analyse the bibliometric map in this line of research. The conclusion is that the first paper reported in the literature is the one written by Jentoft (1979), which was based on the succession of generations in small family firms. Since the publication of this paper, both the number of publications and citations have increased.

However, the literature on family firms has not yet heavily impacted and influenced business management as 86.38% of the publications reported have fewer than 50 citations. This is because family firm literature has become more relevant in recent years, with the three most relevant papers (in order of importance) being written by Anderson and Reeb (2003), Villalonga and Amit (2006), and Gómez-Mejía et al. (2007).

Continuing with the analysis, Kellermanns and Chrisman are the most influential authors in the literature, both in terms of the number of published papers (Kellermanns) and the number of citations (Chrisman). The most important journal is Family Business Review, as it has the highest H-index and highest number of papers dealing with family firms only. For institutions, the Mississippi State University has the highest H-index, papers published, and citations on this topic. In terms of countries, the United States is the leading contributor to the literature on family firms, followed by Italy, Spain, and England (with their shares in the number of published papers exceeding 10%).

Finally, the bibliometric map shows five clusters, which are identified (in order of importance) by the colours red, green, blue, purple, and yellow. The red cluster focuses mainly on the development of the literature and its evolution over time; the green cluster on the ownership and control of family firms; the blue on family involvement in family firms and the impact this has on performance; the purple on the foundation and leadership in these types of firms; and the yellow on the international expansion of family firms.

Despite the thorough review, the descriptive quality could neither be improved by using other analytical tools or new statistical techniques nor could cover the papers published throughout the year 2020. Future research could enrich the study of the evolution of family firm literature by developing a scientometric study where, for example, studies connecting the family business field to the general management literature are analysed.

However, this research contributes to the literature as it provides information applicable to other researchers studying family firms.

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No potential conflict of interest was reported by the authors.

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