

Thirty Years of Research on Succession in the Field of Family Business: A Bibliometric Analysis

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Abstract

Bibliometric analysis is the application of statistical methods to quantitatively analyze scientific publications. It makes it possible to evaluate the production of a laboratory, a journal or a field of research. The objective of this study is to carry out an analysis of the scientific literature published on succession in the field of family business over the last thirty years. Two different types of indicators were used. The first concerns the activity indicators, which provides information about the productivity of journals and authors. The second is about co-citation analysis which gives an idea of the links between researchers, and co-word analysis which identifies interactions and relationships between different research topics. The results obtained reveal that it is a relatively recent area of research with strong connections between authors. Gaps in the literature as well as future research directions are also presented.

Keywords: family business, succession, conceptual framework, literature review, bibliometric analysis

1. Introduction

Family business research is an emerging area of research that has grown rapidly over the past decade (Daspit et al., 2017). According to Xi et al. (2015) “The study of succession has captured the attention of family business scholars since the field’s inception” (Xi et al, p. 124). Moreover, it is one of the most popular research areas of family business studies (Sharma, Chrisman, & Chua, 1997). Succession process is one of the most important moments in the history of family firm. Indeed, Ward (1987) chooses to define the family business as “One that will be passed on for the family’s next generation to manage and control” (Ward, 1987, p. 252). However, when passing from one generation to the next, the family business is particularly weakened. Only 30 percent of family businesses succeed in passing it on to the second generation, between 10 percent and 15 percent go beyond the third (Stamm & Lubinski, 2011), and around 3 percent of family businesses reach the fourth generation (Mokhber et al., 2017). This makes succession one of the greatest challenges facing family businesses.

The succession “*is not simply a single step of handing the baton; it is a multistage process that exists over time*” (Handler, 1994, p. 134). It begins before successors even join the business, and imposes a wide range of important changes on the family business (Lansberg, 1988). A great deal of research has been carried out on this research topic. Such as the importance of succession planning (Lansberg & Astrachan, 1994), the integrity and commitment of the successor (Sharma, Chrisman, & Chua, 2003), the transfer of ownership and power (Cabrera-Suárez, 2005; Block, Jaskiewicz & Miller, 2011), and the influence of family relationships on succession (Zellweger et al., 2011).

Although the number of studies in this field of research continues to grow, the work devoted to the analysis of scientific production is very limited, only a few works have been carried out on family business succession (Handler, 1994; Brockhaus, 2004). In addition, there is no up-to-date and in-depth study that considers both statistical and content analysis. The majority of research studies is about family business in general (Casillas & Acedo, 2007; Xi et al., 2015) or focuses on a single number of journals (Donthu, Kumar, & Pattnaik, 2020; Rovelli et al., 2021). Moreover, this study differs from other researches by expanding the number of journals reviewed and the time interval as mentioned by (Debicki et al., 2009).

The development of any field of research is influenced by prior work. Therefore, a deeper knowledge of these previous works is necessary to identify the various gaps, and subsequently help future researchers to direct their

research work. The focus of this article is to carry out a systematic and comprehensive review of the literature on succession in family business. The main objective of this study is to answer four research questions: How does this research subject evolve over time? Who are the most prolific authors in this area of research? What are the most relevant research topics? What are the methodological and theoretical approaches adopted?

The present article is structured as follows: In the first section, we briefly discuss our methodology. In the second one, we present the main results of the study: (1) the evolution of the field of study (2) the author co-citation analysis and (3) the co-word analysis. In the final section, we present the main conclusions and direction for future research.

2. Methods

This section presents the methodology carried out, with a brief description of the different indicators used in the analysis. Our systematic review was carried out by accessing the ISI Web of Knowledge (SSCI) database during the month of January 2021. This database has long been considered “*the ‘gold standard’ in measuring scholars performance*” (Aparicio et al., 2021). It has been used in many bibliometric studies (Brito Ochoa, Sacristan-Navarro and Pelechano- Barahona, 2020) as well as the rankings of many international universities (Harzing and Alakangas, 2016). We included in our time limit all publications until December 31, 2020. With regard to the research method, we used the keywords (Note 1) as selection criteria for the title, abstract or keywords. First, we have included the different terms that are generic to family business such as “family firm” and “family business”, according to the keywords used by López-Fernández, Serrano-Bedia and Pérez-Pérez (2016), and those that refer to “family control” and “family ownership” according to Shanker and Astrachan (1996). Second, we have chosen the most generic terms that refer to generational change as “Succession” (Nordqvist *et al.*, 2013; Mackie, 2019), “transmission” (Gundolf, Meier & Missonier, 2013; Aragón-Amonarriz, Arredondo & Iturrioz-Landart, 2019), and “transition” (Moores & Mula, 2000; Stavrou & Swiercz, 1998).

With these first conditions, we obtained 845 results, which were subsequently filtered. Regarding the type of document, the articles were chosen as the basis of analysis as it is the source of knowledge most used by authors in social sciences. Moreover, they represent 78.46 percent of the total publications. Then, we selected works published in English, since they represent 90.64 percent of our sample. Finally, as our database is multidisciplinary, we carried out a final filtering of the publications by reading the abstracts of the articles to eliminate those which concern other fields of research. With these selection criteria, we ended up with 601 articles which we downloaded in an Excel file containing the title, author, keyword, abstract, source, year of publication and citation rate of each article.

Regarding the methodology used in the bibliometric analysis. Two different types of indicators were used. The first concerns the activity indicators, which provides information about the productivity of journals and authors. The second is about co-citation analysis which gives an idea of the links between researchers, and co-word analysis which identifies interactions and relationships between different research topics. Gaps in the literature as well as future research directions are also presented.

3. Results

After the methodology is presented, as well as the various bibliometric indicators. In this section we discuss the main results obtained.

3.1 Activity Indicators

The first results obtained indicate that this is a relatively recent research topic as the first published article dates back to 1992. We can distinguish three main research cycles. The first period (1990-2000) is characterized by a very low publication rate, not exceeding three articles per year. However, the second period (2000-2010) marks an increase in the number of published works, which has increased even more during the third period (2010-2020) except for a slight decrease in 2017.

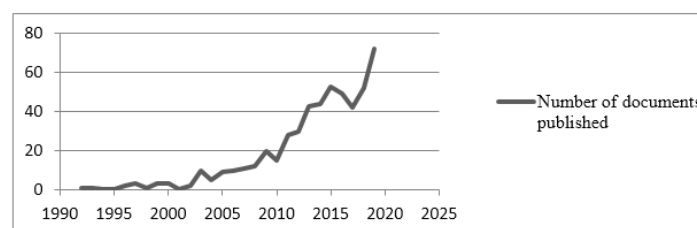


Figure 1. Evolution of the number of publications in the field of succession in family businesses

As this first analysis only represents a description of the graph, we have chosen to supplement it with more detailed data. The analysis of Lotka's law (Note 2) allows to calculate the publication concentration, it was first proposed by Lotka in 1926. It seemed interesting to him to determine the share of contribution of each researcher to the progress of science (Hervé,2017). The equation takes the following form:

$$f(x) = 0.8291 / x^{3.1789931} \text{ (see appendix A for complete proofs)}$$

In our case, the results are in compliance with the Lotka's law. There is a high concentration of articles in a small number of productive authors. The value of 3.17 is a little higher than results obtained by other authors, such as (López-Fernández, Serrano-Bedia and Pérez-Pérez, 2016) in the field of entrepreneurship where the value n reached 2.69. According to Lotka's law, the more the value of the exponent n increases, the more the number of less productive authors increases. Indeed, a total of 601 articles have been written by 1229 authors, of which 1010 authors have published only a single article (82.18 percent of the total authors), which is approximately equal to the value obtained from the formula of Lotka (0.8291).

The second part of our analysis concerns the productivity of authors and journals by considering the three research periods identified (as shown in Table 1). The results reveal that a total of 1229 authors have written the 601 articles (2.04 authors per document) receiving 13565 citations (22.57 citations per article). With regard to the productivity of authors, it was found that the majority of authors started publishing within the last decade (*De Massis, Minichilli A, Amore MD, Corbetta G; Memili E...*). Some started during the second (*Le Breton Miller, Cater JJ and Kellermanns FW*), and few have published since the first period (*Chrisman JJ; Chua JH, Miller WD; Sharma P; Whrite M*). The authors mentioned above are currently the most productive and can be considered experts in this field of research.

Regarding journal productivity, the results (Table 3) show that only three journals from the first period are included in the ranking of the most productive journals of the last period (*Journal of Business Venturing, Journal of Small Business Management, And Small Business Economics*). The rest of the most productive journals appeared in the second period (*Family Business Review; Journal of Small Business and Enterprise Development; Entrepreneurship Theory and Practice; Journal of Business Research, Journal of Corporate Finance, International Small Business Journal- Researching Entrepreneurship, Journal of Business Research*), or the last (*Journal of Family Business Strategy and Journal of Family Business Management*). As a result, it was not until the second period that journals with greater expertise emerged. In addition, only four of the most productive journals (Family Business Review, Journal of Family Business Management, Journal of Family Business Strategy and Entrepreneurship Theory and Practice: 1.74 percent) have published 155 articles (25.79 percent). This confirms Bradford's idea, that a relatively small proportion of journals can meet the demand for a large proportion of articles on a topic (Hervé Rostaing, 2017).

Regarding the citation of authors and journals (tables 2 and 4), it appears that the high citation rate does not necessarily coincide with a high production rate. Some have published a significant number of articles (Wright, Cater JJ and Memili E). However, their citation rate is quite low compared to other less productive authors (Steier LP; Zellweger T; Panunzi F). The same goes for journal citations, for example Journal of Management Studies; Journal of Finance and Quarterly Journal of Economics have 3, 2 and 1 articles respectively, yet their citation rates are quite high.

Table 1. Ranking of the most productive researchers

1990-2000	2001-2010	2011-2020
Allen JA	1 Westhead P	5 Chrisman JJ 7
Avila RA	1 Venter E	4 De Massis A 7
Baez RK	1 Boshoff C	3 Memili E 7
Birley S	1 Duh M	3 Minichilli A 6
Brown RB	1 Jan Juha – Jivraj S	3 Nordqvist M 6
Carlsen J	1 Wright M	3 Amore MD 5
Chrisman JJ	1 Astrachan J	2 Calabro A 5
Chua Jh	1 Bruining H	2 Campopiano G 5
Coverley R	1 Burrows A	2 Cater JJ 5
Devries MFRK	1 Bruining H	2 Corbetta G 5
Francis BC	1 Burrows A	2 Dawson A 5
Getz D	1 Cater JJ	2 Kammerlander N 5
Godfreya	1 Haddadj S	2 Mcadam M 5

Kimhi A	1	Justis RT	2	Carney M	4
Kritzingera	1	Kuo YC	2	Fernandez-Roca FJ	4
Martinez JE	1	Le Breton Miller I	2	Kellermanns FW	4
Miller WD	1	Maas G	2	Le Breton Miller I	4
Morris MH	1	Marchisio G	2	Meier O	4
Pant PN	1	Miller WD	2	Miller D	4
Rajadhyaksha	1	Mazzola P	2	Wright M	4
Robbie K	1	Panunzi F	2	Sharma P	4
Salinas FP	1	Perezgonzalez Frebernik M	2	Ahrens JP	3
Sharma P	1	Rebernik M	2	Barbera F	3
Stavrou ET	1	Scholes L	2	Bau M	3
Thompson S	1	Sund LG	2	Bent R	3
Vorster J	1	Tominc P	2	Boyd B	3
Weidenbaum	1	Tsai WH	2	Chua JH	3
Wright M	1	Kellermanns FW	1	Daspit JJ	3
				Eddleston KA	3
				Kotlar J	3

Table 2. Ranking of researchers most cited

Author	Average number of citations per year
Chrisman JJ	77.71
Steier LP	73.58
Miller D	68.64
Le Breton-Miller I	67.42
De Massis A	66.97
Chua JH	52.25
Zellweger T	47.33
Jaskiewicz P	40.82
Combs JG	40.05
Rau Sb	38.87
Panunzi F	36.69
Bennedsen M	35.6
Corbetta G	34.79
Wright M	32.63
Nielsen KM	31.43
Wolfenzon D	31.43
Burkart M	31.33
Shleifer A	31.33
Nordqvist M	27.77
Memili E	26.09
Minichilli A	24.58
Amore MD	23.83
Sharma P	19.73
Calabro A	13.93
Cater JJ	13.16

Table 3. Ranking of the most productive journals

1990-2000	2001-2010	2011-2020
<i>Journal Of Business Venturing</i>	<i>Family Business Review</i>	<i>Journal Of Family Business Management</i>
2	18	37
<i>Journal Of Small Business Management</i>	<i>Journal Of Business Venturing</i>	<i>Journal Of Family Business Strategy</i>
2	7	37
<i>Long Range Planning</i>	<i>Entrepreneurship Theory And Practice</i>	<i>Family Business Review</i>
2	5	33
<i>California Management Review</i>	<i>Journal Of Small Business And Enterprise Development</i>	<i>Entrepreneurship Theory And Practice</i>
1	4	25
<i>Canadian Journal Of Administrative Sciences</i>	<i>Small Business Economics</i>	<i>Small Business Economics</i>
1	4	12
<i>Harvard Business Review</i>	<i>International Journal Of Entrepreneurial Venturing</i>	<i>Journal Of Corporate Finance</i>
1	3	11
<i>Journal Of Accountancy</i>	<i>International Small Business Journal Researching Entrepreneurship</i>	<i>Business History</i>
1	3	9
<i>Journal Of Business Research</i>	<i>Journal Of Enterprising Culture</i>	<i>Journal Of Small Business And Enterprise Development</i>
1	3	9
<i>Small Business Economics</i>	<i>Journal Of Organizational Change Management</i>	<i>Sustainability</i>
1	3	9
<i>Sociologia Ruralis</i>	<i>Entrepreneurship And Regional Development</i>	<i>International Small Business Journal Researching Entrepreneurship</i>
1	2	8
<i>Tourism Management</i>	<i>Journal Of Business Research</i>	<i>Journal Of Small Business Management</i>
1	2	7
	<i>Journal Of Corporate Finance</i>	<i>Journal Of Business Research</i>
	1	6
		<i>Asia Pacific Journal Of Management</i>
		5
		<i>International Journal Of Entrepreneurial Venturing</i>
		5
		<i>Journal Of Business Venturing</i>
		5

Table 4. Ranking of journals most-cited

Journal	Average of citation per year
<i>Family Business Review</i>	243.51
<i>Entrepreneurship Theory And Practice</i>	231.32
<i>Journal of Business Venturing</i>	156.93
<i>Journal of Family Business Strategy</i>	100.6
<i>Small Business Economics</i>	81.89
<i>Journal of corporate Finance</i>	44.9
<i>Journal of Finance</i>	36
<i>Journal of Family Business Management</i>	32.69
<i>Journal of Management Studies</i>	31.56
<i>Quarterly Journal of Economics</i>	31.43
<i>Journal of Small Business Management</i>	19.41
<i>Asia Pacific Journal of Management</i>	17.65

3.2 Document Co-Citation Analysis

To address the issue of excess data to be processed. A co-citation analysis was carried out. As Hervé (2017) explains, the co-citation between two cited documents corresponds to the number of documents that simultaneously cite these two documents. This method of analysis makes it possible to evaluate the strength of the

links between the different fields represented by the cited documents and allows to identify the articles which contribute the most to the development of the field of study.

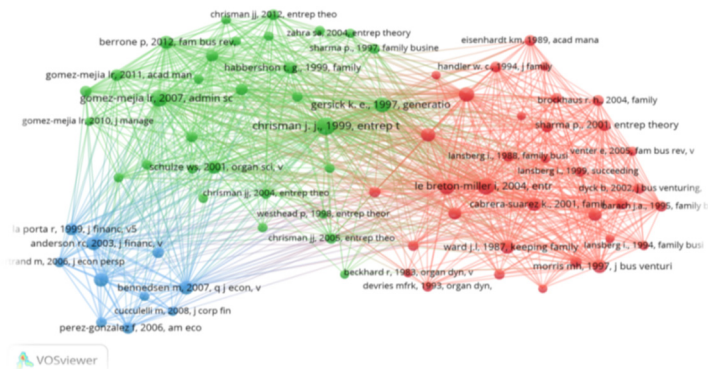


Figure 2. Connection between authors (Author Co-Citation Analysis)

In the graph above (fig 2), we observe the references most cited by the authors of our sample. These are 75 articles that have been cited more than 40 times (Note 3). According to Sanz (2003), two important aspects must be considered. First, the density of the graph, it corresponds to the ratio of the number of links present and the total number of possible links. In fact, our graph shows 2748 out of 2775 possible links (99.02 percent), indicating fairly high connectivity between authors.

The second aspect explained by (Sanz, 2003) is centrality. It concerns the identification of items allowing better access to information. In our case, we can highlight the three most cited references: Sharma, P (Entrepreneurship Theory and Practice 1999), Gómez-Mejía (Administrative Science Quarterly 2007) and Gersick, K. E (Harvard Business Press 1997). These three references are considered outsiders, which means they are not part of the sample we are working on, but they were cited by family-business-succession authors. It is also important to highlight that among the 75 items presented in the graph above, 34.1 percent of the authors are outsiders.

3.3 Co-Word Analysis: Avenues for Future Research

“Co-word analysis is a content analysis technique that uses patterns of co-occurrence of pairs of items (that is., words or noun phrases) in a corpus of texts to identify the relationships between ideas within the subject areas presented in these texts” (Qin, 1999, p. 134). To accomplish such work in a homogeneous and consistent way, we created an excel file which contains title, author, year of publication, keywords, abstract and methodology employed.

The relationship between keywords is determined based on the number of times they appear together. In these visualizations (Fig 3 and 4), the elements are represented by default by a circle and a label (Note 4). The size of the circle is determined by the weight of the term. The greater the weight, the larger its circle. While the links between the keywords are represented by lines. By default, only the 1000 strongest links between terms are displayed. The distance between two terms in the visualization indicates the relationship between the words with respect to co-citation links. The closer the two terms are to each other, the stronger their relationship. To make the visualization clearer, our sample was divided into two periods to show the evolution of themes and clusters over time. This co-word analysis allowed us to identify the presence of four main clusters (Succession, Family business, Socio-emotional wealth, Agency) where each cluster is identified by a color as shown in table 5. The name of each cluster was chosen based on the keyword that is best connected with the others.

Table 5. Main groups of keywords identified using the co-occurrence method

Clusters	Co-words
Succession	succession; performance; family firms; ownership; governance; firm performance; corporate governance; consequences; agency cost; businesses; determinants; ceo succession; growth; corporate-ownership; decisions; directors; costs; business groups; family ownership.
Family business	family business; entrepreneurship; perspective; firm; model; gender; identity; leadership; familiness; family business succession; qualitative research; strategy; risk; dynamics; work; family; conflict; innovation; succession planning; trust; women.
Socioemotional wealth	socioemotional wealth; management; business; impact; controlled firms; involvement; intentions; orientation; choice; decision-making; entrepreneurial orientation; stewardship theory; culture; risk taking.
Agency	agency; stewardship; behavior; commitment; professionalization; antecedents; business succession.

Source: Authors (VosViewer).

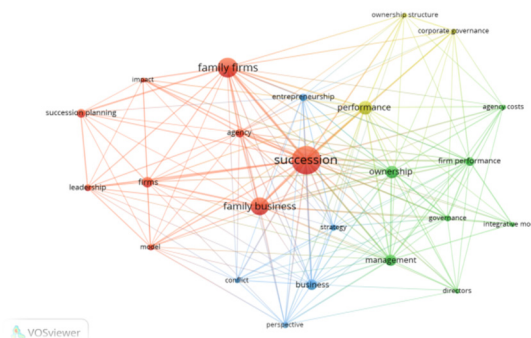


Figure 3. Visualization of the main subject areas published between 1990 and 2009

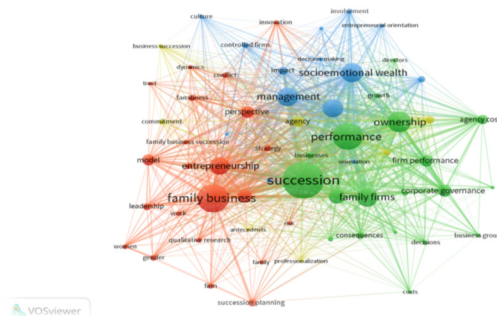


Figure 4. Visualization of the main subject areas published between 2010 and 2020

These keywords refer to the themes that constitute our field of study. Thus, in this section, we proceed to the description of the main research axes present in each cluster.

Succession. This is the first and the largest cluster which includes 347 articles (57.73 percent). Most of them were published during the second period, with a predominance of empirical papers, of which 59.16 percent are quantitative. The elements can be classified into two main areas of research.

The first line of research focuses on the most common attributes of a successful succession. The first group of authors have focused on exploring the attributes of the successor as a predictor of success in succession, such as motivation and commitment (Sharma, Chrisman, & Chua, 2003; Bozer, Levin, & Santora, 2017), professional skills (Cesaroni & Sentuti, 2017), or previous experiences (Barach et al., 1988). Others have mentioned attributes linked to the incumbent, such as his relationship with the successor (Breton-miller & Steier, 2004; Lansberg and Gersick, 2015), his motivation and his willingness to face the succession (Lansberg & Gersick, 2015) or his individual characteristics (Marshall et al., 2006).

Many other factors have been identified, such as succession planning (Sharma, Chua and Chrisman, 2000; Pham,

Bell and Newton, 2019), family harmony (Dolores and González-Cruz, 2019), knowledge transfer (Cabrera-Suárez, García-Almeida and De Saá-Pérez, 2018), and shared vision among family members (Lansberg and Gersick, 2015).

The second research group concerns the effects of ownership structure on the family firm. This research theme has been the subject of controversy in the literature (Miller et al., 2017), particularly by the comparison between internal and external successors. However, empirical studies show conflicting results. For some (Baek and Cho, 2017; Ahrens et al., 2019), a family CEO has positive effects on company performance. For others (Burkart, Panunzi and Shleifer, 2003; Yeh and Liao, 2020), maintaining management within family members has a negative impact. Thus, Wennberg *et al.*, (2011) explain that businesses run by a non-family member perform better, but those run by a family member survive longer. This can be explained by the fact that family leaders have a long-term perspectives and are more concerned about the future of the family (Miller, Le Breton-Miller and Scholnick, 2008; Wennberg *et al.*, 2011).

However, other authors explain that the influence of an internal or external successor on performance depends on governance mechanisms (Bennedsen et al., 2007; Lin and Hu, 2007) and on who can better access resources (Tsai et al., 2006). According to Miller, Le Breton-Miller and Lester (2011), performance work needs to take into account not only ownership, but also the identity of the executives or the owners and how their social contexts can influence strategic directions.

Alongside these studies, a small number of articles have focused on the influence of succession on financial factors such as profitability (Ataay, 2018); return on investment (Eklund, Palmberg and Wiberg, 2013) or increase in debt (Amore, Minichilli and Corbetta, 2011).

It appears to us that the number of works within this cluster is important, except that it is not sufficiently developed. Most of these researchers have focused on financial performance as an indicator. However, various non-financial performance measures can be analyzed. On the other hand, it would be interesting to compare the managers' preferences (internal / external) in terms of integration and segmentation, and to explore how these may change from one generation to the next.

Family Business. This is the second-largest cluster, which includes around 258 items (42.92 percent). More than 92 percent of these articles were published in the second period, with a predominance of empirical work (84.18 percent) of which 55.70 percent are qualitative.

The first line of research focuses on entrepreneurship in family firms, which is largely influenced by the family (Randolph, Li and Daspit, 2019), and its culture (Seaman, Bent, & Unis, 2016). Several authors argue that the entrepreneurial spirit is an important factor contributing to the success of companies (Peters & Kallmuenzer, 2018). Which is positively related to willingness to change (Kellermanns & Eddleston, 2006), education, self-efficacy and work experience (Sardeshmukh & Corbett, 2011). There is also a great deal of work on transgenerational entrepreneurship (Au et al., 2013; Hahn et al., 2020), and the role that parental support plays in the entrepreneurial competencies of their successors (Tan et al., 2019).

The second line of research includes work on the participation and engagement of women in family businesses (Halkias et al., 2010; González et al., 2020). The authors argue that there is a preference for male successors (Mussolino et al., 2019) and that women are more likely to be successors when they share the same vision as their father (Overbeke, Bilimoria and Somers, 2015). For some, the participation of women in business management has several advantages that can be explained by the individual characteristics of women such as patience, thriftiness, tenacity and fastidiousness (Ramadani et al., 2017). A recent study carried out in China (Li et al., 2020) reveals that the motivations of women entrepreneurs are more focused on internal pull factors such as self-actualization, than on external push factors, such as economic pressures.

The third area of research concerns "familiness". This is one of the central concepts in family business research. However, little research has been explicitly devoted to this topic. Familiness is a valuable resource in the family business (Habbershon & Williams, 1999) and plays a major role in the success of the succession process (Cabrera-Suárez, García-Almeida, & De Saá-Pérez, 2018). The majority of these researchers have relied on the resource-based approach to explain the functioning of family business (Au et al., 2013; Casprini et al., 2020). However, Craig and Moores (2005) take a slightly different approach by focusing on the Balanced Scorecard, which they identify as an appropriate instrument to describe management, business development and succession planning in family businesses.

Nonetheless, further research is needed to add knowledge in this area. The first line of research we propose refers to the need to take into account the heterogeneity of family businesses. We also propose that future work should focus more on the psychological aspect of the CEO and its influence on entrepreneurial orientations. Additionally,

more research is needed to study the impact of gender on business performance after succession. It would also be interesting to compare women who have completed higher education and those who have dropped out of university to pursue a career in the family business. It would also be important to take into account the historical moment we are living in today (covid 19) and to ask questions about how family businesses have reacted to this crisis compared to their non-family counterparts, and how have they taken advantage of their characteristics and particularities to survive? And above all, how have the new successors reacted to this crisis?

Socioemotional Wealth. This is the third-largest cluster which comprises 52 items, it can be considered as an emerging topic. All these articles were published in the second period. These works are purely empirical (90.38 percent) with a predominance of quantitative studies (65.95 percent). The concept of Socio-Emotional Wealth helps to better understand behavior of family business leaders, it integrates all of the non-economic emotional values that a family can derive from owning a business (Berrone, Cruz, & Gomez-Mejia, 2012).

The first line of research revolves around entrepreneurial orientations (Alonso and Contreras, 2018). Although socio-emotional wealth can improve working relationships or business performance. However, this can negatively affect the entrepreneurial orientations of the company (Yang et al., 2020). Schepers et al. (2014) explain that the positive effect of entrepreneurial orientation on financial performance decreases with increasing socio-emotional wealth. Furthermore, some authors argue that family businesses invest less in R&D than their non-family counterparts (Chrisman & Patel, 2012), but engage more in CSR (corporate social responsibility) practices (Izzo and Ciaburri, 2018) in order to preserve their socio-emotional wealth.

The second line of research focuses on the culture of family businesses (Shen & Su, 2017). According to the authors (Barbera et al., 2020), the religious values of family members are manifested in their leadership style. Indeed, many family businesses have managed to survive serious crises and overcome critical moments partly because of their strong virtues, both at the family and at the individual level (Parada et al., 2019). However, other authors have focused on the conflicts that can arise between new and existing shareholders when management cultures are different and how this can influence the growth of the company (Martí, Menéndez-Requejo and Rottke, 2013).

Finally, there is a small number of studies that focus on the preservation of socio-emotional wealth across generations (Li et al., 2015; Calabrò et al., 2018), the role that emotional mediation plays in individual satisfaction (Bertschi-Michel, Kammerlander & Strike, 2020), and the complex relationships that underpin the various objectives of SEW (Dou et al., 2020).

The work that has been carried out within this cluster is quite interesting, except that it is not sufficiently developed. The researchers appear to be more descriptive than analytical. We therefore suggest studies that examine how these values change from one generation to the next, and how these emotions can be managed effectively in family businesses. Future research may focus more on the psychological aspects of the business through the inclusion of psychological theories, which is necessary for a good understanding of the nature and the behaviors of family business members.

Agency Theory: This cluster is composed of small circles, located in the center of the graph. This indicates the strong connection that links it to all the other clusters. It is composed of 33 items (5.49 percent), the majority of which were published in the second period with a predominance of empirical studies (87.87 percent). The works identified can be classified into two main research areas.

The first axis concerns intra-family relationships and the agency costs that can be generated (Tsai, Kuo and Hung, 2009; Fang et al., 2016). Some authors have focused on the relationship between the successor and the predecessor (Ahrens et al., 2018). While others have focused on the difference between an internal and an external successor (Wiklund et al., 2013), pointing out that, companies that switch from a family CEO to a professional CEO perform better than those that remain under family management (Chang and Shim, 2015).

The second axis concerns various research themes that have been linked to agency theory. We note: The specific governance mechanisms of family business leaders (Duréndez, Madrid-Guijarro and Hernández-Cánovas, 2019), strategic orientations (Hammond, Pearson and Holt, 2016) and socioemotional wealth (Naldi et al., 2013; Prencipe et al., 2014). In the meantime, there is a group of articles that focuses on stewardship theory, which has often been mobilized with agency theory (Löhde, Campopiano, & Calabrò, 2020). Emphasizing that stewardship behaviors act as an effective governance mechanism, specifically during the succession process (Del Giudice, della Peruta, & Maggioni, 2013). On this basis, we propose that future studies should focus more on how to reduce these agency problems instead of focusing on classical agency arguments.

The table below summarizes the proposed future directions for each cluster. This list is not exhaustive, but presents

the research questions that seem to us to be the most interesting that could help guide future research.

Table 6. Future direction of research

• Cluster	• Future direction
Succession	<ul style="list-style-type: none"> • How can the social contexts of family business leaders influence their strategic orientation? • What are the preferences of internal and external managers in terms of integration and segmentation? • How does succession drive organizational change? • How do the individual characteristics of successors influence decision making ?
Family Business.	<ul style="list-style-type: none"> • How does the psychological aspect of the CEO influence the entrepreneurial orientations of the company? • What is the impact of the gender of the successor on the involvement of family firm employees? • What are the similarities and differences between successors who have completed higher education and those who have dropped out of university to pursue a career in the family business? • How can the involvement of the new generation of successors influence the company's ability to innovate? • How family businesses have reacted to the covid19 crisis compared to their non-family counterparts? How have they taken advantage of their characteristics and peculiarities to survive? And how have the new successors reacted to this crisis?
Socioemotional Wealth.	<ul style="list-style-type: none"> • How do psychological aspects affect managerial aspects in family firms? • How can these emotions be effectively managed in family businesses? • How do emotional experiences of successors influence their integration into the family business?
Agency Theory.	<ul style="list-style-type: none"> • How can succession planning reduce agency problems?

Source:authors.

4. Conclusion

In this article, we have tried to provide a complete and updated review of succession in family businesses through bibliometric indicators. We have focused on articles published on the ISI Web of Knowledge database, which allowed us to draw several conclusions. In fact, this topic is a particularly interesting field of research. However, it has not received enough attention in the past. It can be considered as a relatively recent topic and is characterized by a strong connectivity between authors.

In addition to activity indicators and co-citations between authors, a content analysis was conducted. A significant amount of research has focused on *entrepreneurship, governance, ownership and family business performance*. It was not until the second period that new themes emerged, such as *socio-emotional wealth, gender, risk taking, commitment, familiness....* Which has radically changed the perception of family businesses. In fact, the accumulated knowledge about family businesses has progressed relatively well, except that there are still some neglected issues. Firstly, future researchers should take into account that family businesses are not a homogeneous group, what works for one company will not necessarily work for another. Thus, future researchers should focus more on non-financial variables that could explain this heterogeneity, such as *family identity, familiness, socio-emotional wealth, cultural difference*, etc. Secondly, we believe that further work is needed to understand how strategic aspects such as internationalization, innovation and the professionalization process may change after succession. Finally, it seems to us that studies in different contexts, such as developing countries or Arab countries, could also make a great contribution.

With regard to the methodology, we have noticed that the majority of works are based on quantitative methods (Schulze, Lubatkin, & Dino, 2003; Miller, Le Breton-Miller & Scholnick, 2008; Gu, Lu & Chung, 2019). However, in a context such as family firms, where cases may differ from each other, we cannot understand the dynamics and complexities of the business without understanding the intentions and behaviors of family members (Fitz-koch, Cooper, & Cruz, 2019). Therefore, future research could focus more on qualitative studies in order to provide more description and analysis of individual cases.

We have followed a rigorous process that covers both statistical and content analysis. However, this study has some limitations, as the VOsViewer software used in this study is not at the cutting edge of technology. It offers interesting bibliometric analysis tools, except that it does not allow for a sufficiently in-depth analysis. This research work has attempted to improve our knowledge of succession in family businesses, while at the same time trying to guide new research and encourage future researchers to overcome the limitations identified and move the research field in new directions.

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Notes

Note 1. Keywords: ("family business*" or "family firm*" or family control *" or family own*") AND ("succession*" or "transmission*" or "transition*").

Note 2. The general formula of Lotka's law is $y = C / x^n$. Where y is the number of authors with x publications; n is an exponent whose value is close to 2; C is a constant which represents the number of authors with a single publication, estimated at 0.6079).

Note 3. We have increased the number of citations to make the graph more readable and to better display the relationships between the different items.

Note 4. The labels of some key-words may not be displayed, to avoid overlapping.

Appendix A

Table 7. Calculation of exponent n of Lotka's law

X	Y	X= log x	Y= log y	XY	X ²
1	1010	0	3,00432137	0	0
2	133	0,30103	2,12385164	0,63934305	0,09061906
3	51	0,47712125	1,70757018	0,81471802	0,22764469
4	14	0,60205999	1,14612804	0,69003784	0,36247623
5	11	0,69897	1,04139269	0,72790225	0,48855907
6	5	0,77815125	0,69897	0,54390438	0,60551937
7	3	0,84509804	0,47712125	0,40321424	0,7141907
8	1	0,90308999	0	0	0,81557152
9	1	0,95424251	0	0	0,91057877
	1229	5,55976303	10,1993552	3,81911978	4,21515941

Calculation of n: The following formula is used to calculate the value of n by the least squares method (Pao, 1985):

$$n = \frac{N \sum XY - \sum X \sum Y}{N \sum X^2 - (\sum X)^2}$$

(N is the number of pairs of data; X is the logarithm of articles x; Y is the logarithm of authors y).

n = 3,1789931

Calculation of C: The value of c is calculated using the following formula:

$$C = \frac{1}{\sum_1^{p-1} + \frac{1}{(n-1)(p^{n-1})} + \frac{1}{p^n} + \frac{n}{24(p-1)^{n+1}}}$$

Where x=1,2,3,4...19; p=20; n = the value obtained using the first formula; x= the number of articles.

Thus, the value obtained is c =0,8291.

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