

Entrepreneurial Exit Literature at the Individual Level of Analysis: A Bibliometric Review

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Abstract

With an academic publication annual growth rate of fourteen percent and increasing attention rising from the practitioners' world, the entrepreneurial exit field is gaining increasing popularity. Our study describes the state of the art of the entrepreneurial exit literature, with a focus at the individual level of analysis. Through a bibliometric review, we investigate the evolution of the publication activity, the most representative contributors and contributions, and the trending topics of the articles in the field. We highlight the main researched themes and identify potential avenues for future research.

Keywords: entrepreneurial exit, literature review, bibliometric analysis, individual level, systematic

1. Introduction

The subject of entrepreneurial exit frequently appears in the practitioners' world. While searching for related terms on Google, the vast majority of results are linked to the practitioner's public, with studies from the Kauffman Foundation (Kauffman.org) and Forbes (forbes.com). In discussing the issue, these associations mainly offer hints and bits of advice on different aspects, e.g., how to exit, when it is the best time to exit, or which strategic approach to choose.

At the same time, in the last decade, the academic world has started showing some interest in the topic. This increased interest is mainly related to the recent calls for papers (DeTienne & Wennberg, 2015, 2016; DeTienne, Wennberg, & Marlow, 2013; Wennberg & DeTienne, 2014). They have realized that entrepreneurial exit has been treated very differently in the academic and the practitioners' domains (DeTienne & Wennberg, 2015). Academic researchers have mostly focused on the initial phases of a new venture lifecycle, considering 'exit' as the last step of the entrepreneurship process, after a failure, acquisition, or because of entrepreneurs' retirement. Practitioners, instead, saw 'exit' as a stage (or a choice) entrepreneurs can select as part of their careers.

Overall, the awareness on entrepreneurial exit seems to be exponentially growing. However, as a consequence of these divergent approaches between academia and professional world, there is still some confusion on the issue: does it refer to the firm's exit from the market? Is it about going through IPOs, acquisitions, or private sales? Does it refer to the exit of the founder from the firm she established?

For now, it seems that the entrepreneurial exit definition mainly depends on the boundaries set by researchers. On the one side, firms might stop their activities, e.g., because of failure or liquidation, while founding entrepreneurs might keep on operating in a different environment. On the other side, founders may decide to exit their firms for a variety of reasons, e.g., retirement, willingness to dedicate to philanthropic activities, desire to re-invest in new ventures, even though their firms might keep on being active (Koladkiewicz & Wojtyra, 2016; Strese, Gebhard, Feierabend, & Brettel, 2018).

Thus, there are two main levels within the more general field of 'exit': one is the firm level (*firm exit*), and the other one is the individual level (*entrepreneurial exit*). Even if those two groups seem separated, they are often strictly interrelated, and a clear distinction between the two seems trivial. With our study, we aim at clarifying such difference, while investigating the state of the art of the topic. Specifically, we focus on the individual level of analysis. In line with DeTienne's (2010) definition, we refer to the entrepreneurial exit as the process that leads the founding entrepreneur to exit to some extent the firm she created (DeTienne, 2010).

With our systematic review carried out through a bibliometric analysis (Tranfield, Denyer, & Smart, 2003), we want to sort out the theoretical foundations of entrepreneurial exit, whilst trying to solve existing issues related to the separation between firm-level and individual-level exit. We seek to answer two main research questions: (i) which is the current state of the art of entrepreneurial exit, at the individual level of analysis? (ii) which are the theoretical foundations of entrepreneurial exit – again - at the individual level?

The paper is structured as follows. The first section explains the methodology for paper collection and bibliometric analysis. Then, we analyze extant academic contributions on entrepreneurial exit literature at the individual level of analysis, with particular attention to leading contributors and key theoretical and methodological approaches. The third section identifies trends and emerging themes related to the topic. The last section is dedicated to discussions and conclusions.

2. Methodology

Our study offers the state of the art of the entrepreneurial exit literature at the individual level of analysis. Since presenting a subjective literature review is not enough, we opted for a systematic approach while performing a bibliometric analysis of the current literature (Tranfield et al., 2003). Such methodological approach has been gaining attention in social sciences as it offers the possibility to map the field of study while evaluating the impact of the currently existing literature (Grégoire, Noel, Déry, & Béchar, 2006; Lampe, Kraft, & Bausch, 2019; Schildt, Zahra, & Sillanpaa, 2006). Citing the words of Okubo (1997, p. 6): *‘bibliometrics is a tool by which the state of science and technology can be observed through the overall production of scientific literature, at a given level of specialization.’* Bibliometric analysis can be performed to ‘advance the right arguments, to be in full possession of the facts, and to back them up with “objective” figures’ (Okubo, 1997, p.6).

Thus, the bibliometric methodology helps us to highlight seminal works together with the most relevant authors in the field. It also offers the possibility to study the level of co-citations, the connections among topics, as well as indicating the major journals interested in the topic. Thanks to such a methodology, we seek to clarify entrepreneurial exit at the individual level, while highlighting the main related confusion’s drivers.

To perform the analysis, we use the Bibliometrix R software package and its web-based app Biblioshiny (Aria & Cuccurullo, 2017) Thanks to those packages, we perform multiple bibliometric analysis starting from the descriptive statistics of the extant literature and developing more intriguing analyses of the literature at (i) the conceptual structure level - the main themes and trends; (ii) the intellectual structure level - how specific works influenced the research field; and (iii) the social structure level - how contributors interact. The conceptual structure is developed through co-occurrence networks, thematic maps, and correspondence analysis. The intellectual structure of the literature is expressed through co-citation networks, and the social structure is instead expressed through collaboration networks and maps (Aria & Cuccurullo, 2017).

We decided not to filter the documents per period. Thus, we gathered all studies published since the very first document in the field, a 1992 article by Cooper, Folta, Gimeno-Gascon, & Woo (1992) titled *“Entrepreneurs’ exit decisions: The role of threshold expectations.”*

2.1 Sample

The search was conducted in December 2019, using Clarivate Analytics Web of Science database, coupled with Scopus, Elsevier’s citation database. Together, they offer a wide-ranging source for peer-reviewed literature and an almost-complete understanding of the extant literature. To narrow the scope of the research to address entrepreneurial exit, we entered the following couples of terms: *“entrepreneur* exit”*, *“found* exit”*, *“self-empl* exit”*, *“after exit”*, *“post-exit”*, *“after acquisition*”*, and *“post-acquisition*”*, with and without quotation marks. We used quotation marks to search for the exact terms, but we cross-checked the analysis, coupling search without such marks. We included the asterisk symbol to search for variants of words and not to miss out on potential key results.

Web of Science and Scopus tools automatically executed the search, gathering 653 contributions containing the specified terms in the title, abstract, or authors’ keywords, and we downloaded the results on a local file. Then, we read through contributions’ title, keywords, and abstracts, to select which to include in the literature review. As a result, we selected 118 manuscripts.

Since the focus of our review is at the individual level, we examined the previously selected articles and excluded all those that focus on firm-level analysis (48 out of 118). As already mentioned, we have included entrepreneurial exit, founder exit, as well as self-employment exit. This seems tricky since the main difference among entrepreneurs and self-employed individuals is that the first group faces business risk, while the latter faces firm and income risks, which do not necessarily include innovation risks as well (Caliendo, Fossen, & Kritikos, 2014).

We decided to maintain all three typologies, since they are often used interchangeably (Fossen, 2009), and this would have resulted in missing out potential noteworthy papers if we did not include them.

The sample includes 70 documents from 40 different sources (journals, books, and conference papers), all published in the period ranging from 1992 to 2019. As reported in Table 1, 132 authors published studies on entrepreneurial exit at the individual level, with an average 0.5 documents per author and 1.9 authors per document. Overall, each contribution received 23.1 citations on average.

It appears that the majority of articles are co-authored since the co-authors per document ratio – authors' appearance/documents (Aria & Cuccurullo, 2017) – is approximately 2.3. It means that there are, on average, two authors per document published in the field. Such a fragmented publication trend combined with an equally fragmented sources composition - forty outlets for just seventy articles published - may indicate that the topic is yet to reach its full potential. The relevant number of authors and co-authored contributions published in such a vast range of sources could denote that the entrepreneurial exit field is still understudied, and this might translate in a vast number of potential streams for future research.

Table 1. Descriptive analysis

Description	Results
<i>Documents</i>	70
<i>Sources (Journals, Books, etc.)</i>	40
<i>Period</i>	1992 - 2019
<i>Average citations per documents</i>	23.1
<i>Authors</i>	132
<i>Authors of single-authored documents</i>	20
<i>Authors of multi-authored documents</i>	112
<i>Single-authored documents</i>	22
<i>Documents per Author</i>	0.53
<i>Authors per Document</i>	1.89
<i>Co-Authors per Documents</i>	2.26
<i>Collaboration Index</i>	2.33

Source. own elaboration (using Biblioshiny).

3. Publication Activity on Entrepreneurial Exit at the Individual Level of Analysis

To better describe the quantitative evolution and structure of the entrepreneurial exit literature, it is useful to examine some indicators of the publication activity.

The time distribution Figure 1 displays that more than 61 percent of total contributions (43 documents) have been published after 2015. The increasing number of papers published in highly respected and mainstream journals may suggest the rising of a stream of higher-quality articles, and it may also reveal a growing interest in the field. This is also proven by the annual growth rate of publication activities that reaches fourteen percent.

Such an increase in publication activity is probably due to the fact that authors have been responding to the calls for research in the field (DeTienne & Wennberg, 2016; DeTienne et al., 2013; Wennberg & DeTienne, 2014). Yet, the number of documents dedicated to entrepreneurial exit for the founding entrepreneur is still scarce, and it may reveal that such topic within the entrepreneurial field is still understudied.

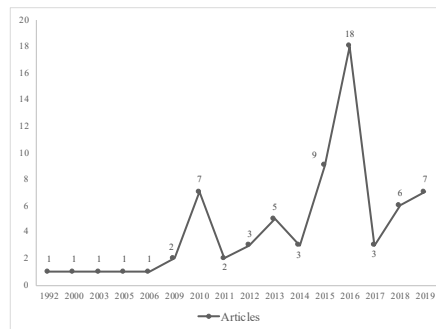


Figure 1. Annual scientific production

Note. x axis= years; y axis= number of articles.

As previously underlined, while looking at Graph 1, we can see that research on entrepreneurial exit has been growing. We can clearly see a first wave of published articles (7) in 2010, among which there are the two seminal works in the field (DeTienne, 2010; Wennberg, Wiklund, DeTienne, & Cardon, 2010), followed by a burst in publications starting from 2015, with 18 papers published, among which there is the “*Research Handbook of Entrepreneurial Exit*” (DeTienne & Wennberg, 2015) published by the two most relevant authors in the field.

When examining the publication activity, it is essential to highlight the principal contributors to the field. The top-three authors per number of documents and total citations are DeTienne, Wennberg, and Cardon with respectively, eight, six, and three studies published (Table 2). Together, they represent approximately twenty-four percent of the total publications within the entrepreneurial exit field of research. The other 129 scholars who authored - or co-authored – studies in the field, published one (119 authors), two (8 authors), or three (2 authors) articles. Such fragmented results demonstrate that the entrepreneurial exit topic, specifically at the individual level of analysis, is not merely understudied, but, as a young field, it attracts researchers from different areas, although they mainly come from within the entrepreneurship field.

Table 2. Top 10 Authors’ production over time

Author	# Articles	H_index	Total Citations	First Publication Year
DeTienne D.R.	8	7	500	2010
Wennberg K.	6	5	272	2010
Cardon M.S.	3	3	227	2010
Van Der Zwan P.	3	3	92	2010
Wiklund J.	3	3	207	2010
Alberti F.G.	2	1	3	2013
Anderson S.E.	2	1	15	2016
Gofen A.	2	2	37	2012
Hessels J.	2	2	59	2011
Hsu D.K.	2	1	15	2016

Figure 2 presents the top-authors’ production over time. The lines represent the authors’ timeline, the bubble size is proportional to the number of published articles, and the color intensity relates to the total citations per year (Aria & Cuccurullo, 2017). For example, Van Der Zwan has helped improving the knowledge on the topic for the most protracted timeline (from 2010 to 2018), and DeTienne’s articles in 2010 have collected an average of 26.9 citations per year.

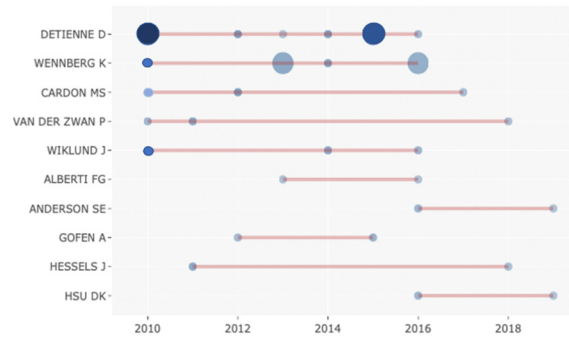


Figure 2. Top 10 authors' production over time

As we previously highlighted, the high peaks of publication seem to follow the calls for research mainly pursued by DeTienne and Wennberg, in their critical reviews, book and seminal papers (DeTienne, 2010; DeTienne et al., 2013; DeTienne & Wennberg, 2015, 2016; Wennberg & DeTienne, 2014; Wennberg et al., 2010). As a matter of proof, their studies are among the most cited documents.

The most important source for the entrepreneurial exit topic is the Journal of Business Venturing, in which the two seminal articles have been published. For a more comprehensive view, Table 4 shows the ten most relevant sources in the field.

Table 3: Top 10 journals

Sources	Articles
<i>Journal of Business Venturing</i>	10
<i>Small Business Economics</i>	9
<i>International Small Business Journal – Researching Entrepreneurship</i>	8
<i>International Journal of Entrepreneurial Behavior & Research</i>	3
<i>Entrepreneurship and Regional Development</i>	2
<i>Entrepreneurship Research Journal</i>	2
<i>Entrepreneurship Theory and Practice</i>	2
<i>Journal of Labor Research</i>	2
<i>Journal of Small Business Management</i>	2
<i>Academy of Management Journal</i>	1

Three journals mainly publish the current literature. As a result, entrepreneurial exit literature is dispersed across the forty sources; only nine journals have published more than one article. Therefore, we have further proof on the entrepreneurial exit as a yet understudied topic. We can also see it in the number of conceptual contributions (17), versus empirical ones (53). Such distribution is not surprising since, apparently, entrepreneurial exit research stream still needs further consolidation (Shepherd & Suddaby, 2016). Interestingly, its importance is in line with the literature (Stockemer, 2019) which argues that quantitative methods are driving research in the social sciences, specifically in those fields significant to both academics and practitioners.

However, even if research methods should be chosen accordingly to the research question and the level of analysis that scholars aim to perform, there seems to be the need for more theory-development oriented papers within the entrepreneurial exit field. In the next section we will describe the current trends which will drive us to outline potential avenues for future research.

4. Trends and Future Research in Entrepreneurial Exit Literature

Digging into a research field means being able to analyze the current key topics and the future rising trends, the impact that specific papers have on the whole field of studies, and the existing cooperation level among authors. It translates into science mapping study which, using the words of Cobo, et al.'s, (2011) “*aims at displaying the structural and dynamic aspects of scientific research*” (2011, p. 1382).

Thanks to Biblioshiny, we can investigate the three levels and map the overall field. The conceptual structure is the first level, and it expresses the main themes and topics touched by the entrepreneurial exit. The second level is

the intellectual structure, which helps us highlight the seminal articles that influenced the entrepreneurial exit as a field of study. The third level is the social structure, made of the interaction and cooperation among authors, institutions, and countries within the field.

4.1 Conceptual Structure: Research Themes and Co-Occurrence Analysis

The conceptual structure supports us in describing key topics and emerging trends within the entrepreneurial exit field. We use the network approach to map the key themes and group the articles into categories.

4.1.1 Current Themes

We start by identifying the main current themes studied by researchers in the field. We set 'abstracts' as the parameter of analysis, and *word stemming* as an option, to examine the occurrence of words based on their roots within the collected papers' abstracts. Such analysis focuses on the abstracts of the selected 70 documents. Biblioshiny applies a clustering algorithm to the resulting network to identify the various themes and display them on a bivariate matrix (Aria & Cuccurullo, 2017). Such graphical representation appears to be much clearer than a network plot, especially when focusing on the current themes studied while analyzing 500 words and their occurrence.

The detected clusters are calculated using Louvain's clustering algorithm (Blondel, Guillaume, Lambiotte, & Lefebvre, 2008), and represented using Callon's density (*x-axis*) and centrality (*y-axis*) measures (Callon, Courtial, & Laville, 1991) on a two-dimensional diagram.

Louvain's clustering method (Blondel et al., 2008) identifies strongly connected subgroups defined as *communities*, within large networks. It measures the density of edges inside communities to edges outside, and it maximizes a modularity score - a scalar value that stays in the range between -1 and +1 - for each community (Blondel et al., 2008). Louvain's is a two-step methodology, iteratively repeated since the maximum of modularity and network are explained. The first step aims at identifying the single communities. The second step creates the network by linking the founded communities. Blondel et al. (2008) defined it as:

$$Q = \frac{1}{2m} \sum_{i,j} \left[A_{i,j} - \frac{k_i k_j}{2m} \right] \delta(c_i, c_j)$$

Where, $A_{i,j}$ is "the weight of the edge between i and j ", $k_i = \sum_j A_{i,j}$ is the sum of the weights of the edges attached to vertex i , c_i is the community to which vertex i is assigned, the δ -function $\delta(u, v)$ is 1 if $u = v$ and 0 otherwise, and $m = \frac{1}{2} \sum_{i,j} A_{i,j}$ (Blondel et al., 2008, p. 2).

Louvain's algorithm translates into an evaluation of how connected the nodes within a community are, compared to the case of nodes within a random network (Blondel et al., 2008). Such a methodology has been used to identify networks in studies in different field of research, and with a vast number of nodes (Held, Krause, & Kruse, 2016; Meunier, Lambiotte, Fornito, Ersche, & Bullmore, 2009).

Callon's density, instead, measures the strength of the considered network and can be defined as:

$$d = 100 \left(\frac{\sum e_{ij}}{w} \right)$$

Where i and j are the theme's keywords, and w is the keyword count (Callon et al., 1991). Then, Callon's centrality measures the intensity of interaction among networks. It can be defined as:

$$c = 10 \left(\sum e_{kh} \right)$$

Where k represents a keyword from one theme, and h is the keyword from other themes (Callon et al., 1991). Those two measures, density and centrality, help in identifying the importance of the resulting themes and, together, they help mapping research themes on a two-dimensional map with four quadrants (Aria & Cuccurullo, 2017). The more central the theme is, the more critical it is to the field, and the stronger the density, the more developed it is (Callon et al., 1991).

In the upper left quadrant, there are highly developed and isolated themes, with non-important external ties, while within the upper right quadrant, there are the most developed and *motor themes* (Aria & Cuccurullo, 2017). On the lower-left quadrant, there are those themes that are weakly developed or marginal, which might translate into either emerging or declining. The lower-right quadrant, instead, includes themes that are basic and transversal, meaning important for the field, but not well developed yet (Aria & Cuccurullo, 2017).

The use of word stemming helps us focus on the roots of the words highlighting the main clusters and limiting the risks of two words with the same roots to be included in different themes. Figure 3 highlights the five main themes

within the entrepreneurial exit domain, according to Lovain’s clustering and Callon’s measures. Each bubble representing a cluster takes the name of the stemmed word with the higher occurrence, and the size of the bubble itself is related to the whole cluster word occurrences (Aria & Cuccurullo, 2017).

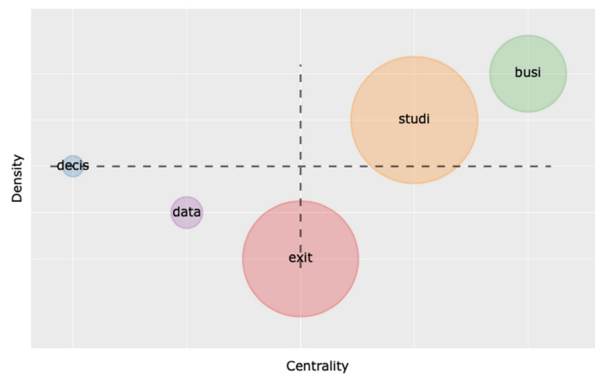


Figure 3. Thematic Map

The central theme is the *exit* one, which is, as predictable, focal to the analysis. It represents the core of entrepreneurial exit literature as it comprises all those studies that are directly related to it. In fact, it includes papers that study founder’s intents (e.g., DeTienne & Cardon, 2012), differences between failure and voluntary exit (e.g., Justo, DeTienne, & Sieger, 2015), factors to exit (e.g., Stam, Thurik, & van der Zwany, 2010), exit strategy choices (e.g., Wennberg et al., 2010), and a more generalized ‘theory’ word. The latter can be a symptom of researchers trying to delineate theoretical foundations for the topic (e.g., DeTienne & Wennberg, 2016; DeTienne et al., 2013; Wennberg & DeTienne, 2014). However, if we look at the thematic network (Figure 4), we clearly see that even if the exit cluster seems the stronger one, the components are still spread around. Another confirmation that the topic needs further consolidation.

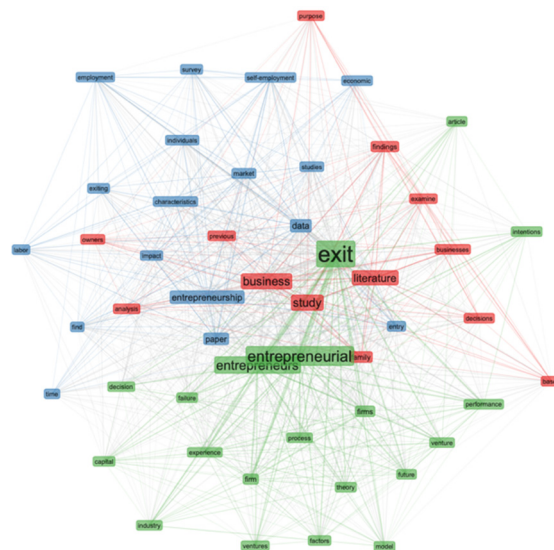


Figure 4. Thematic map network - Abstracts based

The second theme is *business*, with *busi* as the most recurrent stemmed word, together with *literat*, *develop*, *fam*, and *process*. It is the most developed in terms of density among the five represented clusters, and it includes studies that connect the entrepreneurial exit concept within the family business field (e.g., Nordqvist & Melin, 2010; Nordqvist, Wennberg, Bau, & Hellerstedt, 2013). The importance and robustness of family business as an already well-established field of research, both at firm level as well as at the individual level of analysis, may act on the substantial development of the *business* theme as a whole, which is peripheral when compared to the other cluster within the same quadrant. The topics touched within such a cluster also covers social aspects, for example, the

effects that having a family have on one's choice to exit the firm (e.g., Bird & Wennberg, 2016), or the human and social aspects related to the exit decision (e.g., De Hoe, Giacomini, & Janssen, 2018). In this cluster, the presence of conceptual studies and literature reviews in the field (e.g., Parastuty, 2018) stands out.

The third major cluster is the theme with *data* as bubble name. Figure 2 includes it within the quadrant of emerging or declining themes. Although it looks as very spread around, and with no words that really stand out from the cluster, it is of high importance. Firstly, it is in line with empirically-based articles, the majority within the field (e.g., Beutell, Alstete, Schneer, & Hutt, 2019; Chen, Croson, Elfenbein, & Posen, 2019; Dawson & Henley, 2013). The most common variables studied refer to gender, industry experience, and education level of the entrepreneur (e.g., Dehlen, Zellweger, Kammerlander, & Halter, 2014; Espinoza-Benavides & Díaz, 2019; Justo, DeTienne, & Sieger, 2015). Second, it covers a variety of topics, including modeling entrepreneurial entry and exit (e.g., Bosma, De Wit, & Carree, 2005), studying it under behavioral lenses (e.g., Kammerlander, 2016), examining exit as a dynamic process (e.g., Nielsen & Sarasvathy, 2018) and including serial entrepreneurship too (e.g., Plehn-Dujowich, 2010). Third, it represents an emerging theme as topics touched upon are spread across the entrepreneurship field of study but still need further testing before becoming the ground for proper theory building.

Among the other two clusters highlighted in the thematic map, the more developed and important one is the *studies* one. It refers to studies with a focus on self-employment (e.g., Ahn, 2011), unemployment (e.g., Debrulle, 2016), and employment choices (e.g., Caliendo et al., 2014). In general, it includes studies on career dynamics (e.g., Cumming, Walz, & Werth, 2016). The outcome shows that entrepreneurial exit is a multi-leveled and multi-faceted stage in the entrepreneurial life. It does not merely focus on the act of leaving the firm, rather on the whole decision process, starting way before the actual exit event. Therefore, the *studies* cluster represents a well-developed and central theme, currently studied within the entrepreneurial exit topic.

The last cluster we consider embodies *decision* as the word with the highest occurrence value. It is not well developed, and it is isolated within the considered field of research and compared to the external themes. It is related to those articles that still talk about entrepreneurial exit as a failure instead of considering it as a voluntary act of the entrepreneur or underlining the difference between the two scenarios (e.g., Espinoza-Benavides & Díaz, 2019).

The five themes seem strongly related as the network showed is very crowded. However, the themes appear loosely linked and highly spread across different branches of the entrepreneurial research field, signaling there is extensive room for further development of the theme.

4.1.2 The Thematic Evolution Map

The thematic evolution map aims at identifying - as the name suggests - the evolutions of the themes within the entrepreneurial exit field. By splitting the periods into different time slices, it shows the evolution of the topic over time (Aria & Cuccurullo, 2017).

We apply Louvain's clustering algorithm for the sake of coherence, and with the help of Biblioshiny, we define the 'abstracts' keyword network as the parameter for the analysis (Cobo et al., 2011). We set two different time slices for thematic evolution map based on the distribution of publications per year previously highlighted. We set 2009 and 2014, right before the bursts in publications. Unfortunately, it is not possible to choose for word stemming when performing this analysis.

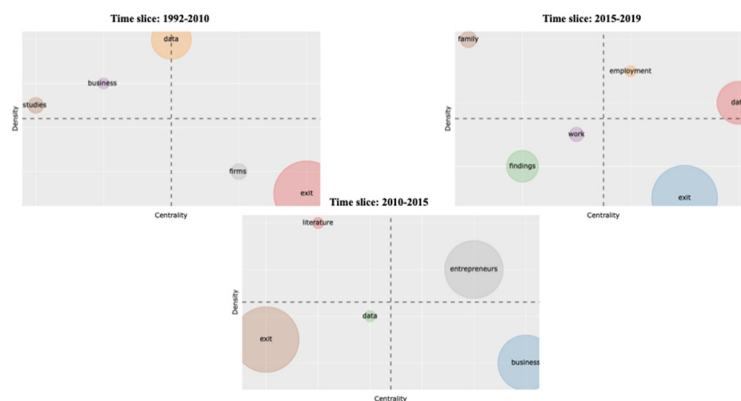


Figure 5. Thematic evolution map

As we can clearly see, in the second time slice running from 2010 to 2015, exit has been the core emerging topic in the field. It seems that the entrepreneurial exit field is shifting from a broader and generalized concept to a deeper, more specific domain, which is coherent with the evolution of a research field.

4.1.3 Emerging Themes – Co-Occurrence Analysis

The co-occurrence analysis draws the conceptual structure of the framework. We use “*keywords plus*” as the parameter of reference to investigate the knowledge structure of the field, while highlighting the emerging themes. *Keyword plus* is an algorithm that is automatically generated by Web of Science database, and it is based on words and sentences included in articles’ cited references (Aria & Cuccurullo, 2017). It helps in highlighting emerging themes and underdeveloped topics, which might translate into avenues for future research.

The outcome is shown in Figure 6, which groups the entrepreneurial exit field research into six different clusters: A) behavioral cluster, B) career dynamics, C) entrepreneurial stages, D) growth factors, E) managing transitions, and F) exit dynamics.

Among the six clusters, there are three main central groups. The most important in terms of development, and in line with the thematic map outcomes, relates to behavioral theory-based studies (A). It includes family business literature (e.g., Koladkiewicz & Wojtyra, 2016), and the use of socioemotional wealth theory (Gomez-Mejia, Cruz, Berrone, & de Castro, 2011) to explain the emotional attachment of the founder to the firm she helped creating (e.g., Kammerlander, 2016) and the reluctance to let go (e.g., Nordqvist & Melin, 2010). Such cluster serves at explaining the *business* theme within the thematic map that we have previously highlighted. The mostly studied aspects are performance, ownership and, as expected, the exit step. Those terms are strongly related to engagement, experience, and management, which all seem to be representative of the importance of the attachment the entrepreneur shows for the firm (e.g., DeTienne & Chirico, 2013).

The second group (B) looks at career choices and dynamics behind the exit decision. It reinforces the previously highlighted *studies* cluster while putting more emphasis on the self-employment terminology. Apparently, the main focus is on the going back and forth from self-employment (e.g., Luque & Jones, 2019), the motives behind which career path to follow (e.g., Mattes, 2016), and the factors and determinants (including family, human capital, and more in general socially-based features) behind starting a self-employed path or choosing for the paid employment (e.g., Luzzi & Sasson, 2016). The B-cluster is strongly linked to the other two central clusters.

Therefore, still strongly related is cluster C which can be defined as the entrepreneurial stages cluster. Indeed, topics touched in here explore nascent entrepreneurs (e.g., Yusuf, 2012), self-employment survival (e.g., Georgellis, Sessions, & Tsitsianis, 2007), different entrepreneurs’ engagement levels (e.g., Hessels, Grilo, Thurik, & van der Zwan, 2011), and some still refer to exit as a failure (e.g., Espinoza-Benavides & Díaz, 2019).

The exit dynamics cluster (F) is strongly connected to the core topics, especially to career dynamics (B). In fact, it seems to be an emerging topic, yet to be further developed and studied. Studies included in here mainly concern entrepreneurial exit definition, description of roots and impact on entrepreneurs’ lives, as well as the models that are starting to raise related to the topic (e.g., Bosma et al., 2005; DeTienne, McKelvie, & Chandler, 2015; Wennberg & DeTienne, 2014; Wennberg et al., 2010).

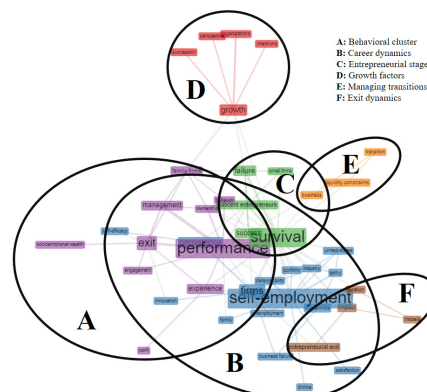


Figure 6. Co-occurrence network - Keywords Plus

Among the two remaining clusters resulting from the co-occurrence network analysis, there is the managing transitions group (E), which appears to be loosely linked to the behavioral cluster (A), but it creates ties with the

entrepreneurial stages' (C). It might indicate the rising of studies on financial and managerial motives behind the choice of exiting the firm. Amaral et al. (2011) already argued that serial entrepreneurs, which exit from one firm to later start a new one, are supposed to have strong managerial skills and market knowledge.

Because of the centrality with the core topic, and the density of the study, clusters E and F could be included in the lower-left quadrant of the centrality-density thematic map previously introduced, representing emerging streams of research in need for further development and advancements.

Cluster D is distant from the other themes, and it is solely tied to the core topics through growth (e.g., Beutell et al., 2019), mainly covering personal growth and social intents based studies (e.g., Mathias, Solomon, & Madison, 2017).

4.2 Intellectual Structure: Seminal Articles and Co-Citation Analysis

The intellectual structure level helps in defining seminal articles and detecting theoretical grounds. It shows relationships among papers' references, represented by the nodes within the resulting network. In bibliometric studies, it is commonly described through the co-citation analysis (Small, 1973).

The co-citation analysis between two documents expresses when they are both cited by a third document (Small, 1973). It can be graphically represented through a network or a co-occurrence matrix. For the sake of coherency along with the analysis, we set Louvain's clustering method (Blondel et al., 2008). The following co-citation network for our analysis shows the existence of four main clusters represented with four colors.

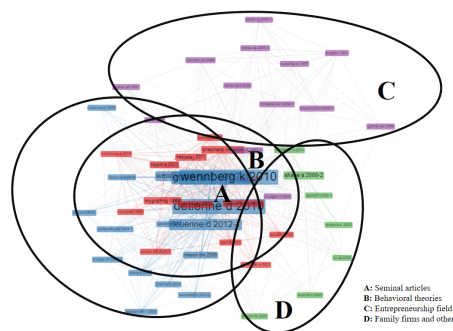


Figure 7. Co-citation network

The center of gravity of our co-citation network is represented by those that can be considered seminal articles in the field. The two most significant and influencing articles are DeTienne's *'Entrepreneurial exit as a critical component of the entrepreneurial process: Theoretical development'* (2010) and Wennberg's et al. *'Reconceptualizing entrepreneurial exit: Divergent exit routes and their drivers'* (2010).

The first seminal article theoretically discusses the importance of the exit stage within the more general entrepreneurial process. In her study, DeTienne states the entrepreneurial exit definition that will be referred to as the baseline definition for the field. According to the author, the entrepreneurial exit is "the process by which the founders of privately held firms leave the firm they helped to create; thereby removing themselves, in varying degree, from the primary ownership and decision-making structure of the firm" (DeTienne, 2010, p. 203). The second seminal article distinguishes among four exit routes based on the financial performance of the firm from which the entrepreneur exits, through liquidation or sale of the venture. Among the most interesting results of the study, is that they empirically proved that entrepreneurs exit both from firms in financial distress as well as from firms that are profitable and well performing. This was one of the first articles considering exit not merely as failure, but as a potential career choice. Together, they represent the basis of the research field.

Thanks to the co-citation network analysis, we can see that in the cluster with the seminal articles there is a study that is crucial to the majority of research contributions in the field. The paper titled *'Survival of the fittest? Entrepreneurial human capital and the persistence of underperforming firms'* from Gimeno et al. (1997), where authors outline the so-known threshold theory, perhaps the most used theoretical perspective in the entrepreneurial exit field as a whole. The core concept of the theory is that firms have different performance level thresholds and that surviving or exiting the firm mainly depends on whether those thresholds are met or not. Such an approach works for firms, whether they have enough profit to keep on existing, and for entrepreneurs, whose interests are strictly linked to the economic performances of the firm.

Within the same group, the most common theories used are the just mentioned threshold theory (Gimeno et al., 1997), human capital theory (Becker, 2007), and prospect theory (Kahneman & Tversky, 1979). They can all be grouped under the more comprehensive category of behavioral theories.

The second cluster (B) that stands out with the co-citation analysis is strongly related to, and almost hard to recognize from, the seminal articles group. Here, we highlight the common themes of *failure/survival* (Cope, 2011) and *entrepreneurial re-engagement* (Hessels et al., 2011). Both themes are important and transversal to the entrepreneurial exit literature. The theoretical grounds are behavioral theories, in line with those used within the seminal articles in the field and which links them strongly. Here, the mostly used one is the human capital theory, to which authors refer to indicate that entrepreneurs, along their careers, accumulate skills, experience, and knowledge that altogether represent their human capital (Hessels et al., 2011). We expect studies based on a mere focus on entrepreneurial exit as a consequence of failure to be taken a step forward, as we are already witnessing, and dedicate the attention to different exit typologies, routes, and potential re-engagement in entrepreneurship as a career choice.

On the upper side of the network, there is the third cluster (C). This group comprises contributions that touch upon different entrepreneurship themes, e.g., the gender difference in entrepreneurship (Cliff, 1998), new ventures (Gartner, 1985), or entrepreneur-manager differences (Busenitz & Barney, 1997). Such a vast typology of entrepreneurial topic-related studies reflects that authors interested in the field are coming from different specialization areas from the more general field of entrepreneurship. Looking at the entrepreneurial exit from different point of views might lead to interesting implications in the field, and it might entail streams for future scholarly debate.

The fourth cluster (D) comprises all contributions that deal with intersecting themes, like nascent entrepreneurs and their survival rates in the entrepreneurship career (Davidsson & Honig, 2003), or divestments in family firms (Sharma & Manikutty, 2005).

4.3 Social structure: Collaboration Networks

The social structure analysis highlights the degrees of collaboration among various authors at the individual, institution, and country level. Thanks to the social structure, we can identify the collaboration degree within the entrepreneurial exit field at the individual level of analysis. The most common and significant analysis at the social structure level is the co-authorship network. Figure 8 shows that the collaboration network among authors is not vast and only affects six percent of all authors in the field. However, existing relationships are keen.

We can distinguish three main groups of regular authors, one of which sees the most influential authors cooperating. As DeTienne and Wennberg narrate in their *Research handbook of entrepreneurial exit* (DeTienne & Wennberg, 2015), they started their collaboration after founding out, during a conference, that they were both interested in digging deeper into the specific topic of entrepreneurial exit. Thanks to their experience with the practitioners' world, they realized that there was a significant gap in academia: no study was yet dedicated to one of the most important steps along the entrepreneurial process: the exit event. Only a handful of studies partially addressed such a stage, although defining exit very differently from practitioners. Academics mainly viewed exit from the firm as a failure, while DeTienne and Wennberg knew multiple reasons that could be addressed as the determinants of the event. Among those, the possibility to harvest the investment and redirect financial resources to re-engage in entrepreneurial activity, become a venture capitalist or a business angel while offering also know-how and knowledge gained throughout the previous experience, or simply deciding to retire when the economic thresholds are met.



Figure 8. Collaboration network among authors

5. Discussion and Conclusions

Considering the evolution of the topic within the entrepreneurial field, and with an annual growth rate of fourteen percent, we argue that entrepreneurial exit is gaining importance within the academic world. The importance of such a topic has also been signaled by the appearance of special issues in international journals (e.g., *International Small Business Journal*, volume 34, issue 2), dedicated workshops, and conferences. Our study aims to shed more light on the entrepreneurial exit sub-field at the individual level of analysis. We highlight existing themes and topics, and we propose potential avenues for future research.

With an active call for research in the field, the most influential authors are Dawn DeTienne and Karl Wennberg, authors of the seminal articles in the field (DeTienne, 2010; Wennberg et al., 2010). Once realized the importance of the topic in the practitioners' world, they explored the entrepreneurial exit with academic lenses and started building the foundations for the entrepreneurial exit topic. Their call for research received high response rates, shown in the two publication peaks of 2010 and 2015. Yet, the entrepreneurial exit field at the individual level appears unconsolidated, with seventy manuscripts published in forty different sources, and only nine journals with more than one article. As further proof, it is studied by researchers from different disciplines, e.g., finance (H. Chen, Miao, & Wang, 2010), economics (Fossen, 2009), and public administration (Gofen, 2012), even though they all seem active within the more general field of entrepreneurship.

The co-occurrence network highlights that the body of literature dedicated to the entrepreneurial exit at the individual level of analysis is currently focusing on six main themes. Namely, behavioral theories, career dynamics, entrepreneurial stages, growth factors, managing transitions, and exit dynamics.

The first three themes are strongly linked. They mainly cover founders' intents, motives, and -more in general- behavioral approaches to the exit choice and process (e.g., Kammerlander, 2016; Nordqvist et al., 2013). They study potential career dynamics (e.g., Luque & Jones, 2019; Luzzi & Sasson, 2016; Mattes, 2016), their survival rates, and the different entrepreneurs' engagement levels (e.g., Georgellis et al., 2007; Hessels et al., 2011). Also, they cover the - still scarce - theoretical foundations of the field, explaining the difference between failure and voluntary exit, or exploring what happens to the founders' once their firms fail (e.g., Espinoza-Benavides & Díaz, 2019; Ucbasaran, Shepherd, Lockett, & Lyon, 2013).

The other clusters, strongly linked to the central themes, cover the diverse exit dynamics, routes and potential strategical approaches (e.g., DeTienne et al., 2015; Wennberg et al., 2010), and the managerial and financial characteristics behind the exit choice (e.g., Ucbasaran, Westhead, & Wright, 2009). Also, they discuss the determinants and outcomes of serial entrepreneurship and entrepreneurs' re-engagement (e.g., Amaral, Baptista, & Lima, 2011; Ucbasaran et al., 2013). The only cluster loosely related to all the others, but to some extent tied to the three most recurrent terms, is the one examining growth factors, mainly related to personal growth and social connections (e.g., Mathias et al., 2017).

We were also able to highlight that authors in the field do not have strong working ties. Even if the collaboration index shows that documents have - on average - two authors collaborating, the collaboration network represents a situation in which there are three main groups of researchers working together, with no ties among them. An increase in collaboration among authors from different specializations within the more general field of entrepreneurship may lead to further development of the entrepreneurial exit.

Our study is not free of limitations. While focusing on the individual-level phenomenon, we highlight a specific, understudied topic. Yet, the relative narrowness in terms of scientific production may exclude potential contributions that address the entrepreneurial exit phenomenon as part of more comprehensive studies in the entrepreneurial field. Also, the external shocks we have recently been witnessing, such as the pandemic and the Ukrainian-Russian war, may have influences the entrepreneurial exit phenomenon. Although the current study focuses on the individual level, such external shocks may have affected the entrepreneurs' choices of remaining or exiting their own business for reasons different from those highlighted in the current study. In addition, while Web of Science and Scopus are widely recognized as the most comprehensive databases for social science studies, their indexing accuracy is not yet perfect: hence, the use of keywords plus (which are system, and not-author generated) for co-occurrence analysis may lead to classification biases that are inherent to the instrument.

Furthermore, even though authors took extensive care in selecting wide and inclusive terms and keyword combinations for the initial search, we cannot entirely exclude that potential contributions with different indexing terms (or in different languages) may be missing from the analysis.

5.1 Future Research

Thanks to the analysis run on the conceptual structure of the field, we highlight avenues for future research within entrepreneurial exit.

5.1.1 Entrepreneurial Exit Theory

The weakest aspect appears to be a proper theoretical support to entrepreneurial exit. We have seen that besides behavioral theories, and in particular threshold theory - which appears to be the most used across all papers - the entrepreneurial exit is calling for the development of different, or complementary, theoretical perspectives. A large number of studies still seem not theoretically grounded, instead, relying on more general, conceptual grounds (e.g., Luque & Jones, 2019).

The sole use of human capital theory, threshold theory, or socioemotional wealth for those mainly related to the family business field, is not enough to capture all the different facets behind the choice of the founding entrepreneur to exit the firm she helped to create. Although behavioral theories appear to be a good fit, as highly representative of actions and actual behavior of the individual, we are still far away from a proper theory dedicated to what drives the founder to exit. Such a theory should be able to consider the emotional traits together with the financial aspects that are often considered aside.

Future research should follow the example of Wennberg et al. (2010), whose article considers financial performances of the firm while drawing upon prospect theory to include the behavioral economics aspect of the topic.

5.1.2 Career Dynamics

We have seen that there is a stream of research dedicated to analyzing the different career dynamics (e.g., Luque & Jones, 2019; A Luzzi & Sasson, 2016) that the founder can undertake, with, for example, special attention to exiting because of the willingness to go back to paid employment, or preferring unemployment, after facing the difficulties of being self-employed (e.g., Debrulle, 2016).

Exit can be seen as just a phase in the entrepreneurial career of portfolio or serial entrepreneurs, for example. The first ones are individuals who currently have some degree of ownership in more than two firms (Westhead, Ucbasaran, & Wright, 2003). Serial entrepreneurs are, instead, individuals that exit a firm they founded, to later start a new one. Part of the research that we have analyzed in the current study is dedicated to how serial entrepreneurs face the exit from their firms to later engage in a new venture, and which are the determinants behind such a choice (e.g., Amaral et al., 2011; Plehn-Dujowich, 2010). However, as per our knowledge, there is not yet a study dedicated to the entrepreneurial exit of portfolio entrepreneurs. A study on the motives that drive portfolio entrepreneurs to exit their firms while still maintaining minority degrees of ownership, or an analysis of the preferred exit routes of this specific typology of founding entrepreneurs, may be of high interest also from the point of view of policy makers.

5.1.3 Entrepreneurial Stages and Internationalization Effects

We have seen how the vast majority of articles in the field focus on understanding the stages previous to exit by investigating determinants, antecedents, and the diverse strategies that one can choose according to the specific needs (e.g., DeTienne & Cardon, 2012; Wennberg et al., 2010; Yamakawa & Cardon, 2017). However, results highlight the need of digging deeper into the after-exit choices.

We argue that examining the after-exit stage would be of high interest to better understand why some entrepreneurs decide to remain in the firm after an exit event occurs and why others decide to leave. Up to now, studies on the after-exit stage mainly focus on those individuals who re-entered entrepreneurship after an exit event (e.g., De Hoe et al., 2018), on the impact that entrepreneurs' post-acquisition attitude have on the regional development (e.g., Mason & Harrison, 2006), and on those who exit to later engage in philanthropic activities (e.g., Mathias et al., 2017). Based on the outcomes of those previous works, it could also be intriguing to test whether there exists a common trend, or path, that founding entrepreneurs usually follow.

Indeed, a cross country analysis to highlight potential similarities or differences could attract scholars from the international entrepreneurship field too. As a matter of fact, no studies among the seventy documents analyzed touched any of the internationalization topics. Cross-cultural/country difference may be of high interest not merely from the academic point of view, but also – and maybe even more- from the practitioners' side. The peculiarities and backgrounds of founding entrepreneurs of born global firms (Knight & Cavusgil, 2004) or international firms more in general can be studied among potential determinants of the exit choice, which has not been considered

yet. Looking at international features among potential actors in the entrepreneur's choice of whether exiting or remaining within the firm could open up a not yet studied stream of research.

5.1.4 Growth factors and Transitions

We support Wennberg and DeTienne (2014), who call for considering performance at all levels when examining entrepreneurial exit related aspects. The vast majority of studies entail entrepreneur's gender, education level, and industry experience while controlling for her age, ownership, and inclusion among an entrepreneurial team, but very few consider performance, deal value, or more general financial aspects.

Financial performances can be used to identify thresholds below which founding entrepreneurs decide to exit their firms to not be stuck in a situation in which they might face the risk of no further growth. It can also be used to classify different exit routes, conditions, or dynamics.

5.1.5 Exit Dynamics

Among the exit dynamics cluster, that we have previously recognized as an emerging topic, we highlight those dynamics considering the exit of members of the entrepreneurial team (e.g., Piva & Rossi-Lamastra, 2017). Although it did not come up as an essential or central theme, it is capturing researchers' attention, and it should be further examined. Here, potential research questions can focus on the main reasons behind the exit of one single member, or the choice of exit of the entire entrepreneurial team. An analysis of the motives that drive to such choices, and the determinants that lead the members of an entrepreneurial team to switch to different career paths can strongly help in increasing the understanding of the entrepreneurial exit field as a whole.

As mentioned in the limitations section, concurring external shocks may also influence exit dynamics. The author of the current study checked for recent academic findings which link the covid pandemic or the recent war to entrepreneurial exit decisions. Still, to our knowledge, no study has yet focused on such a perspective. Interesting research questions could investigate external shocks acting as psychological determinants of exiting from entrepreneurship in search of a more secure career path which may diminish the stress of facing such hard times. On the other hand, it may also lead to postponing the decision to exit their own business due to the higher level of uncertainty in the job market outside their "comfort zone." While external shocks bring difficulties, having the chance to decide what to do to overcome those may increase their confidence level – thus pushing them forward in their entrepreneurial career instead of leaving for something they have less control over.

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