



Legitimacy in entrepreneurship. Intellectual structure and research trends

Legitimidad en el emprendimiento. Estructura intelectual y tendencias de investigación

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ABSTRACT

From the beginning of the XXI century, research on organizational legitimacy has been frequently used to explain the survival of new companies. The need of being considered legitimated for new companies to improve their access to necessary resources to survive has called the researchers attention. This situation has favored the increase in the research about organizational legitimacy in the entrepreneurship field, which has augmented the complexity of obtaining a global understanding of the field's current context. The aim of this research is to identify and visualize the intellectual structure of the research and the emerging trends regarding organizational legitimacy in the entrepreneurship field. The database is made up of the sources of knowledge and references on which the scientific articles published in the data base of the Web of Science (WOS) were based. Through a bibliometric methodology based on co-citation, we identify the main research areas, the most active ones, the main contributors, dissemination paths and emerging trends in the research field. This research paper contributes to the development of organizational legitimacy in the entrepreneurship field offering a comprehensive view of the situation of this domain, a starting point as well as a theoretical base for the researchers to build new developments.

Keywords: Organizational legitimacy, entrepreneurship, business, new firms, emerging business, bibliometrics analysis.

RESUMEN

Desde principios del siglo XXI, la investigación sobre la legitimidad organizacional se ha utilizado con frecuencia para explicar la supervivencia de las nuevas empresas. La necesidad de ser consideradas legítimas las nuevas empresas para mejorar su acceso a los recursos necesarios para sobrevivir ha llamado la atención de los investigadores. Esta situación ha favorecido el aumento de la investigación sobre la legitimidad organizacional en el campo del emprendimiento, lo que ha aumentado la complejidad de obtener una comprensión global de la situación actual en el campo. El objetivo de esta investigación es identificar y visualizar la estructura intelectual de la investigación y las tendencias emergentes en el campo de la legitimidad organizacional en el emprendimiento. La base de datos está formada por las fuentes de conocimiento o referencias en que se basan los artículos científicos publicados en la base de datos de Web of Science (WOS). Mediante una metodología bibliométrica basada en co-citas, identificamos las principales áreas de investigación, las más activas, los principales contribuyentes, las vías de difusión y las tendencias emergentes en el campo de la investigación. Este trabajo de investigación contribuye al desarrollo del campo de la legitimidad organizacional en el emprendimiento ofreciendo una visión integral de la situación de este dominio, tanto un punto de partida como una base teórica para que los investigadores construyan nuevos desarrollos.

Palabras clave: Legitimidad organizacional, emprendimiento, negocios, nuevas empresas, negocios emergentes, análisis bibliométrico.

1. INTRODUCTION

The concept of legitimacy has been analyzed by many researchers in the institutional theory field (Meyer & Rowan, 1977; Oliver, 1991; Suchman, 1995), due to its connection with the survival of organizations. In fact, a high number of research papers have focused how companies obtain legitimacy, showing its importance for both managers and academics (Deephouse & Suchman, 2008; Delmar & Shane, 2004; Zimmerman & Zeitz, 2002).

“Organizational legitimacy is the perceived appropriateness of an organization to a social system in terms of rules, values, norms, and definitions” (Deephouse *et al.*, 2017, p. 32). Legitimacy has become a crucial resource to achieve other critical resources for companies’ growth and development (Zimmerman & Zeitz, 2002). In contrast to established companies, new enterprises face more difficulties to obtain legitimacy. New companies need to obtain more resources than established ones since their activities and current human or financial resources are scarce (Burton & Beckman, 2007; Rindova & Kotha, 2001). A new venture without funds is destined to failure. Deeds *et al.* (1997) establish that entrepreneurs need to send trustworthy signs showing their intangible assets’ value when entering the stock exchange in search of funds. Shepherd & Zacharakis (2003) indicate that new enterprises must focus on offering customers more information about their products, the organization as well as its administration (cognitive legitimacy). New companies have a fuzzy or even a non-existent identity (Lounsbury & Glynn, 2001; Rindova & Kotha, 2001), therefore, they have low power to influence other organizations (Hallen, 2008; Ozcan & Eisenhardt, 2009).

Moreover, emerging companies face multiple complexities at the same time, which have an impact on their legitimacy level: optimum distinction, diverse audiences, evolution of the markets categories as well as the existence of multiple legitimacy thresholds (Fisher, 2020). This situation can be worse if the new company enters a new market where stakeholders’ level of knowledge about the products, services or the production processes is low (Hargadon & Douglas, 2001; Navis & Glynn, 2010).

Legitimacy favors critical aspects for new companies such as: access to resources (Pollack *et al.*, 2012; Pollock & Rindova, 2003), to stakeholders (Choi & Shepherd, 2005), to new markets (Schultz *et al.*, 2014), improved image (Zamparini & Lurati, 2016), identity (Elsbach, 1994), the liability of newness (Nagy *et al.*, 2017; Singh *et al.*, 1986), or customer loyalty (Chaney & Martin, 2017). Organizational legitimacy management increases the access to all these resources. Researchers have made progress on this matter, through the identification of strategies to enhance the achievement, maintenance and recovery of legitimacy (Suchman, 1995; Suddaby & Greenwood, 2005).

Under these circumstances, the amount of research on organizational legitimacy in the entrepreneurship field has increased considerably, especially in the last decade, which has augmented the complexity of understanding its content (Díez-Martín *et al.*, 2021). For example, based on the database of the Web of Science (WOS), in the time frame from 1987–2009, 336 publications about this topic are identified in 23 years, while from 2010–2020 the number of published papers increase to 1,849 in 11 years. The increased number of research papers augments the diffi-

culty of understanding the evolution of the field. This situation results in the complexity of defining the intellectual structure of the research field (active research lines, front line of research, emerging trends, etc.). This suggests the need of dedicating more efforts to approach the complexity of the given field. Developing a critical review of the literature will provide not only a comprehensive understanding of this domain, but it will serve as a starting point and an appropriate theoretical base for future researchers.

Within the organizational legitimacy field, several bibliometric studies have been developed. For example, Cruz-Suárez *et al.* (2020) analyze organizational legitimacy within the higher education field, and Díez-Martín *et al.* (2021) focus on developing a generic understanding of the organizational legitimacy context. These last authors identify 13 main research lines in the legitimacy field. One of these lines focuses on the importance of legitimacy within the entrepreneurship context (new venture). Up until now, even though it is a research line with a relevant number of research papers, no bibliometric study has been carried out about organizational legitimacy in the new venture’s field.

The purpose of this research is to identify and visualize the intellectual structure of the research and emerging trends on organizational legitimacy in entrepreneurship. To achieve this objective and complete understanding of the field’s development, this research applies a citation-based bibliometric methodology, analyzing the main research sources during the period of 1987–2021. This research contributes to the development of the legitimacy in entrepreneurship field, offering a quantitative perspective of this domain situation, a starting point and an appropriate theoretical base to guide researchers in their aim to build new trends on this issue.

This document is structured in the following sections. In the first section, the methodology is presented, and the citation-based methodology is explained as well as the origin of the used data. The research paper has no theoretical framework since the aim of the research is to understand the current situation of the research field. The largest section is the result part, where all the questions regarding the intellectual structure of the research field are answered. Finally, the last section presents the main conclusions and limitations.

2. METHODOLOGY

To understand the current situation of the research on organizational legitimacy in the entrepreneurship field, a bibliometric analysis is developed. Bibliometrics help researchers understand the origin and evolution of a discipline, as well as to complete and expand the obtained results through a traditional literature review (Díez-Martín *et al.*, 2021). Bibliometric methods seek to analyze the research and publication performance of individuals and to reveal the structure and development of scientific fields and disciplines (Cruz-Suárez *et al.*, 2020; Zupic & Cater, 2015).

In this study, we apply the co-citation analysis. Co-citation analysis is the most used and validated bibliometric method (Zupic & Cater, 2015). A co-citation is defined as the frequency with which two units are cited together (Small, 1973). There-

fore, two works are co-cited if they are included in the same document. Thus, when two papers are cited together probably, they would have related content and the influence of the co-cited work in its field of knowledge would be more relevant. In contrast to citation counting, which provides the measurement of a work's relative influence, co-citation analysis identifies networks of interconnections and reveals schools of thought or paradigm shifts (Zupic & Cater, 2015). Through the co-citation analysis the intellectual structure of a research field can be identified and the following questions regarding the field under study can be answered: which are the most active research areas; the front line of research; or the high-impact transformative discovery.

Nowadays, the co-citation analysis can be developed through a variety of scientific visualization software programs such as: SciMAT, CiteSpace, VOSviewer, CitNetExplorer, BibExcel, or Sci2Tool. Each of these tools have their own advantages, disadvantages and differences (Moral-Munoz *et al.*, 2019). For this research paper CiteSpace was used. It is a Java-based scientific detection and visualization software that helps analyze critical changes in a research field (C. Chen, 2006; C. Chen *et al.*, 2010). It is specifically designed to support visualization and to generate co-citation networks based on articles' citation that reveal the structure of a specific research domain.

Scientific articles from the Web of Science (WOS) data base were gathered to build the data base for this research. The selected articles included the terms "legitim*" and "ventur*" or "entrep*" or "small business" or "emerging business" in their title, abstract or keywords. The time frame included all the years. To determine the described terms, a previous search was carried out to gain a deeper understanding of the most used terms in articles about legitimacy in new ventures. The applied key words were similar to those used in other studies such as Busenitz *et al.* (2014) or Schildt *et al.* (2006). The term "legitim*" was also applied by Cruz-Suárez *et al.* (2020) and Deephouse (1996). In the case of the term "entrep*" other researchers have also consider it for their investigations (Cornelius, *et al.* 2006; Schildt *et al.*, 2006). Other authors, have used the terms "entrepreneurship and entrepreneur" (Busenitz *et al.* 2014; Servantie *et al.* 2016). The terms of "small business", "emerging business" or "ventur*" were adapted from Busenitz *et al.* (2014). These duration and thematic category parameters originated 2,293 papers which formed the base for the bibliometric analysis with 101,310 references from the time period between 1987 and July 2021. We studied the knowledge sources (101,310 references) of those 2,293 articles. Data from before 1987 was not obtained for this research.

To treat the data, the following parameters were used in CiteSpace: (1) Timespan from 1987 to 2021 (slice length = 1 year); (2) Term source = title/abstract/authorkeywords/keywords plus; (3) Node type = cited reference; (4) Pruning = pathfinder/pruning the merged network; (5) Selection criteria = g-index (k = 4).

3. RESULTS

The research flow on legitimacy in the entrepreneurship field has increased over the last decades (Figure 1). Articles in

this area have been published in business, business finance, and management journals. The increased number of articles reveals the continuous expansion of organizational legitimacy in entrepreneurship as a relevant research domain. Two main phases are distinguished in the evolution of the published articles: a pre-expansion phase, and the expansion phase. The pre-expansion phase happens during the period from 1987 to 2009, with a total of 336 published papers. Moreover, within the pre-expansion stage, an initial phase which comprises eighteen years, 1987 to 2004, with 122 publications, and a development phase which includes five years, from 2005 to 2009, with 214 published papers are identified. In the development phase the number of yearly published articles is, around 43 articles per year. The expansion phase takes place during the time frame between 2010-2020, with 1,849 publications. The year 2020 is the one with the highest number of published papers with 297 articles, while 2010 is the year with a smaller number of publications (100 papers).

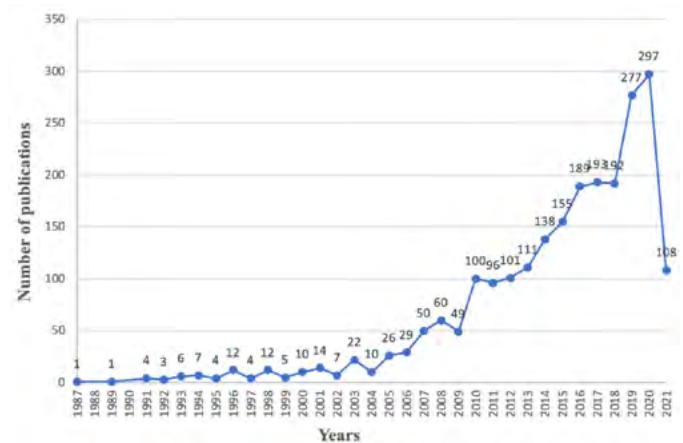


Figure 1

Growth of publications on legitimacy in entrepreneurship (1987–2021)

Source: Own elaboration

3.1. Main research areas in organizational legitimacy in entrepreneurship

The main research areas in the study of legitimacy in the entrepreneurship field are presented in Table 1. The network is divided into 6 major co-citation (from #0 to #5). Each co-citation group corresponds to a research line. The internal homogeneity of each group is measured with a value interval between -1 to 1 (Silhouette). The Silhouette of the 6 main groups is higher than 0.8. This suggests a network with the appropriate structure and a high quality cluster analysis (Chen *et al.*, 2010). The quality of the overall division is measured by the Modularity Q, which ranges from 0 to 1. Low modularity suggests a network that cannot be reduced to cluster with clear boundaries, whereas a high modularity involves a well-structured network (Chen *et al.*, 2009). The network shows good homogeneity between groups (Modularity Q of 0.7195).

Table 1
Main research areas in the legitimacy of entrepreneurship

Cluster	Size	Silhouette	Mean (year)	Label	Research question
0	51	0.884	2015	Sustainable Organizations	How to affect legitimacy assessments to obtain financial resources
1	45	0.883	2010	New Markets	How to legitimize new organizational forms
2	40	0.894	2007	Entrepreneurship Process	How to legitimize new actions or practices
3	31	0.967	2002	Institutional Entrepreneurship	How to legitimize institutional changes
4	22	0.943	2012	Social Entrepreneurship	The effect of social entrepreneurship on organizational legitimacy
5	13	0.963	2013	Market Categories	How new market categories emerge and obtain legitimacy

Source: Own elaboration.

Cluster #0 is the largest research area, which has the greatest number of referenced units, and indicates that the greatest number of legitimacy researchers in the entrepreneurship area have focused on researching and analyzing corporate sustainability. More precisely, they investigate how entrepreneurs can influence the evaluators' assessments to obtain legitimacy and financial resources. Entrepreneurs can affect these assessments using rhetoric and narratives, crowdfunding, and organizational identity. For example, rhetoric and narratives can contextualize corporate innovations which enables the achievement of legitimacy and resources (Garud Gehman *et al.*, 2014). Entrepreneurs can use analogies as a differentiating factor to obtain legitimacy. Legitimacy can be gained through the application of a generalized conclusion, which could be generalized arguments which lead to stakeholders' inductive reasoning, causal arguments to link the facts with a person, object, event, etc., or even signs or arguments provided by an authorized and reliable individual (van Werven *et al.*, 2015). Nevertheless, in some situations the use of the narrative can also result in the loss of legitimacy. For example, if the organization disappoints the stakeholders' expectations based on the use of projected stories (Garud Schildt *et al.*, 2014). Moreover, crowdfunding can be applied as a sign to acquire legitimacy in front of future investors and to obtain financial resources (Ahlers *et al.*, 2015; Lehner & Nicholls, 2014). Also, a new enterprise can obtain legitimacy through its organizational identity (Lee *et al.*, 2017; Wry & York, 2017). This research line represents the research area where more advances are being achieved in the last years, with a publication average year of 2015.

Cluster #1 analyzes how the legitimacy level of new companies influence their entrance in new markets. A new market appears when companies create new products or services or when they open a "new world" for existing products or services. New organizational forms can become legitimated through their organizational identity. When new enterprises achieve legitimacy in their new market, their external audiences (stakeholders) as well as the internal ones, shift from claiming a collective identity as members of a specific category, to a differentiated identity within that category (Navis & Glynn, 2010). "New types of hybrid organizations need to create a common organizational identity that strikes a balance between the logics they combine" (Battilana & Dorado, 2010, p. 1419). The research developed by Santos & Eisenhardt (2009) show the tactics that new companies should implement in a new market to obtain legitimacy and operate in almost monopolistic positions. In order to do so, new enterprises must differentiate the new market's identity

compared to the other existing markets, as well as to form the company's own identity and to build alliances and mergers with other established companies in the new market.

The third largest research group is related with the entrepreneurship process (cluster #2). Entrepreneurs develop new actions and practices within the entrepreneurship process. This cluster is formed by research papers that focus on how these new actions and practices become legitimated to obtain resources. Most research papers focus on institutional entrepreneurship. For example, Lounsbury & Crumley (2007) analyze how innovation can lead to the establishment of a new practice through institutionalization. Rhetoric and logics play a relevant role in the legitimation of the entrepreneurship process (Royston Greenwood & Suddaby, 2006; Suddaby & Greenwood, 2005). New actions and practices can also achieve legitimacy through the symbolic management, for example through the personal reliability image of the entrepreneur and presenting a professional and well managed organization (Zott & Huy, 2007).

Cluster #3 is related with institutional entrepreneurship. Institutional entrepreneurship is produced when the traditional norms and practices followed by institutions are changed. Researchers analyze how institutional changes are legitimated. Institutional changes and new practices can obtain legitimacy through discourse or narrative, through the information provided by the media (Maguire *et al.*, 2004; Maguire & Hardy, 2006; Pollock & Rindova, 2003; Seo & Creed, 2002); through professional associations and interorganizational collaboration (Royston Greenwood *et al.*, 2002; Powell *et al.*, 2005); as well as through organizational identity, institutional logics (Rao *et al.*, 2003) or the founding partners initial social capital (Davidsson & Honig, 2003; Shane & Stuart, 2002).

Cluster #4 researchers analyze how social entrepreneurship affects organizational legitimacy. Social entrepreneurship is a "representation of the combined quality of certain sub-concepts, i.e., social value creation, the social entrepreneur, the social entrepreneurship organization, market orientation, and social innovation" (Choi & Majumdar, 2014, p. 372). Hybrid organizations with a dual mission, on one hand to obtain profit, and, on the other hand a social purpose, introduce institutional logics to obtain legitimacy (Besharov & Smith, 2014; Jay, 2013; Pache & Santos, 2013). Social entrepreneurs can obtain legitimacy through the use of rhetoric (Ruebottom, 2013).

Finally, cluster #5 investigates how new ventures use their belongingness to a specific market category to obtain legitimacy. Durand & Paoletta (2013) support a loosening of the category to

which a company belongs. “Audiences have different goals, so they create different categories whose members lack feature similarity but fulfil the same end” (Durand & Paoletta, 2013, p. 1101). Glynn & Navis (2013) connect the categorization with organizational identity. Granqvist *et al.* (2013) focus on how and why managers use market labels to position their companies within a market category (the nanotechnology label).

3.1.1. HOW ARE THESE MAJOR AREAS CONNECTED? INTELLECTUAL TURNING POINTS

As it has been stated previously, co-citation clusters correspond to specific thematic structures formed by research papers. Each research paper is graphically represented by a node. Those nodes that connect different thematic structures could be considered intellectual turning points (Chen *et al.*, 2009). Betweenness centrality is the indicator that measures the importance of the node in connecting two other nodes. A node with high betweenness centrality will be an essential connector between two or more groups of nodes (Chen *et al.*, 2009). Its importance lies in the fact that betweenness centrality is correlated with future citations in the long term (Shibata *et al.*, 2007).

According to social network theory, nodes with betweenness centrality above 0.10 are considered as high betweenness centrality nodes and tend to appear on the paths that connect different clusters. The legitimacy in entrepreneurship network is formed by 4 publications with high betweenness centrality. These papers form the spinal column of the field. Figure 2 shows the legitimacy in entrepreneurship network, including the 4 main publications with the highest betweenness centrality (≥ 0.10). These works act as bridges between different research areas. The average number of publications with high betweenness centrality (≥ 0.10) in each

cluster is 0.67. The research areas that spread the most knowledge and have the most intellectual turning points are clusters from #0 to #2. On the contrary, the least connected research areas are clusters from #3 to #5.

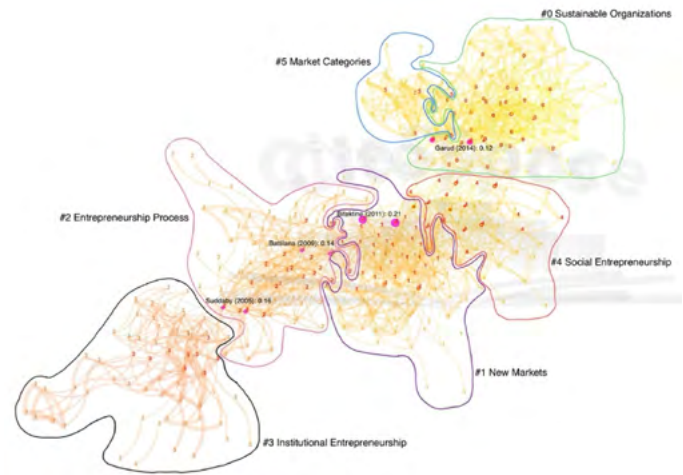


Figure 2
Legitimacy in entrepreneurship network

Source: Own elaboration

The works through which a higher spread of entrepreneurship legitimacy has been reached (betweenness centrality ≥ 0.10) are presented in Table 2. These papers are connected with numerous publications in the field. Therefore, these publications are part of the intellectual sources of a high number of academics on entrepreneurship legitimacy.

Table 2
Top Intellectual turning point articles in entrepreneurship legitimacy

Centrality	Cluster	Author	Title	Year	Source	Research question	Connection with other clusters
0.21	1	Bitektine	Toward a theory of social judgments of organizations: The case of legitimacy, reputation and status	2011	ACAD MANAGE REV	Analyze the main social judgment forms that stakeholders can hold towards an organization: legitimacy, reputation, and status. And how cognitive and social factors affect during the process.	Clusters #0 (Sustainable Organizations) y #2 (Entrepreneurship Process)
0.16	2	Suddaby & Greenwood	Rhetorical Strategies of Legitimacy	2005	ADMIN SCI QUART	The rhetorical strategies to obtain legitimacy in the case of an institutional change through new practices	Cluster #3 (Institutional Entrepreneurship)
0.14	2	Battilana, Leca & Boxenbaum	How Actors Change Institutions: Towards a Theory of Institutional Entrepreneurship	2009	ACAD MANAG ANN	The institutional entrepreneurship process from its beginning until the implementation of changes. The legitimacy achievement of new actions and practices.	Cluster #1 (New Markets)
0.12	0	Garud, Schildt & Lant	Entrepreneurial Storytelling, Future Expectations, and the Paradox of Legitimacy	2014	ORGAN SCI	The narrative of projected stories for the new venture legitimacy and resources achievement.	Clusters #1 (New Markets), #4 (Social Entrepreneurship) y #5 (Market Categories)

Source: Own elaboration.

3.2. Where are the most active areas of research? Burst Detection

Citation count is a significant indicator to determine impact in the scientific community. However, we cannot gauge the influence or density of impact within a specific time period by using only this measure (Kim & Chen, 2015). Citation burst is an indicator that helps identify the most active research area during a specific period. Burst detection is a type of algorithms used to identify change in a variable relative to others in the same population during a specific period (Kleinberg, 2003). A citation burst means that a publication has increased its citations during a specific period. In other words, it means the research paper has attracted an extraordinary amount of attention from the scientific community. Therefore, a cluster that has numerous nodes with strong citation bursts indicates that it is an active or emergent trend of research (C. Chen *et al.*, 2009).

A citation bursts has two attributes: the intensity and duration of the burst. Table 3 shows the burst detection results and identifies the 56 publications with the highest citation bursts regarding entrepreneurship legitimacy. The research area with more bursts papers is the one related with the importance of legitimacy for new markets (cluster #1). This area has 17 references with very strong citation bursts. Next, with 15 references holding strong citation bursts we can identify the area related with sustainable organizations (cluster #0), followed by clusters #2 and #4 with 8 references each holding strong citation bursts. The average number of bursts papers per cluster is 9.3. Clusters #3 and #5 are the fields with less burst papers.

The journals in which the highest number of papers with citation bursts have been published are: "Academy of Management Journal" (9 burst papers), "Journal of Business Venturing" (8 burst papers), "Academy of Management Review" (7 burst papers) y "Journal of Management Studies" (6 burst papers). The rest of the journals in table 3 have between 1 to 4 published burst papers.

The emergence of new burst papers is an average number of 9.3 burst per year. The years during when the highest number of burst papers appeared were 2018 and 2017, with 8 and 7 new burst papers, respectively. Followed by years 2016, 2013 y 2010 with 6 new burst papers each. The average time for a burst paper to reach its highest period of interest from the moment is published is 2.70 years. The papers that have become burst more rapidly needed 1 year to reach it and they were the publications developed by Greenwood & Suddaby (2006), Battilana *et al.* (2009), Bitektine (2011), Zhao *et al.* (2017) y R. K. Yin (2017). The average duration of a burst paper

maximum activity is 2.11 years. The longest period through which a paper has been burst is 4 years. For example the work developed by Greenwood & Suddaby (2006), Battilana *et al.* (2009); Bitektine (2011), Bitektine & Haack (2015) and van Werven *et al.* (2015).

The top ranked item by bursts is Fisher *et al.* (2016). In their work, the authors analyze how organizational identity must adapt in each stage of the company's life cycle to satisfy stakeholders expectations and obtain resources. The second article that appeared in the bursts detection analysis is the one developed by Bitektine (2011). This article explains the formation of the social judgement process of the evaluators (legitimacy, status, and reputation). Social and cognitive factors influence audiences' perceptions regarding the legitimacy assessments of an organization. This author explains two cases within the social judgment formation process: (1) when the evaluator is under rationality assumptions and has complete information and understanding and (2) when the evaluator receives external social influences and faces uncertainty, lack of time or motivation to develop a complete evaluation. In the second scenario, evaluators could reduce uncertainty through: "(1) an extensive information search and rational choice evaluation, (2) use of heuristics, or (3) adoption of someone else's judgment" (Bitektine, 2011, p. 173).

The third research paper is the one of Navis & Glynn (2010) in which they indicate that achieving a collective identity, linguistic frameworks, affiliations and interorganizational support, the good relationship with the media and financial audiences ease the legitimation process of a new market category. The fourth research paper with the highest burst citation is the article developed by Gioia *et al.* (2013) which tries to search for qualitative thoroughness in the inductive research. The last article with burst citation is the one of Bitektine & Haack (2015). The authors analyze the evaluators (stakeholders) legitimacy assessments and develop a multilevel theory within the legitimacy process. In their research, they indicate that when there is institutional stability, the legitimacy assessments publicly expressed by evaluators are isomorphic and are affected from the macro level (society in general) to the micro one (individual opinion). Therefore, in this situation, evaluators develop an agreed judgment with society's general opinion, avoiding the expression of assessments that go against this general opinion. However, when an institutional change situation appears, the micro level judgments (individual) prevail.

Table 3
Bursts paper in the legitimacy of entrepreneurship field

Cluster	References	Year	Strength	Begin	End	1987 - 2021
3	Garud R, 2002, ACAD MANAGE J, V45, P196	2002	3.84	2005	2007	—————
3	Maguire S, 2004, ACAD MANAGE J, V47, P657	2004	8.35	2006	2008	—————
3	Zimmerman MA, 2002, ACAD MANAGE REV, V27, P414	2002	6.53	2006	2007	—————
3	Greenwood R, 2002, ACAD MANAGE J, V45, P58	2002	5.22	2006	2007	—————
2	Suddaby R, 2005, ADMIN SCI QUART, V50, P35	2005	12.91	2007	2010	=====
2	Greenwood R, 2006, ACAD MANAGE J, V49, P27	2006	12.83	2007	2011	—————
3	Delmar F, 2004, J BUS VENTURING, V19, P385	2004	5.09	2007	2009	—————
2	Aldrich HE, 2006, ORG EVOLVING, V0, P0	2006	6.58	2009	2011	—————
2	Zott C, 2007, ADMIN SCI QUART, V52, P70	2007	11.93	2010	2012	—————
2	Battilana J, 2009, ACAD MANAG ANN, V3, P65	2009	10.95	2010	2014	—————

Cluster	References	Year	Strength	Begin	End	1987 - 2021
2	Tornikoski ET, 2007, J BUS VENTURING, V22, P311	2007	8.48	2010	2012	=====
1	Kennedy MT, 2008, AM SOCIOL REV, V73, P270	2008	5.85	2010	2013	=====
2	Martens ML, 2007, ACAD MANAGE J, V50, P1107	2007	5.63	2010	2012	=====
2	Garud R, 2007, ORGAN STUD, V28, P957	2007	4.90	2010	2011	=====
1	Bitektine A, 2011, ACAD MANAGE REV, V36, P151	2011	14.25	2012	2016	=====
1	Nicholls A, 2010, ENTREP THEORY PRACT, V34, P611	2010	11.13	2012	2014	=====
1	Dacin PA, 2010, ACAD MANAGE PERSPECT, V24, P37	2010	7.81	2012	2015	=====
1	Scott W R, 2008, I ORG IDEAS INTEREST, V0, P0	2008	6.88	2012	2013	=====
1	Thornton P, 2008, SAGE HDB ORG I, V0, P99	2008	6.30	2012	2013	=====
1	Navis C, 2010, ADMIN SCI QUART, V55, P439	2010	13.89	2013	2015	=====
1	Battilana J, 2010, ACAD MANAGE J, V53, P1419	2010	8.16	2013	2015	=====
1	Wry T, 2011, ORGAN SCI, V22, P449	2011	7.74	2013	2014	=====
1	Lawrence T, 2011, J MANAGE INQUIRY, V20, P52	2011	7.62	2013	2016	=====
1	Santos FM, 2009, ACAD MANAGE J, V52, P643	2009	7.18	2013	2014	=====
1	Greenwood R, 2011, ACAD MANAG ANN, V5, P317	2011	6.81	2013	2016	=====
1	Navis C, 2011, ACAD MANAGE REV, V36, P479	2011	11.03	2014	2016	=====
4	Dacin MT, 2011, ORGAN SCI, V22, P1203	2011	10.05	2014	2016	=====
1	Bruton GD, 2010, ENTREP THEORY PRACT, V34, P421	2010	8.79	2014	2015	=====
1	Clarke J, 2011, J MANAGE STUD, V48, P1365	2011	5.84	2014	2015	=====
1	Pacheco DF, 2010, J MANAGE, V36, P974	2010	5.25	2014	2015	=====
4	Pache AC, 2013, ACAD MANAGE J, V56, P972	2013	10.66	2015	2018	=====
4	Gioia DA, 2013, ORGAN RES METHODS, V16, P15	2013	13.23	2016	2018	=====
4	Battilana J, 2014, ACAD MANAG ANN, V8, P397	2014	11.96	2016	2018	=====
0	Uberbacher F, 2014, J MANAGE STUD, V51, P667	2014	9.04	2016	2019	=====
0	Garud R, 2014, ORGAN SCI, V25, P1479	2014	8.73	2016	2019	=====
4	Jay J, 2013, ACAD MANAGE J, V56, P137	2013	8.67	2016	2017	=====
4	Besharov ML, 2014, ACAD MANAGE REV, V39, P364	2014	6.94	2016	2018	=====
0	Bitektine A, 2015, ACAD MANAGE REV, V40, P49	2015	13.00	2017	2021	=====
5	Durand R, 2013, J MANAGE STUD, V50, P1100	2013	8.81	2017	2018	=====
5	Vergne JP, 2014, J MANAGE STUD, V51, P56	2014	8.81	2017	2018	=====
5	Kennedy MT, 2013, J MANAGE STUD, V50, P1138	2013	8.28	2017	2018	=====
0	van Werven R, 2015, J BUS VENTURING, V30, P616	2015	6.40	2017	2021	=====
0	Kistruck GM, 2015, J BUS VENTURING, V30, P436	2015	4.87	2017	2019	=====
4	Choi N, 2014, J BUS VENTURING, V29, P363	2014	4.06	2017	2019	=====
0	Fisher G, 2016, ACAD MANAGE REV, V41, P383	2016	16.02	2018	2021	=====
0	Zhao EYF, 2017, STRATEGIC MANAGE J, V38, P93	2017	12.02	2018	2021	=====
0	Mollick E, 2014, J BUS VENTURING, V29, P1	2014	10.42	2018	2019	=====
1	Yin RK, 2017, CASE STUDY RES APPL, V0, P0	2017	9.16	2018	2021	=====
4	Doherty B, 2014, INT J MANAG REV, V16, P417	2014	6.74	2018	2019	=====
0	Garud R, 2014, RES POLICY, V43, P1177	2014	5.69	2018	2019	=====
0	Patton M, 2015, QUALITATIVE RES EVAL, V4, P0	2015	5.19	2018	2021	=====
0	ONeil I, 2016, J BUS VENTURING, V31, P133	2016	4.72	2018	2021	=====
0	Fisher G, 2017, J BUS VENTURING, V32, P52	2017	12.77	2019	2021	=====
0	Suddaby R, 2017, ACAD MANAG ANN, V11, P451	2017	11.32	2019	2021	=====
0	Calic G, 2016, J MANAGE STUD, V53, P738	2016	6.08	2019	2021	=====
0	Cornelissen JP, 2015, ACAD MANAGE REV, V40, P10	2015	5.52	2019	2021	=====

Note: The five strongest dating papers are shaded.

Source: Own elaboration.

3.3. Front line of research

Burst detection can be used to identify the most recent research trends. In this case, Table 3 shows the strongest citation burst during 2021. Up to 9 research papers with a high interest

level appear in the legitimacy of entrepreneurship field. These publications come from cluster #0. Among them, the work of Fisher *et al.* (2016) represents the research line with the greatest interest. It is also the strongest citation bursts in all the legitimacy of entrepreneurship field.

Research on the legitimacy of entrepreneurship field is leading towards corporate sustainability: access to financial resources. Table 4 presents the most relevant research papers where this emerging trend is followed.

Table 4
Emerging trend in the legitimacy of entrepreneurship field: sustainable organizations

Strength	How to become sustainable organizations:	Authors
16.02	Through organizational identity	Fisher <i>et al.</i> (2016)
13.00	Influencing evaluators' judgment formation processes when they are affected by social control factors (macro level – society's general opinion) and individual control (micro level – individual opinion)	Bitektine & Haack (2015)
12.77	Application of institutional logics as a tool to manage diverse audiences' legitimacy assessments and this Access financial resources to survive and grow	Fisher <i>et al.</i> (2017)
12.02	Try to be sufficiently different to become competitive, but sufficiently similar to other companies in the sector to be recognizable (optimum differentiation)	Zhao <i>et al.</i> (2017)
11.32	New Ventures need legitimacy to become sustainable	Suddaby <i>et al.</i> (2017)
6.40	Using analogies and arguments in their communications	van Werven <i>et al.</i> (2015)
6.08	Social entrepreneurship sustainability through Crowdfunding	Calic & Mosakowski (2016)
5.52	Obtaining cognitive legitimacy through linguistic and communication to become sustainable	Cornelissen <i>et al.</i> (2015)
4.72	Find the balance between what "what is important for the company" and "what is important for our stakeholders"	O'Neil & Ucbasaran (2016)

Source: Own elaboration.

3.4. Transformative discoveries

Previous research has demonstrated that the most cited references are not necessarily the most revolutionary ones (Chen & Kuljis, 2003). These investigations have also demonstrated that the new conceptual advances are normally related with a higher number of collaborations between scientists (Bettencourt *et al.*, 2009). Thus, a high impact discovery should have strong structural (betweenness centrality) and temporal (citation burstiness) properties (Chen *et al.*, 2009). The geometric mean of betweenness centrality and burstiness (namely sigma in citespace) is an index that identifies high-impact transformative discoveries and partially overcomes the scenarios in which original publications were overshadowed by other highly cited references (Chen *et al.*, 2009). This indicator identifies research papers with strong betweenness centrality and citation burstiness, which are properties associated to important scientific discoveries such as Nobel Prize winners.

Table 5 shows the top 6 transformative discoveries in the legitimacy of entrepreneurship field. Three of the main transformative discoveries are part of cluster #2 which is related to the processes through which new actions and practices are legitimized. Moreover, 3 transformative discoveries stand out over the others. The work developed by Bitektine (2011) has the highest Sigma (15.28), what means a strong combination of structural centrality and citation burstiness. This work shows the formation of social judgments to obtain legitimacy in a new enterprise.

The second best classified article regarding its Sigma is the one developed by Suddaby & Greenwood (2005). In this research paper the authors present the relevance of understanding how symbolic resources (discourse, arguments, etc.) are used to obtain legitimacy in a new company. They analyze how to convince the interested parties opposed to a deep institutional change without objective information. This is the most cited reference in the organizational legitimacy field (1,162 citations in the Social Science Citation Index) as well as the one holding the highest burst rate.

The third best original discovery is of Battilana *et al.* (2009), which explains the different phases in the institutional entrepreneurship process, from its beginning to the final institutional change implementation.

The fourth one indicates which symbolic actions grant legitimacy to the new entrepreneurs (Zott & Huy, 2007). The top 5 transformative discovery analyzes how projective stories can disappoint stakeholders' expectations causing a loss of legitimacy (Garud Schildt *et al.*, 2014). Finally, the research paper of Uberbacher (2014) appears as the sixth transformative discovery, even though it is not one of the most cited investigations in this ranking.

Table 5
Top 6 high-impact transformative discoveries

Rank	Sigma	Burst	Centrality	Citation*	Title	Author	Year	Cluster
1	15.28	14.29	0.21	497	Toward a Theory of Social Judgments of Organizations: The Case of Legitimacy, Reputation, and Status	Bitektine	2011	1
2	6.53	12.86	0.16	1,162	Rhetorical Strategies of Legitimacy	Suddaby & Greenwood	2005	2
3	4.05	10.87	0.14	1,028	How Actors Change Institutions: Towards a Theory of Institutional Entrepreneurship	Battilana, Leca & Boxenbaum	2009	2

Rank	Sigma	Burst	Centrality	Citation*	Title	Author	Year	Cluster
4	2.77	11.85	0.09	450	How entrepreneurs use symbolic management to acquire resources	Zott & Huy	2007	2
5	2.74	8.76	0.12	123	Entrepreneurial Storytelling, Future Expectations, and the Paradox of Legitimacy	Garud, Schildt & Lant	2014	0
6	2.24	10.62	0.08	99	Legitimation of New Ventures: A Review and Research Program	Uberbacher	2014	0

* Social Science Citation Index.

Source: Own elaboration.

3.5. Distribution of cited journals

The number of business, administration, economics, and finance journals that have published an article related to legitimacy in entrepreneurship is 1,053. Among them, we can identify generic as well as specialized journals. Table 6 presents the number of articles of the main 25 journals that have published a research papers about organizational legitimacy in business, administration, economics, and finance areas. The Journal of Business Venturing is the most prolific one, publishing 2.8% of all the articles in this field.

Table 6
Top 25 Journals that has published research articles related to entrepreneurship legitimacy

	Journals	N° Articles
1	Journal of business venturing	64
2	Journal of business ethics	43
3	Organization science	39
4	Journal of small business management	29
5	Organization studies	29
6	Entrepreneurship theory and practice	28
7	Academy of management journal	27
8	International small business journal researching entrepreneurship	27
9	Journal of management studies	27
10	International journal of entrepreneurial behavior research	25
11	Journal of business research	24
12	Small business economics	24
13	Entrepreneurship and regional development	23
14	Sustainability	23
15	Research in the sociology of organizations	19
16	International entrepreneurship and management journal	18
17	Strategic management journal	18
18	Academy of management review	17
19	Social enterprise journal	17
20	Journal of social entrepreneurship	16
21	Strategic entrepreneurship journal	16
22	Technological forecasting and social change	16
23	Industrial marketing management	15
24	Journal of developmental entrepreneurship	13
25	Journal of small business and enterprise development	13

Source: Own elaboration.

3.6. Distribution of institutions and countries

To measure the productivity of the literature on legitimacy in entrepreneurship by country as well as by institutions, fractional counts method was used. This means that if a document is written by two authors, half of the article is assigned to each author, and if it has been written by three authors, one third of the article will be assigned to each one of them. A total number of 1,680 institutions, mainly universities and some research institutes, from 93 countries have produced at least one of the analyzed papers (see Table 7). Table 8 shows the most prolific countries in the literature regarding legitimacy of entrepreneurship.

Table 7
Top 20 institutions that produce more research papers regarding legitimacy in entrepreneurship

Rank	Institution	Records	% of 2,293	Country
1	University of London	46	2.01%	UK
2	University of Alberta	35	1.53%	Canada
3	Indiana University System	33	1.44%	USA
4	University of California System	33	1.44%	USA
5	University of North Carolina	33	1.44%	USA
6	Indiana University Bloomington	32	1.40%	USA
7	Erasmus University Rotterdam	31	1.35%	Netherlands
8	University of Sheffield	30	1.31%	UK
9	IU Kelley School of Business	27	1.18%	USA
10	Newcastle University UK	27	1.18%	UK
11	Utrecht University	27	1.18%	Netherlands
12	Aalto University	26	1.13%	Finland
13	Pennsylvania Commonwealth System of Higher Education Pcshe	25	1.09%	USA
14	University of Wisconsin System	23	1.00%	USA
15	Copenhagen Business School	22	0.96%	Denmark
16	University of Montreal	22	0.96%	Canada
17	University of Nottingham	21	0.92%	UK
18	University of Strathclyde	21	0.92%	UK
19	University of Texas System	21	0.92%	USA
20	University System of Georgia	19	0.83%	USA

Source: Own elaboration.

Table 8
Top 20 countries that produce more research papers regarding legitimacy in entrepreneurship

Rank	Country	Records	% of 2,293
1	USA	702	30.62%
2	England	384	16.75%
3	Canada	228	9.94%
4	France	158	6.89%
5	Peoples r China	145	6.32%
6	Germany	124	5.41%
7	Netherlands	124	5.41%
8	Australia	118	5.15%
9	Sweden	100	4.36%
10	Finland	78	3.40%
11	Spain	76	3.31%
12	Denmark	73	3.18%
13	Scotland	58	2.53%
14	Italy	57	2.49%
15	Switzerland	42	1.83%
16	Russia	40	1.74%
17	Norway	38	1.66%
18	New Zealand	36	1.57%
19	Austria	34	1.48%
20	Ireland	30	1.31%

Source: Own elaboration.

4. DISCUSSION AND CONCLUSION

This research examines the scientific research evolution of the legitimacy in entrepreneurship field through a bibliometric review. For this analysis we have considered the sources of knowledge or references on which the articles published between 1987 and 2021 in the database of the Web of Science have been based.

First, this work reveals the main research areas within the legitimacy in entrepreneurship field: sustainable organizations, new markets, entrepreneurship process, institutional entrepreneurship, social entrepreneurship, and market categories. From this analysis, we observed that the most innovative research areas are: (i) how new enterprises (also new social ventures) must be financially sustainable, and thus, the importance of influencing evaluators legitimacy assessments; (ii) how it is obtained in new markets categories and (iii) how does legitimacy affect social entrepreneurship.

The number of obtained research areas (6) differ from the ones obtained in the work of Díez-Martín *et al.* (2021), in which 13 research lines were identified. This difference is due to the fact that Díez-Martín *et al.* (2021) developed the bibliometric analysis about organizational legitimacy in general, which involves the use of the term “legitimacy” in the title, abstract or key words in the SSCI and WOS databases during the period from 1995 and 2016. In the case of this research, it has been focused on the analysis of the organizational legitimacy in entrepreneurship, considering as the applied terms those related to legitimacy in new ventures, using every database from the WOS main collection during the period from 1987 and 2021.

In the obtained results there are two research areas which are coincident with the ones achieved in the work developed by Díez-Martín *et al.* (2021): institutional entrepreneurship and the interest shown by researchers regarding the legitimation process of an institutional change. Nevertheless, relevant differences have been identified with the latter work. For example, Díez-Martín *et al.* (2021) indicate that one of the most relevant research areas within the general organizational legitimacy field is corporate social responsibility (CSR). Ji *et al.* (2021) agree on this matter and highlights the importance of CSR within communication and management (organizational legitimacy). However, this area does not appear as a cluster in the legitimacy of entrepreneurship field even though some isolated papers analyzing corporate social responsibility have been identified. For example, how and why corporate social responsibility differs across countries and which are the main factors motivating the changes (Matten & Moon, 2008).

Second, we map the works that have contributed to a higher dissemination of legitimacy in entrepreneurship as well as their connections. This allow us to improve our knowledge on the intellectual transition experimented by the legitimacy in entrepreneurship field. For those seeking to improve their knowledge and research about legitimacy in entrepreneurship and stakeholders’ assessments, we recommend the following research papers: Bitektine (2011), Bitektine & Haack (2015), Fisher *et al.* (2016), Garud Schildt *et al.* (2014), Uberbacher (2014) and Zhao *et al.* (2017); in the case of the entrepreneurship process we suggest the work developed by Battilana *et al.* (2009) and Greenwood & Suddaby (2006); regarding social entrepreneurship the research carried out by Battilana & Lee (2014), Dacin *et al.* (2011) and Pache & Santos (2013); in relation to institutional entrepreneurship the paper developed by Greenwood *et al.* (2002); regarding to how to legitimize market categories we highlight Durand & Paoletta (2013) and Vergne & Wry (2014); symbolic actions Zott & Huy (2007); for the role of rhetoric for the legitimation process the research carried out by Maguire & Hardy (2006) and Suddaby & Greenwood (2005); for organizational identity Navis & Glynn (2011, 2010) and finally, regarding strategies and actions to obtain legitimacy the work developed by Delmar & Shane (2004) and Zimmerman & Zeitz (2002).

Third, within this research, the research papers that represent the most relevant emerging trends within the legitimacy in entrepreneurship field are identified. Knowing the direction towards which legitimacy in entrepreneurship research is headed in very important for researchers. The current trend is to research how new enterprises achieve organizational legitimacy in their aim to obtain resources to become economically and financially sustainable. Thus, to investigate how these organizations can survive and grow in the medium and long term.

Finally, the research papers that represent high impact transformative discoveries in the field are identified; this research reveals the scientific journals, the institutions and countries that contribute the most to this research field.

Recommendations for entrepreneurs have been discovered, for example, the importance of rhetoric (narrative) in the communications between the company and its audiences (Hoefer & Green, 2016; Ruebottom, 2013; Suddaby & Greenwood, 2005).

The verbal communication (narrative-discourse) used by entrepreneurs is critical to obtain legitimacy: discourses to explain

“who we are” or what is the company’s mission (organizational identity) to its stakeholders: to spread the knowledge about new products in the market or to acquire financial resources. This specific area has been widely analyzed due to the importance that it has for new organizations.

4.1. Limitations and Future Research Directions

Bibliometric analysis presents some inherent limitations based on technical decisions made by the investigator regarding the selection of the key words and the use of certain parameters, what creates a certain degree of subjectivity in the interpretation of the results. For example, key words such as “business”, “new business”, “nascent fields” or “newly created companies” were not considered. Another limitation of this research is the exclusive usage of a unique database obtained from the Web of Science (WOS), without taking into consideration other resources such as the Scopus database where the number of published papers is higher.

Researchers could replicate this investigation using the Scopus database or including published research papers with low impact. Furthermore, they could analyze the content of the main research areas in the legitimacy in entrepreneurship field identified in this article. Additional research lines could be related to study the legitimacy in sustainable organizations through a bibliometric analysis.

Even though a deep research regarding verbal communication has been identified, little is known about new entrepreneurs non-verbal expressions, especially when this non-verbal communication is critical to maintain relationships with stakeholders. Clarke *et al.* (2019) highlight the importance that using non-verbal gestures have for new entrepreneurs to represent and symbolize their businesses ideas producing strong positive effects in investors. In fact, non-verbal expressions can be applied to identify differences across business sector or if their effect varies depending on the stakeholder under consideration (customer, supplier, investor, etc.). This specific research need was also observed by Díez-Martín *et al.* (2021) when analyzing general corporate legitimacy.

Crowdfunding is a key element for personal networks as well as for the project quality. It can be applied through the narrative in the media to influence investors legitimacy assessments and obtain funds in order for the new venture to be sustainable (Calic & Mosakowski, 2016; Mollick, 2014). However, there is still not enough research about the effects of sending false signs or regarding the crowdfunding fraud (Courtney *et al.*, 2017). In the research about crowdfunding a high percentage of delay in the delivery of rewards from entrepreneurs has been identified (Mollick, 2014). Nevertheless, the effect that these delays have on investors’ legitimacy evaluations have not been analyzed. It has been demonstrated that there is no relationship between a new company’s environmental legitimacy (environmental orientation) and the crowdfunding financing success (Horisch, 2015), however, the effect of other legitimacy dimensions of crowdfunding success has not been studied.

As Dacin *et al.* (2011) has indicated, we encourage researchers to examine if social entrepreneurship presents more obstacles than traditional entrepreneurship when obtaining legitimacy, due to the relevance of demonstrating both, social and financial value.

Finally, it could be interesting to examine the collective identity formation process to understand how the different members of the new organization discursively inform, helping create the new collective identity of the enterprise (Zhang & Biniari, 2021).

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