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Beyond the “ivory tower”. Comparing academic and non-academic knowledge on social entrepreneurship.

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Abstract

The increasing relevance of societal challenges has recently brought social entrepreneurship to the fore due to its capacity to leverage entrepreneurial processes to achieve social value while ensuring profits. In this study, we apply an experimental research method to analyse comprehensively the concept of social entrepreneurship. More specifically, we develop bibliometric analysis and web crawling techniques to gather information related to social entrepreneurship from Scopus and Wikipedia. We conduct a comparative network analysis of social entrepreneurship’s conceptual structure at academic and non-academic level. This analysis has been performed considering scientific articles’ keywords and Wikipedia webpages’ co-occurrences, that enabled us to identify four different thematic clusters in both cases. Moreover, plotting the centrality and density of each cluster on a bi-dimensional matrix, we have sketched a strategic diagram and provided the thematic evolution of this research topic, based on the level of interaction among clusters, and the degree of cohesion of keywords in each cluster. This paper represents one of the first attempts in the entrepreneurship literature to shed light on the conceptual boundaries of a research topic based on the analysis of both a scientific and an open-source knowledge database. Our results reveal similarities and discrepancies between those two different sources of knowledge, and outline avenues for future studies at the intersection between social entrepreneurship and the research domains of digital transformation, performance measurement, entrepreneurial ecosystems, and ethics. We also call for further conceptualisation of social entrepreneurship in the face of the increasing complexity that characterises grand challenges.

Keywords: social entrepreneurship, bibliometric analysis, web crawling, Wikipedia, network analysis.

1. Introduction

Despite the dramatic progress that our world is experiencing, disparities and inequalities in human development are still relevant and concerning. According to the United Nations' Human Development Report (2019), following the Multidimensional Poverty Index, 1.3 billion people are still living in extreme income poverty, while some 262 million children are out of primary or secondary school and 5.4 million children cannot survive their first five years of life. Social inequalities are further challenged by issues such as climate change, natural disasters, and financial shocks. In this regard, the current COVID-19 pandemic is just another challenge that adds and connects to the previous ones (Bertello et al., 2021).

In 2015, the United Nations adopted a set of 17 Sustainable Development Goals (SDGs), in order to achieve "a better and more sustainable future for all", addressing "the global challenges we face, including those related to poverty, inequality, climate change, environmental degradation, peace and justice" (United Nations, 2015). The SDGs have immediately become the global reference agenda for addressing grand challenges, stimulating governments to support innovative solutions that mitigate inequalities around the world and reassure sustainable development. Entrepreneurship is increasingly regarded as a key factor for addressing grand challenges due to the established entrepreneurial attitude to search for change, respond to it, and exploit it as an opportunity (Drucker, 1985), providing irreplaceable capabilities to learn from previous mistakes and continuously experiment new solutions (Dorado & Ventresca, 2013). Social entrepreneurship is one of the most promising research streams to provide conceptual and empirical insights on how entrepreneurship addresses societal challenges (Dacin et al., 2011; Dwivedi & Weerawardena, 2018; Grimes et al., 2013; Markman et al., 2019; Santos, 2012). However, over the last years, several entrepreneurship-related research streams have arisen. As a result, entrepreneurship literature is fragmented and social entrepreneurship partially overlaps with concepts such as sustainable entrepreneurship and impact entrepreneurship (Gibbs & O'Neill, 2014; Hossain et al., 2017; Mair et al., 2012; Schaltegger & Wagner, 2011). We apply an experimental method to explore the concept of social entrepreneurship at non-academic level, with the purpose of revealing similarities or discrepancies with academic literature. The social mission embedded in social entrepreneurship should, in fact, enable dialogue with civil society, reducing the typical academia tendency of producing self-referential research. With this aim, we have developed a comparative analysis between the scientific literature and Wikipedia. Wikipedia is a free, multilingual open-collaborative online encyclopedia created and maintained by a

community of volunteer editors, using a wiki-based editing system (Wikipedia, 2020). Wikipedia was launched in January 2001, but only some time later attracted the attention of scholars, who started using it as a source of knowledge for their studies (Holloway et al., 2007; Kane & Ransbotham, 2016; Ponzetto & Strube, 2007). Most of this research, however, belongs to the computer science domain, while there is still a lack of studies that use Wikipedia as a source of information in social sciences. In this study, we apply bibliometric analysis techniques on the scientific database Scopus and web crawling on the open-source database Wikipedia, with the aim to address the following research questions:

RQ1. What is the conceptual structure of social entrepreneurship in the academic literature?

RQ2. What is the conceptual structure of social entrepreneurship in Wikipedia?

RQ3. What are the commonalities and the divergences between academic and non-academic knowledge on social entrepreneurship? What are the possible implications for future research?

This paper contributes to the body of knowledge of social entrepreneurship, whose nature is multidisciplinary. Moreover, it helps scholars to gain a better understanding of what are the boundaries of current research related to social entrepreneurship at academic and non-academic level. This innovative analysis also enables some reflections on which avenues seem promising for undertaking future research.

The remainder of this paper is structured as follows. In Section 2 we present a short theoretical background of social entrepreneurship. In Section 3 we describe the methodology by introducing the novel experimental approach adopted. In Section 4 we report the findings of our study, providing a descriptive analysis of the social entrepreneurship field of studies and describing the clusters from Scopus and from Wikipedia. In Sections 5 and 6 we discuss the results, providing avenues for future research and pointing out the main limitations of this study.

2. Theoretical background

Entrepreneurship has been traditionally conceived as profit-oriented (Zeng, 2018). However, the increasing number of social and environmental problems have been questioning the effectiveness of this model, leading academics and practitioners to develop new

entrepreneurial approaches to tackle complex societal challenges (Macke et al., 2018). Markman et al. (2019) have individuated three main bodies of knowledge that examined how individuals and organisations can engage with and resolve socio-environmental challenges: 1) environmental entrepreneurship, that analyses how entrepreneurship deals with issues such as pollution, climate change, deforestation, and other ecological transgressions (Dean & McMullen, 2007; York & Venkataraman, 2010); 2) social entrepreneurship, whose efforts are oriented to resolve poverty, inequalities, and other social ills (Dees, 1998; Austin et al., 2006; Shaw & Carter, 2007; Short et al., 2009); and 3) sustainable entrepreneurship, that results from the hybridisation of the first two (Hoogendoorn et al., 2019; Shepherd & Patzelt, 2011).

We focus our work on social entrepreneurship, a field of studies that has drawn increasing attention over the years (Gupta et al., 2020; Shaw & Carter, 2007; Short et al., 2009), becoming one of the main reference research streams when societal challenges are at stake. The origin of social entrepreneurship as a field of study dates back to the seminal works of Young (1983) and Waddock and Post (1991). Apart from these isolated studies, however, the field starts developing in the late 90s (Bacq & Janssen, 2011). Innovativeness, opportunity seeking, and social change, related to the aim of creating social value, are some of the common features that emerge from the earlier definitions stemming from the literature. Dees (1998, p. 1), for instance, taking as an example the high-tech pioneers of Silicon Valley, states that social entrepreneurship "combines the passion of a social mission with an image of business-like discipline, innovation and determination". Alvord et al. (2004, p. 262) posit that social entrepreneurship "creates innovative solutions to immediate social problems and mobilizes the ideas, capacities, resources, and social arrangements required for sustainable social transformations". Mair and Martì (2006, p. 37) see social entrepreneurship as a process involving the "innovative use and combination of resources to pursue opportunities to catalyse social change and/or address social needs".

Although the increasing number of works in the social entrepreneurship field, there is not yet a definitive consensus about what the term "social entrepreneurship" actually means (Choi & Majumdar, 2014; Dato-on & Kalakay, 2016; Saebi et al., 2019). To define its conceptual boundaries is not an easy task given the complexity, uncertainty, and interrelatedness of social and environmental challenges (Dwivedi & Weerawardena, 2018). Previous studies have highlighted how social entrepreneurship should navigate tensions among social equity, environmental integrity, and economic prosperity (e.g, Meyer et al., 2020). Certainly, the impact of social entrepreneurship is not exclusively related to the creation of social value. It also has a significant impact on the economic system (Bloom & Chatterji, 2009; Omorede,

2014), through the creation of new industries, the validation of new business models, and the allocation of resources to neglected societal problems (Santos, 2012). According to Estrin et al. (2013), for instance, social entrepreneurs can overcome social as well as economic barriers by extending market opportunities to those for whom access was previously difficult. More recently, entrepreneurship literature highlighted the necessity to mitigate grand challenges through collective, coordinated, and long-term oriented efforts. According to this perspective, social entrepreneurship does not emerge, simply, from heroic entrepreneurs, but rather from a collective and dynamic interplay of multiple actors (Bozhikin et al., 2019; Pandey et al., 2017).

3. Methodology

This section explains the methodology that we adopted to gather data related to the conceptual structure of social entrepreneurship, in both scientific literature and Wikipedia.

3.1 Bibliographic data collection

In order to investigate the literature studying social entrepreneurship, our first step for this study has been selecting the database from which collecting such studies. In social sciences, the two largest and most reliable databases are Clarivate Analytics' Web of Science (WoS) and Elsevier's Scopus (Thelwall, 2008; Waltman & van Eck, 2012). The WoS's Core Collection accounts for more than 79 million records (Clarivate Analytics, 2020), while Scopus accounts for around 70 million records (Scopus, 2017). Consistently with previous studies addressing similar topics (Bozhikin et al., 2019; Silveira & Zilber, 2017), we selected Scopus as the only source for collecting scientific documents in this paper. We further corroborated this choice by applying the same set of keywords and exclusion criteria to retrieve social entrepreneurship's studies from WoS, which resulted in a significantly lower list of articles than Scopus (around 15% less). Moreover, selecting only one database should be preferred to avoid homogenisation issues, that would emerge when extracting data from different sources (Waltman, 2016).

Thus, we performed a first search in October 2020, to collect peer-reviewed articles published by scholars in Scopus, setting no time restrictions. Following Scopus' syntax, we set the search string to search into documents' title, abstract, and keywords as follows: TITLE-ABS-KEY ("social entrepreneur*"). Using the wildcard, we could include all documents containing both singular or plural forms, along with the words entrepreneur(s) and entrepreneurship. This search resulted in 3,316 results. Afterwards, we established the

following exclusion criteria regarding: 1) the document type, considering only peer-reviewed articles to strengthen the scientific reliability of results (Gaviria-Marin et al., 2019), and 2) the language of results, considering only documents in English (Baima et al., 2020). These exclusions criteria reduced the documents to 2,237, for a total of 4,581 authors' keywords. Before analysing the conceptual structure of the topic, we also normalised the dataset of raw keywords, to reconcile keywords that were referring to the same term but were written in different ways. These were reconducted to singular/plural forms, British/American English variants, acronyms, hyphens, and similarities. We conducted this analysis using *OpenRefine (ver. 3.3)*, an open-source tool originally developed by Google for data-cleaning and successfully employed in several similar studies (Elmagarmid et al., 2006, Montoya et al., 2016; van Hooland et al., 2013). Considering the size of the database, the different specific algorithms embedded in the software and designated for data reconciliation (https://openrefine.org/) enabled us to obtain more rigorous and replicable results, if compared to manual analysis. For instance, in the Appendix, a list of the most recurring keywords and their substitutions is provided (see Table A.1). At the end of the data cleaning phase, after having eliminated some redundancies, we retained 3,954 authors' keywords in the dataset. Figure 1 shows the complete data collection process.

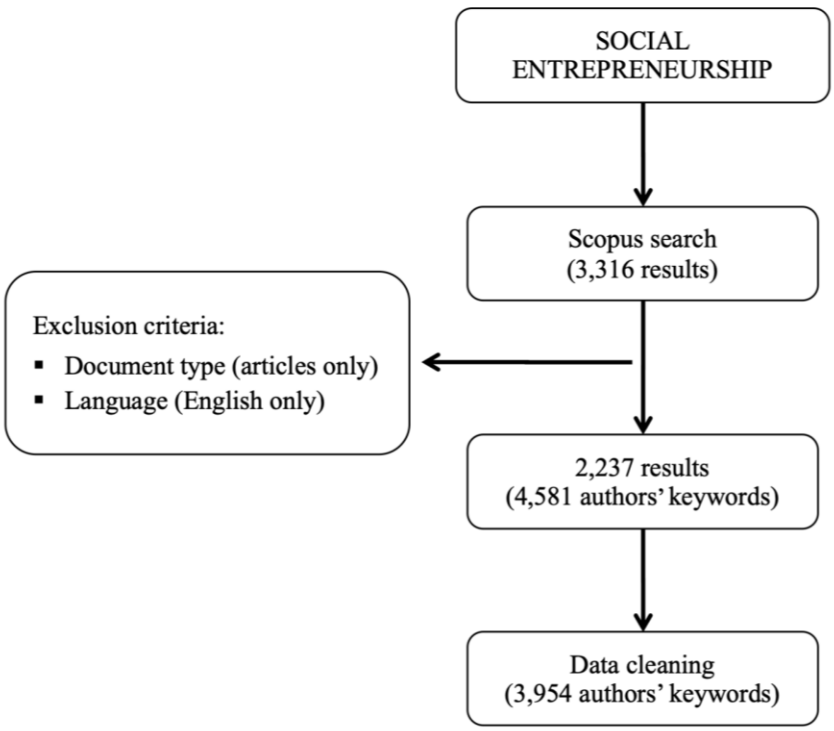

Fig. 1 The bibliographic data collection process

3.2 Wikipedia data collection

Regarding the Wikipedia data collection, the first step consisted of crawling the links that appear in the Wikipedia web page dedicated to social entrepreneurship (https://en.wikipedia.org/wiki/Social_entrepreneurship). Web crawling refers to downloading structured data from the web. To do so, we used Rcrawler, a free package developed to run in Rstudio and perform web mining, text mining, web content mining, and web structure mining (Khalil & Fakir, 2017). RStudio is one of the most used software used by researchers and data analysts, and integrates several packages to conduct different kinds of statistical analysis (RStudio Team, 2016). In this sense, it is gaining increasing attention in a broad range of research fields, resulting very helpful to conduct web crawling (Chen et al., 2020; Krotov & Tennyson, 2018).

Hence, we set Rcrawler to traverse the social entrepreneurship Wikipedia web page and extracting all the internal URLs contained in it, namely the other Wikipedia's web pages. Indeed, Wikipedia URLs all follow the same pattern (i.e., https://en.wikipedia.org/wiki/[FIRSTWORD]_[SECONDWORD]). This enabled us to exclude support pages (e.g., "File:", "Help:", "Talk:") and to parse the labels of each node. In this way, following a one-step analysis, we created a dataset containing a network in which each Wikipedia web page represents a node and each link an edge. Fetching all the other Wikipedia web pages citing the social entrepreneurship's Wikipedia web page, we added each to our dataset. In this way, we obtained a directed graph composed of 441 nodes, similar to the cross-citational graphs commonly constructed in bibliometric studies (Forliano et al., 2021; Za et al., 2020).

As a second step, we manually refined the resulting dataset in order to exclude some non-informative pages (e.g., related to terms in the references of the web page). We provide a complete list of these words in Table A.2, in the Appendix. Moreover, we coded each node related to individual people or organisations, reconciling it to one or more specific main themes. For example, we duplicated the node related to Aaron Kirunda and coded them respectively as "social entrepreneur" and "skills development" due to the kind of activity he performed. Similarly, we coded the nodes related to Adhik Kadam as "social entrepreneur", "philanthropist", "professor", and "conflict relief". Finally, we merged nodes with the same code. This kind of normalisation is a common practice in network analysis, where authors want to filter out keywords with low co-occurrences (i.e., pendants) while retaining the

information provided by each of them (Jin et al., 2018; Lozano et al., 2019). After normalisation, the network was composed of 243 nodes.

3.3 Analysing the conceptual structure of social entrepreneurship

To analyse the conceptual structure of social entrepreneurship in the scientific literature and Wikipedia, we performed a co-occurrence analysis using *VOSviewer (ver. 1.6.13)*: a powerful tool for visualising the structure and dynamics of large networks. Indeed, *VOSviewer* creates distance-based maps of networks based on the similarity measure of the nodes (van Eck & Waltman, 2010). Due to its ease-of-use, this software has been increasingly adopted by scholars in several fields, including business and management (Pellegrini et al., 2020; Secundo et al., 2019).

For what concerns the literature, a refined set of keywords was used for creating a co-occurrence matrix, meaning that the occurrence and the frequency of keywords were calculated and used to build a network where nodes are spatially collocated according to the distance between any pair of items (i.e., keywords) (Scott, 1988; Wasserman & Faust, 1994). In this study, we considered only keywords occurring at least ten times, resulting in a network composed of 99 nodes. We performed the same analysis also in the case of Wikipedia. In the end, we constructed a network showing 97 nodes characterised by a minimal total link strength of ten.

After having adopted the association strength's normalisation (van Eck & Waltman, 2009), we detected clusters comprehending similar concepts through the modularity function, which leverages the Louvain's algorithm proposed by Blondel et al. (2008) and a smart local moving algorithm that increases the accuracy of results (Waltman & van Eck, 2013). Setting a resolution of 0.8 for the literature network and a resolution of 0.9 for the Wikipedia network, and a minimum cluster size of ten items, we identified eight clusters (four in Scopus and four in Wikipedia) after running ten iterations. As stated by van Eck and Waltman (2017), there are no generally optimal values that must be preferred to others in setting such parameters. So – starting from a default resolution of one – the higher the value, the more clusters will result.

Moreover, to better represent the conceptual structure of the investigated topic, we developed a thematic map, plotting the centrality (X-axis) and density (Y-axis) of each cluster on a bi-dimensional matrix (Cobo et al., 2011; Scornavacca et al., 2020). Specifically, the centrality identifies how much a cluster is connected to others (i.e., inter-cluster interaction), indicating how much a theme is relevant in a specific field. Differently, density refers to the level of

cohesion of keywords included in a specific cluster (i.e., intra-cluster cohesion), indicating to what extent a theme is developed. We calculated these measures through *Gephi (ver. 0.9.2)*, which represents another leading software among scholars for visualising and analysing networks. Thus, using these measures, we designed a strategic diagram similar to the one shown in Figure 2. This kind of diagram can be divided into four quadrants, each indicating how a theme is collocated into a given research field.

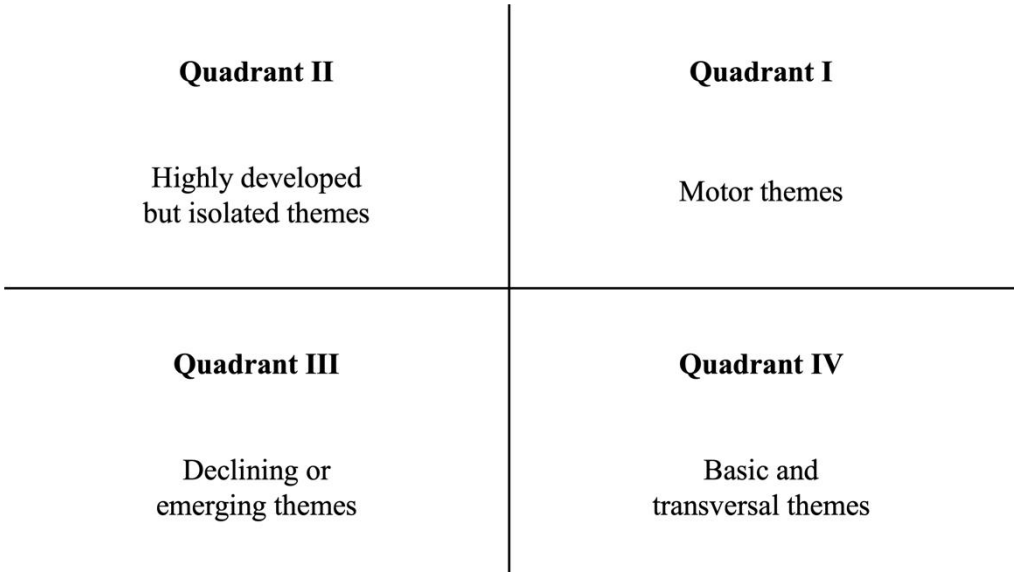

Fig. 2 Strategic diagram adapted by Cobo et al. (2011)

- Quadrant I. It contains themes with a high level of centrality and density, which represent the core of a given research field (i.e., motor themes). They are well-developed and able to influence other themes.

- Quadrant II. In this quadrant there are themes with a low centrality but high density. This means that they are internally well-developed, but not able to influence other themes, representing niche themes (i.e., highly developed but isolated).

- Quadrant III. Themes in this quadrant have low centrality and density, meaning that they are weakly established and not able to influence the research field as well. They are marginal themes, which are emerging or declining.

- Quadrant IV. Having a low density but a high centrality, the themes located in this quadrant can be defined as basic or transversal. Even if they are not well developed internally, they can influence other themes.

4. Results

In this section, we start presenting the results of the data collection process conducted in Scopus. In this way, we offer an overview on how social entrepreneurship is evolving in the scientific debate using articles, journals, and countries as a unit of analysis (Massaro et al., 2016; Thelwall, 2008). To do so, different bibliometric measures have been calculated using Bibliometrix, a Rstudio package developed specifically to conduct such a kind of analysis (Aria & Cuccurullo, 2017; Secinaro & Calandra, 2020).

Afterwards, we present the different themes emerged conducting the co-occurrence analysis of authors' keywords and Wikipedia web pages.

4.1 A bibliometric overview on social entrepreneurship

Searching for articles on social entrepreneurship, we retrieved 2,237 publications from 855 different sources. As Figure 3 shows, the first study in our dataset was published in 1978, but a significant increase in the number of publications can be registered only starting from 2001. Remarkably, the interest in social entrepreneurship boomed in the last ten years, when more than 90% of total publications in the dataset have been published. This can be explained in part by the recent policy efforts to incentivise sustainability transition by inviting organisations to achieve social goals. For example, in 1991, the United Nations launched the Global Compact, asking companies to innovate their business models in a more socially sustainable and responsible way. Ten years later, the Global Compact framework was extended to cities, to further improve urban life through sustainable solutions. More recently, other policies have boosted even more the importance of social entrepreneurship, such as, for instance, the SDGs released in 2015 by the United Nations.

The increasing attention towards social issues has not only influenced policy makers' agenda, but also academic research. Between the late 1990s and early 2000s some focused periodicals were launched, such as the *Stanford Social Innovation Review* in 2003, the *Social Enterprise Journal* in 2004, the *Social Responsibility Journal* in 2005, the *Journal of Enterprising Communities* in 2007, the *Journal of Social Entrepreneurship* in 2010, or the *International Journal of Social Entrepreneurship and Innovation* in 2011 (Sassmannshausen & Volkmann, 2013).

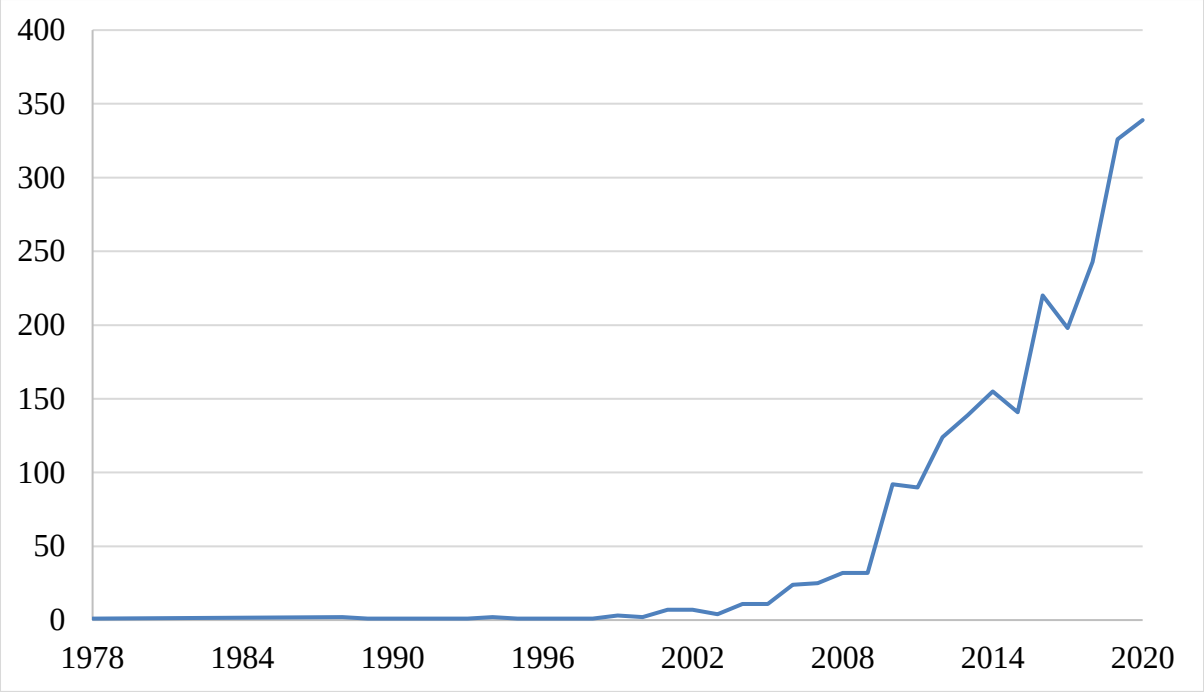

Fig. 3 Number of publications per year

Concerning the journals, we can note how 38 have published more than ten articles on the topic, while around 80% of the sources in the dataset have published just one or two articles. It is not surprising that a focused journal such as the *Journal of Social Entrepreneurship* ranks first, comprehending 5.9% of the whole dataset. Differently, it is interesting to note how, among the top 25 journals in terms of productivity, there are journals related to different themes such as small businesses, regional development, internationalisation, social change, and sustainability. The number of activities does not necessarily reflect the number of citations, as we can see in Table 1. In fact, we can note how *Entrepreneurship Theory and Practice* ranks first, with more than 4,000 citations, followed by the *Journal of Business Venturing* (2,551 citations), and the *Journal of Business Ethics* and the *Journal of Small Business and Entrepreneurship*, which share third place (2,383 citations each).

Table 1 The 25 most productive journals

#	Sources	N. of articles	N. of citations
1	Journal of Social Entrepreneurship	132	2,002
2	Emerald Emerging Markets Case Studies	55	10
3	Journal of Business Ethics	51	2,383
4	Sustainability (Switzerland)	45	253
5	Voluntas	45	511
6	Entrepreneurship and Regional Development	40	1,455

7	Social Enterprise Journal	30	90
8	International Journal of Entrepreneurship and Small Business	28	247
9	Entrepreneurship: Theory and Practice	26	4,102
10	Journal of Business Venturing	25	2,551
11	International Journal of Entrepreneurial Behaviour and Research	23	425
12	Journal of Business Research	23	532
13	Journal of Enterprising Communities	22	307
14	Journal of Cleaner Production	20	316
15	Technological Forecasting and Social Change	20	237
16	Entrepreneurship Research Journal	19	149
17	International Journal of Entrepreneurial Venturing	18	99
18	Management Decision	18	461
19	Academy of Management Learning and Education	17	977
20	Academy of Entrepreneurship Journal	16	65
21	International Entrepreneurship and Management Journal	15	2,002
22	Journal of Entrepreneurship	15	10
23	Journal of Small Business and Entrepreneurship	14	2,383
24	Journal of Small Business and Enterprise Development	13	253
25	Journal of Small Business Management	13	511

Finally, considering the authors' affiliations, we investigated both countries' productivity and impact. In Figure 4 countries are ordered on the basis of their productivity, which was differentiated whether authors of a given publication have all an affiliation from the same country (i.e., single country publication or SCP) or from different countries (i.e., multiple countries publication or MCP). So, out of the total 75 countries present in the dataset, we plotted the 20 most productive ones. Interestingly, the topic is globally relevant, with both advanced economies (e.g., the USA, the UK, Spain) and developing ones (e.g., India, Malaysia, Indonesia), present among the most productive countries. However, it must be noted that Latin America is absent in this representation. Furthermore, considering the total citations received, we traced also the countries relevance in Table 2: even more than for what regards productivity, European countries result in being the most impacting (12 out of 20).

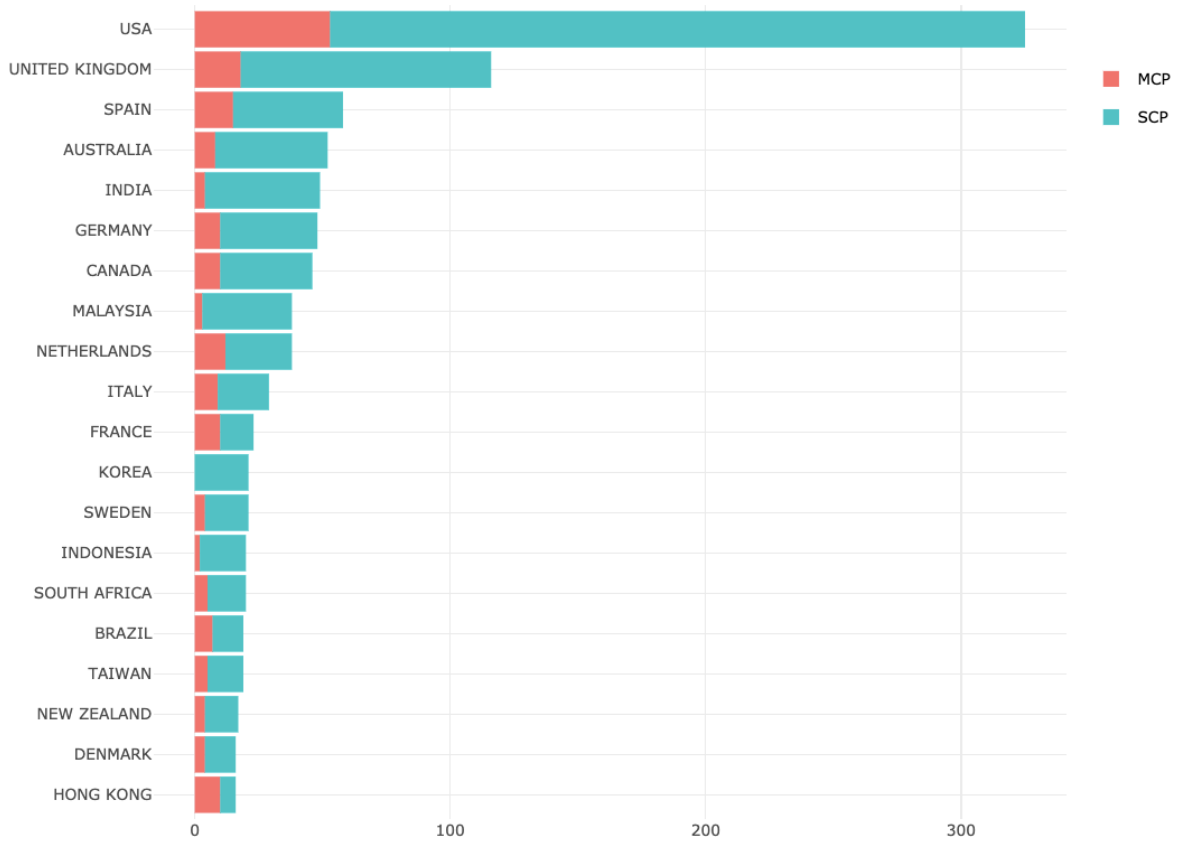

Fig. 4 The 20 most productive countries, distinguished on the basis of authors' affiliations. SCP represents articles in which all authors have an affiliation from the same country (single country publication), while MCP articles in which the countries are different (multiple countries publication)

Table 2 The 20 most relevant countries

#	Country	Total citations	Average article citations
1	USA	9,417	28.975
2	UK	6,265	54.009
3	Canada	3,005	65.326
4	Spain	2,900	50
5	Australia	1,752	33.692
6	Belgium	1,083	72.200
7	France	823	35.783
8	Germany	706	14.708
9	India	561	11.449
10	Netherlands	551	14.500
11	Switzerland	467	31.133
12	Austria	448	49.778
13	Italy	356	12.276
14	Sweden	354	16.857
15	New Zealand	353	20.765
16	Israel	345	43.125
17	Denmark	330	20.625
18	Malaysia	303	7.974

19	Finland	259	21,583
20	Ethiopia	221	221

4.2 Scientific literature's conceptual structure

Figure 5 shows the conceptual structure of the scientific literature on social entrepreneurship. To present it, we analysed what connections occur between similar concepts, based on authors' keywords co-occurrences. Particularly, the more co-occurrences were identified, the more the node (i.e., a specific keyword) is central in the network. The more each couple of keywords was used by scholars at the same time, the closer and more robust is the link between them. The higher are the occurrences of a keyword, the bigger is its node. Applying the Louvain's algorithm (Blondel et al., 2008), four clusters emerged. Each of them is defined by a different colour. In Table 3 we report a detailed list of the keywords present in each cluster.

The red cluster (42 items) is more focused on the figure of the social entrepreneur; most of the occurred keywords regard individual traits, intention, motivations, and behaviours of the social entrepreneur. The green cluster (21 items) is focused on hybrid organising and institutional logics since its keywords mainly refer to the dual mission of achieving social and economic goals through social entrepreneurship. The blue cluster (19 items) is related to institutional entrepreneurship and legitimacy and most of the occurred keywords focus on social entrepreneurs as agents of social change. Finally, the yellow cluster (17 items) has three main sub-topics: collaboration, social value creation, and environmental concerns.

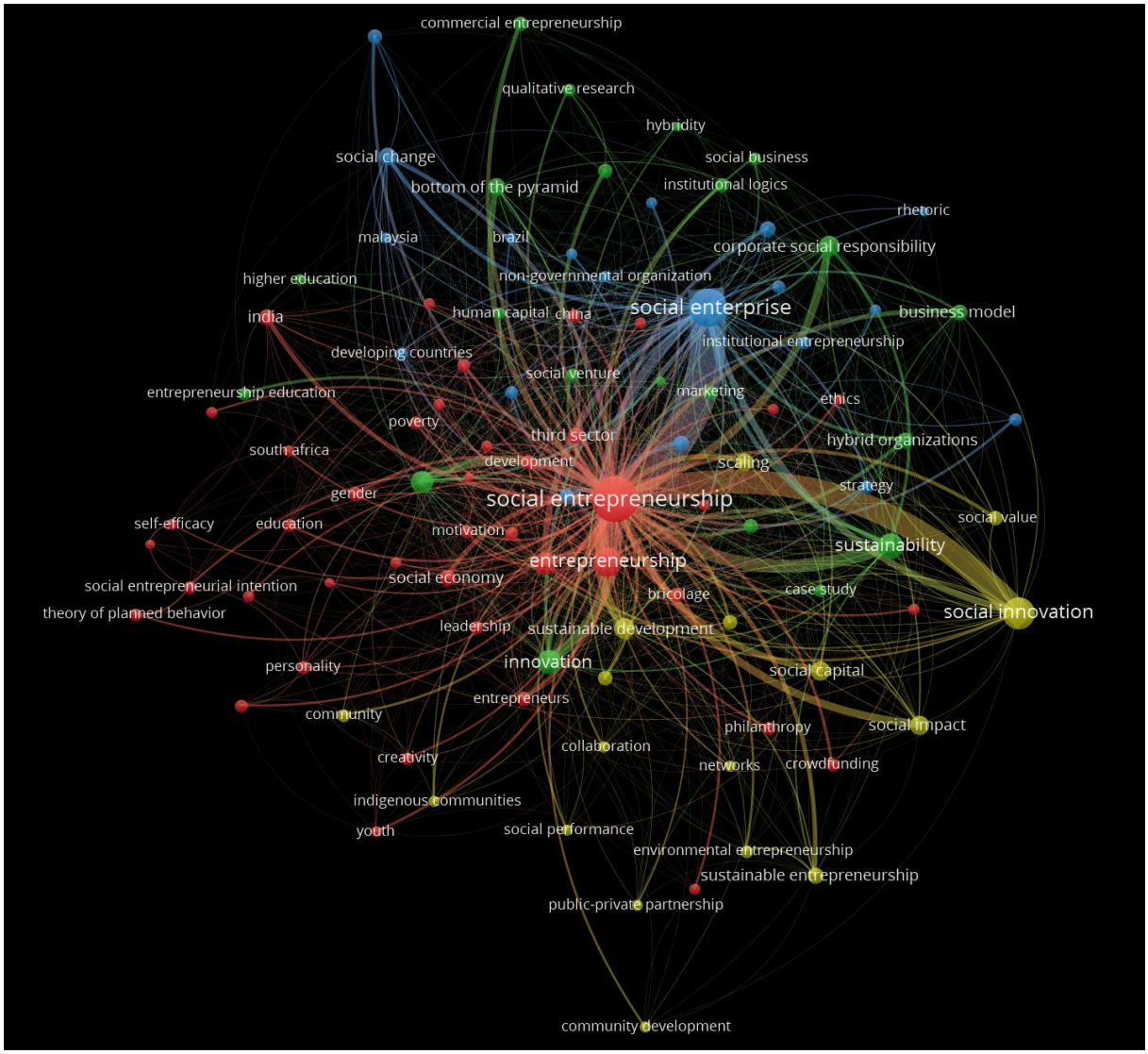

Fig. 5 The conceptual structure of scientific publications, based on authors' keywords co-occurrences

Table 3 A detailed list of the four clusters characterising the conceptual structure of the scientific literature

Red cluster, 42 items	**Green cluster, 21 items**	**Blue cluster, 19 items**	**Yellow cluster, 17 items**
Sub-topics: social entrepreneur	**Sub-topics: hybrid organisations, institutional logics**	**Sub-topics: institutional entrepreneurship, legitimacy**	**Sub-topics: collaboration, social value creation, environmental concerns**
Africa	Bottom of the pyramid	Agency	Collaboration
Bricolage	Business model	Brazil	Community
China	Case study	Civil society	Community development
Cooperatives	Commercial	Developing countries	Environmental
Creativity	entrepreneurship	Impact investing	entrepreneurship
Crowdfunding	Corporate social	Institutional	Indigenous communities
Culture	responsibility	entrepreneurship	Networks
Development	Entrepreneurship	Institutional theory	Public-private partnership
Education	education	Legitimacy	Scaling
Emerging markets	Global entrepreneurship	Malaysia	Social capital

Empathy	monitor	Microfinance	Social impact
Employment	Higher education	Narratives	Social innovation
Empowerment	Human capital	Non-governmental	Social networks
Entrepreneurial intentions	Hybrid organisations	organisation	Social performance
Entrepreneurial	Hybridity	Rhetoric	Social value
orientation	Innovation	Social change	Sustainable development
Entrepreneurialism	Institutional logics	Social enterprise	Sustainable
Entrepreneurs	Marketing	Social inclusion	entrepreneurship
Entrepreneurship	Non-profit organisations	Social movements	Value creation
Ethics	Performance	Social responsibility	
Gender	Qualitative research	Strategy	
Governance	Resource-based view		
India	Social business		
Leadership	Social venture		
Motivation	Sustainability		
Opportunity			
Personality			
Philanthropy			
Poverty			
Self-efficacy			
Small and medium-sized			
enterprises			
Social economy			
Social entrepreneur			
Social entrepreneurial			
intention			
Social entrepreneurship			
Social mission			
South Africa			
Stakeholders			
Theory of planned			
behavior			
Third sector			
Women			
Women entrepreneurship			
Youth			

In order to further investigate the conceptual structure of the discussed topics, we elaborated a thematic map based on Cobo et al. (2011) (Figure 6). The thematic map shows that the red cluster (social entrepreneur) represents a basic and transversal theme. In this sense, we can say that the analysis of social entrepreneurship at an individual-level was highly investigated by scholars and able to influence also the other themes related to this topic. Another cluster that includes transversal themes that are acquiring even more relevance is the blue cluster (institutional entrepreneurship and legitimacy). In this sense, social enterprises are acquiring a relevant role in driving social change and shaping the institutional environment in which companies operate, especially regarding developing economies. At the intersection between

motor themes and niche themes we find the green cluster (hybrid organisations and institutional logics). It includes themes that are more recent in the scientific literature on social entrepreneurship, such as the hybridisation of companies and the possibility to pursue both commercial and social purposes. Finally, the yellow cluster (collaboration, social value creation, and environmental concerns) includes developed but isolated themes. Since this cluster is the most comprehensive, we cannot exclude that some of the themes that populate it could also be declining or emerging themes given the closeness to the third quadrant.

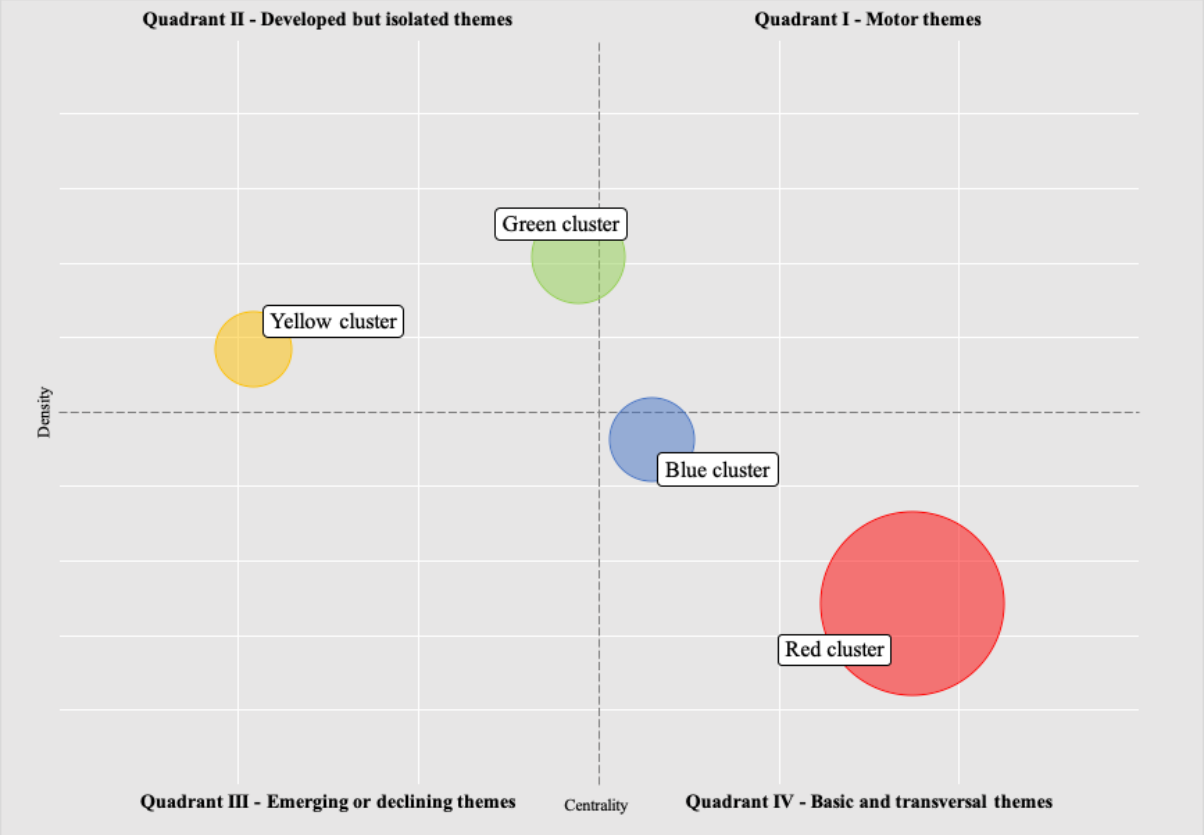

Fig. 6 Thematic map based on authors' keywords

4.2.1 Red cluster: Social entrepreneur

The first cluster from the scientific literature mainly refers to studies that conduct individual-level analyses. Social entrepreneurship, in fact – as a sub-field of entrepreneurship – has dedicated most of its efforts to investigate social entrepreneurs. In the entrepreneurship literature, motivations and behaviour of individuals who aspire to creating new ventures have received close attention since the earlier studies (Birley & Westhead, 1994; Krueger & Carsrud, 1993; Sequeira et al., 2007). One well-established approach employed long-standing psychology models of planned behaviour to explain entrepreneurial intentions (Kautonen et al., 2013; Kruger & Brazeal, 1994). Another approach applied motivation models

incorporating personal attributes, characteristics, values, demographic factors, and culture as antecedents to explain the likeliness of individuals to engage in entrepreneurial behaviour (Mueller & Thomas, 2001; Mueller et al., 2002). Drawing on psychology theories, Kruse (2019) combined the theory of planned behaviour and personal values as predictors of social entrepreneurial intention. He investigated the direct and indirect mechanisms enabling individual social entrepreneurship intention, by statistically testing the empirical suitability of the most frequently utilised social entrepreneurship intention models (i.e., Ajzen, 1991; Heuer & Liñán, 2013; Mair & Noboa, 2006; Hockerts, 2017). Many scholars define social entrepreneurship focusing on the characteristics of the social entrepreneur, such as individual traits (Nga & Shamuganathan, 2010; Roberts & Woods, 2005), leadership skills (Ruvio et al., 2010; Smith et al., 2012), and passion (Ruskin et al., 2016; Yitshaki & Kropp, 2016). These studies generally show that social entrepreneurs are not dissimilar from commercial entrepreneurs in these basic traits, and reinforce the idea that social entrepreneurs are indeed entrepreneurs. The social entrepreneur displays characteristics considered typically entrepreneurial, such as risk taking, innovativeness, ability to recognise opportunities, resourcefulness, and self-efficacy (Austin et al., 2006; Peredo & McLean, 2006; Sharir & Lerner, 2006; Smith & Woodworth, 2012; Zahra et al., 2009). The literature has also individuated specific characteristics that help social entrepreneurship to be properly defined. In this regard, Abu-Saifan (2012) identified some unique characteristics of the social entrepreneur: mission leader, emotionally charged, change agent, opinion leader, social value creator, socially alert, manager, visionary, and highly accountable.

An individual analysis, combined with a process-based perspective, has led Zahra et al. (2009, p. 523) to develop a typology to "identify similarities and differences among the broad range of individuals and organisations engaged in social entrepreneurship". More specifically, building on Hayek, Kirzner, and Schumpeter's previous works, they have individuated three types of entrepreneurs: social bricoleur, social constructionist, and social engineer. They also identified the major ethical concerns that each type of social entrepreneur is likely to encounter. Studies on the individual characteristics of social entrepreneurs have also provided a breeding ground for exploring women as vectors of social entrepreneurship (Kimbu & Ngoasong, 2016). The literature on traditional entrepreneurship has highlighted the challenges that female entrepreneurs can face such as lack of access to finance, challenges in hiring skilled workforce, limitations in networks opportunities, and scant support from the government (Bastian et al. 2018; Mathew, 2010; Naidu & Chand, 2017; Verheijen et al. 2014). Studies have only recently started analysing the differences between men and women

in the fields of social entrepreneurship. Bernardino et al. (2018), for instance, analysed the variance between men and women to identify how gender differences in social entrepreneurial ventures creation are explained by different personality traits. Their findings suggest that there is no difference in most of the personality traits (openness to experience, extraversion, conscientiousness, and emotional stability), except for agreeableness, wherein women scored more highly.

4.2.2 Green cluster: Hybrid organisations and institutional logics

Most of the concepts from the second cluster relate to the literature on hybrid organising and institutional logics. These studies generally recognise that social entrepreneurship implies hybridity, since social entrepreneurs need to develop business models able to pursue the dual mission of financial sustainability and social purpose (Bacq et al., 2016; Doherty et al., 2014; McMullen & Warnick, 2016; Saebi et al., 2019). This leads to inherent tensions (Peattie & Morley, 2008) and conflicting logics (Pache & Santos, 2013) that have been analysed from different theoretical perspectives (Smith et al., 2013) such as paradox theory (Jay, 2013; Smith et al., 2012), organisational identity (Ashforth & Reingen, 2014), stakeholder theory (Cooney, 2012), and institutional theory (Battilana & Lee, 2014; Doherty et al., 2014). Although there is a growing tendency to combine more than one theoretical perspective to capture the complexity of social entrepreneurship (Jay et al., 2013), most of the studies draw on institutional theory, and, more specifically, the institutional logics perspective. This is the most used theoretical lens for analysing tensions in social entrepreneurship (Battilana & Lee, 2014; Doherty et al., 2014; Rossignoli et al., 2018; Sengupta & Sahay, 2017). Thornton and Ocasio (1999, p. 804) have defined institutional logics as "the socially constructed, historical patterns of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality". Battilana and Dorado (2010) have conducted a comparative study of two pioneering commercial microfinance organisations that combined two previously separated logics: a development logic aiming at helping the poor, and a banking logic requiring profits to support ongoing operations and fulfil fiduciary obligations. Their results show that hybrid organisations need to create a balanced organisational identity between these two logics, and to do so, they are called to pay attention to hiring and socialisation policies as crucial early levers. Assuming that hybrid organisations internally manage the logics that they embody, Pache & Santos (2013) have developed an inductive comparative case study on four social enterprises, to explore how they managed the conflicts

between social welfare and commercial logics. Their findings suggest that social enterprises selectively coupled intact elements prescribed by each logic, rather than adopting strategies of decoupling or compromising as the literature typically suggests.

4.2.3 Blue cluster: Institutional entrepreneurship and legitimacy

Social entrepreneurship may have a potential advantage compared to commercial entrepreneurship. In fact, neglecting the social impact of their activities, commercial enterprises risk being delegitimised from communities of stakeholders increasingly sensitive to the social consequences of economic activities (Nirino et al., 2019). On the other hand, however, hybrid organisations are more difficult to categorize and this may lead to disadvantages in terms of loss of legitimacy (Brandsen & Karré, 2011; Doherty et al., 2014). In this regard, Pache & Santos (2013) identified a specific hybridisation pattern that called "trojan horse", referring to the social enterprises' strategy of increasing their low legitimacy – given by their embeddedness in the commercial logic – by incorporating elements from the social welfare logic. Similarly, Tracey et al. (2011, p. 60) explored how new organisational forms emerge through a process of bridging institutional entrepreneurship, which means "combining aspects of established institutional logics to create a new type of organisation underpinned by a new, hybrid logic". In their in-depth case study of a social enterprise in the United Kingdom, they presented a framework to analyse institutional work at multiple levels, delving into the relationship among individual, organisational, and societal level institutional processes. Institutional entrepreneurship, therefore, sees social entrepreneurs as agents of social change (Battilana et al., 2009; Chandra, 2017) that deserve investigation to understand how they contribute to create and transform institutions. The role of social entrepreneurship as a change agent in the social sector has been developed since the first early conceptualisations (Dees, 1998). As stated by Mair and Martí (2006, p. 37), the goal of social entrepreneurship is to alter existing social structures, and this process can develop through the "creation of organisations and/or practices that yield and sustain social benefits" (Mair & Noboa 2006, p. 122). In her analysis of ten social enterprises, Ruebottom (2013) provided empirical evidence on how rhetorical strategy led social enterprises to build the necessary legitimacy for social change. The rhetorical strategy, according to Ruebottom, emphasises the positive of the protagonist meta-narratives, and the negative of the antagonist meta-narratives, weaving together protagonist and antagonist themes with the aim of creating tension and highlighting the contrast between opposing actors, persuading audiences of the organisation's legitimacy.

Several papers elucidating the dynamics of social change in social entrepreneurship have focused their analysis on developing countries. Social ventures that operate in developing economies face institutional contexts in which resources can be extremely scarce and/or expensive (Seelos & Mair, 2005; Zahra et al., 2008) or where institutional financing mechanisms are absent or weak (Mair & Martí, 2009; Sengupta et al., 2018). Mair & Martí (2009), for instance, analysed the activities of a non-governmental organisation in Bangladesh, in a context characterised by institutional voids. The mission of the non-governmental organisation, oriented to alleviate poverty and empower the poorest people, allowed them to shed light on "when, where and how institutional entrepreneurs act" (Mair & Martí, 2009, p. 1).

Limitations to access resources, be it given by low legitimacy or institutional voids, reduce the opportunities to scale up (Doherty et al., 2014). In this regard, Smith & Stevens (2010) have found that a higher degree of structural embeddedness of social entrepreneurship leads to a higher depth of scaling up a venture. In the case of embedded ties, in fact, a number of mechanisms, including trust and group solidarity, replace formal rules and lay the foundation for reducing uncertainty in the transaction (De Bernardi et al., 2020).

4.2.4 Yellow cluster: Collaboration, social value creation, and environmental concerns

The fourth cluster from the academic literature mainly relates to studies that have investigated how social entrepreneurship creates value for society, and how collaboration with multiple stakeholders enables social welfare (Caldwell et al., 2017). This cluster also shows that the boundaries of the concept of social entrepreneurship are not so definite, since it contains terms such as environmental entrepreneurship and sustainable entrepreneurship. Meyer et al. (2020) explored the stakeholder management challenges faced by social entrepreneurs, when they deal simultaneously with three macro goals: social equity, environmental integrity, and economic prosperity. This study, as many others, extends the concept of social entrepreneurship to the environmental domain, and raises further reflections that will be addressed in the concluding section of this study. The recursive presence of concepts such as collaboration, networks, and public-private partnerships highlights that social value can no longer be solely intended as the result of the actions of heroic and individual social entrepreneurs. According to an increasing number of studies, instead, social value creation can benefit from collective and coordinate efforts (Dufays & Huybrechts, 2014; Ferraro et al., 2015; Thomaz & Catalão-Lopes, 2019).

4.3 Wikipedia's conceptual structure

Similarly to the keywords co-occurrence graph presented in the previous section, in Figure 7 we build the conceptual structure of Wikipedia web pages related to social entrepreneurship. We see the more relevant each concept for the investigated topic is, the more central is its node (i.e., web pages). The more each theme is related to another, the closer they appear in the graph and the more robust is the link connecting them. The bigger is the node, the more each web page occurred. Applying the Louvain's algorithm for clusters identification (Blondel et al., 2008), four cluster were revealed, each defined by a different colour. In Table 4 we provided a complete list of the nodes characterising each cluster.

The red cluster (34 items) is related to financial aspects. The green cluster (22 items) include wider concepts such as sustainability and triple bottom line. The blue cluster (21 items) is more focused on digital technologies. Finally, the yellow cluster (20 items) is principally focused on collaboration-related topics.

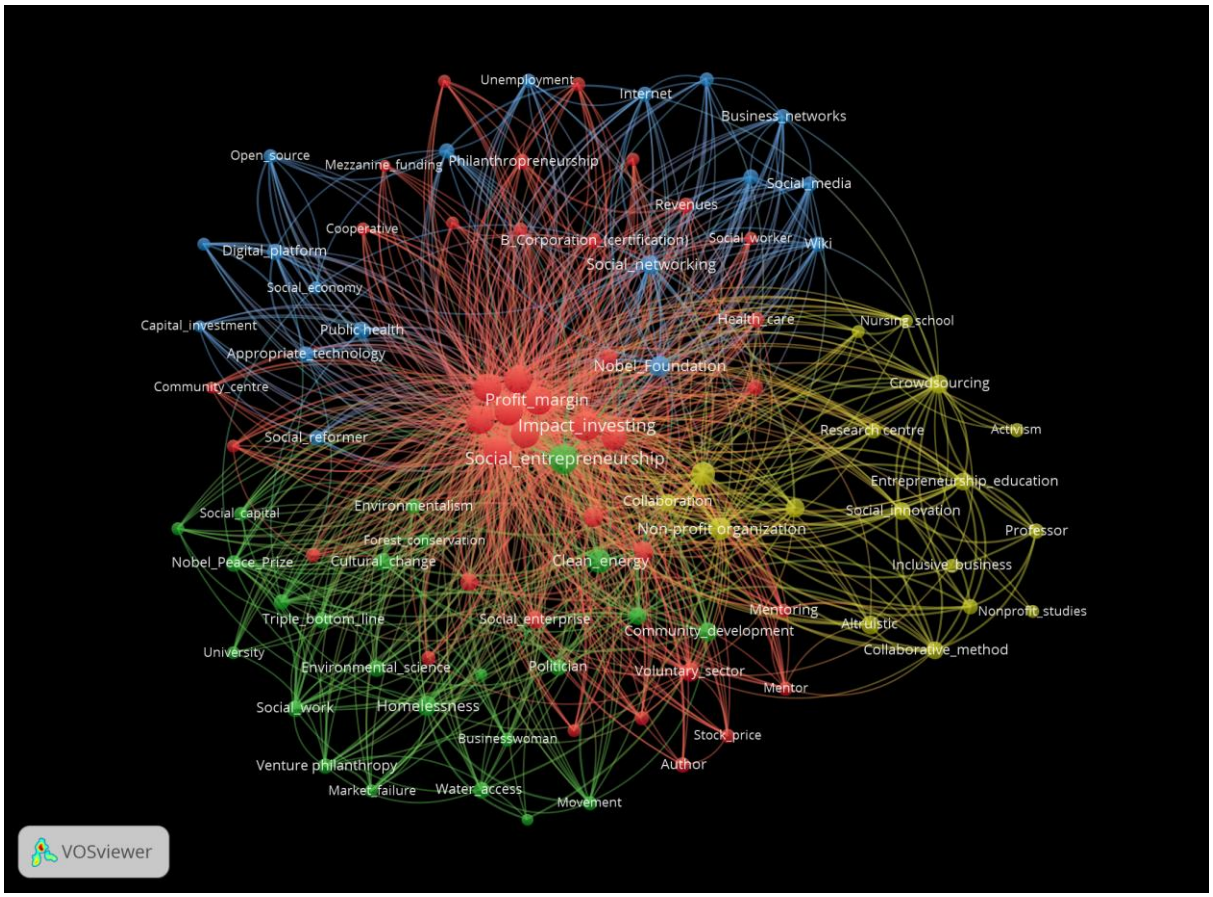

Fig. 7 The conceptual structure of Wikipedia web pages related to social entrepreneurship

Table 4 A detailed list of the four clusters characterising the conceptual structure of Wikipedia

Red cluster, 34 items	**Green cluster, 22 items**	**Blue cluster, 21 items**	**Yellow cluster, 20 items**
Sub-topics: finance	**Sub-topics: triple bottom line**	**Sub-topics: digital technologies**	**Sub-topics: collaboration**
Author	Business ethics	Appropriate technology	Activism
B Corporation (certification)	Businesswoman	Business incubator	Altruistic
Bricks and mortar	Clean energy	Business networks	Civic engagement
Business accelerator	Community development	Capital investment	Collaboration
Business plan	Cultural change	Digital platform	Collaborative method
Community centre	Double bottom line	Internet	Crowdsourcing
Cooperative	Environmentalism	Journalist	Entrepreneurship education
Corporate social entrepreneurship	Forest conservation	Marketing	Inclusive business
Crowdfunding	Geotourism	Microfranchising	Mentor
Entrepreneur	Government failure	Nobel Foundation	Mentoring
Entrepreneurship	Homelessness	Open source	Non-profit organisation
Entrepreneurship promotion	Market failure	Public health	Non-profit studies
Environmental science	Movement	Social economy	Nursing school
Equity financing	Nobel Peace Prize	Social media	Professor
For-profit organisation	Social capital	Social networking	Research centre
Health care	Social entrepreneurship	Social venture	Social enterprise
Healthy city	Social work	Unemployment	Social entrepreneur
Impact investing	Sustainability	Website	Social innovation
Leadership	Triple bottom line	Wiki	Sustainable management
Mezzanine funding	University	Social scientist	Urban regeneration
Microcredit	Venture philanthropy	Social reformer	
Microfinance	Water access		
Philanthropreneurship			
Politician			
Profit (economics)			
Profit margin			
Restaurant			
Revenues			
Social business			
Social services			
Social worker			
Stock price			
Sustainable development			
Voluntary sector			

Wikipedia defines social entrepreneurship as “an approach by individuals, groups, start-up companies or entrepreneurs, in which they develop, fund and implement solutions to social, cultural, or environmental issues” (Wikipedia, 2020, retrieved from the page “Social entrepreneurship”). The definition itself is quite generic, but it paves the ways for several reflections on how social entrepreneurship is perceived by non-academics. As shown in Figure 7, we have individuated four clusters through our network analysis on Wikipedia.

More specifically, one cluster refers mainly to the financial domain, one to the triple bottom line, one to digital technologies, and one to multi-actor collaboration.

As for in the previous paragraph, we have extended our analysis on Wikipedia by elaborating a thematic map based on Cobo et al. (2011) (Figure 8). The thematic map shows that the red cluster (finance) is considered the motor theme. This evidence contrasts with the scientific literature, where finance-related topics do not assume such a relevant role. The green cluster (triple bottom line) can be considered as a basic and transversal theme, able to also influence other clusters, but still not so developed. The blue cluster (digital technologies) is positioned in the third quadrant, and this should be justified by the fact that it contains emerging themes. The yellow cluster (collaboration), instead, mainly contains developed but isolated themes. In the next sections each cluster will be investigated in detail.

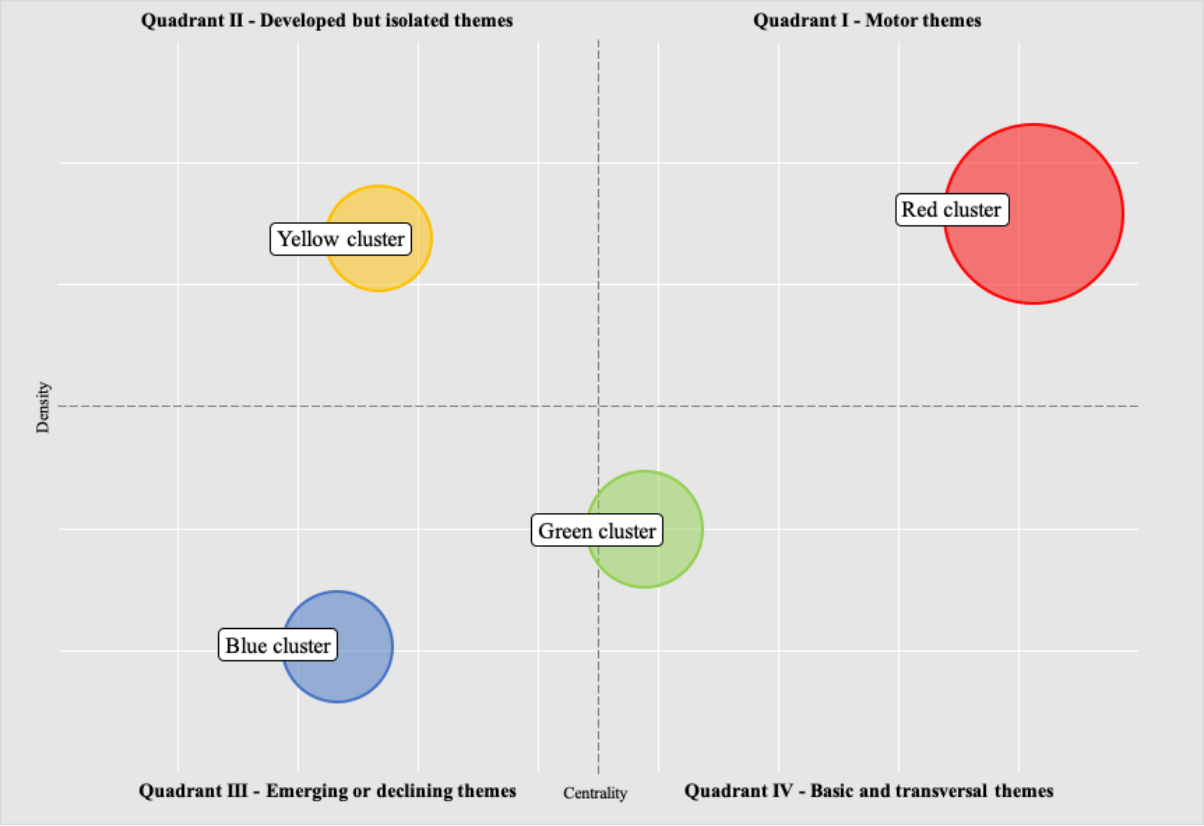

Fig. 8 Thematic map based on Wikipedia web pages

4.3.1 Red cluster: Finance

The first cluster relates to financial aspects related to social entrepreneurship. It includes more transversal concepts such as equity financing and crowdfunding, but also more domain-

specific concepts such as microfinance and impact investing. Most of the reflections on traditional financial instruments, such as equity financing, are mentioned by Wikipedia to highlight the difficulty that social ventures have in obtaining funds. Loans and equity financing are, in fact, harder to get for social businesses compared to traditional entrepreneurs and this forced most social ventures to become for-profit ventures. On the other side, the financial sector recently started supporting social entrepreneurship through impact investing. Impact investors actively seek to place capital into companies "with the intention to generate a measurable, beneficial social or environmental impact alongside a financial return" (Wikipedia, 2020, retrieved from the page "Impact investing"). Impact investing is the result of the increasing attention that the financial sector is paying to social entrepreneurs and, more generally, to sustainable entrepreneurship. Indeed, Larry Fink, chairman and chief executive officer at the world's biggest investor BlackRock, sent in January 2018 this letter to the S&P 500 companies to inform their CEOs that "Society is demanding that companies, both public and private, serve a social purpose. To prosper over time, every company must not only deliver financial performance but also show how it makes a positive contribution to society". Nevertheless, social entrepreneurship can also be financially supported by business incubators and business accelerators: organisations with the mission to support early-stage companies and start-ups. Actually, their support goes beyond the financial aspects, to include the provision of offices and meeting spaces as well as mentoring and coaching. However, social entrepreneurship is related to financial support not only from an inbound perspective but also from an outbound perspective. For instance, Wikipedia provides the example of Muhammad Yunus, a well-known social entrepreneur from South Asia, who founded the Grameen Bank in 1976. He has become popular as the "father of microcredit" after having established the microfinance movement, which aims to help millions of people in rural communities to have access to small loans. His work has not gone unnoticed, and in 2006 he was awarded a Nobel Peace Prize.

Recently, we have witnessed the emergence of new financing methods. An emergent tool of funding – increasingly used in the field of social entrepreneurship – is crowdfunding, a financing practice that aims to raise small amounts of money for a project or a company from a large number of people, typically via the Internet.

4.3.2 Green cluster: Triple bottom line

The second cluster from Wikipedia highlights, as the fourth cluster from Scopus, that the term social entrepreneurship is rather generic and this can generate confusion in outlining the

boundaries of this concept. In this cluster, for instance, most of the concepts refer to environmental issues (e.g., clean energy, environmental science, forest conservation, environmentalism, water access). This means that social entrepreneurship is perceived to be inclusive of both social and environmental aspects. The intrinsic interrelatedness and complexity of grand challenges calls in fact for entrepreneurial approaches that address issues simultaneously reflected in social environmental, and economic dimensions. This is further confirmed by the presence, in this cluster, of the triple bottom line concept. This concept draws on business accounting and extends the perspective of evaluating business performance from a broader angle, to create concurrently financial, social, and environmental value. On this basis, it seems difficult to clearly differentiate social entrepreneurship from other related concepts that have a specific page on Wikipedia, such as *sustainopreneurship*. At the same time social entrepreneurship can be intended as an alternative concept of doing entrepreneurship, that is not only profit-driven. This reflection will be re-examined in the final section of the discussions, in comparison to the results from the bibliometric analysis of the literature.

4.3.3 Blue cluster: Digital technologies

The role of the Internet and digital technologies is particularly relevant in the third cluster. Moreover, the restrictions imposed in response to COVID-19 pandemic have further exacerbated the potential of digital technologies in enhancing collaborations among entrepreneurs for achieving social outcomes.

Through the use of the appropriate technology, being it a social media, a networking app, or any other digital platform that enhances communication among people, social entrepreneurs have the opportunity to "reach numerous people who are not geographically close yet who share the same goals and encourage them to collaborate online, learn about the issues, disseminate information about the group's events and activities, and raise funds" (Wikipedia, 2020, retrieved from the page "Social entrepreneurship"). Social entrepreneurs that adopt open source principles through the use of wiki models or crowdsourcing approaches can thus not only cross organisational, but also geographical boundaries, and get hundreds of people to collaborate on joint online projects to develop business plans or marketing strategies that embody social value.

4.3.4 Yellow cluster: Collaboration

If the third cluster mainly focuses on the technologies that push collaborative methods forward, the fourth cluster focuses more specifically on said methods, and the actors that can be involved and play a pivotal role in collectively helping social entrepreneurship to achieve its goals. Wikipedia defines collaborative methods as "processes, behaviours, and conversations that relate to the collaboration between individuals. These methods specifically aim to increase the success of teams as they engage in collaborative problem solving" (Wikipedia, 2020, retrieved from the page "Collaborative method"). An approach that is gaining momentum and that we have already mentioned is crowdsourcing. One of the main features of this model is that it is usually based on a rapidly evolving group of participants. During the COVID-19 pandemic, for instance, due to the social distancing imposed by governments, we have further witnessed an intensification of these initiatives. Many crowdsourcing programmes have spread digitally to fight the virus, opening the doors for multi-actor collaborations. Collaboration is intended to assume increasing relevance given the growing complexity of social problems. In other words, we have seen that social entrepreneurs need support from financial institutions and incubators (Wikipedia's red cluster), but also from other actors, to collaborate on solving social problems (Wikipedia's blue cluster). Non-profit organisations, research centres, and scientists are just some of the actors that emerge from the map and that can contribute to solving societal challenges through collective efforts. Even if not visible in Figure 7, civic engagement is another concept that appears in this cluster (see Table 4). Citizens are, in fact, increasingly engaging in collective action to address issues of public concern, and promote the quality of the community. They can be of support to social entrepreneurship activities, as well as become themselves social entrepreneurs. Collaboration in the context of social entrepreneurship can also refer to entrepreneurship education, as a tool to provide students and nascent entrepreneurs with the knowledge, skills, and motivation to encourage entrepreneurial success. As reported on Wikipedia (Wikipedia, 2020, retrieved from the page "Entrepreneurship education"), entrepreneurship education can also be oriented towards the creation of "charitable organisations (or portions of existing charities) which are designed to be self-supporting in addition to doing their good works".

5. Discussion and avenues for future research

Social entrepreneurship has become a popular area of interest within the broad entrepreneurship research domain. Several issues such as poverty, demographic imbalances, and ICT-driven disruptive changes in the labour market are increasingly demanding efforts

from entrepreneurs to conduct business with an embedded social drive (Gupta et al., 2020). Nevertheless, the recent COVID-19 pandemic is expected to further exacerbate some of these challenges while creating new ones (Gümüsay & Haack, 2020).

Our study has the purpose of analysing social entrepreneurship (Gupta et al., 2020; Lortie & Cox, 2018, Rey-Martí et al., 2016; Saebi et al., 2019) with an experimental research approach, that employs network analysis techniques to compare academic literature on social entrepreneurship with the results emerging from Wikipedia. The results led to the identification of multiple research themes and the identification of avenues for future research based on a comparison between academic and non-academic knowledge.

The bibliometric analysis on Wikipedia led to the identification of four clusters referring to financial elements, triple bottom line, digital technologies, and multi-actor collaboration. The bibliometric analysis of the scientific literature led to other four different clusters. The first cluster mainly concerns the individual traits of the social entrepreneur, delving into intentions, motivations, and behaviour of individuals who aspire to create social enterprises (Zahra et al., 2009; Smith & Woodworth, 2012). The second cluster mainly refers to the hybrid nature of social entrepreneurship, oriented towards the simultaneous pursuit of social value and profit (Kruse, 2019; Pache & Santos, 2013). The third cluster contains keywords that refer to the concept of legitimacy and institutional entrepreneurship, highlighting social entrepreneurs and social enterprises as agents of social change (Mair & Martí, 2009; Ruebottom, 2013). Keywords in the fourth cluster focus on a range of aspects that can be grouped in social value creation (e.g., social performance and social impact) and collective efforts to achieve these outcomes (e.g., collaboration, network, and public-private partnerships) (Caldwell et al., 2017; Dufays & Huybrechts, 2014; Ormiston & Seymour, 2011).

The detailed description of results in the previous section has brought up commonalities and divergences between these two knowledge corpus.

Starting from the commonalities, both the analyses have individuated a cluster including broader concepts, such as sustainable entrepreneurship, sustainable development, and triple bottom line, or overlapping concepts, such as environmental entrepreneurship and related sub-topics, such as water access and forest conservation. This paves the way for reflections. First, the complexity and evaluativity of grand challenges (Ferraro et al., 2015) create an uncertain context in which social problems are usually interrelated with environmental ones, and thus social purposes and relative actions also have environmental consequences. Indeed, social entrepreneurs not only need to deal with tensions between market and social logic

(Battilana & Dorado, 2010, Pache & Santos, 2013), but they also often need to integrate the environmental logic (Meyer et al., 2020). This has not only managerial and organisational consequences, but also raises issues on how to measure a performance in terms of social impact (Austin et al., 2006). The extant research shows that standards for measuring this important construct are still underdeveloped (Rawhouser et al., 2019; Salazar et al., 2012).

Second, the concept of social entrepreneurship is not clearly defined. Lortie and Cox (2018) have provided an overview and explanation of the boundaries of social entrepreneurship and, more specifically, they have individuated corporate social responsibility, base of the pyramid, non-profit management, social innovation, and impact investing as main related domains. In a similar vein, Saebi et al. (2019), have recently recognised that there is no consensus on what social entrepreneurship means, and its mission to pursue both economic and social value can partially overlap with related concepts, such as sustainable entrepreneurship, corporate social responsibility, or development entrepreneurship. This means that the lack of clarity regarding social entrepreneurship at the non-academic level is also reflected in scientific literature.

The future of social entrepreneurship is still uncertain. The great attention that scholars from different domains are paying to the broad fields of sustainability and grand challenges has led many of them to use the term social entrepreneurship inappropriately. So, on the one hand, social entrepreneurship has gained momentum, but, on the other hand, it risks to be confused and absorbed from emerging concepts, such as sustainable entrepreneurship, social innovation, or impact entrepreneurship (Markman et al., 2019; Murray et al., 2010). This calls for further attempts to define it.

One of the clusters from the scientific literature mainly referred to the individual traits (especially the psychological) of the social entrepreneurs. Although this research stream is already quite established, the recent developments in both new technologies and the neuroscience research fields should further provide new tools to develop a decision science research stream in social entrepreneurship future studies (Peterson, 2019).

The network analysis from Wikipedia revealed a cluster concerning technology and digital collaboration. This cluster is not present in the network analysis of the scientific literature. In this regard, we outline two potential research streams for the future. First, social entrepreneurship studies could increasingly concentrate their efforts on the analysis of how online crowdsourcing platforms can boost social entrepreneurship. During the COVID-19 pandemic, for instance, we have witnessed an incredible amount of initiatives, especially hackathons, that have moved online to fight the virus (Bertello et al., 2021). These online events can help social entrepreneurs validate their ideas at the conception stage and connect

to new competencies and resources (inbound collaboration), but they can also allow social entrepreneurs to help incumbent in solving societal challenges (outbound collaboration). Thus, future studies could investigate what are the most appropriate technologies for incentivising collaborative entrepreneurship and innovation in these events as well as they could investigate pros and cons of virtual collaboration in comparison to traditional physical interactions. Furthermore, future studies could also investigate the impact that new technologies, not only collaborative platforms, can have both on the generation of new inequalities and on the possible resolution of this problem through social inclusion (United Nations, 2019). Despite its practical relevance, little research exists looking at the potential nexus of technological and social entrepreneurship. Early studies from neighbouring fields show a lot of promises (Mulloth et al., 2016) and reflections on new disruptive technologies such as blockchain, artificial intelligence, and big data analytics seem to emerge (Dubé et al., 2018; Zeng, 2018). In this regard, for instance, Pappas et al. (2017) proposed a research agenda to understand the role big data will play in entrepreneurs and policy-maker strategies oriented to driving societal change.

Both the network analysis from Wikipedia and the scientific literature show the relevance of collaboration in the domain of social entrepreneurship. However, the most recurrent keywords belonged to very traditional concepts such as network, public-private partnerships, or even, more generally, collaboration. Social entrepreneurship research is invited to move a step forward by analysing novel collaborative models and paradigms, drawing on recent approaches that explain innovation and entrepreneurship in the face of societal challenges, such as, for instance, the robust action approach introduced by Ferraro et al. (2015). At the same time, the literature on entrepreneurial ecosystems could provide interesting insights for investigating how to boost social entrepreneurship through multi-actor collaboration (Bozhikin et al., 2019; Roundy, 2017).

The network analysis from Scopus has also revealed the recurrence of neo-institutional theory in social entrepreneurship research (Battilana & Lee, 2014; Doherty et al., 2014). However, scholars are increasingly combining different theoretical approaches to capture the complexity of the subject. Jay (2013), for instance, has cross-fertilized neo-institutional theory with paradox research by investigating how hybrid organizations combine institutional logics in their efforts to generate innovative solutions to complex problems.

Finally, we individuate as further important avenues for future research, studies that develop tools for measuring social impact and studies at the intersection between social entrepreneurship and ethics. Regarding the latter, the progress made in social

entrepreneurship research still lacks to be matched with a robust analysis from the ethics perspective (Cornelius et al., 2008). The relationship between these two research areas is, in fact, under-investigated and most attempts are skewed towards the social entrepreneurship side (Chell et al., 2016).

The presumption that because something is socially-oriented and set up to "do good", then it is likely to be ethically sound should be corroborated by examining critically and practically how it is organised, with what intentions and outcomes. In this regard, the literature on social entrepreneurship should move from the idealisation of this concept to the practical analysis of how social entrepreneurs act to produce conditions of freedom for themselves as well as for others (Dey & Steyaert, 2016).

Table 5 provides a summary of the research directions discussed in this section, together with exemplary research questions.

Table 5 Future research

Key research opportunities	**Exemplary research questions**
Conceptualizations of social entrepreneurship	How can social entrepreneurship be defined to capture the increasing complexity of grand societal challenges? Should social entrepreneurship be conceptualized through an inclusive definition, or narrow definitions do fit better to avoid overlaps with similar concepts?
Social entrepreneurship and digital transformation	To what extent can (virtual) collaboration enhance social entrepreneurship? How can emerging technologies, such as big data analytics, artificial intelligence, and blockchain influence social entrepreneurship processes? To what extent digital technologies (re)produce inequalities? How can new technologies influence social entrepreneurs' decision-making processes?
Social entrepreneurship performance measurement	How can the impact of social entrepreneurship be measured? What are the most effective tools to raise people's understanding of complex models and organisational performances? What kind of models or frameworks can be adopted? How can performance management systems be

	innovated to capture non-financial outcomes?
Collaborative, networked, social entrepreneurship and ecosystems	How can governments support collaborative social entrepreneurship? Which novel forms of organizing can enhance citizens' participation in social entrepreneurship processes? Under what conditions can entrepreneurial ecosystems support social entrepreneurship?
Social entrepreneurship and ethics	What are the ethical implications of social entrepreneurship? How can social entrepreneurship improve the conditions of both the social entrepreneur and the community? Which barriers do women experience when launching a new social venture?

6. Conclusions

In this study, we have experimentally combined bibliometric analysis and web crawling for delving into the conceptual boundaries of social entrepreneurship through network analysis techniques, to compare academic and non-academic knowledge. We are strongly convinced of the adaptability and scalability of this method for shedding light on the conceptual structure of other emerging and transversal fields whose boundaries are not well-defined (e.g., circular economy, green economy, or social innovation). However, the paper is not free from limitations. First, the results are highly dependent on the criteria adopted for collecting bibliographic data. For example, for ensuring the reliability of data, we excluded publications that are outside the scientific circuit, and did not pass a double-blind review. However, it could be interesting to analyse grey literature coming from the business practice, using a different unit of analysis than keywords. Indeed, social entrepreneurship has strict links with such a domain and valuable insights could derive from a similar analysis. Second, it was necessary to manually parse the author's keywords for standardising them and this step added subjectivity to the research. To limit this bias, all the authors participated in that step. Third, the obtained networks are very sensitive to different parameters (e.g., keywords co-occurrences, total link strength, modularity algorithm), so the results can change by varying even one of these parameters. Fourth, it must be noted that Wikipedia's web pages, differently from the keywords of published papers, can be subject to edit, which could also affect the reported links. This usually happens when the community of contributors considers

a certain content not appropriate and assures the reliability and robustness of the knowledge stored in the website. We have decided to focus our attention on social entrepreneurship because of the pivotal role social entrepreneurship is expected to play in tackling grand challenges. Thus, the next years will be crucial for the consolidation of social entrepreneurship as a field of studies. We firmly believe that integrating the academic and non-academic perspectives can contribute to giving momentum to social entrepreneurship, given the social purpose that is at the foundation of this research stream.

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