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Article

Towards Sustainable Entrepreneurship Holistic Construct

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Abstract: In the recent years, conducted businesses have been increasingly expected to obtain more sustainable forms, with many added determinants. Indeed, sustainability-related entrepreneurship still faces complex choices among conventional entrepreneurial factors while being urged to consider three main pillars of sustainability. Thus, this work is focused on the development of a sustainability-related entrepreneurship by reflecting the sustainable needs of an entrepreneurship. Due to the fact that it is not clear for the sustainability-related entrepreneurship what the valuable and most influential factors stimming its development are, the detection of the underpinning building blocks that properly adapting within each factor and how these factors correlate with each other become a major motivation of this work. Therefore, this paper aims to conduct an attempt to identify comprehensive set of SE (Sustainable Entrepreneurship) factors providing a structural overview in making insights into the factors/determinants of SE. It assists researchers and entrepreneurs in obtaining clear informative pictures about SE factors. The applied research methodology is based on a systematic literature review which is conducted using the PRISMA methodology, simultaneously ensuring repetitiveness and lack of bias in this process. To retrieve and condense the immense amount of bibliographic information, a bibliometric analysis is adopted to perform in co-occurrence analysis of keywords determining SE factors and detailed different forms of distribution analysis. The expected outcome is to provide the classification schema of applied keywords in sustainable entrepreneurship literature as part of a comprehensive literature review, which is presented in order to uncover, classify and systematize the current research. As a result, a co-word matrix of high frequency keywords of SE factors is also established. It offers a feasible path of investigation for researchers aiming to build a consistent body of knowledge about sustainable entrepreneurship, by providing a conceptualization and systematization that can be applied across the many contexts in which sustainable entrepreneurship is expressed, for example sustainable actions and sustainable development contexts. The present research aims to yield a successful attempt of identifying comprehensive set of SE factors, as well as to establish a co-word matrix of high frequency keywords of SE factors. Providing a macroscopic overview of the main factors of SE in the form of conceptualization of the proposed construct will capture the unique organizational characteristics of sustainable enterprises and facilitate the research into capability building, innovation and competitive advantage in sustainable enterprises. It supports both researchers and entrepreneurs in shaping up and refining future research activities and investments in line with the policy of SE.

Keywords: Sustainable entrepreneurship (SE); Sustainable entrepreneurship construct; SE factors; SE enablers

1. Introduction

Along with the increased call for conducting business in a more sustainable way, sustainability-related entrepreneurship has become an important subfield of entrepreneurship research. Given the growing number of research in this field, a plentitude of attention has been paid to change the business trends towards sustainable business practices. While sustainability enfolds the three aspects: social, environmental and economic as well [1,2], sustainable entrepreneurship highlights the important role of entrepreneurs in developing non-economic gains to society [2,3] and provides comprehensive corporate social responsibility by balancing economic health, social equity and environmental resilience through their entrepreneurial behavior [1,2]. Thus, sustainable entrepreneurship can be generally defined as the application of the entrepreneurial approach towards meeting environmental and societal goals [1,2,4]. In other words, crucial to a more sustainable economy is the successful implementation of sustainable practices through entrepreneurial activities [1,5].

A broad and multifaceted view of sustainable entrepreneurship requires performing potentially valuable sustainable actions [6,7] and, in the aftermath of this, to transform them into sustainability products and services to create shared value [8,9]. For this reason the question as to how businesses can become a vehicle towards more sustainable development has obtained a significant meaning [1,2,5,10,11]. Therefore, there is growing interest in the role of the successful implementation of sustainable practices through entrepreneurial activities [5,12]. In general, enterprises that are able to build competitive advantages and successfully identify sustainable-oriented entrepreneurial opportunities need to put a lot of effort into works detecting drivers and factors supporting sustainable-oriented practices [4,7,9,13]. Indeed, sustainability-related entrepreneurship still faces complex choices with the detection of the underpinning building blocks that properly adapting within each factor and how these factors correlate with each other [14–17]. While many studies considering sustainable entrepreneurship have grown up, little is known about the factors and determinants influencing on entrepreneurs to become sustainable [5,10,18] or the mechanisms that might make it possible [19,20]. For that reason, this paper presents an attempt to identify a comprehensive set of SE factors derived from bibliometric analysis reviewing SE factors that underpin sustainable entrepreneurship. As a consequence, it yields the heterogeneous picture research with a focus on sustainable entrepreneurship, including both co-occurrence analysis of keywords determining SE factors and detailed aspects such as distribution analysis, research topics, corresponding authors, country of residence of corresponding authors and institutions. Moreover, it supports an evaluation of global research trends in SE, providing clear informative pictures about SE factors. A visible need for detailed elaboration of keyword co-occurrences [9,21,22], their influence on each other as well as existing relations may help and carry out future researches to build more innovative sustainable entrepreneurship models, frameworks and other constructs, which need to be adjusted to the various business environments [8,23–25]. Exploring different perspectives and variables that focus on nature and lifestyle, as well as on conducting sustainable businesses should strengthen the role and the perception of SE [4,12,25]. Other important factor, is that researchers may focus on knowing how sustainable enterprises develop their roadmap [8,25–28] and which factors are most influential on social and environmental issues [29–31]. Other implication is related to help in identifying most prominent cooperative categories and also value creation contributing positively to develop sustainable businesses [32–34].

More precisely, our objective is to conduct an attempt to identify comprehensive set of SE factors providing a structural overview in making insights into the factors/determinants of SE. To meet this research aim, PRISMA methodology is adopted to perform a systematic literature review, ensuring repetitiveness and lack of bias in this process. To retrieve and condense the extensive amount of bibliographical information, a bibliometric analysis is applied and, in the aftermath of this, a co-word matrix of high frequency keywords of SE factors is established. Providing a macroscopic overview on the main factors of SE in the form of conceptualization of the proposed construct will capture the unique organizational characteristics of sustainable enterprises and facilitate research into capability building, innovation and competitive advantage in sustainable enterprises. In the foreground, the

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aim of this work is to focus on the development of sustainability-related entrepreneurship by reflecting sustainable needs of entrepreneurship. Sustainability-related entrepreneurship still faces complex choices among conventional entrepreneurial factors while being urged to consider three main pillars of sustainability. Therefore, this research aims to conduct an attempt to identify comprehensive set of SE factors providing a structural overview in making insights into the factors/determinants of SE.

This work is partly motivated by the need of setup/composition of main factors and groups of factors producing detailed and novel perspectives of SE development. To meet these aims and to help recognizing the most significant trends which play important roles in broadening of sustainable entrepreneurship, this bibliometric analysis documents the scientific achievements and identifies the hotspots of research and the future research directions for further evaluation of SE field. The expected outcomes of this bibliometric research may have major implications for further construction of a knowledge base for future assessment and analysis of research outputs in the scrutinized field. There is also another implication for the possibility of identifying the changes in research trends in the context of used keywords in the future compared to the existing ones. Generally, the findings of this analysis provide an overall picture of the development of the SE research area. This could help practitioners and scholars to identify and assess the efforts that have been exerted toward the advancements of research related to these fields. The used research methodology is applicable to various subjects.

The rest of the paper is organized as follows: Section 2 provides a comprehensive literature review of the sustainability entrepreneurship domain. This entails an examination; of its existing approaches and contextualizes it within the conceptual knowledge construct. Section 3 introduces an attempt to build SE holistic construct by presenting main pillars of SE conceptualization, knowledge mapping and handling on base of the identified SE enablers. In the aftermath of this, a new construct in the form of a framework is proposed. Section 4 presents the conclusions of this paper and its potential new threads for further research.

2. Literature overview

2.1. Literature overview – aspects of sustainable entrepreneurship

Together with an increased call for conducting business in a more sustainable way, sustainability-related entrepreneurship has become an important subfield of entrepreneurship research [1,2,5]. This has resulted in a significant increase of the number of published articles on the area of sustainable entrepreneurship in the recent years. The first published papers appeared at the beginning of the 90s, though only since 2006 the number of articles on this topic has increased significantly. At the moment, the business trends have changed towards sustainable business practices and corporate social responsibility [16,31,35,36]. These trends encompass rectifying pressing environmental and social issues by being more sustainable [3,37]. Entrepreneurship and sustainable development are inclusively connected [19,20,38]. What is more, entrepreneurship for sustainable development is supposed to result in more than economic success [8,16]. Contrary to the traditional entrepreneurship, sustainable entrepreneurship considers additional factors, bringing the supplementary potential both for environment and the society [1,2,5]. In general, the aim of sustainable entrepreneurship is to highlight the important role of entrepreneurs in developing non-economic gains to society [5,27] and to provide comprehensive corporate social responsibility by balancing economic health, social equity and environmental resilience through their entrepreneurial behavior [1,2]. The implementation of social, environmental, and economic actions with sustainability factors is a consequence of the deep globalization that the markets have experienced and the growing demand of stakeholders of social commitment and transparency, on the part of the companies [24,39–41]. Currently, the globalization, organizational dispersion, market focused on cross-border collaboration, sectorial integration and striving for the stabilization of the company on a cross-border market are key activities of creating business strategies and policies[31,42,43]. Such activities should be developed in sustainable business context, which retains the symmetry in

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business activities [10,19,42] and enfolds the three aspects of sustainability: economic, environmental and social [44,45]. Such aspects can be defined as the triple "P", referring to people, planet, and profit [44,45]. Maintaining of the balance between the economic, social, and environmental dimensions is one of the objectives of the sustainable oriented enterprise [1,4]. Thus, sustainable entrepreneurship can be generally defined as the application of the entrepreneurial approach towards meeting environmental and societal goals [1,2,4].

For this reason, in today's world, the question as to how businesses can become a vehicle towards more sustainable development has become more relevant than ever[1,2,5,10,46].. As a way to solve the problems, crucial to a more sustainable economy is the successful implementation of the sustainable practices through entrepreneurial activities [5,6]. What is more, environmental destruction can bring the negative consequences of entrepreneurial activity [18], whereas this environmental destruction can be a new opportunity for entrepreneurial activities [10,31]. Thus, there is a growing interest in the role of entrepreneurs in solving environmental problems through sustainable entrepreneurship [19,45], and pursuing economic benefits through the process [1]. Society needs to manage its economic, social and environmental capital [44], setting the guidelines for creating more sustainable business models [5,18,47,48].However, the findings show that enterprises are capable of identifying potentially valuable sustainable opportunities, but are not capable to transform them into sustainability products and services to create shared value [20,40,49]. Likewise, enterprises that are able to build competitive advantage, but this advantage may not include the ability to identify sustainable-oriented entrepreneurial opportunities, ultimately not creating a shared value [1,19]. Simultaneously, enterprises need competitive and innovative actions in order to be successful [4,39]. In general, these processes are influenced by its policies, rules, interactions, norms, societal pressures and other regulations [5,10,31]. The development of sustainable innovation by stimulating trust and collaboration can lead directly to the quality of offered services and goods by enterprises[1,46]. . The neglect of these processes influences the worse services and goods [19,20], reducing the number of orders and, afterwards, financial problems and other business inconveniences [31]. The access to the operational knowledge can be even more crucial to prevent these situations [1,4].

2.2. A literature review of sustainable entrepreneurship

Up to the authors' knowledge and based on surveying the obtainable literature, previous works were dedicated to an environmentally oriented entrepreneurship [50–52]. The initial literature studies of sustainable entrepreneurship were carried out by Staber [51], Keogh and Polonsky [50], and Pastakia [52] about twenty years ago. Staber described on organizational ecological theory to test hypotheses concerning temporal variations in the relationship between co–operation, competition, and business founding rates [51]. Then, Keogh and Polonsky emphasized the role of a model of environmental entrepreneurship [50]. On the basis of survey of ecopreneurs in the agricultural sector, Pastakia introduced the term "commercial ecopreneurs" (or ecopreneurial corporations) who seek to maximize personal (or organizational) gains by identifying green business opportunities (i.e. eco-friendly products and processes) and transforming them into viable business ventures [52].

The further development of the SE problem was elaborated by Isaak [53], Schaltegger [54], Linnanen [55], and Walley and Taylor [56]. Isaak proposed firm–society concept of green-green as a dominant production–consumption mode for a future society [53]. Besides, Schaltegger introduced a framework to position ecopreneurship in relation to other forms of environmental management. It contained a reference for managers to introduce ecopreneurship [54]. Linnanen examined the phenomenon of ecopreneurship from two different sides: academic and practical on base of personal experience in the creation and management of environmentally oriented business ventures in Finland [55]. Then, Walley and Taylor undertook the review current perspectives on the concept of entrepreneurship and existing approaches to classifying entrepreneurs in order to gain insights for developing a typology of green entrepreneurs. Moreover, they explored different conceptualizations of 'green', 'greening', 'green-green' and sustainability [56]. In general, these works are treated as the early stage of development in this area [2].

Several authors underlined the prominence of entrepreneurship and sustainable development as promoting behavior within entrepreneurial organization for competitive advantage by attaining economic success, innovative environment and social practices [38,54]. Moreover, Richomme-Huet and Freyman [13] have also stressed that sustainable entrepreneurs should create values that produces economic prosperity, together with social justice and environmental protection. The authors also proposed the categorization of field of entrepreneurship into several sub-fields: regular/economic entrepreneurship, green/environmental entrepreneurship, social entrepreneurship and sustainable entrepreneurship [6]. The social dimension (aspect) of SE was highlighted in the works proposed by: Brinckerhoff [57], Borzaga and Solari [58], Prahalad [59], Bright [15], Nicholls [60], Mort, Weerawardena and Carnegie [28]. Perhaps the most elaborate model of social entrepreneurship [47] was proposed by Mort, Weerawardena and Carnegie [28]. The authors argue that social entrepreneurship is a ''multidimensional'' construct formed by the intersection of a number of defining characteristics [28].

2.3 State-of-the-art of multi-dimensional view of SE

A broad and multifaceted view of sustainable entrepreneurship on the basis of a systematic review is also promising field of research [19].For this reason, apart from the typical form of systematic literature review [2,5,19], an increasing number of researchers have started paying attention to the multidimensional aspects of SE, concerning various factors, drivers and variables. For example, as the results of these works, researchers propose to group the reviewed papers into categories [4], to construct a conceptual model [45], to define value creation strategies [34], to build sustainable business models [60] or integrated framework [7] or to build theory of SE [61], especially taking into account multidimensional social entrepreneurship [4] or ecological sustainable entrepreneurship aspects [45]. Summarizing the contribution of the extant literature review of the field of sustainable entrepreneurship, there is a clear need to continue to build on these new areas of research as well as to advance of the novel fields influencing on sustainable entrepreneurship.

To thoroughly demonstrate and examine the content of literature sources, it is necessary to conduct an in-depth bibliometric analysis. Bibliometric analyses have the potential to retrieve and condense large amounts of bibliographic information and to present evidence-based depictions, comparisons, and visualizations of research outputs. The reviewed bibliometric studies also allow the identification of the most prominent issues and works in the research field of sustainable entrepreneurship. Some works allow identifying chronologic distribution of publications on sustainable entrepreneurship [2,7], most important journals [2,7,45], top 10 journals, authors with the largest amount of publications on sustainable entrepreneurship, most cited authors on sustainable entrepreneurship journals, and also most cited articles on sustainable entrepreneurship. These reviews aim to bring light to the topic of sustainable entrepreneurship by understanding which is the most influential academic literature so far, where has been published and by whom. The knowledge gathered from the analysis of the previous research works enables new academics to have a lively and clear description of the relevant literature in this research field and to identify the international journals more sensitive with this topic. Besides, a lot of effort was put into works offers detecting drivers and factors on base of the literature review [34,44,45,62]or requirements under which business models for sustainable innovation should operate [60]. Drivers and factors of conducting business in an ecological sustainable way are investigated in [45], as well as factors that enable ecological sustainable entrepreneurship. What is more, some of previously elaborated bibliometric analyses consider the division of the works on qualitative and quantitative approaches[4,5,45,63], and also mixed approaches. Literature in this field also considers the analysis of used models (LCA, optimization methods, and sustainability models) [10].

Having argued the multidivisional nature of SE, some works emphasize the synthesis of the main three clusters within this research field (social, environmental and economic) [8], as well as distribution with respect to the 3 sustainability dimensions, impact categories, environmental factors, social factors, selection of models with reference to the dimensions [10]. Exploring the SE components in the form of social, environmental and sustainability-driven entrepreneurship is described with

details in [44]. To develop this, many works highlight the role of innovation for sustainability [7,20,64]. Following this path, one of the bibliometric analyses tries to solve the problem of the interrelations between business models and sustainable innovations [54,60].

Even though sustainable entrepreneurship has received much attention from different research domains, the literature on sustainable entrepreneurship almost always focuses on its social and environmental side. While this study focuses on the bibliometric analysis, the most attention is paid to keyword co-occurrences and the relations between them. In this light, this article makes a methodological contribution by combining bibliometric analysis, dedicated techniques and tools towards sustainable entrepreneurship.

2.4 Basic principles and scope of bibliometric analysis

While many studies considering sustainable entrepreneurship have grown up, little is known about how entrepreneurs can become sustainable [5,10,18] or the mechanisms that might make it possible [19,20]. There is a large number of keywords for addressing complex SE field, which are featuring main terms/trends and objectives, and the relationships. The present research aims to bring light to the topic of sustainable entrepreneurship by understandings which are the most influential keywords and existing relations and connections between them, as well as providing detailed information about the publishing and authorship. This knowledge enables new academics and practitioners to have a clear and comprehensive description of the relevant literature in this research field and to identify the keywords and also dependencies and relations more sensitive with this topic. Furthermore, the current bibliometric study also allows the identification of the most prominent journals and works in the research field of sustainable entrepreneurship. From 2002 until now 279 documents on sustainable entrepreneurship have been published, which confirms, what other researchers pointed out, that collaboration within the sustainable entrepreneurship context is a relatively new and promising concept. The increasing interest and relevance is proved by the significant rise in the number of publications from the year 2006 until now. However, the identification of the most prominent journals and works in the research field of sustainable entrepreneurship reflects the most frequently used keywords, showing various lines of research and different meaning of constructs used in SE fields, that may be useful for future researches and practitioners. On the one hand, a need for detailed elaboration of keyword co-occurrences, their influence on each other as well as existing relations may help and carry out future researches to build more innovative sustainable entrepreneurship models, frameworks and other constructs, which need to be adjusted to the various business environments. Exploring different perspectives and variables that focus on nature and lifestyle as well as on conducting sustainable businesses should strengthen the role and the perception of SE. Other important factor is that researchers may focus on knowing how sustainable enterprises develop their roadmap and which factors are most influential of social and environmental issues. Other implication is related to help in identifying most prominent co-operate categories and also value creation contributing positively to develop sustainable businesses.

Due to the fact that common literature overviews of the structure and development of the field of sustainable entrepreneurship using a structured review of extant literature take place [3–5,20,44,60,61], a growing number of studies to develop social or environmental entrepreneurship to recognize their part in the advancement of the larger field of entrepreneurship. According to [2], academics should focus on knowing how sustainable enterprises develop their roadmap to search by social and environmental impacts that materialize through good practices developed in their environments. The current bibliometric reviews do not focus on the existence of the keyword occurrence analyses, considering predominantly geographical and chronologic distribution, and also most prominent journals, topics and cited authors in the research field of sustainable entrepreneurship, however. Besides, the performed bibliometric reviews have provided the synthesis of the clusters and subthemes, groups, variables, factors and drivers within this research field, thereby offering multifaceted opportunities for further sustainable entrepreneurial intention research. Presented conceptual models, frameworks and other constructs are results of these works, derived

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from the literature reviews. However, despite the attempts made, the classification and systematization of used keywords has not been provided yet.

The general aim of this effort is to ensure a broad and multifaceted view of sustainable entrepreneurship in the form of roadmap, highlighting the most prominent fields based on the collection of investigated keywords. Through bibliometric techniques and tools, this study allows mapping the main academic literature on sustainable entrepreneurship and analyzes the most substantial keywords to the advances of research in this field. This in turn may support researchers in shaping up and refining future research activities and investments.

To meet these aims, a bibliometric analysis based on data harvested from the Scopus database (until January 2019) is carried out to identify a set of bibliometric performance indicators, especially considering the keyword co-occurrences. After the bibliometric analysis, the map construction process concerns the assessment of a set of possible keyword sets and their analysis in the form of existing similarities, specific fields of application and possible directions of sustainable strategy of a given enterprise. By advance within the analyzed keywords and the existing relationships helping in the understanding of sustainable entrepreneurship, this research shows a heavy gap for future research in SE field and some challenging tasks to enforce better practices by the perception of social and environmental impact differences and monitor the change over time. Up to the authors' knowledge and based on surveying the obtainable literature, this analysis in the context of keyword co-occurrences has not been attempted before. The analysis allowed identifying publication evolution over time, and provides clues about the opportunities for future research in SE domain as well as allows identifying more influential keywords and their co-occurrence and existing relations between them in the map form.

3. Materials and methods

3.1 Methodological overview of the analytical steps

In this section the screening methodology is described in details. First, systematic reviews and meta-analyses require adjusting a proper methodology to ensure clarity, transparency, repetitiveness and lack of bias in this process. To meet the aim of systematic review, PRISMA methodology was adapted. PRISMA offers a set of items for reporting in systematic reviews and meta-analyses, and also provides a guideline how these processes should be conducted [65]. In order to broadly encompass and condense large amounts of bibliographical information that might be related to our research questions a bibliometric analysis is used. Despite the fact that a bibliometric analysis has the potential to generate a data- driven vision of scientific research activities and to present evidence-based depictions, comparisons, and visualizations of research outputs, this study provides insights into quantitative and qualitative aspects of considered data. Through bibliometric techniques and tools, the aim of this study is to provide the answers for the following research questions:

- What are the most influential keywords on the topic of SE and how the existing relations between them are formed?

This paper analyzes the heterogeneous picture research with a focus on co-occurrence analysis of keywords determining SE factors as well as the existing relations between them. This review aims to bring light to the multidivisional nature of SE, detecting the most influential keywords. This in turn may support researchers and entrepreneurs in shaping up and refining future research activities and investments in line with the policy of sustainable entrepreneurship. Besides, the current bibliometric reviews do not focus on the existence of the keyword occurrence analyses, considering predominantly geographical and chronologic distribution, and also general aspects of publishing analyses in the research field of sustainable entrepreneurship.

- What are most pertinent research areas and global research trends in SE?

This paper intends to provide an overview of the structure and development of the field of sustainable entrepreneurship as well as to explore global research trends not previously reviewed. Providing a macroscopic overview on the main characteristics of SE data based on a bibliometric analysis yields clear informative pictures about SE domain as a whole. To help recognizing the most

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significant trends which play important roles in broadening of SE, this work documents the scientific achievements and identifies the hot spots of research and the future research directions for further evaluation of SE field.

- What are the correlations, properties and inclusion scheme among the factors indicated by cluster analysis?

Due to the fact that the classification and systematization of used keywords has not been provided yet, this paper aims to ensure a broad and multifaceted view of sustainable entrepreneurship in the form of roadmap, highlighting the most prominent fields based on the collection of investigated keywords. This work provides a deep/new insight for the sustainability-related entrepreneurship what are the underpinning building blocks that allow properly adapting within each factor and how these factors correlate with each other. This bibliometric research organizes this in conducting a descriptive summary of existing correlations, a clustering analysis, and multidimensional scaling of properties between the factors.

- What are the most influential distribution analysis, research topics, corresponding authors, country of residence of corresponding authors and institutions in SE domain?

This paper extends a prior research, which has often dealt with an overview of basic analysis by yielding heterogeneous informative overview within the past twenty-year period with a focus on detailed aspects such as distribution analysis, research topics, corresponding authors, country of residence of corresponding authors and institutions. This work intends to provide an overview of the development of the field of SE, as well as to analyze collected data. Table 1 presents the main statements and summarizes the outcomes of conducted research.

Table 1. The main statements and outcomes of research.

Research questions	Motivations	Expected outcomes
RQ1: What are the most influential keywords on the topic of SE and how the existing relations between them are formed?	Visible lack the heterogeneous picture research with a focus on co-occurrence analysis of keywords determining SE factors and the existing relations between them. Visible lack of existence the keyword occurrence analyses.	Bringing the light to the multidivisional nature of SE and detecting the most influential keywords. Supporting researchers and entrepreneurs in shaping up and refining future research activities and investments in line with the policy of SE. Major implications for further constructing a knowledge base for future assessment and analysis of research output in the scrutinized field.
RQ2: What are most pertinent research areas and global research trends in SE?	Providing an overview of the structure and development of the field of SE and exploring global research trends not previously reviewed. Providing a macroscopic overview on the main characteristics of SE data based on a bibliometric analysis yielding clear informative pictures about SE domain as a whole.	Identifying the changes in research trends in the context of used keywords in the future compared to the existing ones. Providing an overall picture of the development of SE research area. Recognizing the most significant trends which play important roles in broadening of SE. Identifying both the hot spots of research and the future research directions for further evaluation of SE field.
RQ3: What are the correlations, properties and inclusion scheme among the factors indicated by cluster analysis?	Visible lack of the classification and systematization of used keywords. Visible lack of a broad and multifaceted view of SE in the form of roadmap. Highlighting the most prominent fields based on the collection of investigated keywords.	Providing a new deep insight for the underpinning building blocks to allow properly adapting within each factor and to show how these factors correlate with each other. A descriptive summary of existing correlations and a clustering analysis, and also

		multidimensional scaling of properties between the factors.
RQ4: What are the most influential distribution analysis, research topics, corresponding authors, country of residence of corresponding authors and institutions in SE domain?	An attempt to extend prior research by yielding heterogeneous informative overview within the past twenty-year period with a focus on detailed aspects such as distribution analysis, research topics, corresponding authors, country of residence of corresponding authors and institutions.	Providing an overview of the development of the field of SE and analysis of collected data.

The implementation of such research questions requires taking appropriate steps. Therefore, the proposed research procedure is composed of the following main phases: (1) searching documents, (2) preparation of data and (3) data classification. Each of the considered phases is then further elaborated by providing systemic literature review and defined search strategy, a content analysis of reviewed sources, an analysis of keyword co-occurrences, filtering results, and an attempt to classification of identified keywords. Figure 1 displays a general view of this procedure.

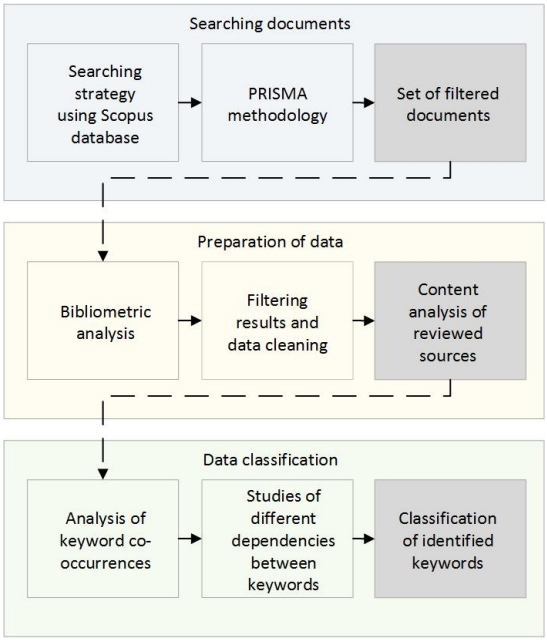

Figure 1. Research procedure.

3.2. Searching documents

3.2.1. Search strategy

To meet the aims of the study, procedures of systematic literature reviews and the bibliometric techniques and tools were adopted. Usually, bibliometric analyses are carried out based on employing one of four widely popular databases which include Web of Knowledge, Scopus, Google Scholar and PubMed [66]. In this case, the bibliometric analysis of literature was performed using both the Web of Knowledge and Scopus databases. In each case, the same subject area was used (sustainable entrepreneurship) and the same range was set (2002-2019). Retrieving the documents from Web of Knowledge database provided 314 results containing the relevant documents. The type of searching based on the topic or title. Retrieving the documents related to sustainable entrepreneurship from Scopus database provides 279 items. The searching strategy was based on filtering the documents with regard to article title, abstract and keywords. The preliminary analysis suggested using the results provided by Scopus database because of the indexing the largest number of journals than other scientific research databases [66,67] and the higher level of accuracy and specificity of information retrieval. Scopus allows also retrieving the indexed journals by keywords instead of Web of Knowledge database.

The document types (article, article in press, review) were considered in the search while the other document types such as book, conference papers, erratum, etc. were eliminated. The time restriction is from 2002 to 2019, whereas the period after 01.05.2019 is still open for new publications. Scopus database was examined for sustainability entrepreneurship subject area. The following advance search expression was applied including article title, abstract and keywords to obtain research outputs in the form of displayed list of 279 sources. The extracted documents were exported to csv file, and consequently the output data was prepared for further elaboration. The detailed searching process supported by formal methodology is provided in the next section 3.2.2.

3.2.2. PRISMA methodology

The procedure of systematic literature review required to adjust a systemic and reliable methodology. In this case, PRISMA methodology was used [65]. Above all, it allows conducting a systematic review in a clear and transparent way, ensuring repetitiveness and lack of bias in this process. In order to minimize the bias, it was necessary to only consider articles on the sustainable entrepreneurship field, and in the aftermath of this, filter these documents with regard to article title, abstract and keywords. The preliminary analysis suggested using the results provided by Scopus database because of the indexing the largest number of journals than other scientific research databases. Thus, the articles search was completed by gathering data from Scopus database. For this case, the query was as follows: (TITLE-ABS-KEY ("sustainable entrepreneurship") OR (TITLE-ABS-KEY ("sustainability entrepreneurship")). In view of the outcome, a set of 309 documents was obtained. Due to the fact, that Scopus database does not provide duplicates, carrying out the process of identification allowed to acquire 309 documents at the end. In this case, there are no additional records identified through other sources.

It was decided to remove the additional criterion in the search process, thereby providing a more detailed set of results. Resulting from the removal of the Boolean OR operator, the query eventually obtained the following form: (TITLE-ABS-KEY ("sustainable entrepreneurship"). In this process, the specification of document characteristics and report characteristics were considered. Based on that, after screening process, the set of 299 documents was retrieved for further consideration. Title and abstracts were screened and 9 studies were subsequently removed. Then, 290 full texts were assessed for eligibility. Only documents written in English and published as an article, book chapter, conference paper, review or book between 2002 and 2019 were considered, whereas editorial, erratum, note, and undefined documents were omitted. The main reason that the time period was set from 2002 was determined by the fact that using such defined query brought the first results from 2002. Eleven papers did not meet the requirements. Finally, the set contains 279 results of documents in the qualitative synthesis and the same number of documents was in the case of quantitative synthesis (meta-analysis). The extracted documents were exported to Excel spreadsheets. The results can be revised by the author name, affiliation, document type, source title, or subject area. The document search process finishes providing the collection of a set of filtered documents. A flow chart of the study retrieval and selection is provided in Figure 2.

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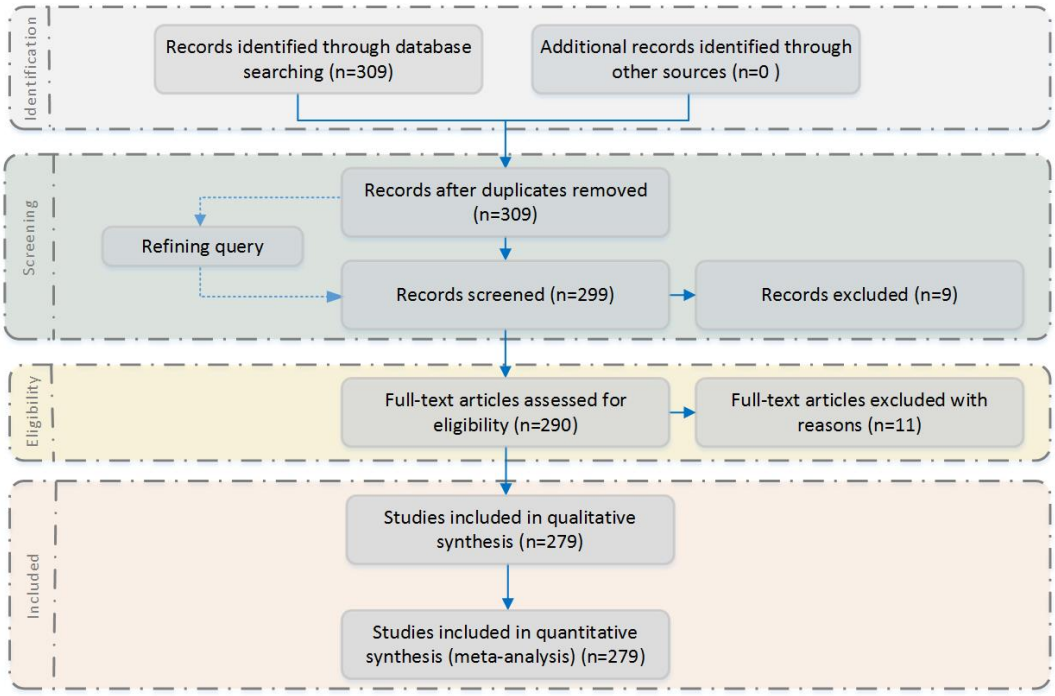

Figure 2. PRISMA methodology.

3.3. Preparation of data

3.3.1 Bibliometric analysis – assumptions

To conduct the search for literature on the SE field, incisive criteria were set. The content analysis was carried out by including (1) the number of documents published in time period: 2002-2019, (2) keyword occurrences in the analyzed sources, (3) the most productive journals by researchers, (4) the number of published documents by a given author, (5) the analysis of the distribution of research areas, (6) the analysis tracked the performance of each country in terms of number of published documents, (7) the analysis of the articles in the terms of affiliation, showing the leading institutions. Due to the aim of the conducted research, a high impact was assigned to the keyword occurrences. Therefore, the analysis of co-occurrence of keywords of published research was performed to examine the core research areas using bibliometric visualization maps, by benefiting from the capabilities of the VOSviewer software [68]. The output data was analyzed to create relevant and comprehensive information in the field of sustainable entrepreneurship. Thus, the obtained results were revised, and consequently, further elaboration of harvested data was supported by affixture of rules and limitations. The presented network view depicted the most important keywords on sustainable entrepreneurship fields, grouped into clusters. The results were presented also with regard to average citation for a given publication containing the selected keyword, as well as with regard to the density map. The expected outcomes of this bibliometric research may have major implications for indication of the leading keywords. The analysis was performed in order to distinguish the main aspects of the topic addressed in this bibliometric study. This classification was derived from previously elaborated bibliometric analysis. The keywords were grouped together following a purpose order, focusing on economic, environmental and social values as well as the preservation and development of sustainable-oriented entrepreneurship. To sum up, 48 keywords were arranged to the 4 main groups. To clarify, the analysis of SE keywords attempts to increase comprehension of social, economic and environmental challenges as multidivisional perspectives for continuous development SE, and also to systematize the flood of various terms and connections between them.

3.3.2 Analyses of distribution – obtained results

The set of 279 papers contains pre-defined author keywords corresponding with sustainable entrepreneurship domain. The analysis of co-occurrence of keywords of published research to examine the core research areas is conducted by benefiting from the capabilities of VOSviewer software. The aim of this software is to create visualization maps based on data of network and to apply the "visualization of similarities" mapping and techniques of clustering. This software offers great possibilities of the trustworthy analysis of bibliometric networks [68–70], fully examining the bibliometric maps. The VOS mapping technique is applied [69] to construct a map, where VOS stands for visualization of similarities.

The process of map construction by VOSviewer is based on a co-occurrence matrix. Firstly, similarity matrix is calculated based on the co-occurrence matrix. Further, a map is constructed by applying the VOS mapping technique to the similarity matrix. The idea of the VOS mapping technique is to minimize a weighted sum of the squared Euclidean distances between all pairs of items. The higher the similarity between two items, the higher the weight of their squared distance in the summation. Next, the map is translated, rotated, and reflected. The whole procedure of used techniques by VOSviewer and mathematical background is presented in [69].

This study attempts to survey and examine the bibliometric performance indicators to build a complete set of factors determining SE. The followed approach of this analysis relied on Scopus database in sourcing publications and gathering systematic data, and utilizing bibliometric techniques that are frequently employed to survey the trends and the scientific research output in many disciplines of science. The research of performance indicators have been assessed in terms of the total amounts of published documents, while the research quality, it has been assessed by employing the h-index and citation rates. To present a roadmap related to scientific activities conducted on sustainable entrepreneurship, the following dimensions and their outcomes presented below have been considered and analyzed in details.

The resulting sample based on the analysis conducted over the Scopus database and related to sustainable entrepreneurship covers 279 documents including articles, conference papers, and reviews. The majority of these documents were made as articles (62%) and followed with smaller margin by the conference papers (13%) as well as book chapters (13%). The dynamic development of research productivity in sustainability entrepreneurship domain was observed in 2018. It seems to be breakthrough moment for the development of this field of research. Also many articles were published in 2016 and 2017. However, it cannot to say that previous researches were less meaningful. Rather, the most important is that the sustainability entrepreneurship is at the stage of advancement of development. The evolution of distribution of the published research documents along the time is depicted on Figure 3.

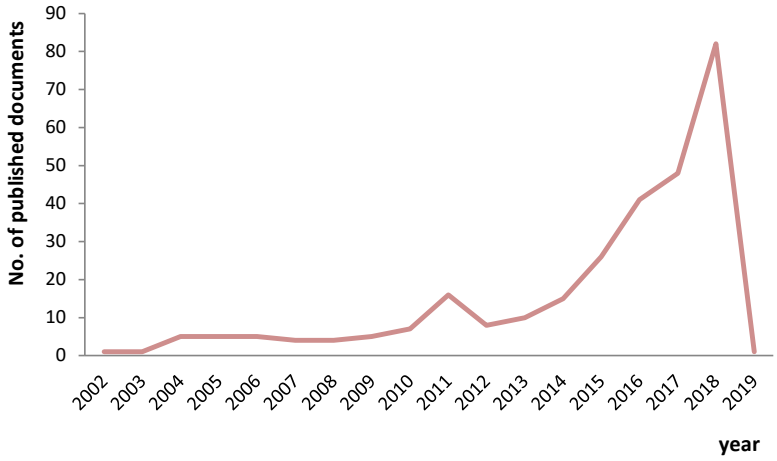

Figure 3. No. of published documents from the Scopus database in sustainable entrepreneurship.

In terms of keyword occurrence, the results provided by Scopus database showed the frequency of the used words. The analysis of the table below displays that the sustainability entrepreneurship

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is a predominant keyword. As it is shown on Figure 4, this keyword covers 34% as the highest rate of occurrence, followed by sustainable development (18%) and sustainability (16%). According to the analysis of the most occurred keywords, Table 2 displays the results for the top ten most predominant keywords related to sustainable entrepreneurship, whereas Figure 4 illustrates the percentage rates.

Table 2. Top ten keyword occurrences.

Keyword	Occurrences
Sustainable entrepreneurship	150
Sustainable development	77
Sustainability	72
Entrepreneurship	44
Entrepreneur	32
Innovation	19
Social entrepreneurship	15
Sustainable business	11
Corporate sustainability	10
Environmental entrepreneurship	10

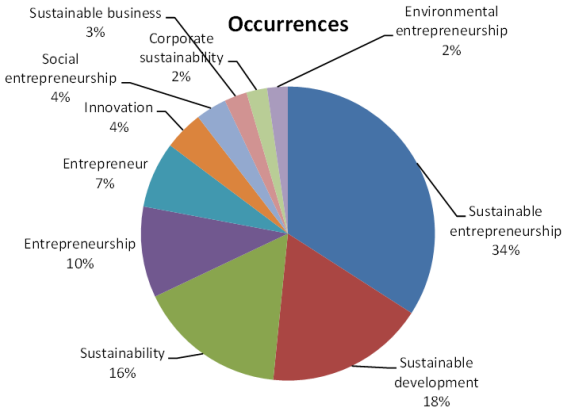

Figure 4. Visualization of top ten keyword occurrences.

Identifying the journals that publish sustainable entrepreneurship research covers a huge number of them. Due to a high level of dispersion (more than 100 journals) only the top five of most productive journals by researchers are shown on Figure 5. The same score was reached by Journal of Cleaner Production (29%) and Sustainability (29%), followed by International Journal of Entrepreneurial Behavior and Research (15%), Sustainable Entrepreneurship and Social Innovation (14%), and International Journal of Entrepreneurial Venturing (13%).

In sustainable entrepreneurship research, the most productive authors are displayed on Figure 6. To specify the most prolific authors, the limit of the published documents was set to 4 and more research papers with relatively more contributions towards sustainable entrepreneurship. The list begins from Schaltegger, S. with the score 13%, followed by Munoz, P. (11%) and Cohen, B. (9%). The detailed scores are displayed on Figure 6.

The analysis of the distribution of research areas allows indicating the main fields of interests. The major part of published papers related to sustainable entrepreneurship covers the field of Business, Management and Accounting (193 documents, 34%) as depicted on Figure 7. Social sciences (89 documents, 16%) and Economic, Econometric and Finance (85 documents, 15%) fields followed the Business, Management and Accounting area.

The analysis presented below, tracked the performance of each country in terms of number of published documents. Thus, in terms of filtering by countries, the most part was covered by researchers from United Kingdom (39 documents, 19%), followed by Germany (38 documents, 18%), United States (29 documents, 14%) and Netherlands (28 documents, 13%). The total number of

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countries that have contributions towards research on sustainable entrepreneurship was 63 countries. To specify, these countries are distributed over the regions of the world as follows: 32 countries from Western and Eastern Europe, 2 countries from Northern America, 2 countries from Pacific region, 10 countries from Asiatic region, 10 countries from Latin America, 6 countries Africa and 1 country is undefined. Due to a huge number of countries, the geographic distribution shown on Figure 8 is limited only to the selected countries that exceed 10 occurrences. To refine the obtained set of results, the most frequent cited documents were from Germany, followed by England and USA. The most commonly used language is English, but there are exceptions (Spanish, Croatian, German and also one undefined option exists).

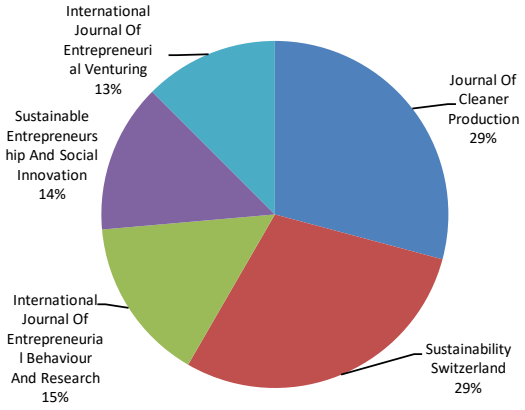

Fig 5. No. of documents - the most productive journals by researchers

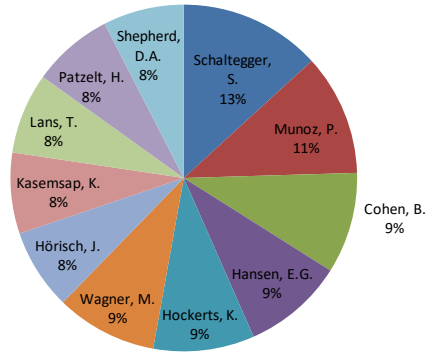

Fig. 6. No. of published documents by author

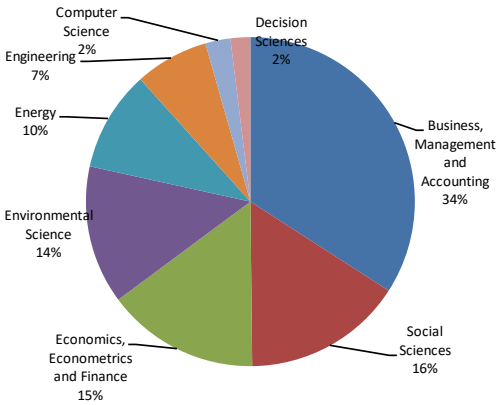

Fig. 7. No. of published documents – the analysis of the ditribution of research

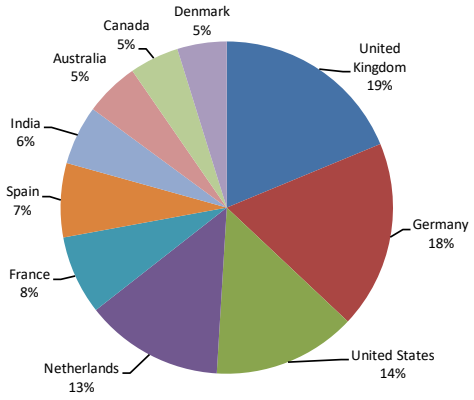

Fig. 8. No. of published documents – the preformance of each country

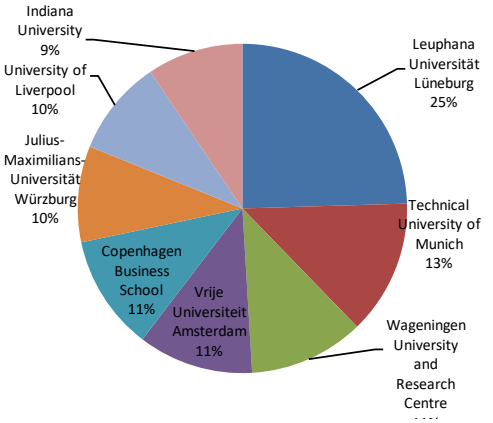

Figure 9. No. of published documents – the leading institutions.

Considering the articles in the terms of affiliation, the leading institution is Leuphana Universität Lüneburg (13 documents, 25%), followed by Technical University of Munich (7 documents, 13%),

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Wageningen University and Research Centre (6 documents, 11%), Vrije Universiteit Amsterdam (6 documents, 11%) and Copenhagen Business School (6 documents, 11%). The next places were taken by Julius-Maximilians-Universität Würzburg (5 documents, 10%), University of Liverpool (5 documents, 10%), and Indiana University (5 documents, 10%). This rank contains only top 8 leading institutions, whereas the total number of them contains almost 160 institutions from various countries as shown on figure 9.

3.3.3. Analysis of keyword co-occurrences – obtained results

The previously collected data was elaborated using the VOSviewer software [68,69]. Due to the aim of the conducted research, a high impact was assigned to the keyword occurrences. Out of the total number of existing research papers, 279 cover the searching assumptions. To sum up, the following search query was defined to filter the results by keyword: sustainable entrepreneurship in the article title, abstract and keywords. The results were limited to the years from 2002 till 2019. In the first searching only author keywords are included. This process contains only the main keywords pointed out by authors of selected papers. By the use of VOS viewer software, the number of keywords to be selected covers 743 keywords with the greatest total link strength. Accordingly, for each of the 743 keywords, the total strength of the co-occurrence links with other keywords will be calculated. The resulting sample based on the analysis conducted over the Scopus database and related to sustainable entrepreneurship comprises the keyword parameters, where verification covers only the first 10 keywords (Table 3).

Table 3. The total strength of the co-occurrence.

Keyword	Occurrences	Total link strength
Sustainable entrepreneurship	131	597
Sustainability	48	230
Entrepreneurship	44	194
Sustainable development	23	116
Corporate sustainability	10	80
Social entrepreneurship	15	77
Innovation	12	63
Environmental entrepreneurship	10	62
Smes	10	51
Business model	6	44

The output data was analyzed to create relevant and comprehensive information in the field of sustainable entrepreneurship. Thus, the obtained results were revised. Finally, some of the 743 items were not connected to the each other. The largest set of the connected items consists of 663 items. Thus, 80 items are being excluded. Further, the set of 663 elements was divided into 84 clusters. The biggest cluster contains 25 items; the second one consists of 25 items whereas the third cluster has 23 items. Defining more clearly, an item corresponds with a keyword and it may belong to only one cluster. The network visualization is presented on Figure 10. Due to a huge number of items to be considered, the network was limited to show only the most important keywords. When we want to consider the most valuable keyword: sustainable entrepreneurship, we can observe that this keyword has some spelling variations or words with similar meaning: e.g. social and sustainable entrepreneurship, sustainable entrepreneurial ecosystem, sustainable entrepreneurship orientation, sustainable enterprise and other forms. Similar situation appears with other keywords.

Analyzing Figure 10, the size of a circle refers to the importance of used keyword. The colors indicate the cluster to which a keyword belongs to. Clusters that are located close to each other in the map indicate closely related keywords. The most visible keyword is sustainable entrepreneurship, depicted by orange circle. Further, sustainability and entrepreneurship are most frequent used keywords (depicted by blue circles). Due to a huge number of the analyzed keywords, it is impossible to present this view in more details.

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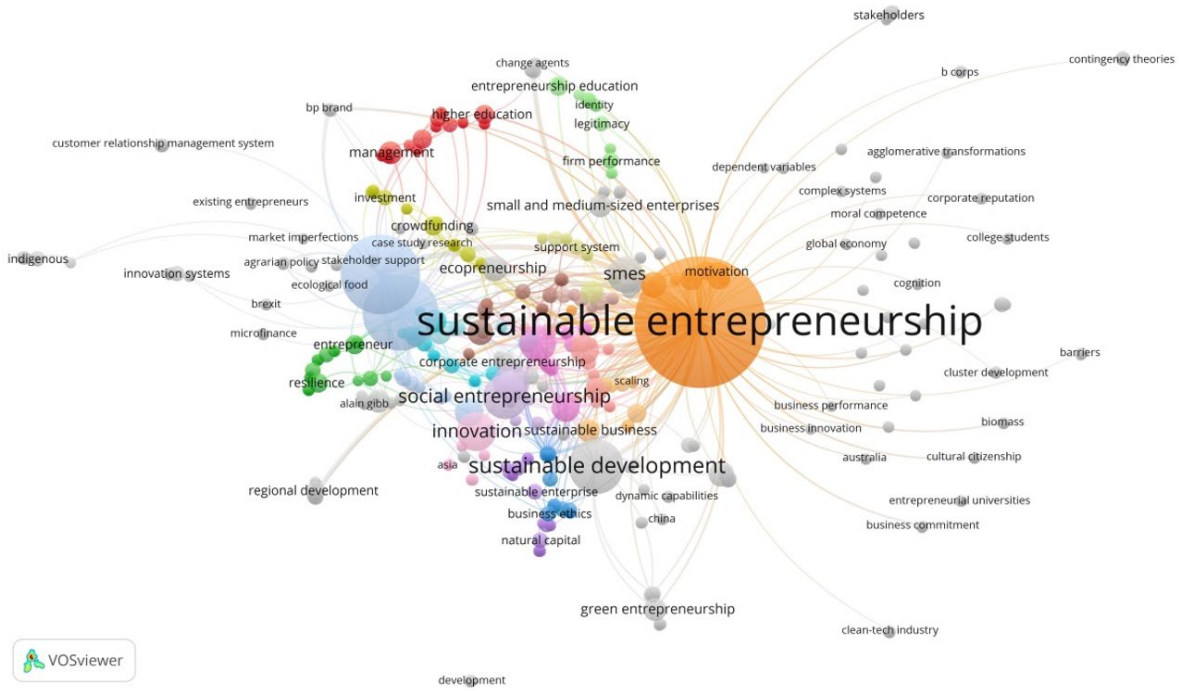

Figure 10. The network visualization.

3.3.4. Filtering results and data cleaning

On this visualization, a huge number of terms and clusters may disturb the understanding of existing relations between keywords. The second step includes the limitation of the number of the used keywords, omitting the less important of them. To further elaboration, the minimum number of occurrence of the keyword was limited to 2. Thus, the basic set of 743 keywords was shorten to 96 keywords that meet the threshold. In this case, the largest set of the connected items consist of 95 items. Thus, 647 items are being excluded. The in-depth analysis of obtained results requires using some data cleaning techniques. This process is often performed when a created map is based on bibliographic data or text data. For this purpose, a special thesaurus file was used. The aim is to merge different variants of a word or to omit different ways of description and mistakes in different documents. Moreover, it helps in merging synonyms and correcting spelling differences. In addition, it may also be useful for merging abbreviated terms with full terms. A thesaurus file can also be used to ignore certain terms. Thus, the following rules were implemented as shown in Table 4. On base of the presented rules, a thesaurus file was built and was implemented in the VOSviewer software.

Table 4. The rules determining filtering results.

Rule	Description
R_1	The abbreviation 'csr' was changed by the full term 'corporate social responsibility'.
R_2	The writing difference 'corporate social-responsibility' was replaced by 'corporate social responsibility'.
R_3	The synonyms: 'firms' and 'firm' were substituted by 'enterprises'.
R_4	The singular form 'enterprise' was replaced by the plural form 'enterprises'.
R_5	The terms like 'bricolage','framework', 'case study', 'greece', 'indigenous', 'systematic review', and 'model' were omitted in the visualization due to the lack of important relations with the SE.
R_6	The terms like values and creation were assigned to another keyword called value creation.

R_7	The plural form 'strategies' was replaced by the singular form 'strategy'.
R_8	The term 'behaviour' was enriched and performed to 'business behaviour'.
R_9	The term 'dynamics' was assigned to 'dynamic markets'.
R_{10}	The more general form was given to the keyword 'legitimacy' assigning it to the keyword 'rules'.
R_{11}	The keyword 'small firms' was replaced by the existing synonym 'small business'.
R_{12}	The keyword 'green' was assigned to the keyword 'green entrepreneurship'.
R_{13}	The single keyword 'corporate' was added to the keyword 'corporate social responsibility'.
R_{14}	The keyword 'sustainable' was consigned to the keyword 'sustainability'.
R_{15}	The single keyword 'opportunity' was added to the keyword 'opportunity recognition'.
R_{16}	The term 'planned behavior' was added to the term 'business behavior'.

The presented network view depicts a more detailed map. Based on the new computation, 15 clusters were built. The level of importance is assigned to the size of a considered circle. Similarly to the previous view (see Fig. 10), the most important keyword is sustainable entrepreneurship. Some values have changed due to implemented thesaurus file and consequently, the limitations of occurrence to 2. An analysis of the results shows the change on the 3rd and 4th place between social entrepreneurship and sustainable development. Table 5 displays the results for the top 10 keyword occurrences.

Table 5. The total strength of the co-occurrence after filtering results.

Keyword	Occurrences	Total link strength
Sustainable entrepreneurship	131	232
Sustainability	50	118
Entrepreneurship	44	99
Sustainable development	23	62
Social entrepreneurship	15	42
Corporate sustainability	10	40
Environmental entrepreneurship	10	40
Corporate social responsibility	8	29
Innovation	12	27
SMEs	10	27

3.4 Data classification

3.4.1 Analysis of the results – keywords occurrences

In the visualization presented on Fig. 11, each circle represents a keyword. The size of a circle indicates the number of keywords that have the corresponding term in their article title, abstract or keywords. Keywords that co-occur a lot, tend to be located close to each other in the visualization shown on Figure 11. The keywords were grouped into 14 clusters, five of which being of significant size. The keywords with the largest number of links are selected and, in the aftermath of this, keywords which are having the most intra-cluster co-occurrence relations are arranged in the same cluster. In other words the larger circle the higher contributions in terms of occurrence. The light blue cluster, located in the middle area in the visualization, consists of sustainable entrepreneurship terms. The brown cluster is located, which consists of the terms related to innovation and corporate

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sustainability. Close to this cluster, the violet cluster referring to corporate social responsibility terms is placed. Further, the blue cluster, located in the lower area, covers terms related to sustainability and entrepreneurship. These terms were grouped in the same cluster. In the upper left area, orange cluster is placed, containing the terms related to social and environmental entrepreneurship. In the middle area the red cluster is situated, containing the terms related to SMEs. Next, the green cluster located in the upper left area refers to the terms of sustainable development.

Furthermore, the distance between the considered two keywords in the visualization approximately indicates the relatedness of the keywords in terms of co-occurrence links. In general, the closer two keywords are located to each other, the stronger their relatedness. The strongest co-occurrence links between keywords are also represented by lines. Thus, the close relation can be observed between sustainability and entrepreneurship as well as between sustainable entrepreneurship and innovation.

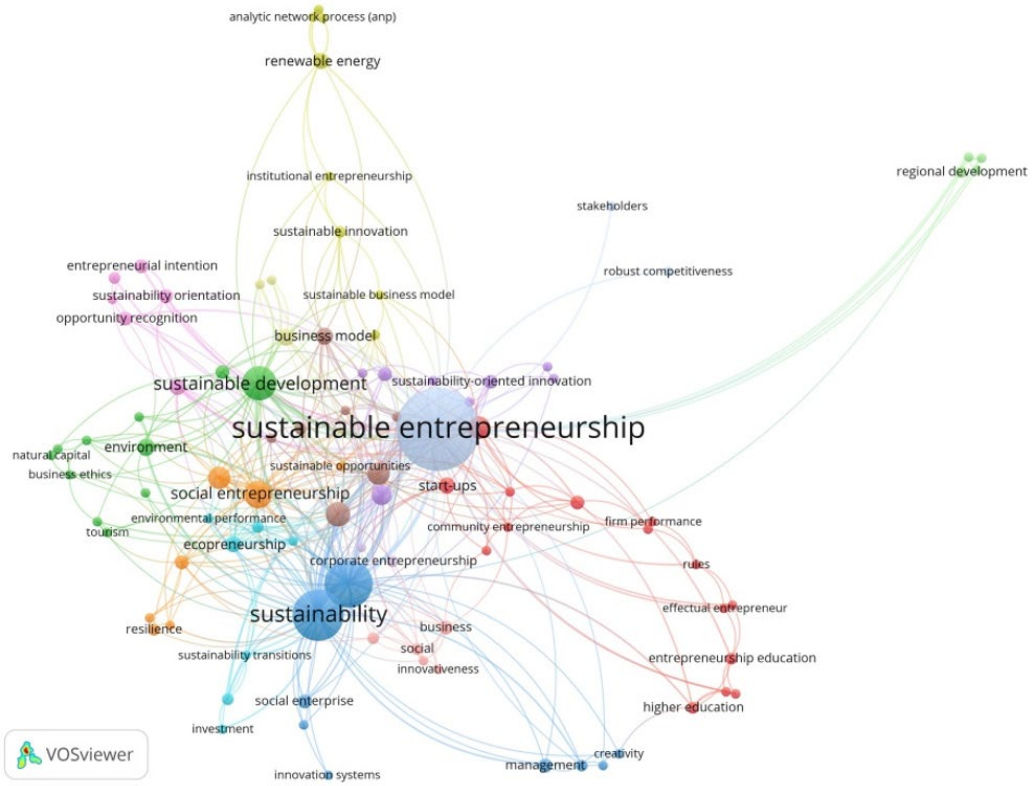

Figure 11. The network visualization after filtering results.

The next visualization map presents the overlay view as shown on Figure 12. In this case, the color of the keyword is determined by the score of the keyword, ranged from blue (lowest score) to green to yellow (highest score). This overlay visualization presents the average of the publication by a year. The limit is set from 2012 (blue) to 2018 (yellow).

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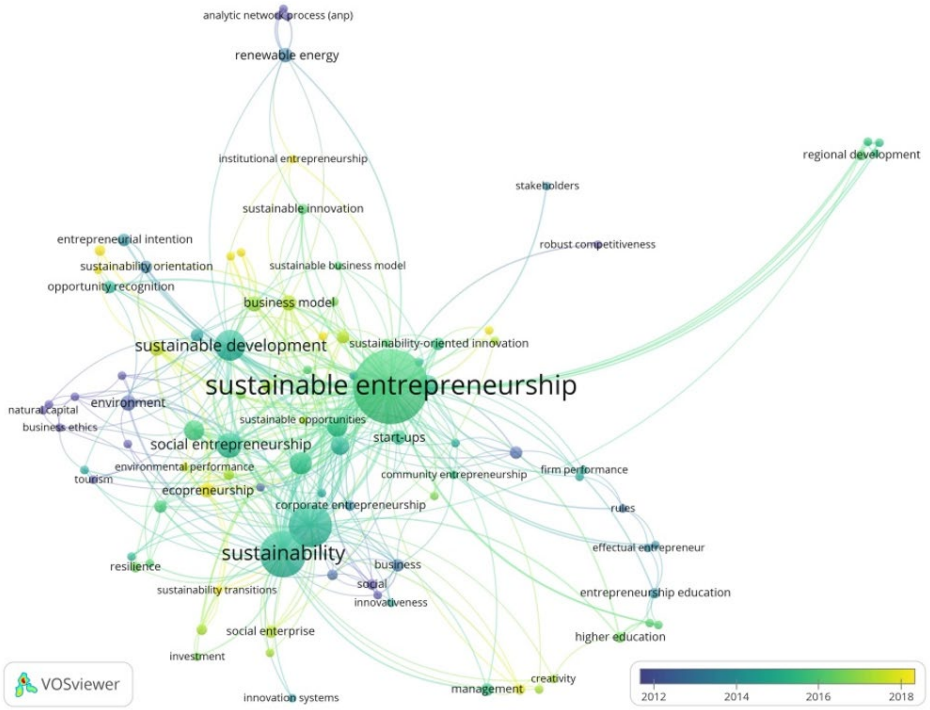
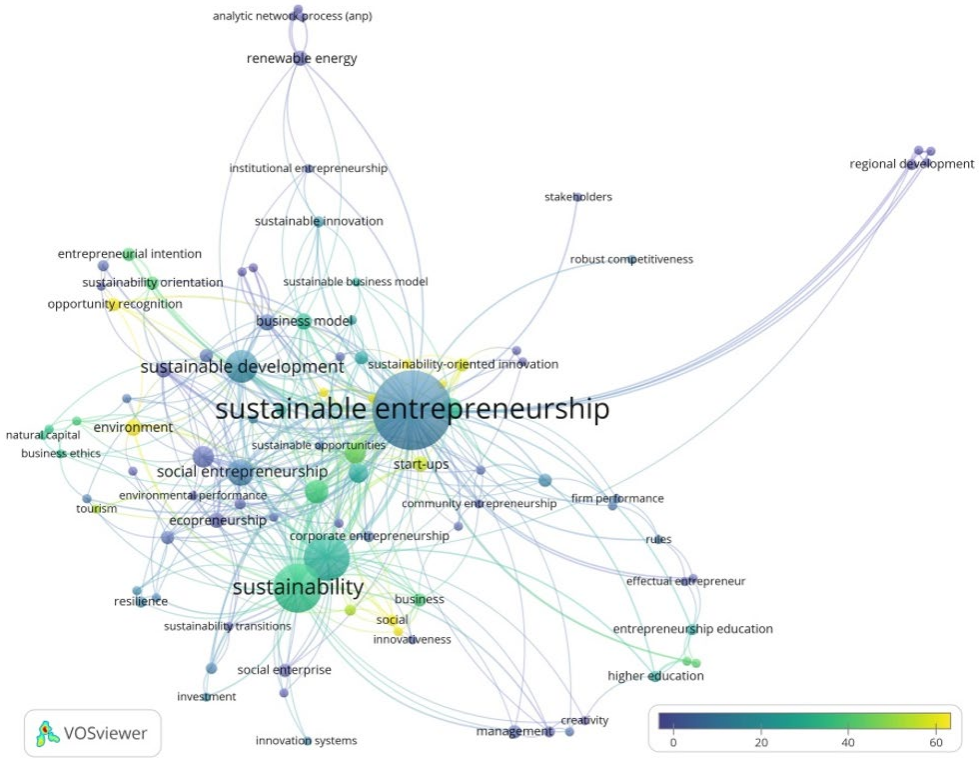


631

632 **Figure 12.** The overlay visualization of keywords.

633 The second overlay visualization presents the obtained results with regard to average citation
634 for a given publication containing the selected keyword as shown on Figure 13. It is observed that
635 the better score is assigned to the sustainability and entrepreneurship than to sustainable
636 entrepreneurship used keywords. Moreover, the best results, pointed by yellow circles, are scored by
637 sustainability-oriented innovation, opportunity recognition start-ups and environment.



638

639 **Figure 13.** The network visualization of the citations.

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Further, it is possible to depict a density map, where each point in a map has a color that depends on the density of keywords at that point. The colors range is set from blue to green to yellow. The larger the number of keywords in the neighborhood of a point and the higher the weights of the neighboring keywords, the closer the color of the point is to yellow. In the opposite, the smaller the number of keywords in the neighborhood of a point and the lower the weights of the neighboring keywords, the closer the color of the point is to blue. This map presents a general structure of used keywords. Analyzing Figure 14, the areas as sustainable entrepreneurship, sustainability and entrepreneurship turn out to be important. These areas are very dense, which indicates that overall keywords in these areas receive a high number of occurrences and total link strength. Moreover, it can also be seen that there is a clear separation between the fields of used keywords corresponding with sustainable entrepreneurship on the one hand and the fields of business model innovation on the other hand.

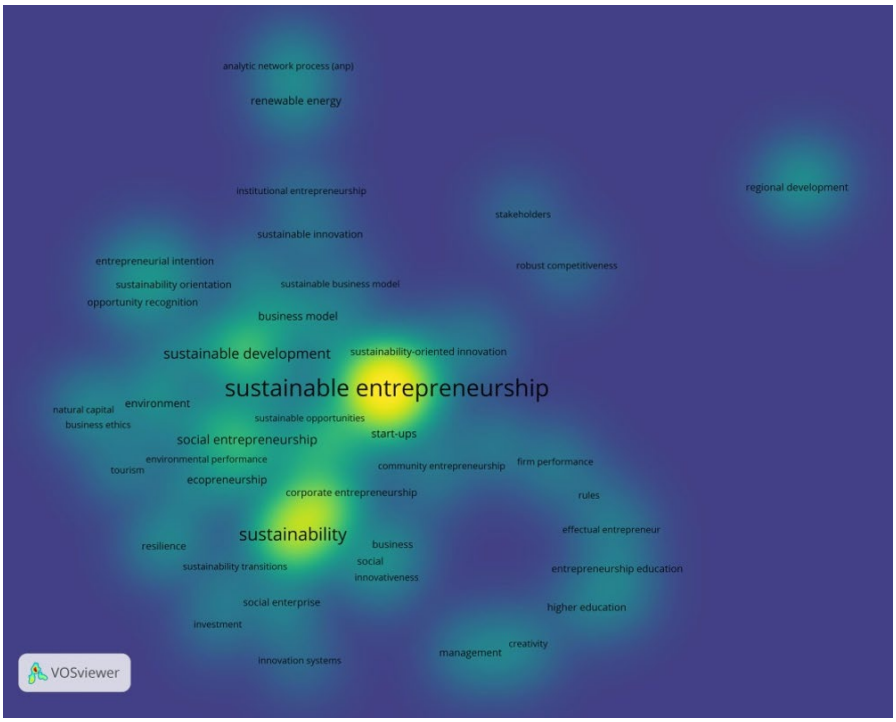

Figure 14. The density visualization.

Analyzing the density view in the context of grouping keywords into 16 clusters, the color system is similar to the previous example. This view is particularly useful to get an overview of the assignment of keywords to clusters and of the way in which clusters of keywords are related to each other. Similarly, analyzing Figure 15, the clusters containing the keywords as sustainable entrepreneurship, sustainability and entrepreneurship turn out to be important.

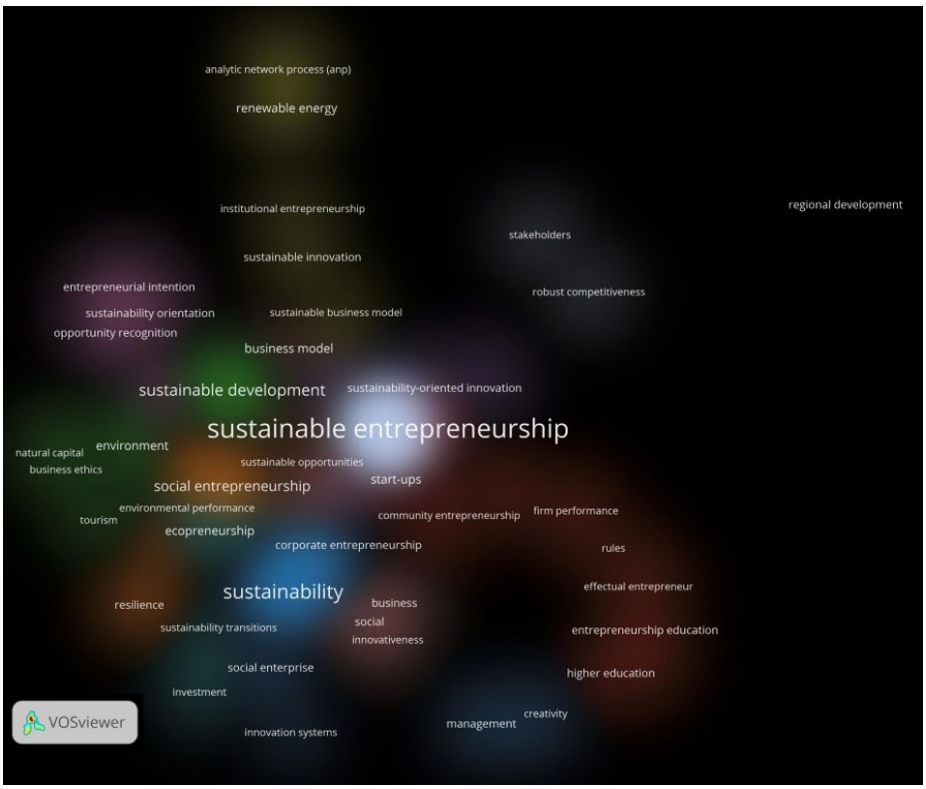

Figure 15. The density visualization.

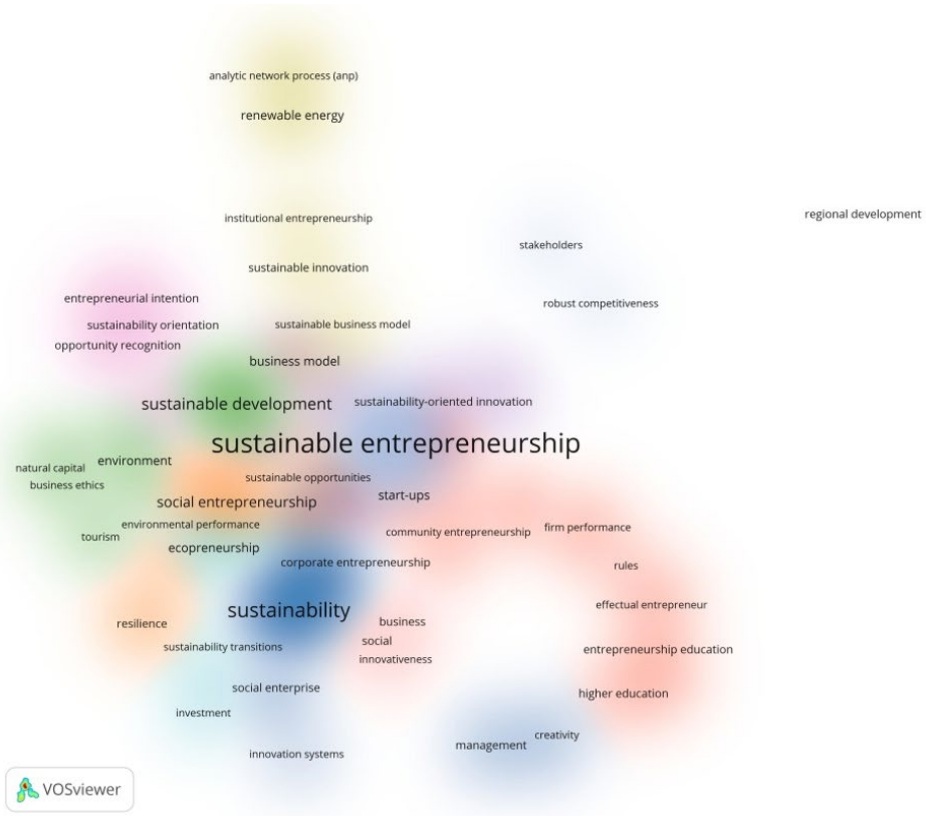

Figure 16. The density visualization.

3.4.3. Studies of different dependencies between keywords.

The sustainable entrepreneurship offers new mechanism for integrating knowledge and capital to create solutions for solving social and environmental problems. In general, sustainable

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entrepreneurship demarcates new directions for running businesses, maintaining the three aspects of sustainability: economic, environmental and social. These aspects as well as 3P strategy are essential factors for sustainable entrepreneurship as a new promising field of research. Thus, SE can be considered at 'classical' level referring to the sustainability development and, to be more precise, at individual level, investigating specified factors.

The classical level refers to the basic sustainable dimensions: environmental, economic and social. Almost every work bases its research on considering these dimensions [1,5–7,12,14,16–20,22,26,28,32,33,39,50,54,61,71–78,78–82]. Customarily, the consideration of the triple bottom line (TBL) of ecological, social and economic objectives refers to 3P (people, planet, profit) goals [20,27,32,37,38,55,79,83,84]. The intent of implementation of TBL performance and produce actionable enterprise foresight that can enable next best practices and sources of sustainable competitive advantage through innovation is described in [1,12,15,40,44,85,86].

Apart from basic dimensions, an approach to sustainable entrepreneurship relies on considering additional particular dimensions and specific factors referring to institutional, managerial and also entrepreneurship aspects. The detailed disparities highlight the leading research direction, focusing on convergent fields constructing SE. Therefore, the factors that shape this field cover for example sustainability management, ethical decision making and actions supporting environmental protection as well as efficient resource management. In general terms, there are some key perspectives to develop SE basic dimensions by accessible modes, diversity of scope, and an increased scale of institutional change strategies. To act in this way, the adaptability to new institutional change strategies to increase by socio-efficiency and eco-efficiency undertakings. Most of works points out at these issues [1,7,12,17,27,40,71,75,81].

To construct environment-friendly institutions, as well as contribute to solving environmental problems and creation of economic value are shown by [10,23,54,55,81,87,88] as important issues, focused to integrate the core elements. These aspects are widely discussed in[10,15,23,50,54,55,74,81,85,87,88], pointing out the role of sustainable development from small contribution to large contribution. Apart from these priority environmental goals, a creation of sustainable entrepreneurial opportunities takes a central part of organizing internal and external factors. In many research works moderating factors encompass the sustainable strategy performed by organizational resources and capabilities, sustainable management, competence building and agility and also innovation for sustainability [1,5,7,18,19,27,29,40,54,74,81,89,90]. However, some attention is paid for prudent resources management, distinguishing the factors determining cleaner production or green packaging. Widely-known eco-efficiency covers both processes and activities responsible for green product development, production resource efficiency and green procurement. These specified factors were investigated by [38,39,53,54,56,72,91–93].

In addition, sustainable entrepreneurial collaboration has some feedback effects: it creates sustainable wealth in the form of environmental friendly production and environmental stability and protection by activities stimulating recycling, reuse and pollution protection. Doing business in a green way, some works refer to energy management and prudent resource management to contribute a sustainable development. Also, approaching stakeholders by promulgating their contribution to sustainable development also leads to pursue an assumptive sustainable strategy. Building a competitive advantage and development of novel competences (as mentioned in works published by [1,6,7,10,14,21,25,27,44,75,94]) pertains to further relationships and collaborations with stakeholders. Furthermore, high importance is assigned to a number of alliance relationships.

Sustainable entrepreneurs create new symbols, construct new measures, build consensus, and forge new relations to alter or create new institutions. Besides, refers to the investigated factors, some of them covers activities forming sustainable market strategy [6,8,12,19,33,37,60,73,78,81,95,96]. Some authors [37,54,71,76,84,86,95,97] refer to the key findings such as sustainability market orientation, sustainable strategy or the findings integrating partially sustainability and entrepreneurship (e.g. strategy & management and risk management).

The orientation in terms of sustainable entrepreneurship requires embeddedness into local community or social movements. Oftentimes, reaching social goals is determined by ensuring social

policy both of employee's satisfaction and social support and organizational culture [14,33,39,71,75]. Developing this issue requires to consider the most frequently used factors such as sustainable-oriented human resources management, social support and equity policy [6,19,22,32]. Not without significance are also factors supporting charity activities and donations [19,20].

New ventures can be treated as key transformers of popularizing socio-efficiency and yielding shared value and ethics as well as quality and trust by SE [1,12,22,26,32,33,39,39,73–76,78–80]. Value creation was commonly measured by traditional entrepreneurship using economic-financial terms, by various indicators (e.g. sales, profit or ROI), and it was always exclusively understood as the maximization of individual profit [12,17,19,22,26,39,75,76]. Following this path but in SE context, an increasing number of researchers have started paying attention on exploiting additional factors such as sustainability-oriented innovation [1,12,14,16,17,26,28,54,71–73], knowledge [12,14,19,22,33,39,73], or sustainable wealth creation [14,26,39,54,71,74–76]. These authors stress the link between sustainable entrepreneurship and value creation, pointing out that the main activities/factors performed by the enterprises are focused on [1,6,16,22,39,74,76,79].

3.4.4 An attempt to classification of identified keywords

Finally, research on sustainable entrepreneurship is considered in a perspective that combines various factors including economic, environmental and social values. In general, many researchers consider an entrepreneurial activity as sustainable when integrating holistic economic, social and environmental goals. Thus, after the analysis, it can be assumed that these factors can reflect the investigated keywords. The papers included in table 5 belong to the group of the most cited articles on sustainable entrepreneurship [1,5–7,12,14,16–20,22,26,28,32,33,39,54,71–82]. The analysis was performed in order to distinguish the main aspects of the topic addressed in this bibliometric study. Based on the bibliometric analysis, the keywords were derived from the analyzed documents and grouped together following a purpose order. The emergence of hierarchy was a consequence of the in-depth comprehension of the used keywords in the context of opportunities, its causes, effects and processes in order to reach sustainability. Due to sustainable entrepreneurship idea is focused mainly on economic, environmental and social values as well as the preservation and development of sustainable-oriented entrepreneurship, the final hierarchy contains the 4 main groups referred to these issues. Finally, Table 7 lists 31 articles [1,5–7,12,14,16–20,22,26,28,32,33,39,54,71–82] that were classified according the used keywords and factors published. To sum up, 48 keywords were arranged to the main groups. There are a few cases, where the keywords are replicated. The taxonomy of the analyzed set of factors is shown in Table 6.

Table 6. The taxonomy of the analyzed set of factors in SE domain.

Factors	Sub-factors of 2nd level	Abbreviation of sub-factors of 2nd level	Sub-factors of 3rd level	Abbreviation of sub-factors of 3rd level
Environmental	Environmental protection	EV	Environmental stability	EVs
			Pollution protection	EVpp
			Recycling, re-use	EVrr
			Environmental-friendly production	EVp
	Resources management	RM	Product resource management	RMprm
			Energy management	RMem
	Environmental dimension	EVD	Environmental-oriented aspects	EVDee
			Eco-efficiency	EVDa
Social	Social dimension	SD	Social aspects	SDa
			Donations	SDd
			Social support	SDsp
			Socio-efficiency	SDse
	Social-oriented policy	SOP	Human resources	SOPhr
			Institutional aspects	SOPia
			Organizational culture	SOPoc
			Employee satisfaction support	SOPess
			Demographic	SOPd

	Ethical decision-making	EDM	Relationships	SOPr
			Shared value & ethics	EDMsve
			Quality & trust	EDMqt
			Equity	EDMe
Economic	Economic dimension	ED	Risk management	EDrm
			Value creation	EDvc
			Evaluation	EDe
			Economic aspects	EDa
	Market strategy	MS	Sustainable market orientation	MSsmo
			Sustainable strategy	MSss
			Strategy & management	MSsm
			Risk management	MSrm
	Sustainability management	SM	Sustainable wealth creation	SMswc
			Sustainable strategy	SMss
			Contribution to sustainability development	SMsd
Sustainable-oriented enterprises	Sustainable advantage/capacity building	SCB	Competitive intelligence/advantage	SCBa
			Competences	SCBc
			Contribution to sustainability development	SCBsd
	Sustainable goal	SG	3P	SG3P
			Sustainable wealth creation	SGswc
	Value added	VA	Sustainable wealth creation	VAswc
			Value creation	VAvc
			Knowledge	VAk
			Innovation	VAi
	Creating development opportunities	CDO	Development	CDOd
			Creating opportunities	CDOco
			Innovation	CDOi
			Cooperation/collaboration	CDOcc
			Change	CDOch
			3P	CDO3P
			Integration	CDOin

To clarify, first group covers environmental issues. It contains the following factors (keywords): environmental protection (environmental stability, pollution protection, recycling and re-use, environmental-friendly production), resources management (prudent resources management, energy management), and environmental dimension (environmental-oriented aspects, eco-efficiency). The second group refers to social issues: social dimension (social aspects, donations, social support, and socio-efficiency), social-oriented policy (human resources, institutional aspects, organizational culture, employee satisfaction, support, demographic, relationships), and ethical decision making (shared value & ethics, quality & trust, equity). The third group discusses economic issues, by considering the following factors: economical dimension (risk management, value creation, evaluation, and economic aspects). The stream of literature on sustainable entrepreneurship allows investigating some issues determining sustainable-oriented enterprise. The main findings of these analyses are the following factors: market strategy (sustainable market orientation, sustainable strategy, strategy & management, risk management), sustainability management (sustainable wealth creation, sustainable strategy, contribution to sustainability development), sustainable advantage/capacity building (competitive intelligence/advantage, competences, contribution to sustainability development), sustainable goal (3P, sustainable wealth creation), value added (sustainable wealth creation, value creation, knowledge, innovation), creating development opportunities (development, creating opportunities, innovation, cooperation/ collaboration, change, 3P, integration).

An assumption of sustainable entrepreneurship relies on three main pillars, whereas the most important parts sketch social and ecological achievements in sustainable organization. Enterprises have to be aware of their activity impact from an environmental and social point of view, not only considering economic gains. Besides, there are some embeddedness factors into sustainable movements, transforming or preserving or adding novelty to sustainable organizations. However, the character of an enterprise and the form of its activity requires the connection between sustainable

development and entrepreneurship, taking into consideration also individual factors (keywords), considered in the fourth group, explaining how sustainable entrepreneurs can create new values and helping them in changes. Following this path, the issues related to determining sustainable-oriented enterprise can be treated as key transformers of capacity to realize sustainable strategy and goal, management and capacity building as well as value creation and development opportunities. Accordingly entrepreneurs can build the awareness of the impact how their activities directly or indirectly influence on the environment and society and also how to become more sustainable. This fourth group allows understanding the scope of the sustainable development and its significant role of sustainable capacity building and business opportunities in the long term. Therefore, based on this idea, it can help the potential entrepreneur to find long-lasting business models. It is not only about the exploitation of sustainable opportunities, but also about consciously scrutinizing the social, economic and environmental impact that enterprises' performance is having on selected areas. To provide common characteristics of sustainable-oriented enterprise, the set of most influencing keywords was elaborated on base of previously conducted bibliometric analysis. The aim is to put the attention to the different phases of entrepreneurial opportunity in the context of sustainable development, followed by discovery, creation, evaluation, and exploitation.

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Table 7. The sets of SE factors derived from bibliometric analysis.

SE set of factors	Environmental protection	Resources management	Environmental dimension	Social dimension	Social-oriented policy	Ethical decision making	Economic dimension	Market strategy	Sustainability management	Sustainable advantage / capacity building	Sustainable goal	Value added	Creating development opportunities	Authors
	f_{i1}	f_{i2}	f_{i3}	f_{i4}	f_{i5}	f_{i6}	f_{i7}	f_{i8}	f_{i9}	f_{i10}	f_{i11}	f_{i12}	f_{i13}	
S_1	EVs, EVpp	0	EVDa	SDa, SDsp, SDd	SOPia	0	0	MSsmo	SMss	SCBa	0	VAk	0	Choongo P. et al.
S_2	0	0	0	0	0	0	0	MSss, MSsmo	SMss	0	0	0	CDOcc, CDOco, CDOd	Klein Woolthuis R.J.A.
S_3	EVs, EVpp, EVrr	RMem, RMprm	EVDa	SDa, SDsp, SDd	EDMsve	0	0	0	0	0	0	0	0	Hosseininia G. & Ramezani A.
S_4	0	0	EVDa	SDa	0	0	EDa	MSsmo	SMss	SCBsd	SG3P	0	CDOco, CDOd	Belz F.M. & Binder J.
S_5	0	0	EVDa	SDa, SDsp	SOPr	EDMsve	EDa	0	0	0	0	0	0	Crnogaj K. et al.
S_6	0	0	EVDa	SDa, SDsp	SOPia	EDMsve	EDa, Edrm, EDe	MSsm, MSrm	SMss	SCBc, SCBa	0	0	CDOoc, CDOd	Teece D.J.
S_7	0	0	EVDa	SDa	SOPr	0	EDvc	MSsm	SMss, SMsd	0	0	VAvc	CDOcc, CDOd	Parrish B.D.
S_8	EVs, EVpp, EVrr, EVp	RMprm	EVDa, EVDee	SDa, SDsp	SOPd, SOPr, SOPess	EDMqt	EDa	0	SMswc	0	SGswc	VAk	CDOd	Fiksel J.
S_9	EVs, EVp	0	0	SDa, SDsp	0	0	EDa	Mssmo, MSss	SMss	SCBd	0	0	CDOd	Shepherd D.A. & Patzelt H.
S_{10}	EVs, EVp, EVpp	RMprm, RMem	EVDa, EVDee	SDse, SDa	SOPess	EDMe	EDa, EDvc	MSsm, MSsmo	SMswc	0	SGswc	VAvc	CDOcc	Ranganthan J.

S_{11}	EVs	0	EVDa, EVDee	SDa, SDse, SDsp	0	EDMe	EDvc	0	SMsw	0	SGswc	VAvc	0	Dyllick T. & Kai Hockerts K.
S_{12}	0	0	0	SDa, SDsp	0	EDMe	EDa	MSss	SMswc, SMsd	~~SCBswe~~, SCBsd	SGswc	VAi	CDOco	Tilley F. & Parrish B.D.
S_{13}	0	0	EVDa	SDa	0	EDMsve, EDMqt	EDvc	MSrm, MSss	0	0	0	VAvc, VAi	CDOch	Sullivan Mort G. et al.
S_{14}	0	0	EVDa	SDa	SOPia	EDMsve		MSsm, MSss, MSsmo	SMsd	SCBdc		VAvc, VAi	CDOch	Schaltegger S. & Wagner M.
S_{15}	EVs	0	EVDa, EVDee	SDa, SDse, SDsp	0	0	0	MSsmo, MSss, MSsm	SMswc, SMsd	~~SCBswe~~, SCBsd	SGswc	VAi	CDOd	Schaltegger S.
S_{16}	0	RMprm	EVDa	0	SOPoc	EDMsve	0	0	SMswc	~~SCBswe~~, SCBa, SCBc	SGswc	VAi	CDOd	Ireland R.D. et al.
S_{17}	0	RMprm	EVDa	SDa	SOPhr	EDMsve, EDMqt	0	MSss, MSsmo	SMsd, SMss	SCBsd	0	VAvc	0	Thelken H. & de Jong G.
S_{18}	0	0	EVDa	SDa, SDse	SOPd	EDMsve	0	MSss	SMss	SCBc	0	VAk VAvc	0	Enthoven M.P.M. & de Jong G.
S_{19}	EVp	0	0	SDa, SDse, SDsp	SOPia	0	0	MSsmo	0	0	0	VAi	CDOch	de Bruin A.
S_{20}	EVs	RMprm	EVDa	SDa	SOPoc	0	0	0	SMswc	SCBa	SGswc	VAi, VAvc	CDOco	Kraus S. et al.
S_{21}	EVs	RMprm	EVDa	SDa, SDse, SDsp	SOPess	0	0	MSss	SMswc, SMss	SCBsd	SGswc	VAi	CDOcc, CDOd, CDOi	Kraus S. et al.
S_{22}	0	RMprm	EVDa	SDa, SDsp	SOPoc	0	EDa	MSss	SMss	0	0	VAi	CDOcc, CDOco	Criado-Gomis A. et al.
S_{23}	EVs	0	EVDa	SDa	SOPhr, SOPi, SOP	EDMsve	EDa	MSss, Mssmo, MSsm	SMss, SMsd	SCBsd, SCBc, SCBa	SG3P	VAi, VAk	CDOd, CDO3, CDOch	Edgeman R.
S_{24}	0	0	EVDa	SDa, SDsp	SOPhr, SOPr	EDMsve	0	MSss, MSsm	SMss, SMsd	SCBa, SCBsd	0	VAk, VAvc	CDOco	Munoz P.A. & Dimov D.
S_{25}	Evp, EVs	0	EVDa	SDa, SDsp, SDse	SOPess, SOPoc	EDMsve	0	0	SMss, SMsd	SCBa	SGswc	0	0	Soto-Acosta P. et al.

S_{26}	EVp, EVs, EVpp, EVrr	RMprm, RMem	EVDa, EVDee	SDa, SDsp, SDse	SOPhr, SOPr, SOPess, SOPd, SOPia, SOPoc	EDMsve, EDMqt	0	0	SMsd, SMswc	SCBsd, SCBc, SCBa	SGswc	0	CDOco, CDOcc, CDOd	Cohen B. et al.
S_{27}	EVp, EVs, EVpp, EVrr	RMprm, RMem	EVDa, EVDee	SDa, SDsp, SDse	SOPhr, SOPr, SOPess, SOPd, SOPoc	EDMsve, EDMqt	0	MSss, MSsm, MSsmo	SMss	SCBc	SGswc	VAvc	0	Schlange L.E.
S_{28}	EVs	0	EVDa	SDa, SDsp	SOPhr, SOPess	0	EDa, EDvc	MSss, MSsm, MSsmo	SMsd, SMss	SCBa, SCBsd, SCBc	SG3P	VAvc	CDO3P, CDOcc, CDOin, CDOch, CDOd	Petrini M. & Pozzebon M.
S_{29}	EVs, EVp, EVpp, EVrr	RMprm	EVDa	0	SOPhr, SOPess, SOPr	0	EDa	MSsm	0	SCBa, SCBc	SG3P	VAi	CDO3P, CDOcc	Ashford N.
S_{30}	EVs	RMem	EVDa	SDa, SDsp, SDse	SOPoc, SOPhr, SOPr, SOPess	EDMsve, EDMqt	EDa, EDrm, EDvc	MSss, MSsm, MSrm	SMswc, SMss, SMsd	SCBc, SCBsd	SGswc	VAvc, VAk	CDOcc, CDOin	Irani Z. et al.
S_{31}	EVs, EVpp, EVr	RMpr	EVDa, EVDee	SDa, SDsp, SDsd	SOPoc, SOPhr, SOPr, SOPia	EDMsve	EDa	MSsm, MSsmo MSrm	0	SCBsd, SCBc, SCBa	0	VAi, VAk	CDOcc, CDOin, CDOco, CDOd	Batra S.

793 Source: [1,5–7,12,14,16–20,22,26,28,32,33,39,54,71–82].

4. Discussion

The aim of this keywords categorization was to generate an overview of the structure and development of the field of sustainable entrepreneurship by the means of a structured review of extant literature, especially considering three main dimensions of sustainability as well as determining the features of sustainable-oriented enterprise. Without claiming that these are the only streams in sustainable entrepreneurship research, it can be assumed that these four paths are major directions in the current literature works. Aiming at a consolidation of the literature across these dimensions, the classification schema of applied keywords in sustainable entrepreneurship literature as part of a comprehensive literature review is presented in order to uncover, classify and systematize the current research. On the basis of the bibliometric review, this classification is used to help adding to the stock of knowledge in the field of sustainable entrepreneurship. The use of different levels of abstraction is vital in order to a better understanding of entrepreneurial dynamics for sustainable development by outlining a more accurate picture of sustainable entrepreneurship. In essence, a broad look at present accomplishments in sustainable entrepreneurship research results in four future research streams, which need to be considered in forthcoming studies to advance our understanding about sustainable entrepreneurship.

It is obvious that the classical paradigm of entrepreneurship involves the recognition of an opportunity for value creation and building a competitive advantage. Upon the time, the development of entrepreneurship phenomenon has changed these ideologically-charged concepts into sustainability attitudes and convictions. Nowadays, achieving holistic sustainable business performance is driven by considering the relevant factors, paying more attention to ecological issues, environmental protection, sustainability production, and the application of strong ethical principles in entrepreneurial decisions. Since SE has created a new promising field of research, its aim is to exploit the new research opportunities involving capabilities of exploration, reconfiguration and interpretation of environmental, social and economic issues as entrepreneurial opportunities. Due to the fact that these researches were published in a wide range of scientific journals, and consequently, the knowledge in this field is still fragmented with limited access in the sense of its dispersion, this study does not pretend to have incorporated all existing conceptual and empirical findings on specific areas within the research field of sustainable entrepreneurship.

Undoubtedly, the results of this work lend credibility to the notion that sustainable entrepreneurship gained increasing interest over the years. Bibliographic reviews allow retrieving and condensing large amounts of information however, as every other study, they have some limitations. Database properties may affect directly the process of retrieving and selecting publications and, therefore, the results. For example, the use Scopus database instead of WoS-SSCI database may provide subtly different results (279 papers instead of 319). The limitations were observed also in the searching strategy, where Scopus database offers searching by title, keywords and abstract, whereas WoS-SSCI identifies journals that are focused on topic or title or abstract separately excluding keywords. However, in case of the reviewed publications, general conclusions can be drawn, regardless of used database. Further, human judgement during the filtering processes of previously selected papers may have a slight impact on the final results, because it determines the relevance of the retrieved papers, as well as it can vary on the type of considered references. In connection with this, these limitations must be taken into account when assessing the results presented in this study.

5. Conclusions

The broad field of works in the sustainable entrepreneurship has become a fruitful area of research, leading to the integration of the three pillars of sustainability within their entrepreneurship issues. To confirm this, the last two decades witnessed a constant growth of publications dedicated to sustainable entrepreneurship. Different lines of research depict the various themes and directions of the sustainable entrepreneurship field. To retrieve and condense large amounts of bibliographic information, bibliometric analyses have the potential to deal with this successfully and to present

844 evidence-based depictions, comparisons, and visualizations of research outputs. However, this
845 knowledge is scattered across different scientific works. Therefore, this paper analyzes the
846 heterogeneous picture research in the field of SE from 2002 to 2019, with a focus on the identification
847 of the most prominent journals and works in the research field of sustainable entrepreneurship. The
848 general idea of this work is to reflect the most prominent aspects highlighting the most prominent
849 fields based on the collection of investigated keywords, showing various lines of research and
850 different meaning of constructs used in SE fields, that may be useful for future researches and
851 practitioners. Within the bibliometric survey, we have addressed the 4 questions stated in section 3.1.
852 The key contribution of this paper was the development of a more complete structural overview in
853 making insights into the factors/determinants of SE. The proposed attempt to identify comprehensive
854 set of SE factors conceptualizing the sustainable entrepreneurship construct also potentially provides
855 valuable insights for informative picture of the domain. It offers a feasible path of investigation for
856 researchers aiming to build a consistent body of knowledge about sustainable entrepreneurship by
857 providing a conceptualization and systematization that can be applied across the many contexts in
858 which sustainable entrepreneurship is expressed.
859 To meet the aims of the study, the procedures of systematic literature reviews and the
860 bibliometric techniques and tools were adopted. To examine the field's current state, a systematic
861 literature review was conducted, which was based on selected articles. The articles search was
862 completed by gathering data from Scopus database, providing a set of 279 documents. The results of
863 the conducted review illustrated a strong focus on the three central themes of sustainable
864 environmental, societal and economic developments. Without claiming that these are the only
865 streams in sustainable entrepreneurship research, the fourth path influencing on sustainable-oriented
866 entrepreneurship was added. At this point, it can be assumed that these four paths are major avenues
867 in the current literature base. Each literature stream illustrated new opportunities in social,
868 environmental, economic and sustainable-oriented entrepreneurship development areas for
869 individuals willing and able to exploit them. With this view, four crosscutting themes seem
870 particularly relevant. A brief overview of the emergent streams of social, sustainable, and
871 environmental entrepreneurship was provided in the form of identified keywords and their co-
872 occurrence analysis. The result of this literature review elucidates the comparable and contrasting
873 qualities of each research area.
874 Additionally, there remains plenty of room to integrate themes (keywords) between each
875 category in the future by using various methods, such as experiential research designs. Moreover, it
876 can be assumed that the problem of sustainable entrepreneurship can be treated as a phenomenon
877 that operates at multiple levels, from the acts of individual entrepreneurs to the coordinated activities
878 of organizations, and the institutionalized activities of whole societies. Sustainable entrepreneurship
879 offers new possibilities for the ways humans can positively interact with each other and the natural
880 environment that are supportive, restorative, and contributory.
881 This article also provided a broad analysis of the selected works, showing possible gaps and
882 opportunities for new researches on sustainable entrepreneurship. Specifically, it is expected to raise
883 awareness among entrepreneurs, and also stakeholders, of the larger impact they can add to the
884 society and environment, and to measure for evaluating their own sustainable entrepreneurships'
885 performance against economic, social and environmental criteria. Most importantly a better
886 conceptualization of the construct will capture the unique organizational characteristics of
887 sustainable enterprises and facilitate research into capability building, innovation and competitive
888 advantage in sustainable enterprises. As already mentioned, sustainable development problems are
889 clearly multi-objective problems. They cannot be expressed with a single dimension, thus it is
890 necessary to focus on environmental and social factors with regard to economic optimization. The
891 conducted bibliometric analysis and Table 7 investigate that only few published models handle the
892 economic, environmental and social dimensions simultaneously [1,5–7,12,17,22,28,33,39,73–76,78–80].
893 Some desirable SE characteristics, based on the authors' knowledge of sustainable development and
894 management, have also been identified and used, which can have a significant impact on the need to
895 improve sustainable entrepreneurship practices [1,5–7,12,16–19,22,26,28,39,54,71–82,95].

In essence, the results of this literature review lend credibility to the notion that sustainable entrepreneurship gained increasing interest. Due to the exhaustive, systematic and transparent data collection process from the Scopus database, the resulting literature base represents a sample as complete as possible, and the resulting bibliometric analysis portrays the structure, foundations, and main themes in the up-to-date sustainable entrepreneurship research. Based on a systematic review of 279 scientific papers, this work provides a profound picture of the current state of sustainable entrepreneurship research with a focus on the both different and similar lines of research – on base of the results provided in Table 7 [1,5–7,12,14,16–20,22,26,28,32,33,39,54,71–82]. This research has clear and important implications for sustainable entrepreneurs, showing a more complete structural overview in making insights into the factors/determinants of SE. Concerning the interrelationship between the drivers and outcomes of SE, future research should empirically test, refine and develop the conceptualization across contexts. Future works may refer to the development of efficient multi-objective models addressing the different dimensions of sustainable development [98] and developing ontology dedicated to SE domain as well.

While this paper offers considerable insights, some opportunities for further research remain in this emerging area. The proposed attempt does not guarantee certainty or the most sustainable result but it encourages exploring paths leading toward sustainable development. Obviously, the results shown in Table 7 do not provide a 'one size fits all' strategy, but needs to be adjusted to specific contexts. The suggestions of other researchers or practitioners are welcomed in the elaboration and development of one or more theories of SE, since this article appears to be one of the earlier attempts to advance such a theory, especially in the context of bibliometric analysis reflecting on keywords dedicated to SE domain.

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