**Sustainable Entrepreneurship: A Qualitative Review**

**ABSTRACT**

As a newly emerging entrepreneurship field, sustainable entrepreneurship has attracted increasing research interest and discussion. However, the debate on the conceptualisation and the empirical evidence have also conveyed new puzzles and questions for theories and perspectives. To synthesize what we know and what we do not concerning sustainable entrepreneurship, we use the qualitative content analysis method, systematically reviewing 148 articles from 7 leading entrepreneurship and small business management journals published during the period of 2010-2018. Our review examines five major areas, including theoretical foundations, major topics, research methods, and country studied. Our review shows that the conceptualization of sustainable entrepreneurship has overlaps and connection with environmental entrepreneurship and social entrepreneurship. To further our understanding of this field and exploring where and how future research can make a contribution to the development of the field, we are still in the process of key research themes, which are now tentatively categorized as sustainable entrepreneurial behaviour, cognition, opportunity development, performance, resources and social impact.

**Keywords:**

Sustainable entrepreneurship, Literature review, Content analysis, Research methods

# Sustainable Entrepreneurship: a Qualitative Review

## **Introduction**

The Sustainable Development Goals (SDGs) proposed in the Rio +20 conference on sustainable development in 2012, highlights the key goals in improving the economic, social and environmental conditions worldwide, with particular emphasis in least developed countries. It is believed that entrepreneurial activity, contribute to sustainable development both in developing and developed countries, though the focus and paces could take different paths (Pacheco, Dean, and Payne 2010; Parrish 2010). In the past decade, sustainable entrepreneurship has come to the center stage given the increasing concern and debate on sustainable development and entrepreneurial activities. Researchers want to understand what role of entrepreneurship and small businesses can play in achieving these goals such as education, employment, health, pollution and poverty which are universal across the countries (Dhahri and Omri 2018; Rahdari, Sepasi, and MorCadi 2016). However, the special issue “Sustainable Development and Entrepreneurship” on Journal of Business Venturing in 2010 recognized that there had been very sparse research on sustainable development within entrepreneurship literature in mainstream entrepreneurship journals, though the concept of ‘triple bottom line’ had been addressed by Elkington back to 1998. In this paper, we are interested in reviewing if the questions raised have been researched since then. To what extent have we advanced our knowledge in understanding sustainable entrepreneurship between 2010 and 2018.

Two key questions relating to this review are: what sustainable entrepreneurship is, given the use and application of the term have been quite diversified and fragmented; and what sustainable entrepreneurs are doing, in terms of opportunity creation/discovery, entrepreneurship process and subsequent performance as researchers have investigated this topic from a range of perspectives, such as economics, social science, psychological cognition and entrepreneurship. Our review is expected to contribute to a systemic understanding of how existing studies have tackled the emergence of sustainable entrepreneurship in conceptual, theoretical and empirical aspects. First, we define the interrelated features of sustainable entrepreneurship that how it is conceptualized. Second, we categorize the outlets of sustainable entrepreneurship research. Third, we focus on lingering questions about sustainable entrepreneurship’s role in deal with economic, social and environment concerns. Fourth, we address methodological concerns for future research. We review the research publications from a selective top seven entrepreneurship journals based on ABS journal ranking list 2018, and undertake the content analysis approach outlined by Duriau, Reger, and Pfarrer (2007), to produce a more rigor analysis of the main facets of the interesting emerging field.

### Sustainable Entrepreneurship: the Concept

Compared with the mainstream entrepreneurship research, sustainable entrepreneurship is a relatively new concept. It links to sustainable development to business activities (Hall, Daneke, and Lenox 2010). As Cohen and Winn (2007) analyzed, market imperfection with regard to the environment degradation, creates significant opportunities for entrepreneurial innovations. Sustainable entrepreneurship is defined as the examination of “how opportunities to bring into existence ‘future’ goods and services are discovered, created, and exploited, by whom, and with what economic, psychological, social, and *environmental* consequences “ (p35). This ‘environmental’ element is also echoed by Dean and McMullen (2007) who define the term by its alleviation of environmentally relevant market failures through the exploitation of potentially profitable opportunities. Basically the research on sustainable entrepreneurship prior to 2010 focus more on the entrepreneurial activity and its relationship with *environmental* concerns and solutions. They also set up the boundaries between sustainable entrepreneurship and social entrepreneurship in that the former one is still in pursuit of economic interest while the latter is more concerned about social well-being.

Ideally, sustainable entrepreneurship should be able to achieve all the three pillars from the triple bottom line perspective (Elkington 1997). The concept has therefore gradually grown to broader sustainable aspects, tackling poverty, community, education and innovation (Ben Youssef, Boubaker, and Omri 2018; Boyaval and Herbert 2018; Bruton, Ketchen, and Ireland 2013; Sutter, Bruton, and Chen 2019). For example, Hockerts and Wüstenhagen (2010:482) have defined it as “the discovery and exploitation of economic opportunities through the generation of market disequilibria that initiate the transformation of a sector towards an environmentally and socially more sustainable state.” Similarly, Shepherd and Patzelt (2011:142) define it as “focused on the preservation of nature, life support, and community in the pursuit of perceived opportunities to bring into existence future products, processes and services for gain, where gain is broadly construed to include economic and non-economic gains to individuals, the economy and society.”

In line with the call by Cohen and Winn (2007) and Hall et al. (2010), the conception of entrepreneurship has surpassed the domains of ‘green’ and ‘social’ to a more general context, with a collective attention on “economic”, “environment” and “social” contexts. Despite of the consensus, researchers have still developed or used different terms, such as “green entrepreneurship”, “hybrid organization”, “missionary entrepreneurship” (Fauchant and Gruber, 2011), “humane entrepreneurship” (Parente, EITarabishy, Vesci and Botti, 2018). The following review section will go through detailed aspects of these definitions and their focuses.

## **Methodology used for the Literature Review:**

### Journal Selection

As mentioned earlier, this review has two objectives. First, it is to demonstrate the application of content analysis (Duriau et al. 2007). Second, we seek to assess the conceptualization and the methodological rigor of sustainable entrepreneurship literature by using content analysis.

We initially searched the EBSCO Business Source Premier database using the keyword ‘sustainable entrepreneurship’ from January 2010 to December 2018 and came up 5,398 peer-reviewed journal articles, which published in 50 journals. Take a closer check, publications in the journals with 3 above based on the ABS (Association of Business Schools) 2018 ranking list, have dramatically reduced to 1,285 articles, yet still in a wide range of journals in economics, ethics, management, entrepreneurship, innovation, human resource and operation management.

As suggested by Franzosi (2004), a proper selection of the data sources and samples ensures the reliability and validity of the findings. Rather than covering the whole data samples, we focus on some objective criteria for the given purpose of this review focuses on entrepreneurship domain. Therefore, we narrow down our journal publications within the entrepreneurship and SME category in ABS ranking list, which *Journal of Business Venturing (JBV), Entrepreneurship: Theory and Practice (ETP); Strategic Entrepreneurship Journal (SEJ), International Small Business Journal (ISBJ), Entrepreneurship and Regional Development (ERD); Journal of Small Business Management (JSBM), and Small Business Economics (SBE)*. However, we could have made a broader selection to analyze all the entrepreneurship research in leading journals. There are other outlets such as *Academy of Management Journal (AMJ), Organization Studies (OS), Strategic Management Journal (SMJ), Asia Pacific Journal of Management (APJM)* that publish entrepreneurship research routinely.

### Review procedure

In line with our selection criteria and objective, we decide to focus on full-length peer-reviewed articles from 2010-2018. We chose 2010 as a start point to investigate how the academic consortium has responded to Hall et al. (2010)’s urge to research in this field.

Using the content analysis method Duriau et al. (2007), we perform a systematic review on the selected articles. We identified the keywords which consists of “sustainable entrepreneurship”, “green entrepreneurship”, “sustainability”, “environmental impact” and “social entrepreneurship” . After this keyword search we conducted a literature search in the selected journals’ official website and EBSCO Business Premier Database. While in some journals that keywords were not available in the search, we use it in the abstract and all text search. We retrieved the abstracts of the articles from this search along with title and other bibliographic detail. This process resulted in a total of 210 sustainable entrepreneurship related articles. From this corpus, we double checked the articles and removed the editorials, letters, teaching cases, comments and replies etc. We also reviewed the references of these articles to ensure that all the referenced studies relating to sustainability entrepreneurship were not missed in our sample. This review resulted in a final sample of 148 studies.

A qualitative analysis was then employed on the final sample. Following prior review studies (Colquitt and Zapata-Phelan 2007; Luo and Zhang 2016), we identified five main themes in this study: theoretical foundation, methodology, country selection, author/affiliation information and major topics. In over to improve precision each of these themes also involved several sub-items. For example, the theoretical foundations include the conceptualization of the terminologies, the theories adopted and theoretical development approach. After performing this analysis, we read each article carefully and coded this information into an Excel sheet.

## **Review results**

### Journal Outlets

Table 1 reveals the number of articles published in each journal. It demonstrates that of total publications on sustainable entrepreneurship are published in elite Entrepreneurship and Small Business Management (ENT-SBM) journals. The *Journal of Business Venturing* (n=38, percentage=25.7%) has the highest number of publications, and is followed by *Entrepreneurship Theory and Practice* (n=26, percentage=17.6%). The papers in *Journal of Business Venturing* and *Entrepreneurship Theory and Practice* constitute approximately 43.2% of the total sample. This demonstrates the massive contribution of these two journals to sustainable entrepreneurship studies. The other four journals with three in the ABS ranking list have also produced half of the studies in the past eight years, with *Small Business Economics* top the league with the highest number of publications in 2017 (n=10).

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Insert Table 1

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The yearly distribution is shown in Fig.1. The data displays a fluctuated output in research on sustainable entrepreneurship. 2010 and 2013 marked two special issues in *Journal of Business Venturing*, focusing on “Sustainable Development and Entrepreneurship” and “Institutions, Entrepreneurs, Communities”, yet did not provoke follow-up studies until a steep rise in the last two years, the yearly production peaked at 36 articles in 2018, largely due to the special issue on “Enterprise Before and Beyond Benefit” in *Journal of Business Venturing* which includes Part 1 Entrepreneurship and For Benefit Corporations and Part 2 Prosocial Organizing. Another interesting finding relates to *Strategic Entrepreneurship Journal* publishes fewer studies in sustainable entrepreneurship compared with other ENT-SBM journals overall (n=9, percentage=6%). This is quite likely that due to its relatively newness to the field (published since 2007). By saying that, as described in the journal website, “strategic entrepreneurship involves innovation and subsequent changes which add value to society and which change societal life in ways which have significant, sustainable, and durable consequence” and it is not a surprise to see the gradual increase in article production in this journal.

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Insert Figure 1

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### Theory

We classified the theories adopted in these 148 studies, show in Table 2. Our results show that institutional theory (n=13, 8.67%), resource-based view(n=11, 7.33%), behavioral/process perspective (n=8, 5.33%), bricolage perspective (n=8, 5.33%) and cognitive-based perspective (n=8, 5.33%) are the five most used theories in our data sample. Generic social entrepreneurship perspective also accounts for 5.33% of the total sample. However, these theories only account for about one third of the total sample, indicating that theories are quite diversified in studying this newly emerging topic as scholars have used a quite range of theoretical perspectives from economics, social science and general entrepreneurship disciplines. In particular, only five articles which have particularly addressed the sustainable entrepreneurship as the main theoretical perspective to define the concepts and the field of research. This is in line with the proposition addressed by Shepherd and Patzelt (2011) that multiple theoretical perspectives have been adopted to the field of sustainable entrepreneurship. This meta-theoretic evidence embraces the considerable diversification in terminology, data and method, which leads to a variety of research questions and topics relating to this field. Compared with more sophisticated general entrepreneurship research, sustainable entrepreneurship has great potential to facilitate different approaches to advance our understanding.

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We further synthesized theoretical development approaches or methods employed by these studies. These findings are displayed in Figure 2. Drawing on prior study (Colquitt and Zapata-Phelan 2007; Luo and Zhang 2016), we categorized three different theoretical development approaches – theory building, theory extension and theory testing. Theory building articles starts off to introduce new ground theory and propose new constructs and relationships that completely differ from existing theories. Commentary articles, addressing theoretical comment or debate are also included into the theory building approach (Locke and Latham 2004). Theory extension, as the second theoretical approach, emphasizes on contextualizing existing theories by providing new variables, proposing new concepts based on existing frameworks and altering the existing framework for new empirical settings (Locke and Latham 2004; Luo and Zhang 2016). The last approach, theory testing provides empirical evidence on testing existing theoretical relationships or propositions based on prior theoretical concepts (Colquitt and Zapata-Phelan 2007).

As shown in Figure 2, theory extension is the main method of theoretical development, accounting for almost half articles reviewed. Among these theoretical extension articles, nearly 75% of these articles adopt single theories in their research reasoning. This finding is quite different from other research domain in which integrating different theories as a major trend (Luo and Zhang 2016), sustainable entrepreneurship studies draw on single theoretical perspectives to advance theoretical development. This pattern is also shown in theory building and theory testing groups, as a majority of studies apply only one theoretical perspectives. We find that these studies adopted institutional theory, resource-based view and identity theory as the basis for theoretical development. For theory testing, resourced-based view was used most commonly, followed by bricolage theory and behavioral theory.

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Insert Figure 2

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### Methods Used

Figure 3 exhibits the empirical methodologies and data sources used in Sustainable Entrepreneurship studies. Qualitative studies constitute 76.1% of the total articles studies. Among these qualitative studies, almost two thirds are case studies or field studies while the remaining one third using descriptive or theatrical analysis focused on theoretical dialogue and conceptualization of sustainable entrepreneurship. Interviews, focus group and observations, together with archival are the most commonly used in unfolding the research questions. To go further we collected the data about qualitative method in these studies. This reveals that 64 among the 98 qualitative studies used thematic analysis, constituting 65 % of total qualitative studies. Abductive approach (n=6) and inductive approach (n=9) are reported in analyzing the data. Gioia method were used (n=4) while other remaining studies use fuzzy-set qualitative comparison analysis, content analysis, IPA and process-tracing analysis. Studies using quantitative methods constitute 32% of the total articles studies and another two articles using triangulation methods. On quantitative studies, 21 of the 48 quantitative studies used archival data, and 27 used survey data. It reveals that 27 among 48 quantitative studies used regression (generalized least square, logistic regression, hierarchical linear regression, multi-level modelling, multivariate regression) and 8 studies used structural equation model, as a statistical modelling technique, constituting 72.9% of total quantitative studies.

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Insert Figure 3

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These results display that qualitative study is a popular method of studying sustainable entrepreneurship. This shows that with the rise of sustainability as a new inter-disciplinary concern, qualitative research such as fieldwork and case study can bring more insightful observations about the cognition, behavior and performance of sustainable entrepreneurs and enterprises (Nelson et al. 2013). In addition, more quantitative regression have emerged to study sustainable entrepreneurship which provides additional insights and evidence beyond domestic boundary.

### Geographic Analysis of Data Focus

Considering the scope of sustainability is quite broad, analysis of the geographic distribution of markets (countries, communities) is critical for diversification of future research into geographic regions that need more scholarly attention. Table 3 unveils the country/region of origin studied in our review sample. The results show that 75 out of total 111 articles focused on single country as the research context, accounting for two thirds of the reviewed articles, with US (n=16), UK(n=13), Canada (n=5), German (n=4) and India (n=4) as the popular locations. 36 articles extended to multiple regions and global scale to study sustainable entrepreneurship. The number of single country studies are twice as common as multiple country focused studies, which may require more comparative studies or cross-border perspectives in future. Developed markets, such as Europe and North America have attracted more studies than other regions and countries, both in single and multiple country focused groups. Research outside of these regions remain insufficient, though research on the bottom of pyramid countries has emerged during the observed years. Interestingly, compared with other review studies in entrepreneurship and management studies, large emerging economies such as China and India research are still rare.

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### Leading articles

We conduct citation analysis to identify the most influential publications. We have adopted Google Scholar as our citation source as it has been recently used in management and entrepreneurship review studies. Specifically, we based our analysis on the citation number in Google Scholar as of January 14, 2019. Table 4 shows the top ten most cited articles, which contains 7 JBV articles, 2 ETP articles and 1 SBE article. In particular, the 7 JBV articles are all published in the same special issue at JBV in 2010, which demonstrated the impact of that special issue on sustainable entrepreneurship as the introduction of the new chapter in this field.

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Insert Table 4

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## **Topics and Findings**

### Overview of topics

Our review reveals identifiable terminologies and topical themes addressed in prior studies. As mentioned earlier, scholars have used different terms to address sustainable entrepreneurship, proposing the three key elements in economic, social and environmental sustainability in the conceptualization. Table 5 lists these terms or phrases and the number of articles contained within each category. Social entrepreneurship tops the table, comprising 76 articles or 51.35% of the total reviewed articles, constituting half of the reviewed articles. Other noticeable terms are sustainable entrepreneurship (10.81%), environmental entrepreneurship (8.11%) and green entrepreneurship (5.41%), accounting for about a quarter of the sample articles. It is worth noting that social entrepreneurship articles cover a wider range of topics which are relevant to sustainability while the other three categories have quite a focused specification of what sustainable entrepreneurship is about. The reason why we include all of them in the review is to provide an expanded boundaries to discuss how individuals, communities and natural environment can be interacted with entrepreneurial action (Shepherd 2015). It is interesting to deepen our understanding of how “social entrepreneurship”, “sustainable entrepreneurship” and “environmental entrepreneurship” are discussed and debated in the academia without restricting our examination in a very narrow boundary.

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Insert Table 5

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Table 6 lists sixteen identifiable topical themes addressed in prior studies, with the number of articles contained within each topic. Entrepreneurial behavior is the largest topic area which has attracted 54 articles or 36.49% of all the articles reviewed. The second largest theme is entrepreneurial cognition, comprising 26 articles or 17.57% of total review samples, which is followed by entrepreneurial opportunity development with 22 articles or 14.86% of the total review samples. Other noticeable themes are entrepreneurial process (10.81%), entrepreneurial firm performance (9.46), institutional impact (8.11%), entrepreneurial resources/attributes (8.11%), prosocial impact (7.43%). It needs to be pointed out that despite of key focus in each article, many articles do investigate more than one topic, suggesting the interdisciplinary popularity of sustainable entrepreneurship studies.

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Insert Table 6

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### What is sustainable entrepreneurship? What are the business practices undertaken by sustainable entrepreneurs?

Follow the mainstream entrepreneurship discipline, the first main theme relating to sustainable entrepreneurship is about what sustainable entrepreneurship is and what sustainable entrepreneurs do. This theme contains the largest number of studies in our review sample. Shepheard and Patzelt Sustainable (2011) consolidate economic, institutional and psychology perspectives and suggest that the domain of this field of entrepreneurship may embrace considerable variation in terminology, data and methods and require a more diverse perspective. Most subsequent studies investigated how these firms mobilize resources, seek legitimacy, develop innovation and undertake decision-makings.

Resources play a vital role in the development of an entrepreneurial venture. One main argument is that the predominant view of resource endowment in entrepreneurship can no longer hold in sustainable enterprises context as the rapid market change and institutional complexity come into the stage (Desa 2012; Desa and Basu 2013; Meyskens et al. 2010; Parrish 2010; Sarkar 2018). In this sense, resource mobilization is a requisite for sustainable entrepreneurs to overcome acute resource constraints (Kistruck and Beamish 2010; Sarkar 2018). To create something from nothing, or challenge something old to survive and succeed in unfavorable institutional environment, entrepreneurs are found to collaborate with other organizations in a network to fulfill resource requirement (Meyskens et al. 2010; Meyskens and Carsrud 2013). On the other hand, a number of scholars argue that bricolage enables entrepreneurs to reconfigure existing resources to new problems and opportunities (Desa and Basu 2013) .

Scholars also discuss business practices which are driven by demands to establish legitimacy with external stakeholders as well as organizational performance imperatives.

|  |  |
| --- | --- |
| Entrepreneurial behavior | Resource mobilization; legitimacy; Innovation; Emancipation; decision-making |
| Entrepreneurial cognition | Entrepreneurial perception and orientation towards entrepreneurial activities; prosocial motivation |
| Entrepreneurial opportunity development | Factor relating to entrepreneurial entry and new business practice; identification and development of opportunity in undertaking new business |
| Entrepreneurial process | How do entrepreneurial process undertake in terms of green business and sustainable development |
| Entrepreneurial firm performance | Survival, growth and performance-related measurement |
| Institutional impact | Institutional factors affecting entrepreneurial activities |
| Entrepreneurial resources/attributes | What are the attributes/resources/capabilities entrepreneurs have; how they contribute to entrepreneurial opportunity development, growth and decision making |
| Prosocial impact | What are the prosocial impact of entrepreneurial firms; the factors influencing prosocial impact |
| Conceptualization of terms | Conceptualization of social, sustainable, environment, humane entrepreneurship |
| Innovation, knowledge spillovers and clustering | How entrepreneurial firms develop knowledge and innovation capacity |
| Financing | Source of financing for entrepreneurial firms |
| Gender | Role of gender in entrepreneurial behavior |
| Legitimacy | Firm legitimacy |
| network/engagement | Interaction with stakeholders, communities |
| Entrepreneurial ecosystem | Firms’ role/position in ecosystem and its interaction within the system |
| Methodologies | Methodologies |

## **Conclusion**

The review so far provides us a picture of the scholarship based on sustainable entrepreneurship. Through an assessment of 7 leading journals in entrepreneurship and small business management published over the past eight years, we can see that scholars are still working on the domain to what consists of sustainable entrepreneurship, and how this may overlap or differ from other relevant entrepreneurship streams. We also see that a critical emerging literature has started to develop, both qualitatively and quantitatively, focused on sustainable entrepreneurship in recent years. Previous efforts have been characterized by developing new theories or contextualizing existing theories tailored to sustainable entrepreneurship and empirical analyses that use secondary data, primary data, and case studies. The research plan for next step is to address the current research findings and discuss in more details about the content analysis. With the intensified research interest, we are interested in revealing finer-grained theoretical development and more empirical insights for future sustainable entrepreneurship research.

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## **Tables and Figures**

Table 1 Journal distribution on Sustainable Entrepreneurship during 2010-2018

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | ETP | JBV | SEJ | ISBJ | ERD | JSBM | SBE | Count |
| 2010 | 7 | 7 |  |  | 4 |  |  | 18 |
| 2011 | 7 |  |  | 5 | 1 |  |  | 13 |
| 2012 | 3 |  |  |  | 1 |  |  | 4 |
| 2013 | 2 | 2 | 1 | 5 |  |  | 7 | 17 |
| 2014 | 2 | 2 |  |  | 1 | 2 |  | 7 |
| 2015 | 4 | 5 | 1 | 3 |  | 1 | 1 | 15 |
| 2016 |  | 4 |  |  | 2 | 5 | 1 | 12 |
| 2017 | 1 | 6 | 2 | 2 | 4 | 1 | 10 | 25 |
| 2018 |  | 12 | 5 | 3 | 6 | 9 | 1 | 36 |
| Count | 26 | 38 | 9 | 18 | 19 | 18 | 20 | 148 |

Figure 1 Year distribution of articles on Sustainable Entrepreneurship

Table 2 Distribution of theories/perspectives

|  |  |  |
| --- | --- | --- |
| **Theories/perspectives** | **Total** | **Percentage** |
| Institutional theory | 13 | 8.67 |
| Resource-based view/dynamic capability | 11 | 7.33 |
| Behavioral-process | 8 | 5.33 |
| Bricolage | 8 | 5.33 |
| Cognitive-based | 8 | 5.33 |
| Social entrepreneurship | 8 | 5.33 |
| Identity | 7 | 4.67 |
| Social capital theory/ network perspective | 7 | 4.67 |
| Knowledge spillover/cluster | 6 | 4.00 |
| Market imperfection | 6 | 4.00 |
| Social value/motives | 6 | 4.00 |
| CSR | 5 | 3.33 |
| Sustainable entrepreneurship/environment | 5 | 3.33 |
| Ecosystem | 4 | 2.67 |
| Opportunity perspective | 4 | 2.67 |
| Resource dependency | 4 | 2.67 |
| Causation/effectuation | 3 | 2.00 |
| Community perspective | 3 | 2.00 |
| Imprinting | 3 | 2.00 |
| agent theory | 2 | 1.33 |
| Bourdieu's theory | 2 | 1.33 |
| capitals theory | 2 | 1.33 |
| Emancipation | 2 | 1.33 |
| embeddedness | 2 | 1.33 |
| innovation | 2 | 1.33 |
| legitimacy | 2 | 1.33 |
| Schumpeterian perspective | 2 | 1.33 |
| sensemaking | 2 | 1.33 |
| stakeholders | 2 | 1.33 |
| signaling theory | 2 | 1.33 |
| empowerment | 1 | 0.67 |
| empowerment | 1 | 0.67 |
| game theory | 1 | 0.67 |
| leadership | 1 | 0.67 |
| linguistic | 1 | 0.67 |
| optimal distinctiveness | 1 | 0.67 |
| drawing theory | 1 | 0.67 |
| stewardship theory | 1 | 0.67 |
| trust | 1 | 0.67 |
| total | 150 | 1 |

Figure 2Theoretical development methods

Figure 3 Research methods

Table 3 Regions/countries studied during 2010-2018

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Single country** | Indonesia | 1 | **Multiple countries** | multiple | 3 | **Global** | 12 |
|  | Israeli | 1 |  | developing countries | 1 |  |  |
|  | Argentina | 1 |  | Europe | 6 |  |  |
|  | Australia | 2 |  | Africa | 2 |  |  |
|  | Austria | 1 |  | Latin America | 2 |  |  |
|  | Bangalore | 2 |  | North America | 2 |  |  |
|  | Belgium | 2 |  | Belgium; UK; Germany | 1 |  |  |
|  | Canada | 5 |  | Finland; China | 1 |  |  |
|  | Chile | 1 |  | Russia; Finland | 1 |  |  |
|  | China | 2 |  | UK; France; Germany | 1 |  |  |
|  | Colombia | 2 |  | UK; Japan | 1 |  |  |
|  | Denmark | 1 |  | US; UK; France; Austria; Australia | 1 |  |  |
|  | Germany | 4 |  | US; UK; Tanzania | 1 |  |  |
|  | India | 4 |  | US; UK; Austria | 1 |  |  |
|  | Ireland | 1 |  |  |  |  |  |
|  | Italy | 3 |  |  |  |  |  |
|  | Kenya | 2 |  |  |  |  |  |
|  | Netherland | 2 |  |  |  |  |  |
|  | New Zealand | 3 |  |  |  |  |  |
|  | Nicaragua | 1 |  |  |  |  |  |
|  | Norway | 1 |  |  |  |  |  |
|  | Philippine | 1 |  |  |  |  |  |
|  | Samoan | 1 |  |  |  |  |  |
|  | Spain | 1 |  |  |  |  |  |
|  | UK | 13 |  |  |  |  |  |
|  | US | 16 |  |  |  |  |  |
|  | Vietnam | 1 |  |  |  |  |  |
| Total |  | 75 |  |  | 24 |  | 12 |

Table 4 Top 10 most cited articles on Sustainable Entrepreneurship

|  |  |  |  |
| --- | --- | --- | --- |
| Article Title | Authors | Citations | Journal |
| Sustainable development and entrepreneurship: Past contributions and future directions | Hall, Daneke and Lenox (2010) | 684 | JBV |
| Greening Goliaths versus emerging Davids — Theorizing about the role of incumbents and new entrants in sustainable entrepreneurship | Hockerts and Wustenhagen (2010) | 665 | JBV |
| The New Field of Sustainable Entrepreneurship: Studying Entrepreneurial Action Linking “What is to be Sustained” with “What is to be Developed” | Shepherd and Patzelt (2011) | 494 | ETP |
| The entrepreneur–environment nexus: Uncertainty, innovation, and allocation | York and Venkataraman (2010) | 441 | JBV |
| The influence of sustainability orientation on entrepreneurial intentions — Investigating the role of business experience | Kuckertz and Wagner (2010) | 419 | JBV |
| Sustainability-driven entrepreneurship: Principles of organization design | Parrish (2010) | 381 | JBV |
| The impact of social norms on entrepreneurial action: Evidence from the environmental entrepreneurship context | Meek, Pacheco, York (2010) | 314 | JBV |
| Escaping the green prison: Entrepreneurship and the creation of opportunities for sustainable development | Pacheco, Dean and Payne (2010) | 308 | JBV |
| Recognizing Opportunities for Sustainable Development | Patzelt and Shepherd (2011) | 298 | ETP |
| Designing a global standardized methodology for measuring social entrepreneurship | Lepoutre, Justo, Terjesen and Bosma (2013) | 270 | SBE |

Table 5 Terms/phrases on Sustainable Entrepreneurship

|  |  |  |
| --- | --- | --- |
| **Terms** | **# of articles** | **percentage** |
| Community entrepreneurship | 3 | 2.03% |
| Corporate social responsibility | 3 | 2.03% |
| Development entrepreneurship | 1 | 0.68% |
| Entrepreneurial ecosystem | 5 | 3.38% |
| Environmental entrepreneurship | 12 | 8.11% |
| Green entrepreneurship | 8 | 5.41% |
| Humane entrepreneurship | 2 | 1.35% |
| Hybrid entrepreneurship | 3 | 2.03% |
| Institutional entrepreneurship | 2 | 1.35% |
| Missionary entrepreneurs | 1 | 0.68% |
| Non-profit entrepreneurship | 2 | 1.35% |
| Prosocial entrepreneurship | 2 | 1.35% |
| Rural entrepreneurship | 1 | 0.68% |
| Social entrepreneurship | 76 | 51.35% |
| Strategic entrepreneurship | 1 | 0.68% |
| Sustainable development | 4 | 2.7% |
| Sustainable entrepreneurship | 16 | 10.81% |
| Others | 6 | 4.05% |

Table 6 Research topics/themes in Sustainable Entrepreneurship

|  |  |  |  |
| --- | --- | --- | --- |
| **Topics** | **Research Issues** | **# of articles** | **percentages** |
| Entrepreneurial behavior | Resource mobilization; legitimacy; Innovation; Emancipation; decision-making | 54 | 36.49 |
| Entrepreneurial cognition | Entrepreneurial perception and orientation towards entrepreneurial activities; prosocial motivation | 26 | 17.57 |
| Entrepreneurial opportunity development | Factor relating to entrepreneurial entry and new business practice; identification and development of opportunity in undertaking new business | 22 | 14.86 |
| Entrepreneurial process | How do entrepreneurial process undertake in terms of green business and sustainable development | 16 | 10.81 |
| Entrepreneurial firm performance | Survival, growth and performance-related measurement | 14 | 9.46 |
| Institutional impact | Institutional factors affecting entrepreneurial activities | 12 | 8.11 |
| Entrepreneurial resources/attributes | What are the attributes/resources/capabilities entrepreneurs have; how they contribute to entrepreneurial opportunity development, growth and decision making | 12 | 8.11 |
| Prosocial impact | What are the prosocial impact of entrepreneurial firms; the factors influencing prosocial impact | 11 | 7.43 |
| Conceptualization of terms | Conceptualization of social, sustainable, environment, humane entrepreneurship | 9 | 6.08 |
| Innovation, knowledge spillovers and clustering | How entrepreneurial firms develop knowledge and innovation capacity | 6 | 4.05 |
| Financing | Source of financing for entrepreneurial firms | 6 | 4.05 |
| Gender | Role of gender in entrepreneurial behavior | 3 | 2.03 |
| Legitimacy | Firm legitimacy | 3 | 2.03 |
| network/engagement | Interaction with stakeholders, communities | 3 | 2.03 |
| Entrepreneurial ecosystem | Firms’ role/position in ecosystem and its interaction within the system | 3 | 2.03 |
| Methodologies | Methodologies | 1 | 0.68 |

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