

Strategic Entrepreneurship: A Bibliometric Analysis Using R

By

Chris I Vey Jane Jasni, Suddin Lada, Masran Tamin* and Faerozh Madli
Faculty of Business, Economics & Accountancy
University Malaysia Sabah (UMS)
Malaysia

**Corresponding Author: masrantamin@ums.edu.my*

Received date: 30.6.2023 | Revised date: 20.7.2023 | Accepted date: 22.8.2023

ABSTRACT

The purpose of this study is to examine the connection between the strategic Entrepreneurship and sustainability using a literature review and bibliometric analysis. The purpose of the study was to systematically record the intellectual structure, volume, trends in knowledge development, and significance of the author and source. Information is gathered and analyzed from Scopus databases using Microsoft Excel and R Studio. The most significant journals, writers, and publications on the subject are identified using the bibliometric analysis using R. By combining the most important aspects of sustainability and strategic economy into a single idea, this study shows how a new research topic can be developed. This opens up new research opportunities in both the broad field of Strategy Entrepreneur and the relatively new and hotly debated area of sustainability.

Keywords: strategy, strategic entrepreneurship, bibliometric analysis

INTRODUCTION

Existing knowledge of the strategic entrepreneurship

By fusing strategic and entrepreneurial thinking, strategic entrepreneurship is the process of identifying and seizing new company possibilities. This might entail finding new markets, developing fresh goods or services, or applying fresh technology to benefit stakeholders and customers. A bibliometric analysis is a research technique used to evaluate and quantify the body of knowledge in a certain area. In order to comprehend the present level of knowledge in the topic, this may entail recognizing important authors, publications, and research trends. Large data sets may be handled and analyzed using R, a programming language and software environment for statistical computation and graphics. "Strategic entrepreneurship: A bibliometric analysis using R" by Dörrenbächer and Harhoff is one instance of a research that employed bibliometric analysis to

analyse strategic entrepreneurship (2015). The study examined the strategic entrepreneurship literature from 1985 to 2012 using bibliometric methodologies. The authors discovered that the multidisciplinary nature of strategic entrepreneurship has expanded more rapidly in recent years. In addition, they identified significant researchers and publications in the area as well as patterns in research questions and techniques. This study offers insightful analyses into the state of knowledge in the domain of strategic entrepreneurship and serves as a useful resource for further study in this topic.

Limitations and gaps in strategic entrepreneurship

A growing corpus of study has also examined how outside variables, such the entrepreneurial ecosystem, might help or hinder a company's capacity to seize new possibilities. The contemporary literature on strategic entrepreneurship does, however, have several drawbacks and shortcomings. For instance, further study is required on the precise ways in which organizational skills and outside circumstances affect a firm's capacity to seize new possibilities. Additional empirical study is required to fully comprehend the intricate and dynamic processes involved in strategic entrepreneurship, particularly case studies and field studies. Strategic entrepreneurship is influenced by a variety of contextual factors, including industry dynamics, organizational culture, and external environments. Moreover, case studies and field studies allow researchers to delve into specific contexts, providing a nuanced understanding of how strategic entrepreneurship operates in different settings. Thus, the investigation of more variables will integrate the combination of the opportunity-driven and aspirational entrepreneurship variables that benefit entrepreneurial activities and their underlying motivations as entrepreneurs.

A growing corpus of study has also examined how outside variables, such the entrepreneurial ecosystem, might help or hinder a company's capacity to seize new possibilities. The contemporary literature on strategic entrepreneurship does, however, have several drawbacks and shortcomings. For instance, further study is required on the precise ways in which organizational skills and outside circumstances affect a firm's capacity to seize new possibilities. Additional empirical study is required to fully comprehend the intricate and dynamic processes involved in strategic entrepreneurship, particularly case studies and field studies.

Research Questions

Table 1: Research Questions (RQ)

No.	RQ	Analysis Procedure
1	What is the current state and trend of publication in strategic entrepreneurship?	<ul style="list-style-type: none"> · Document Type · Source type · Total number of contributors · Number of publications by year/ country

- Annual growth rate.

2	What are the most influential contributors to Strategy Entrepreneur and Sustainability	<ul style="list-style-type: none"> · Most relevant sources · Most influential countries · Most influential source title
3	What are the most influential article, authors and sources on strategic entrepreneurship	<ul style="list-style-type: none"> · Highly cited documents · Lotka's Law · Source Impact · Bradford's Law · Co-occurrence network
4	How the theme of the publication has evolved in strategic entrepreneurship	<ul style="list-style-type: none"> · Thematic evolution · Trend Topic · Word Dynamic · Word Cloud · Tree Map

This article carries on to a more in-depth discussion and analysis after briefly going over key definitions for strategic entrepreneurship. In the methodology portion of the study, the methodologies employed in this inquiry are detailed, along with the data searching procedure, data collecting, extraction, and analysis. The study results were discussed in the section that followed. This paper's discussion and conclusions section emphasizes the study's results, goes into detail about the major findings and their consequences, and explains the study's constraints and future directions.

LITERATURE REVIEW

Strategic entrepreneur and sustainability

The majority of the prior research on strategic entrepreneurship was on identifying and delineating the critical elements that contribute to the success of new businesses. The significance of sustainability in strategic entrepreneurship, however, is gaining attention. This is a result of the growing understanding that in order for businesses to survive and prosper over the long term, they must implement sustainable practices. The connection between strategic entrepreneurship and sustainability has been the subject of several research. For instance, according to some academics, companies that practice strategic entrepreneurship are more likely to embrace sustainable business practices (Madli et al., 2023). Others have discovered that more sustainable businesses are better equipped to spot and seize new possibilities. Previously, strategic entrepreneurship provided a framework for businesses to proactively engage in innovation. Companies can strategically align

entrepreneurial activities with sustainability goals, such as developing eco-friendly products, improving resource efficiency, or creating sustainable business models. There are still restrictions and gaps in our knowledge of the relationship between strategic entrepreneurship and sustainability, despite this expanding body of scholarship. To better understand how various sustainability strategies affect company performance, for instance, and how businesses may effectively integrate sustainable practices in the context of strategic entrepreneurship, additional study is needed.

Table 2: Summary of previous studies in strategic entrepreneurship

Author	Domain/search strategy/ title	Data source & scope	TDE	Bibliometric attributes examined
Gareth H. Thomas and Evan J. Douglas	A Systematic Bibliometric Review of the Strategic Entrepreneurship Domain	Scopus	143	Strategic management, Bibliometric, Literature review, Thematic analysis, Research trends, Strategic entrepreneurship, Research domain
Yangyang Yu, Yong Qin, Zeshui Xu	Bibliometric analysis of strategic entrepreneurship literature	Springer	79	strategy; entrepreneurship; bibliometric; strategic entrepreneurship
Hilka Pelizza Vier Machado, Carla Fabiana Cazella, Andrezza Aparecida Saraiva Piekas, Carlos Eduardo Carvalho.	Entrepreneurship and Strategy: Analyzing Themes from Bibliometric Studies in the Light of the Concept of Strategic Entrepreneurship	Springer	62	strategy; entrepreneurship; bibliometric; strategic entrepreneurship

METHODOLOGY

Searching strategy

A well-organized set of search phrases is a search strategy. In order to get accurate and thorough results, the search strategy will use keyword search. This study used bibliometric and PRISMA (Preferred Reporting Items for Systematic Reviews) analysis (see Figure 1). This approach offers a thorough analysis of the knowledge accumulated through time. Bibliometric techniques, such as finding pertinent articles in a database, are frequently used to filter and enhance bibliographic data (such as Scopus). The data is now shown using the VOSviewer application. Using bibliometric analysis, future research ideas may be identified and predicted.

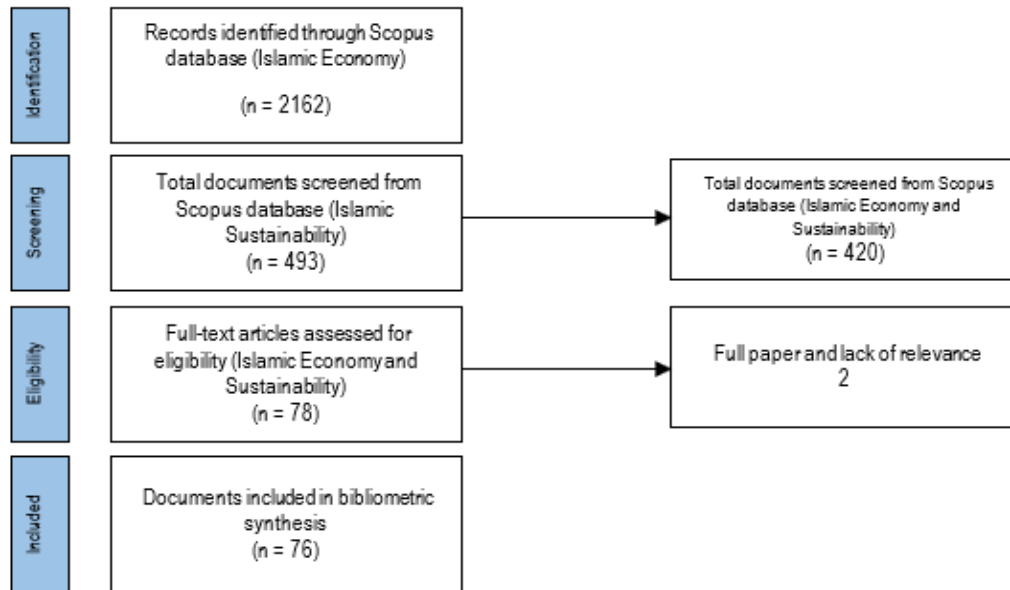


Figure 1: The PRISMA diagram that we used to find, screen, and select articles in our bibliometric review

Inclusion and exclusion criteria

Articles that fit the following criteria were considered for inclusion in this bibliometric analysis: they had to be published in English, be older than 15 years, have a focus on strategic entrepreneurship and sustainability, be published in academic journals, and be freely accessible online through databases. Articles that failed to fit the aforementioned requirements, such as those written in languages other than English, those unrelated to the subjects of strategic entrepreneurship and sustainability, and those whose entire texts were not accessible, were excluded.

Table 3: Search Criteria

Scopus category	Searching Criteria	No of article
Topic 1	“Strategy entrepreneurship”	4,325
Research years	2018-2022	1,951
Document Type	All types of publication	64
Language	English	64
Author name	All	64

Extraction techniques

A wide range of strategies for gathering and analyzing data can be included in extraction techniques for strategic entrepreneurship research. Utilizing bibliometric analysis, which is reviewing published materials on a certain topic in order to spot important trends and patterns, is one popular technique. Software like R, which enables the structuring and analysis of enormous volumes of data, may be used for this. The use of case studies, surveys, or interviews with industry professionals, as well as other quantitative or qualitative data analysis methods, are examples of other methodologies. The specific extraction methods chosen will depend on the study issue and the kind of data being examined, it is vital to remember.

Choice of synthesis method (Analysis)

The effectiveness of the study depends on the choice of synthesis methodology for reviewing the literature on strategic entrepreneurship and sustainability. A bibliometric analysis, which includes examining the patterns and trends in the literature using statistical methods, is one strategy that has been employed in prior studies. This strategy enables the discovery of important authors, publications, and articles in the area as well as the formation of fresh research subjects and trends. A qualitative content analysis is another strategy that may be applied, and it entails examining the literature's content using a framework like theme analysis or discourse analysis. This method enables a greater comprehension of the fundamental theories, notions, and viewpoints in the literature.

RESULTS

Document profiles

The publications discovered covered the time period from 2018 to 2022. Only after 2018 did publications begin to improve in organization and begin to steadily and gradually grow in quantity.

Table 4: Document profile

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	2018:2022
Sources (Journals, Books, etc)	842
Documents	1951
Annual Growth Rate %	8.64
Document Average Age	2.84
Average citations per doc	7.321

References	111559
DOCUMENT CONTENTS	
Keywords Plus (ID)	2888
Author's Keywords (DE)	4978
AUTHORS	
Authors	4864
Authors of single-authored docs	318
AUTHORS COLLABORATION	
Single-authored docs	369
Co-Authors per Doc	2.83
International co-authorships %	23.07
DOCUMENT TYPES	
article	1412
article in press	1
book	35
book chapter	198
conference paper	200
conference review	15
editorial	7
erratum	6
letter	1
note	5
review	71

RQ1: What is the current state and trend of publication in Strategic entrepreneur and Sustainability.

As indicated in Figure 2, there have been more articles produced in recent years that relate to the ideas of sustainability and strategic entrepreneurship. According to the volume of papers produced, the topic and range of the study on strategic entrepreneurs and sustainability have attracted a lot of interest from earlier studies. According to preliminary data from the Scopus database, despite the relatively low number of publications on the issue at the time, the topic of strategy entrepreneurship started to receive greater attention in the early 2020s. Beginning in 2020, there has been an increase.

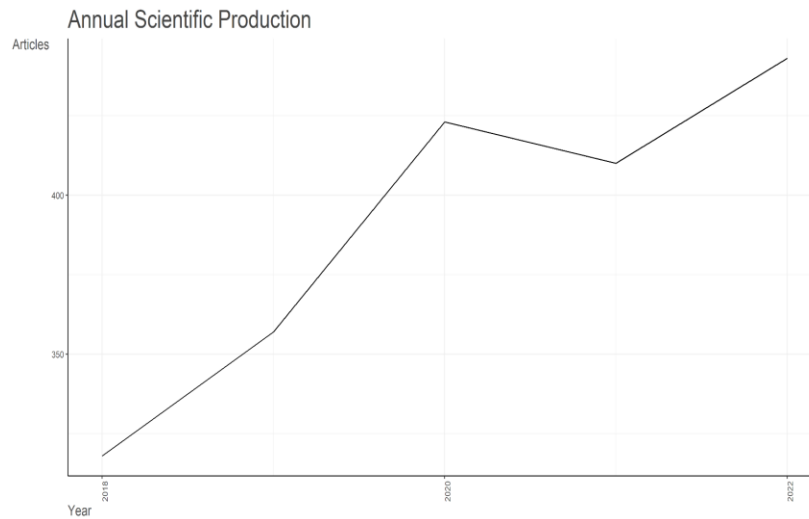


Figure 2: Annual Scientific Production (Total published articles from 2018-2022)

According to the information shown in Figure 2, debate has been suppressed because academics and members of the business are unable to comprehend the importance of the strategy of entrepreneurship in a wider framework. However, the quantity of articles started to increase from 2018 to 2020. After then, from 2020 to 2022, fewer publications were produced. The worldwide Covid-19 epidemic may have made this problem worse. However, the period from the beginning of 2018 to June 2020 saw the most publications produced. As many as 318 journals were published in 2018; from 2019 through 2022, there was a continuous increase, leading to the publication of 1633 journals in the following years and the total number of journals was published is 1,951.

RQ2: What are the most influential contributors to Strategic entrepreneur and Sustainability.

The study's focus in this second research question is on the most prominent authors, the writers' output over time, the most important nations and institutions, and the most influential source title in the field of strategy, entrepreneurship, and sustainability. Table 4 showed that the sample database included the most significant writers and articles.

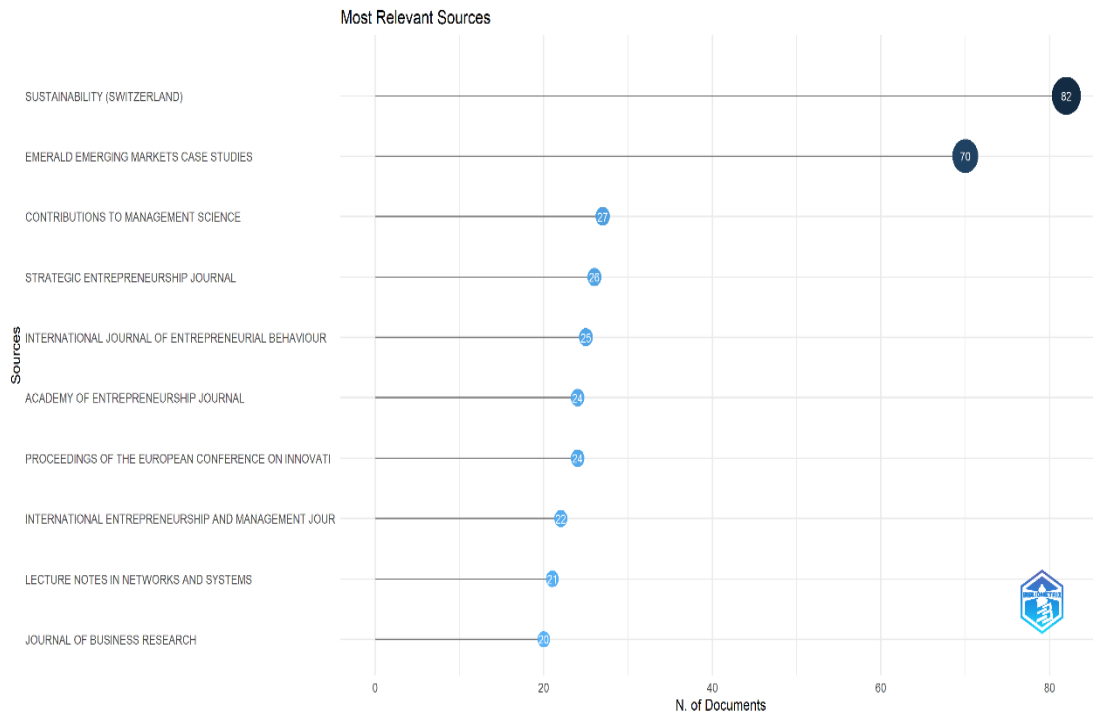


Figure 3: The most relevant sources

The most prestigious academic journals are peer-reviewed, which means that each contribution is evaluated before publication by academics with expertise in the same subject as the author and editor. They should make sure that the researcher used the proper methods, that the work contributes to the field, and that new material is presented in the context of what is already known. Figure 3 lists the sources that are the most pertinent to the discussion of strategy entrepreneur and sustainability. The International Journal of Social and Economic Studies, International Journal of Strategy Entrepreneur and Middle Eastern Studies, and The Sustainability Journal are the three most well-known journals in this field. Peer review is a crucial component of this journal publishing process since it ensures accuracy and

RQ3: What are the most influential articles and sources on strategy of entrepreneurship and sustainability.

Highly cited documents/papers

The top 1% of each discipline's researchers, as determined by Web of Science citation records, are recognized in this renowned list as the best in the world. You are a successful and significant academic if your work is listed among the most referenced works. Additionally, when more of the researchers' papers are highlighted, the exposure and possible reputation of their connections with larger universities grows significantly. However, a number of outside factors that don't appear to be directly related to the "quality" of the content of the article have an impact on how many

citations an article obtains overall However, a number of outside factors that don't appear to be directly related to the "quality" of the article's content affect the overall number of citations an article obtains. Table 5 lists the 10 articles and materials on Strategy Entrepreneur economics and sustainability that have received the most citations. Among the most prominent is Goldsby Mg (2018), who has 31 total citations, followed by Repnikova VM (2019), who has 30 total citations. Total citations from other works range from 9 to 17.

Table 5: The most cited documents/paper

Paper	DOI	Total Citations	TC per Year	Normalized TC
GOLDSBY MG, 2018, J SMALL BUS STRATEGY		31	5.17	2.03
REPNIKOVA VM, 2019, INT J ENG ADV TECHNOL		30	6.00	2.76
RIJAL S, 2019, INT J SCI TECHNOL RES		17	3.40	1.57
HERVÉ A, 2020, TECHNOLOG INNOV MANAG REV		15	3.75	1.89
KURILOVA A, 2019, J ENTERP EDUC		14	2.80	1.29
IBIDUNNI AS, 2018, J ENTERP EDUC		13	2.17	0.85
ABU-RUMMAN A, 2019, ACAD ENTREP J		12	2.40	1.11
TARAN NV, 2020, INT J ADV SCI TECHNOL		10	2.50	1.26
RAMÍREZ B, 2020, REV CIENC SOC		9	2.25	1.13
ALMEIDA F, 2019, DIGIT EDUC REV		9	1.80	0.83

Author impact

Authors with published articles may also be ranked according to the influence they had using the h-Index (Hirsch, 2005). The H-index is the most often utilized index (an author has an h-index of h if they have at least h works that have been referenced h times). By dividing the H-index by the number of years a scientist has been active, the M-Index is then determined. Based on Table 6, it can be shown that Guerrero M, Kraus S, Ferrera jj, JR, are the writers who achieved the greatest h-Index, with a total of 5-6 h-index describing considerable influence.

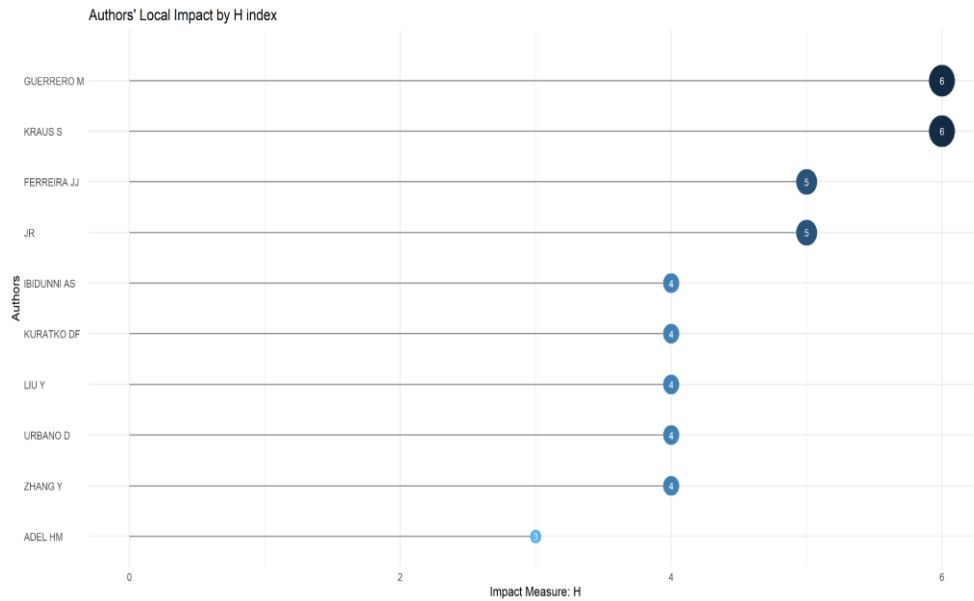


Figure 4: The 10 most impactful author

Lotka's law

The well-known "inverse square law of scientific creativity" is Lotka's Law. It contends that the ratio of authors who publish a certain number of papers to those who only publish one article stays constant. In other words, it describes how often authors publish in a certain topic. Since then, several academics from other fields have examined author productivity and publications using Lotka's Law. The observed and fitted Lotka's distributions are shown in Figure 4. There have been between 1 and 3 articles published. The relationship between the number of participating authors and the number of papers published is clearly shown in Figure 5 below.

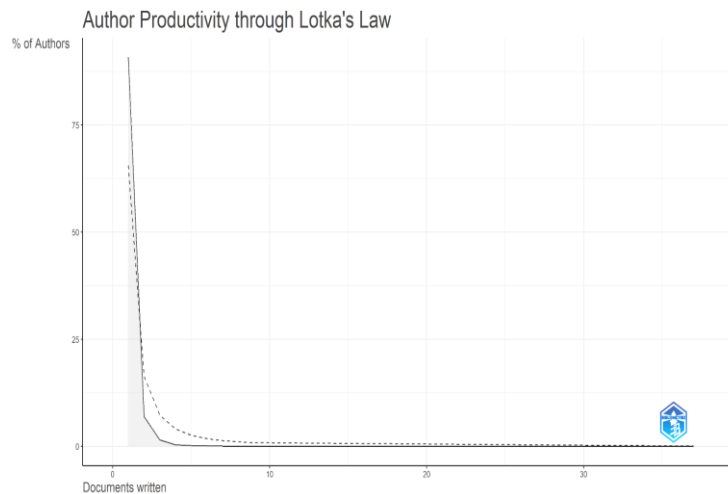


Figure 5: Lotka's law

Source impact

Journal evaluations are based on many factors than merely the volume of work done or its relevance. The h-index, g-index, m index, and total citation of each journal that publishes a paper on the subject of Strategy of entrepreneurship and sustainability are also taken into consideration in this study. The International Journal of entrepreneurial Behaviour and Research is ranked first by the data in Table 6 with a h Index of 12, g Index of 19, m Index of 2.0, and 387 total citations. As a result, the study of strategy entrepreneurship and sustainability is impacted most by the International Journal of Business Research. Sustainability, Strategic entrepreneurship Journal, and Sustainability (Switzerland) are in second, third, and fourth place, respectively, with 11 -12 h Index.

Table 6: The 10 most impactful source

Element	h_index	g_index	m_index	TC	NP	PY_start
GUERRERO M	6	7	1.2	267	7	2019
KRAUS S	6	7	1	206	7	2018
FERREIRA JJ	5	5	0.833	120	5	2018
JR	5	7	0.833	199	7	2018
IBIDUNNI AS	4	4	0.667	47	4	2018
KURATKO DF	4	5	0.667	76	5	2018
LIU Y	4	4	1	135	4	2020
URBANO D	4	5	0.8	234	5	2019
ZHANG Y	4	5	0.667	115	5	2018
ADEL HM	3	3	0.75	25	3	2020

Bradford's Law

If the core and middle zone numbers are known, Bradford's Law should be able to anticipate the total number of journals holding articles on a subject since it predicts that the number of journals in the second and third zones will be n and n^2 times higher than the first zone. It should be able to calculate how much essential information is missing from an incomplete search once the whole number of articles is known. It would be helpful for such research if Bradford's law accurately anticipated the number and, if practicable, quality of the literature given the time-consuming and significant labor required to find sources on a topic for a systematic review.

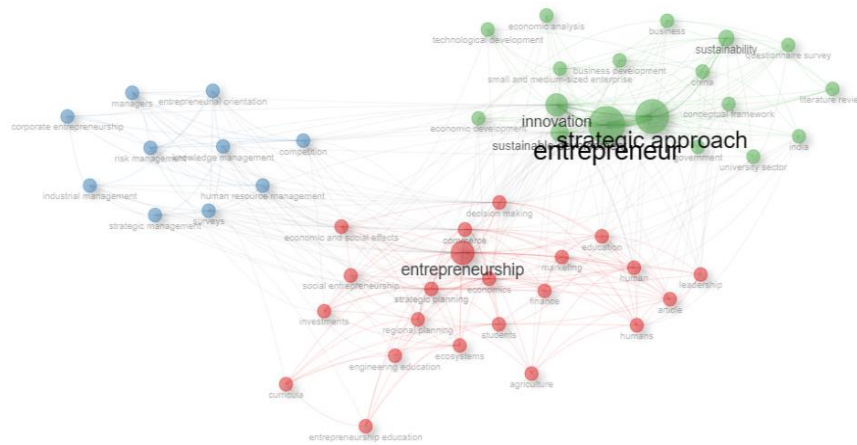


Figure 7: Co-occurrence network

RQ4: How the theme of the publication has evolved in strategy of the entrepreneurship and Sustainability.

Thematic evolution

Thematic analysis of evolutionary processes. A graphical representation of the network of connections between scientific fields, articles, and authors is called science mapping, often referred to as bibliometric mapping (Rashid et al., 2021). It has been applied in several domains to unearth obscure notions and themes (Chen et al., 2019). The study also separated thematic maps into 4 quadrants in Figure 8 based on density and centrality. All references to the research subject were reviewed by a semi-automatic system, which also added more keywords. to find differences. A driving or motor motif that is very dense and centrally located in the upper right quadrant has to be created and further investigated. In this quadrant, "sustainability development" is the key topic. Additionally, the high density but low centrality in the upper left quadrant illustrates a specialized theme with a high degree of expansion. Topics in this area include "economic growth." Furthermore, there are recurring motifs with low centrality in the lower-left quadrant (i.e. emerging or declining themes). The sole separate topic in this quadrant is "Entrepreneurship human marketing." Finally, a straightforward theme with high centrality and low density may be seen in the bottom right quadrant. These topics must be covered since they are general concerns that are often used, such as the topic of "sustainability."

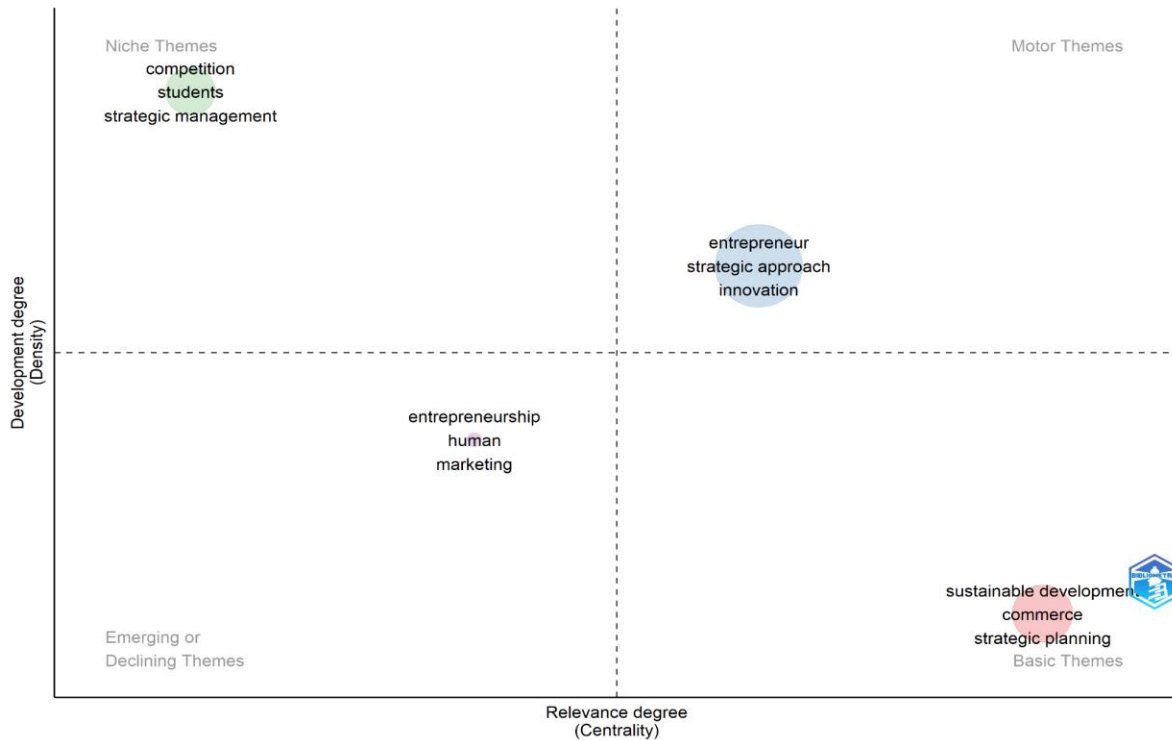


Figure 8: The thematic evolution

Trend topic

This study also looks at trends in the field the graphic below gives an overview of how the word has changed over time and by year. In order to distinguish between themes that have been used for a long time and those that have only lately. The word is used more frequently and more lately further to the right as it rises in the list. Figure 9 and Table 7 demonstrate that the topic's growth began to noticeably accelerate in 2014. The issue has been used since 2018, namely in talks of Entrepreneur (F=146), Strategic approach (F=124), entrepreneurship (F=94), Innovation (F=69), and Sustainable development (F=58) topics in Strategy entrepreneurship research, as noted in the data's description below. Additionally, the 2018–2022 period saw the birth of the different but linked issues of finance, global business, finance, and the economy. Despite the passage of time, the frequency of the subjects that have appeared since 2018 is still modest. In comparison to other themes in years q1 and q3, "Entrepreneur," "Strategic approach," and "entrepreneurship" are mentioned the most frequently from 2018 to 2022. This information also explains why the three subjects are currently popular in the fields of Strategy entrepreneurship.

Table 7: The trend topic year

item	freq	year_q1	year_med	year_q3
Uncertainty analysis	6	2018	2018	2020
Innovation management	5	2018	2018	2021
Economics	36	2019	2019	2020
Strategic management	23	2019	2019	2021
Ecosystems	21	2019	2019	2020
Entrepreneur	146	2019	2020	2021
Entrepreneurship	94	2018	2020	2021
Sustainable development	58	2019	2020	2021
Strategic approach	124	2020	2021	2021
Innovation	69	2019	2021	2022

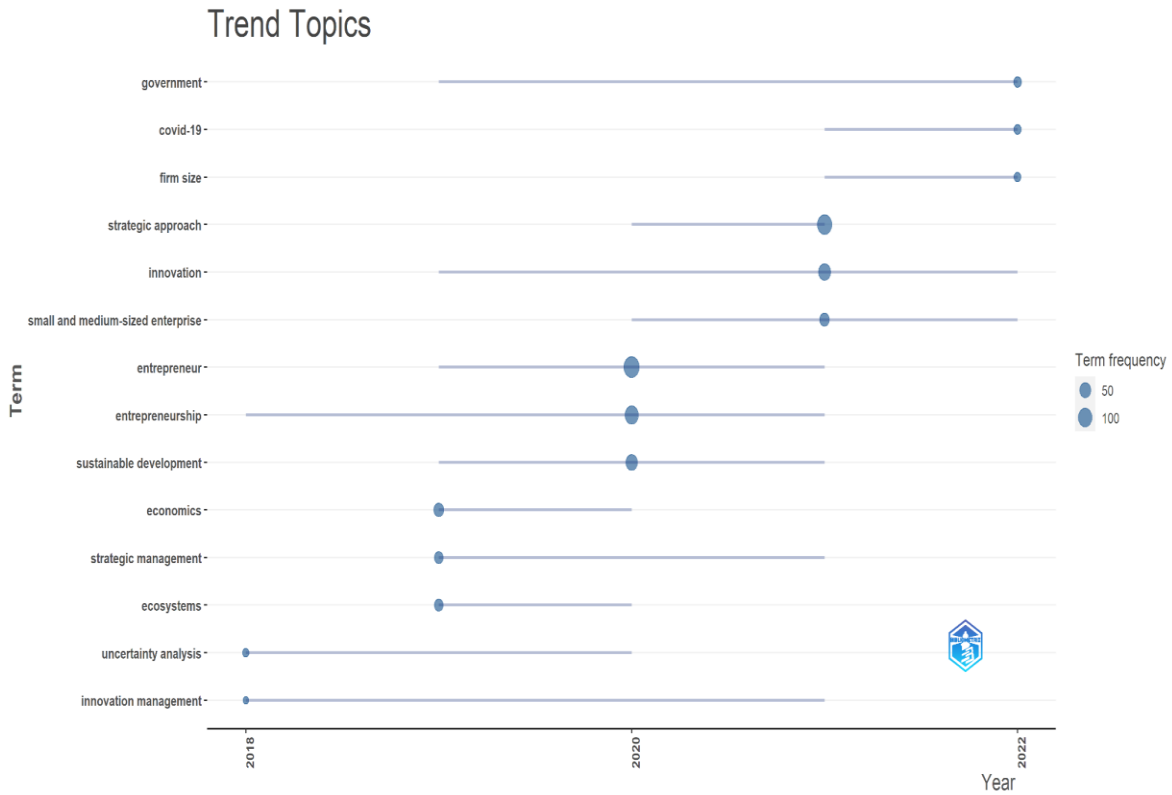


Figure 9: The trend topic

Word dynamic

According to the dataset, word dynamic shows how words change over time. A cumulative count of the leading keywords together with the author's keywords, title, or abstract may also be used to select the presentation. Both methods are based on the total number of occurrences each year. Figure 10 depicts the development of the top search terms from 2018 to 2022 based on the total number of occurrences per year in the Strategy Entrepreneur & sustainability study topic. According to the figures shown in Figures 10 and 11, a number of important keywords started to show a noticeable spike in 2020 and have done so ever since. The examination of "Word Dynamic" data shows a notable increase in the usage of dynamic keywords between 2009 and 2022, including "commerce," "Decision making," and "Economics." These results concur with those of several analyses, such as the "Trend Topic" and "Word Cloud" analysis. This finding also explains why some terms were chosen as relevant and trending over time.

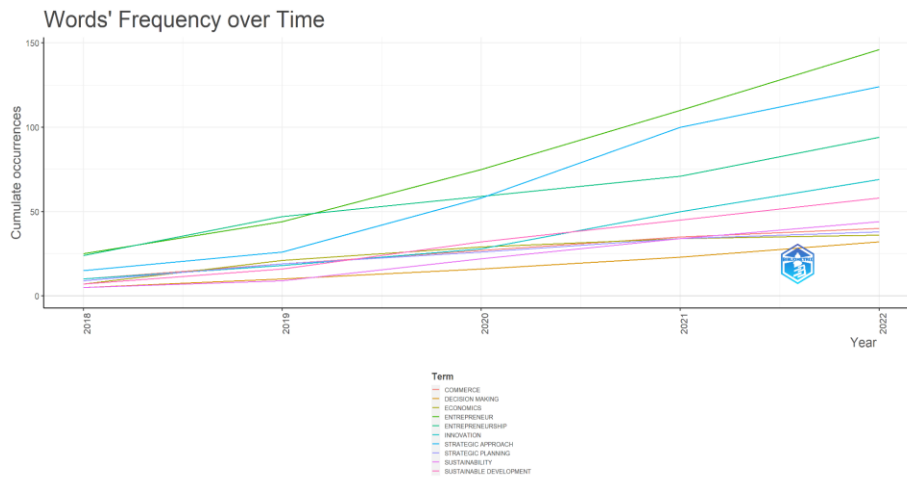


Figure 10: The word dynamic (2018-2022)



Figure 11: The world cloud

CONCLUSION

The significance of strategic entrepreneurship is gaining attention. In order for businesses to survive and prosper over the long term, they must implement sustainable practices. There are still restrictions and gaps in our knowledge of the relationship between strategic entrepreneurship. More study is needed to better understand how various strategies affect company performance. The top 1% of each discipline's researchers, as determined by Web of Science citation records, are recognized in this renowned list as the best in the world. Table 5 lists the 10 articles and materials on Strategy Entrepreneur that have received the most citations. Among the most prominent is Goldsby (2018), who has 31 total citations, followed by Repnikova (2019), who has 30 total citations. This is a result of the growing understanding that in order for businesses to survive and prosper over the long term, they must implement practices. The connection between strategic entrepreneurship has been the subject of several research. For instance, according to some academics, companies that practice strategic entrepreneurship are more likely to embrace business practices. To better understand how various strategies affect company performance, for instance, and how businesses may effectively integrate practices in the context of strategic entrepreneurship, additional study is needed. The nodes of a tree diagram are displayed as stacked rectangles in tree maps, which are a graphical representation of hierarchical data (Lockhart, 2015). They are made up of many stacked, proportionally sized rectangles. In a data tree, a large rectangle denotes a branch, while smaller rectangles display the size of each node inside that branch. The top 50 terms based on keyword plus, the author's keywords, the title (bigrams), and the abstract (trigrams) are represented in various tree maps in Figure 12 correspondingly. In accordance with the data from the tree map, "entrepreneur" has the largest proportion (10%), followed by "Strategic approach" (9%) and "entrepreneurship" (7%). While other search terms only make up a tiny fraction between 1% and 3% of the total. This result deviates greatly from the results of the "word cloud" research, which indicate that "Entrepreneurship" is the term that is used most frequently when referring to Strategy entrepreneur.

In conclusion, economic expansion uses natural resources to an appropriate degree for human well-being from the perspective of entrepreneurial strategy. We were able to recommend research areas for future studies with the use of the data from this study and the ability of Bibliometric analysis to predict future investigations. Consequently, the rigorous approach offers a wide range of study options. The analysis reveals significant gaps in the literature. As shown by the top right quadrant (i.e. driving or motor theme) in thematic evolution analysis, which needs to be developed and further explored, future research should take into consideration the Strategy entrepreneurship and the monetary theory underlying the entrepreneurship economy.

REFERENCES

Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic management journal*, 10(1), 75-87.

- Duane Ireland, R., & Webb, J. W. (2007, January). Strategic entrepreneurship: Creating competitive advantage through streams of innovation. *Business Horizons*, 50(1), 49–59. <https://doi.org/10.1016/j.bushor.2006.06.002>
- Guerra Fernandes, J. A., Marques, C. S., Silva, R., & Martins, H. (2022, May 30). Ethnic entrepreneurship: A bibliometric review and future research agenda. *Strategic Change*, 31(4), 397–413. <https://doi.org/10.1002/jsc.2516>
- Hitt, M. A., Ireland, R. D., Camp, S. M., & Sexton, D. L. (2001). Strategic entrepreneurship: entrepreneurial strategies for wealth creation. *Strategic Management Journal*, 22(6–7), 479–491. <https://doi.org/10.1002/smj.196>
- Hitt, M. A., Ireland, R. D., Camp, S. M., & Sexton, D. L. (2017, October 18). Strategic Entrepreneurship: Integrating Entrepreneurial and Strategic Management Perspectives. *Strategic Entrepreneurship*, 1–16. <https://doi.org/10.1002/9781405164085.ch1>
- Hitt, M. A., Ireland, R. D., Sirmon, D. G., & Trahms, C. A. (2011, May). Strategic Entrepreneurship: Creating Value for Individuals, Organizations, and Society. *Academy of Management Perspectives*, 25(2), 57–75. <https://doi.org/10.5465/amp.25.2.57>
- Ireland, R. (2003, December). A Model of Strategic Entrepreneurship: The Construct and its Dimensions. *Journal of Management*, 29(6), 963–989. [https://doi.org/10.1016/s0149-2063\(03\)00086-2](https://doi.org/10.1016/s0149-2063(03)00086-2)
- Madli, F. B., Janin, Y., Gulabdin, S. B., Yun, W. S., Yong, K., & Abdullah, D. N. C. (2023). Technology and Entrepreneurship Development: The Perspective of Malaysia. In *Handbook of Research on Designing Sustainable Strategies to Develop Entrepreneurial Intention* (pp. 443-464). IGI Global.
- Mazzei, M. J. (2018, April 13). Strategic entrepreneurship: Content, process, context, and outcomes. *International Entrepreneurship and Management Journal*, 14(3), 657–670. <https://doi.org/10.1007/s11365-018-0512-9>
- Patzelt, H., & Shepherd, D. A. (2009, January). Strategic Entrepreneurship at Universities: Academic Entrepreneurs' Assessment of Policy Programs. *Entrepreneurship Theory and Practice*, 33(1), 319–340. <https://doi.org/10.1111/j.1540-6520.2008.00291.x>
- Racine, Jeffrey S. "RStudio: a platform-independent IDE for R and Sweave." (2012): 167-172.
- Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of management review*, 25(1), 217-226.
- Webb, J. W., Ketchen, D. J., & Ireland, R. D. (2010, June). Strategic entrepreneurship within family-controlled firms: Opportunities and challenges. *Journal of Family Business Strategy*, 1(2), 67–77. <https://doi.org/10.1016/j.jfbs.2010.04.002>
- Wegner, D., Thomas, E., Teixeira, E. K., & Maehler, A. E. (2019, November 5). University entrepreneurial push strategy and students' entrepreneurial intention. *International Journal of Entrepreneurial Behavior & Research*, 26(2), 307–325. <https://doi.org/10.1108/ijeb-10-2018-0648>
- Zahra, S. A., & Covin, J. G. (1995). Contextual influences on the corporate entrepreneurship-performance relationship: A longitudinal analysis. *Journal of business venturing*, 10(1), 43-58.