

A Bibliometric Analysis of Women's Entrepreneurship to Sustainable Economic Growth

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Abstract – Towards economic development, women have the right to maximise their potential to achieve economic growth. This study aims to analyse research trends that can develop and provide implications for women's business empowerment. The outline literature published between 2000 and 2020 adopted bibliometric indicators and a literature review approach to visualise research developments and see opportunities to improve studies on women's entrepreneurship. A total of 317 research articles were generated based on keywords from the Scopus database. The study shows a process of empowering women to increase the potential complicity of women entrepreneurs in entrepreneurial activities. In this case, the suitable activities are from SMEs, which are HBBs (Home-based businesses). The paper humbly encourages future research to explore more on the topic of women's entrepreneurship following its untapped potential. Consequently, the analysis highlighted some areas of the study in the field of women's entrepreneurship, motivating future research. This study is expected to motivate the government, economic activists, and researchers to delve into the potential of women's entrepreneurship to strengthen the economy.

Keywords – Women entrepreneurship, sustainability, economic growth, bibliometric.

1. Introduction

Women's involvement and participation in entrepreneurship are relatively at the lowest level [1]. It is proven that there are few resources, especially in market-based activities [2]. However, the considerable increase in entrepreneurship taken over by women in the last decade proves women's potential role in sustainable global development [3]. Global Entrepreneurship Monitor Report estimates that there are 274 million women involved in start-ups globally [4]. Furthermore, there are 144 million women informal investors and 139 million women who own established businesses. Tens of millions of women entrepreneurs worldwide are engaged in economic growth. Therefore, women entrepreneurs are significantly contributing to the global economy and society. According to the 2021-2022 report of the Global Entrepreneurship Monitor (GEM) survey, it is estimated that women currently represent one in two active entrepreneurs worldwide and one in three entrepreneurs oriented towards economic growth. Amanda *et al.* [5] inferred from the 2021 Adult Population Survey (APS) that an increase in the productivity level of women entrepreneurship would result in increased economic activity and new jobs and opportunities. Despite the increasing number of women-owned businesses, it is evident that there is little research examining women business owners in general. It turns out that numerous studies have clearly shown that compared to enterprises owned by males, those owned by women typically have slower development rates and remain smaller [6], [7], [8].

Numerous studies investigate potential differences in the involvement of entrepreneurial ventures between men and women. Globally, women are much less likely than men to pursue entrepreneurial endeavours [9].

DOI: 10.18421/TEM134-38

<https://doi.org/10.18421/TEM134-38>

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Received: 02 May 2024.

Revised: 26 October 2024.

Accepted: 12 November 2024.

Published: 27 November 2024.

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However, men and women have their respective roles in society, where both have a critical and undeniable role in everyday life [10]. Therefore, if both are equally involved in business activities that are balanced in their work and the division of their positions, then it will prove that women contribute to the development of economic welfare in society [11], [12]. Researchers have been interested in women's companies in the past few decades as one of the new areas to investigate [13], [14], [15]. Moreover, creating women entrepreneurs will help expand small and medium enterprises (SMEs), improving each country's ability to develop gross domestic product and support long-term economic growth [16]. SMEs create a plan that is suitable for female entrepreneurs to support small and microbusiness enterprises and raise the proportion of female participation in the entrepreneurial sector [17], [18]. Apart from that, it is suggested that bibliometric study might be one of the possible references in future decision-making [19]. Hence, the role of women in entrepreneurial activities can be advanced with a bibliometric analysis to know the future direction, and it is believed that women have a positive impact on financial performance [20].

Based on previous researchers who focus on representing the development of SME entrepreneurs, most of the research is limited to the relationship between SMEs' business activities and their benefits to support the achievement of SDGs goals. This research is intended to fill the gap because there were no answers or discussions that connected the process of empowering women through SME activities carried out by women entrepreneurs to achieve the goals of the SDGs, particularly concerning the development of home-based businesses (HBBs). The focus and scope of this study is to determine how significant the potential for developing women entrepreneurs is by engaging in SME businesses. The study offers a fresh interpretation of women's empowerment's role in boosting sustainable economic growth, which goes beyond the growth of female entrepreneurs.

The paper also demonstrates how important women are and always have been as the driving force behind economic expansion. Moreover, this paper writes down several points that can be processed related to the breakthroughs of women's entrepreneurship, especially on the practical motivation for empowerment in the development of SMEs.

2. Research Methodology

The bibliometric analysis conducted in this research aims to apply quality criteria by selecting the proper empirical subject. Researchers can also use a mind-mapping approach with bibliometric analysis to describe the boundaries of knowledge [21]. Bibliometric analysis is a methodology for investigating and analysing vast scientific data [22]. The bibliometric analysis takes quantitative measurements from previous studies. Furthermore, bibliometric analysis can reveal research gaps and point to future studies in various emerging fields [23]. This study is a bibliometric evaluation of Scopus-indexed publications, with software synchronisation performed using the VOS viewer and R Package software. On October 2, 2022, the search queries yielded 410 research articles. Using keywords in the form of searches about the subject of women's empowerment entrepreneurship to sustainable economic growth, the following keywords were looked up based on the article's title, keyword, and abstract:

(TITLE-ABS-KEY (women) AND TITLE-ABS-KEY (empowerment) AND TITLE-ABS-KEY (entrepreneurship) OR TITLE-ABS-KEY (sustainability) AND TITLE-ABS-KEY (development) OR TITLE-ABS-KEY (entrepreneurial AND growth) OR TITLE-ABS-KEY (economic AND growth))

Research articles were searched using an electronic database that contains information based on the keywords entered. Scopus is the electronic database used to search for research data. Scopus platform is the most widely used indexed scientific database and contains many high-quality journal articles. After receiving the preliminary results, the authors screened all publications using the criteria outlined in the research report. If there are numerous duplicated articles, they are also deleted. The results are then stored as a Comma Separated Values (CSV) file after they have been perfected. Lastly, a CSV file was acquired by the authors for additional data validation. The number of Scopus articles obtained after the filtering procedure is summarised in Table 1.

Table 1. Refinement of search result

Search Keyword	Number of Scopus articles journal
(TITLE-ABS-KEY (women) AND TITLE ABS-KEY (empowerment) AND TITLE-ABS-KEY (entrepreneurship) OR TITLE-ABS-KEY (sustainability) AND TITLE-ABS-KEY (development) OR TITLE-ABS-KEY (entrepreneurial AND growth) OR TITLE-ABS-KEY (economic AND growth)) AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE , "English")) AND (LIMIT-TO (SRCTYPE , "j"))	317

Data on women's empowerment and entrepreneurship were first obtained as a CSV file from the Scopus database, and then Vos viewer software will be used to visualise the data. The bibliometric R software will be used to import the pre-processed data and display descriptive statistical estimates. Hudha *et al.* [24] state that bibliometric maps can be analysed and graphical representations made using Vos viewer. Vos Viewer's popularity stems from its ability to handle massive data sets and present comprehensible, large-scale bibliometric maps. In addition to the Vos viewer, the data from this research is also visualised using the Biblioshiny, operated through the R Package software.

3. Results and Discussion

The paper presents the results and discussion in five sections. It starts with trends of publications, citations, and sources.

Followed by top contributing authors, most influential research papers, topic area visualisation and coupling bibliographic based on countries.

3.1. Trends of Publications, Citations, Sources

The study examines the body of research on empowering women to start their businesses, which has grown significantly between 2017 and 2021 (Figure 1), indicating that this area of study is attracting a lot of attention from academics. However, reported data-collecting analysis is only conducted through 2021 because research trends are still ongoing and captured in research trends 2022.

The total number of citations used in each study from 1993 to 2022 is shown in the graph (Figure 2). Overall, the emphasis on research into women's empowerment and entrepreneurship is growing. This may be due to increased enthusiasm among women to engage in economic activities in developing countries worldwide as they overcome the hurdles in entrepreneurial activities.

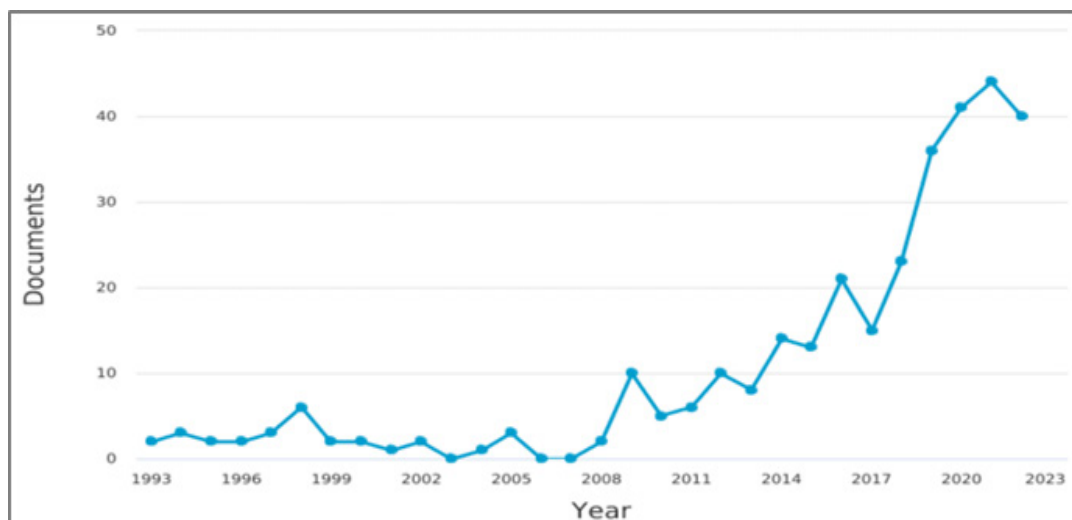


Figure 1. Research trends of women's entrepreneurship based on the number of publications per year

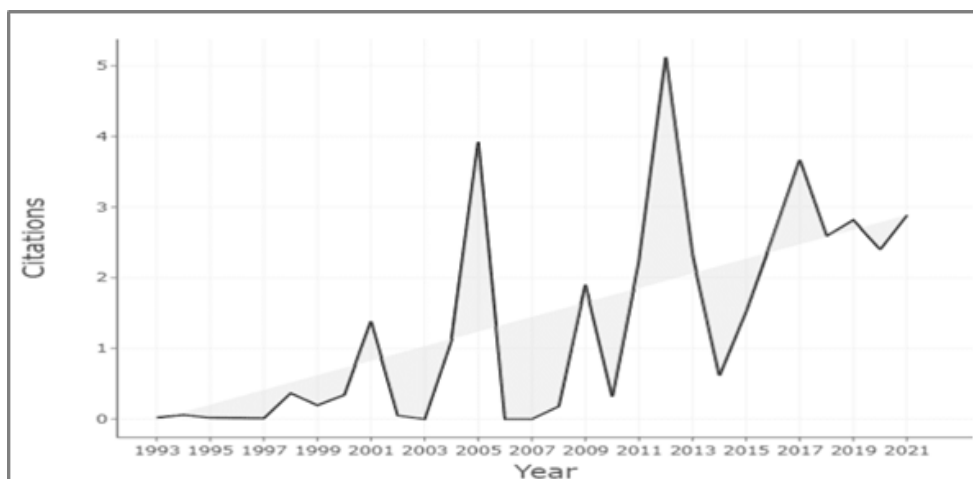


Figure 2. Citation trends per year

3.2. Top Contributing Authors

This study demonstrates that the Scopus journal considerably influences the value of the citation data matrix. Table 2 displays the contributions of the authors based on articles on women's empowerment and entrepreneurship.

The authors most frequently mentioned in the studies on women's entrepreneurship and empowerment are listed in Table 3. Only the top writers with the greatest number of citations are included in the study's results.

Table 2. Top influential authors: publications measure

No	Author	Country	Total Publications
1	Bastian, B.L.	Bahrain	3
2	Torri, M.C.	Canada	3
3	Agarwal, S.	India	2
4	Ahlborg, H.	Sweden	2
5	Al-Dajani, H.	Saudi Arabia	2
6	Balkfors, A.	Sweden	2
7	Bhayana, S.	India	2
8	Dolan, C.	England	2
9	Lenka, U.	India	2

Table 3. Top ten influential authors: citations measure

No	Author	Country	Total Citation	Total Link Strength
1	Al-Dajani, H.	Saudi Arabia	212	212
2	Marlow, S.	United Kingdom	212	212
3	Dolan, C.	England	120	157
4	Johnstone Louis, M.	England	120	157
5	Argawal, S.	India	62	127
6	Lenka, U.	India	62	127
7	Mihelcic, J.R.	Canada	44	104
8	Zhang, Q.	China	44	104
9	Torri, M.C.	Canada	39	8
10	Ahlborg, H.	Sweden	29	44

3.3. Most Influential Research Papers

The most specific and vital element is identifying research papers connected to the chosen study topic. This research will assist future researchers in starting their study and can be utilised as reference material in the undertaken study. The most influential research papers are shown in Table 4.

The most significant was a journal article titled Connecting Social Entrepreneurship and Social Change: The Mediation Role of Empowerment, which received 136 citations and other papers. Empowering Women through Social Entrepreneurship: A Case Study of Women's Cooperatives in India, received 267 citations.

Table 4. Top influential journals based on women empowerment entrepreneurship

Paper	Total Citations	TC per Year	Normalized TC Average
Empowering Women through Social Entrepreneurship: Case Study of a Women's Corporative in India	267	25	5.21
Linking Social Entrepreneurship and Social Change: The Mediating Role of Empowerment	136	20	8.79
Empowerment and entrepreneurship: a theoretical framework	131	13	6.31
Impact of a Homestead Gardening Program on Household Food Security and Empowerment of Women in Bangladesh	97	6	1.46
Enterprise and Inequality: A Study of Avon in South Africa	96	9	1.88
Entrepreneurship among the Displaced and Dispossessed: Exploring the Limits of Emancipatory Entrepreneurship	81	10	7.58
No gender in cyberspace? Empowering entrepreneurship and innovation in female-run ICT small firms	64	4	0.96
Female empowerment and tourism: a focus on businesses in a Fijian village	52	9	2.84

Note: TC = Total citations.

3.4. Topic Area Visualization Using Vos Viewer

This section uses bibliometric analysis to illustrate data results based on keywords. This is significant since it can show a topic that has been studied for 20 years (2000-2020).

Furthermore, Vos Viewer examines clusters demonstrating the link between two subjects. As a result, the bibliometric analysis has been mapped into three distinct representations: data network, data visualisation (Figure 3), overlay visualisation (Figure 4), and density visualisation (Figure 5).

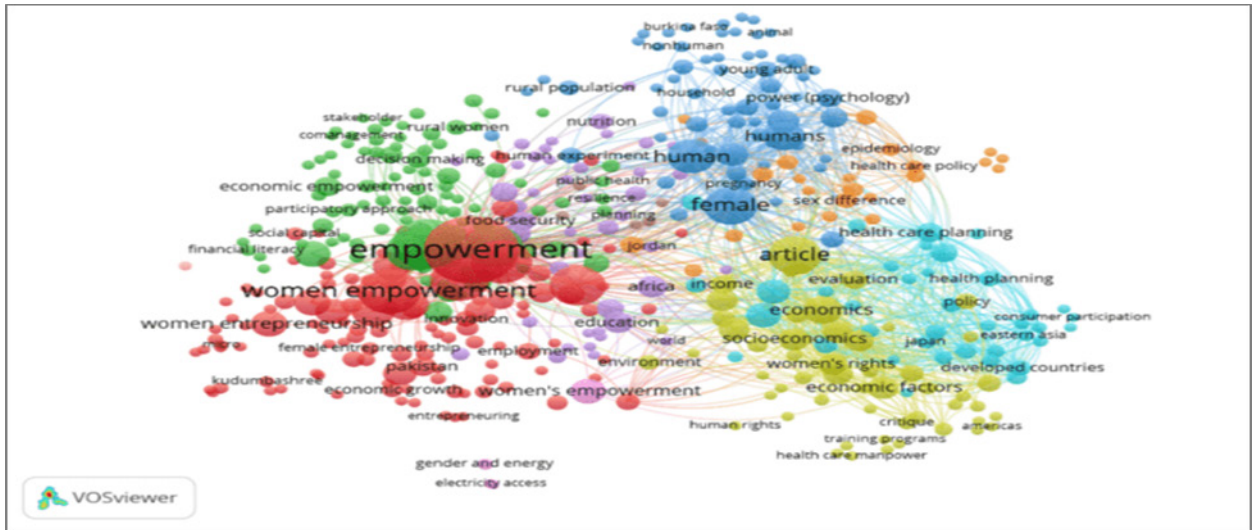


Figure 3. Network visualisations of the Scopus database using Vos viewer

Keywords relevant to women's entrepreneurial empowerment research are labelled and represented as circles in Vos viewer in Figure 3. The more prominent keywords in the detected process are visualised in the larger circle and will be seen as essential as the keyword seems.

As a result, the item's size is determined by its frequency of occurrence. The keyword women's entrepreneurial empowerment is at the top of the research topic because it occurs the most frequently.

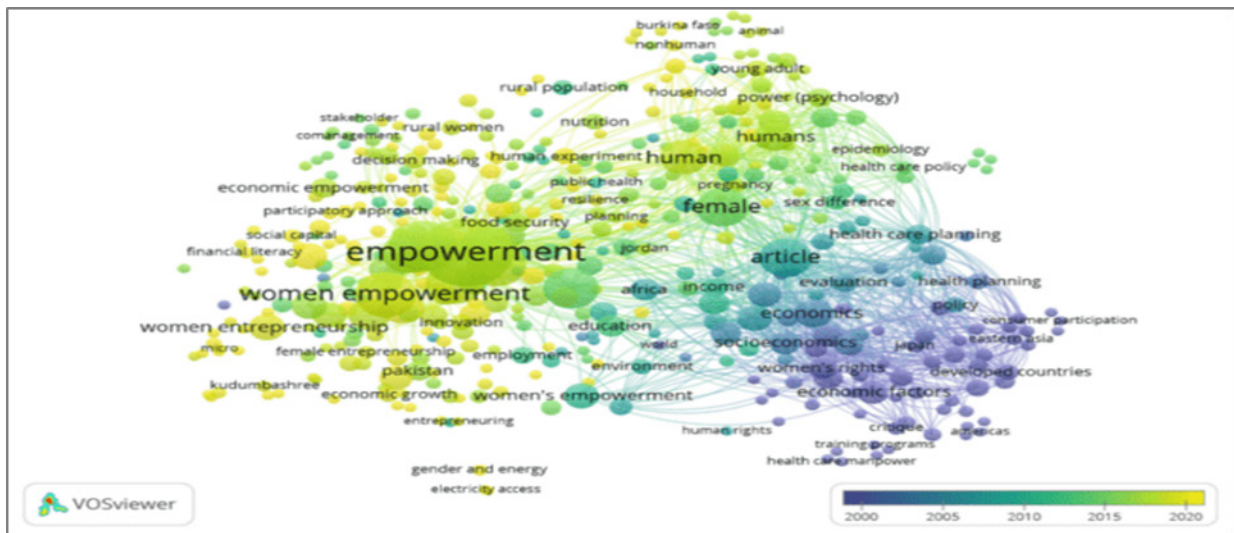


Figure 4. Overlay visualisations of Scopus Database using Vos viewer

The results in Figure 4 are derived from the frequency of occurrence of the author's keywords in bibliographic data using Vos Viewer. The minimum number of repetitions for the keyword has been set at two. Furthermore, the study found 1819 keywords and 451 criteria.

Some famous words that do not pertain to the issue are omitted. Following data analysis, it was discovered that there was a total of ten clusters as study topic trends. In total, 451 items on women empowerment entrepreneurship are shown in different colours.



Figure 5. Density visualisations of the Scopus database using the Vos viewer

A visualisation of Vos viewer density is presented in Figure 5, demonstrating the scope of study on several topics, from economic growth to women's empowerment.

Density dictated how colour-represented keywords appeared. The richer the colours, the faster the numbers have been expanded through research. As a result, the focus can be on the keywords that are not commonly represented in colours and have not yet been concentrated, as this suggests that there is a dearth of research on the subject and that more investigation is needed for prospective themes or future studies. Therefore, these findings enable academics to identify potential topics as new contributions to research on women empowerment entrepreneurship to sustainable economic growth.

3.5. Coupling Bibliographic Based on Countries

In research writing, the two citation-based approaches that are most frequently used are bibliographic coupling and co-citation analysis [25]. These two components are employed in studying new literature domains and can capture current research trends more effectively than other methodologies [26]. In addition, they combined bibliographies to investigate similarities between studies, such as publications, institutions, and countries.

Table 5. Top 10 countries based on total publications

Country/Territory	Total Publications
India	68
United Kingdom	41
United States	38
Canada	16
South Africa	16
Spain	14
Sweden	14
Nigeria	12
Pakistan	12
Indonesia	10

Table 6. Top publications on women empowerment entrepreneurship based on total citations

Authors	Year	Publications	Total Citations
Datta P. B	2012	Empowering Women Through Social Entrepreneurship: Case Study of a Women's Cooperative in India	267
Haugh H.M	2016	Linking Social Entrepreneurship and Social Change: The Mediating Role of Empowerment	136
Al-Dajani H	2013	Empowerment And Entrepreneurship: A Theoretical Framework International Journal of Entrepreneurial Behaviour and Research	131
Wilson K.	2011	'Race', Gender and Neoliberalism: Changing Visual Representations in Development	97
Bushamuka V. N	2005	Impact Of a Homestead Gardening Program on Household Food Security and Empowerment of Women in Bangladesh	97
Scott L.	2012	Enterprise And Inequality: A Study of Avon in South Africa	96
Al-Dajani H.	2015	Entrepreneurship Among the Displaced and Dispossessed: Exploring the Limits of Emancipatory Entrepreneur	81
Martin L.M	2005	No Gender in Cyberspace? Empowering Entrepreneurship and Innovation in Female-Run ITC Small Firms	64

The top coupling bibliographic works are investigated in Table 6 concerning total citations. This suggests that there is a connection between the quantity of sources cited in an article and its capacity to inspire additional investigation. For instance, other publications came after the most cited piece, Empowering Women Through Social Entrepreneurship: Case Study of a Women's Cooperative in India, which had 267 citations.

4. Conclusion

This bibliometric analysis offers a thorough picture of the development and potential growth of the female entrepreneurship population. One of the keys to creating a sustainable economy is using the potential of women. This is seen by small and medium-sized enterprises (SMEs), especially in the home-based industrial sector, for women empowerment.

The primary SME activities in this study affect the development of enabling women entrepreneurs to promote the success of SDG 5, gender equality, in addition to the process of empowering women.

The actual output implication from this study is that it can motivate the government, economists, and researchers who strongly support long-term economic improvement and see all of the potential that can be done to help the economy and understand the processes of empowering women. It is envisaged that those things will provide opportunities for women to pursue business endeavours.

Furthermore, the projected implication is that women entrepreneurs who run home-based firms would be able to focus on removing hurdles in business activities by increasing their understanding of what can be obstacles to their business growth. Therefore, the findings of this study are crucial for anyone interested in increasing HBB activity in women. According to the study, women's HBB will invest a significant portion of the growth.

Moreover, the achievement of women in entrepreneurial activities, particularly in HBB, must be met by positive government acknowledgement and respect. This acknowledgement can take the form of both financial and non-financial rewards.

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