



# Women Entrepreneurship: A Bibliometric Analysis and Paths for Future Research

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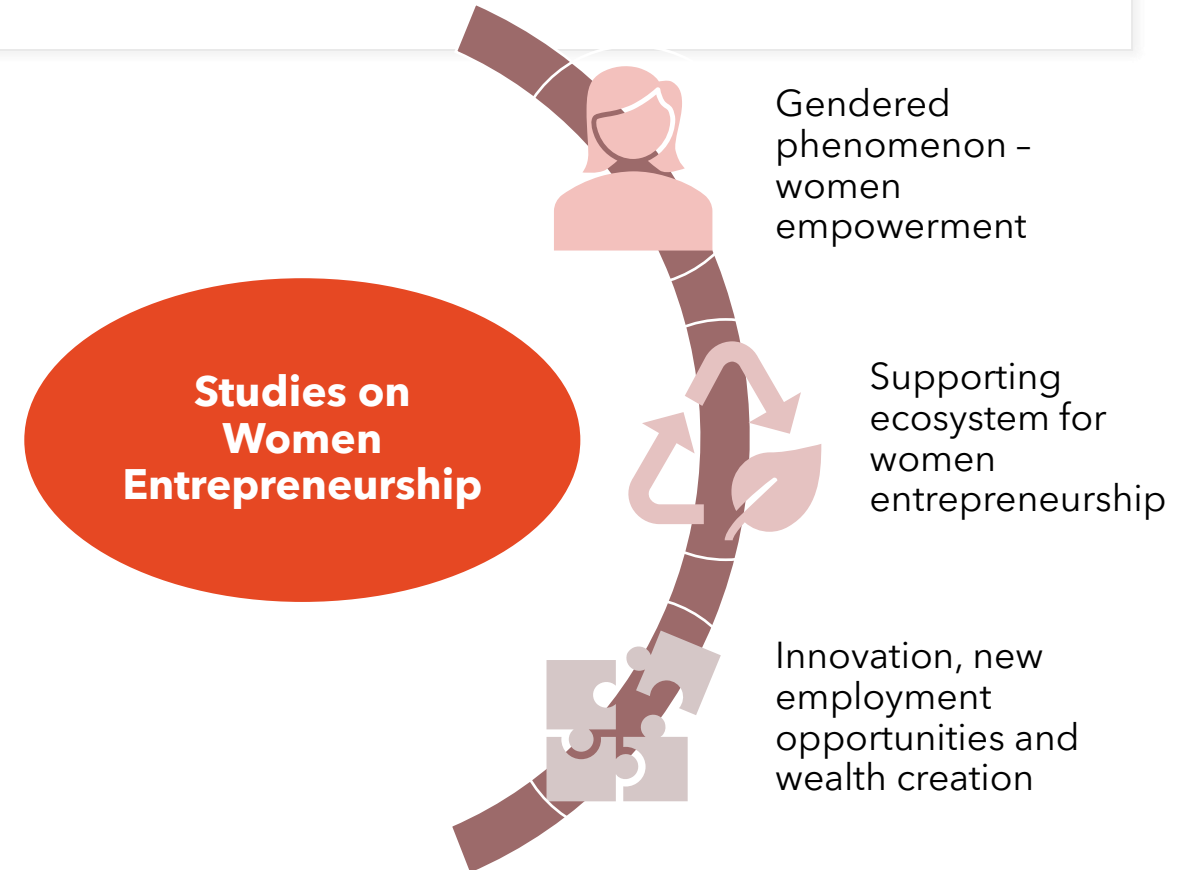
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# Background

- Women entrepreneurship has made significant contribution in the form of innovation, new employment opportunities and wealth creation (Feng, Ahmad & Zheng, 2023; Hechevarría, Bullough, Brush & Edelman, 2019).
- The mainstream literature (e.g. Pfefferman, Frenkel & Gilad, 2021; Jennings & Brush 2013), has long emphasised women entrepreneurship as a gendered phenomenon, in which entrepreneurship activity is embedded in families; that it can result from necessity as well as opportunity to pursue financial and non-financial goals.
- the evolving aspects in the women's entrepreneurship field that receive limited scholarly attention, namely understanding the challenges and problems of growing an enterprise (e.g. Lim, Sonko & Cham, 2022; Topimin, 2020) and addressing the support ecosystem, i.e. from the aspect of political, legal, institutional and cultural (e.g. Nziku, Henry, 2020; Foss, Henry, Ahl & Mikalsen, 2019).





# Research Questions

- **Acknowledging the enormous studies in women entrepreneurship from purely descriptive exploration to theoretical testing which presents anomalous knowledge collection of diverse issues, theories and methodologies, the recent argument concerns on the new significance of women entrepreneurship if they are expressed and measured more systematically.**
- **It is believed that a scientific analytical method like bibliometric analysis may serve as valuable tool that can be used to reveal the evolution of the articles contained through a map of a knowledge structure which represents of how research disciplines, fields, specialties, individual papers, and authors are related to each other.**

## Research Question 1

What is the trend and performance of research output relating to women entrepreneurship within 10 years (2012 to 2021)?

## Research Question 2

What insights can be obtained from published articles on women entrepreneurship through co-occurrence of author keywords?



# Methodological Concerns

- This study employs a bibliometric study to explore the previous literature objectively and algorithmically by exploring the **trend and performance of research in women entrepreneurship throughout the past ten years (2012-2021)**.
- **Google Scholar** was used prior to Scopus to explore the **top publications on women entrepreneurship in the literature** as well as the **dominant keywords** used by authors for women entrepreneurship in bibliometrics study.
- Most bibliometric studies on women entrepreneurship employed publication performance analysis in terms of **most popular journals, authors and countries, citation analysis and keywords analysis** (e.g. Molina-Garcia, Dieguez-Soto, and Galache-Laza, et. al., 2022; Casprini, Dabic, Kotlar and Pucci, 2020), some used single database (i.e. Scopus or Web of Science database only, e.g. Deng, et. al., 2020; Raman, et. al., 2022), while some combined two or more databases for the analysis (i.e. Scopus and Web of Science, e.g. Anwar, Clauss & Meyer, 2023).

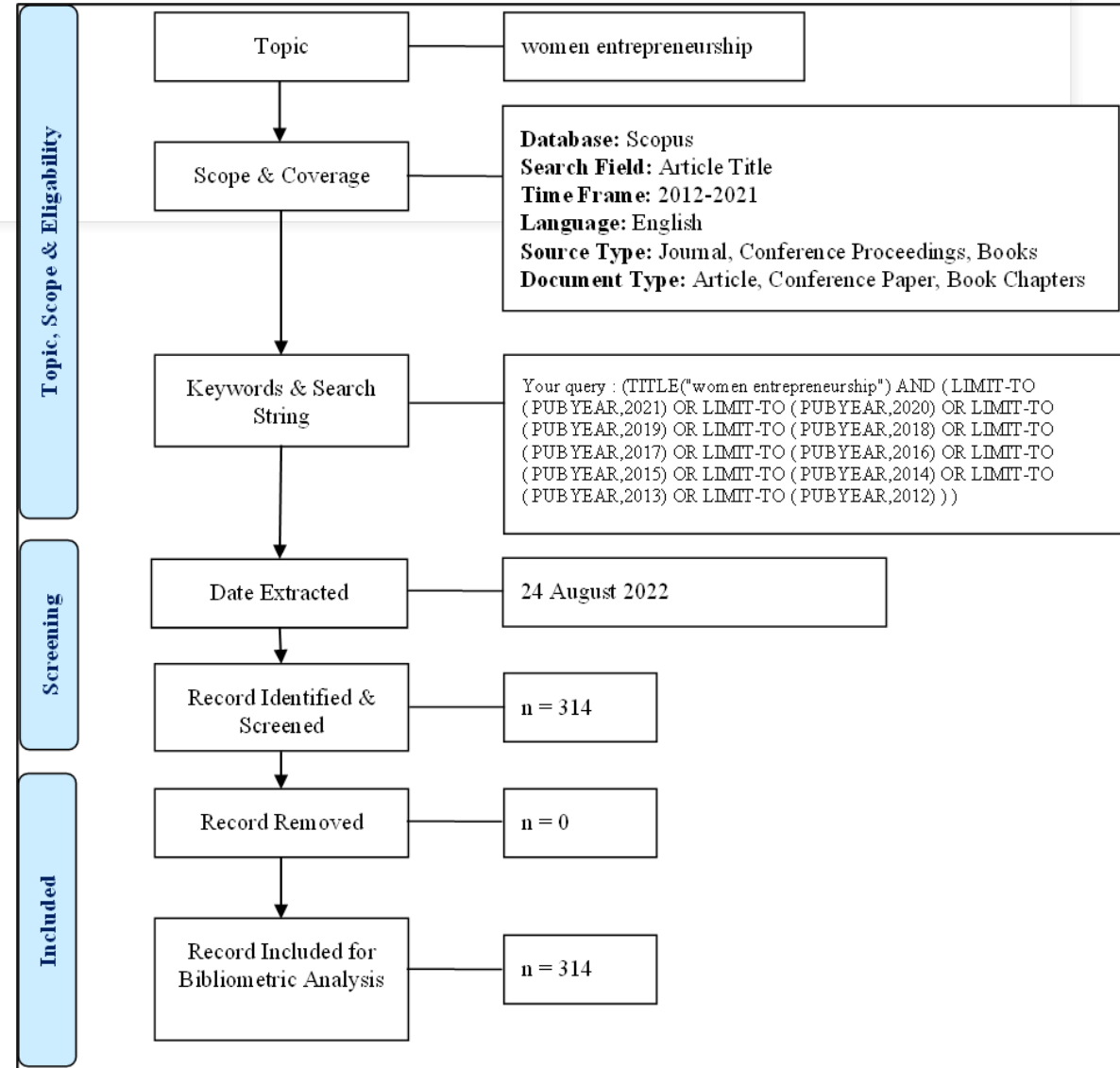
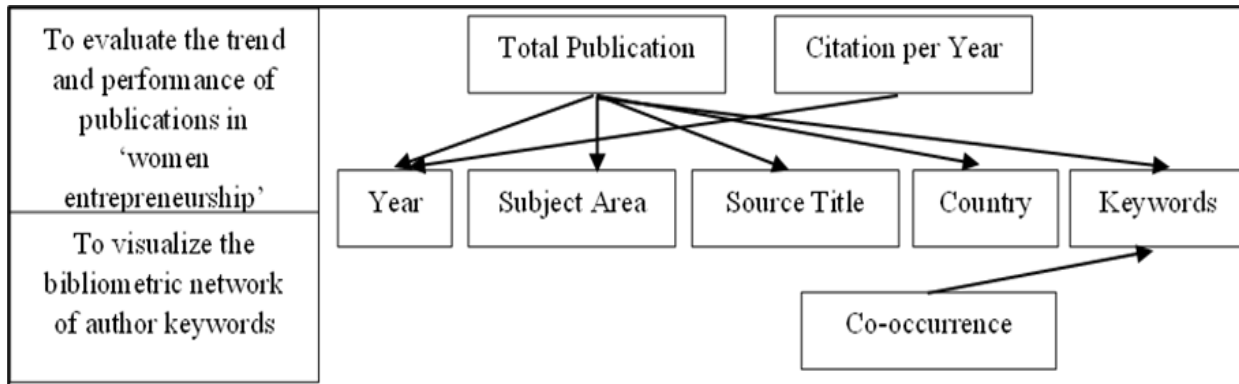
**Table 1.** List of previous bibliometric studies on women entrepreneurship (from Google Scholar)

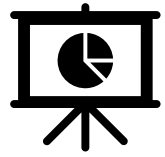
Author	Domain / Search Strategy	Database	Total documents examined	Bibliometric attributes
Raman, R., Subramaniam, N., Nair, V.K., Shiydas, A., Achuthan, K., Nedungadi, P. (2022)	((“women entrepreneur*”) OR (“female entrepreneur*”) OR (“female start*”) OR (“women start*”) OR (“women self-employed”) OR (“female self-employed”))	Dimensions	3,157	bibliographic mappings and keyword co-occurrences
Singh, S. & Ritu (2021)	("women entrepreneurs" OR "women entrepreneurship" OR "women's entrepreneurship")	Scopus	1,789	Mapping analysis, co-authorship networks of authors
Deng, W., Liang, Q., Li, J. & Wang, W. (2020)	“female entrepreneurship” or “women* entrepreneurship” or “female entrepreneur*” or “women entrepreneur*” or “female-led start-up*” or “women-led start-up*”	Web of Science	2,849	co-citation networks of contributing countries, institutions, cited journals and authors
Cardella, G. M., Hernández-Sánchez, B. R. & Sánchez-García, J. C. (2020)	“entrepreneur*” and “women,” using the “AND” Boolean connector and including “all fields”	Scopus	2,848	Occurrence of most relevant keywords, author co-citation analysis, journal analysis



# Methodology

- The document searching in the **Scopus** database used **“women entrepreneurship”** as the keyword and was refined by year **(2012-2021)** to indicate the trend in the research field, which produced 314 document results.
- The **trend and performance of publications** on WE studies were analysed using Harzing’s Publish and Perish (Deng, Liang, Li and Wang, 2020)
- The **visualization of the network of keywords** was analysed using VOSviewer software (Raman, et al, 2022; Cardella, et al. 2020).
- Microsoft Excel was used for **descriptive analysis**, i.e., the frequency and percentage of publications





# Results - Data Profile

## **Types of Documents Examined (n=314)**

- journal articles (60%)
- book chapters (24%)
- conference papers (7%)
- books (4%)
- reviews and editorial articles (5%)

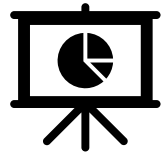
**Table 2.** Total Publication and Citation Metrics

Item	Data
Publication years	2012-2021
Citation years	10
Papers	314
Citations per Year	255.80
Citations per Paper	8.15
Authors per Paper	2.55
Citation impact ( <i>h</i> index)	26

**Table 3.** Publication trends (2012-2021)

Year	TP	NCP	TC	<i>h</i>
2012	20	52.6	526	9
2013	12	6.67	60	4
2014	15	18.5	148	5
2015	15	36.29	254	8
2016	26	22	132	6
2017	29	77	385	11
2018	37	97	388	12
2019	39	101.67	305	9
2020	59	136	272	10
2021	62	88	88	5
<b>Total</b>	<b>314</b>			

Notes: TP=total number of publications; NCP=number of cited publications; TC=total citations; *h*=*h*-index



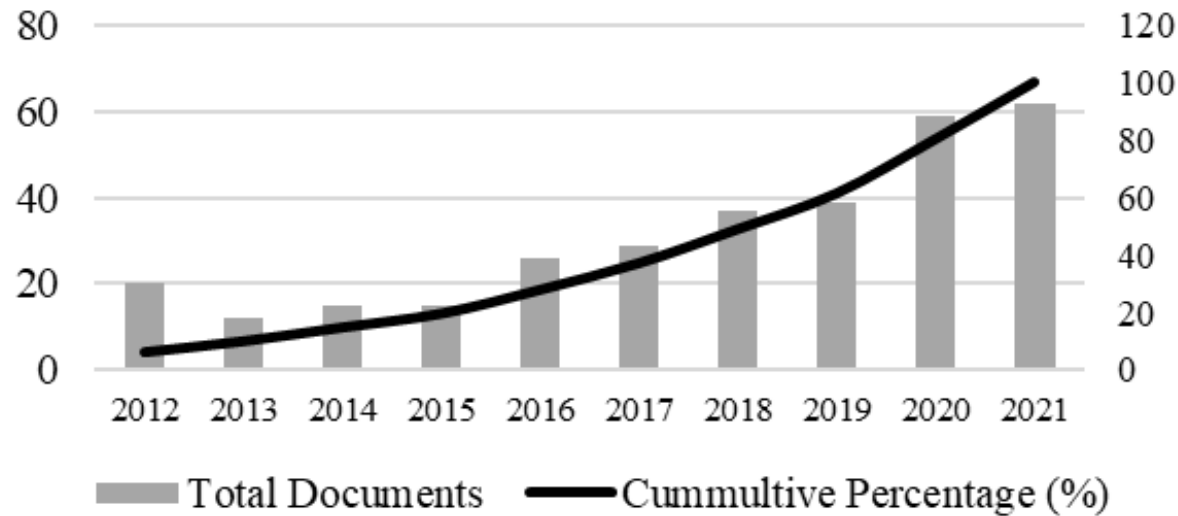
# Results

## - Research Trend Analysis

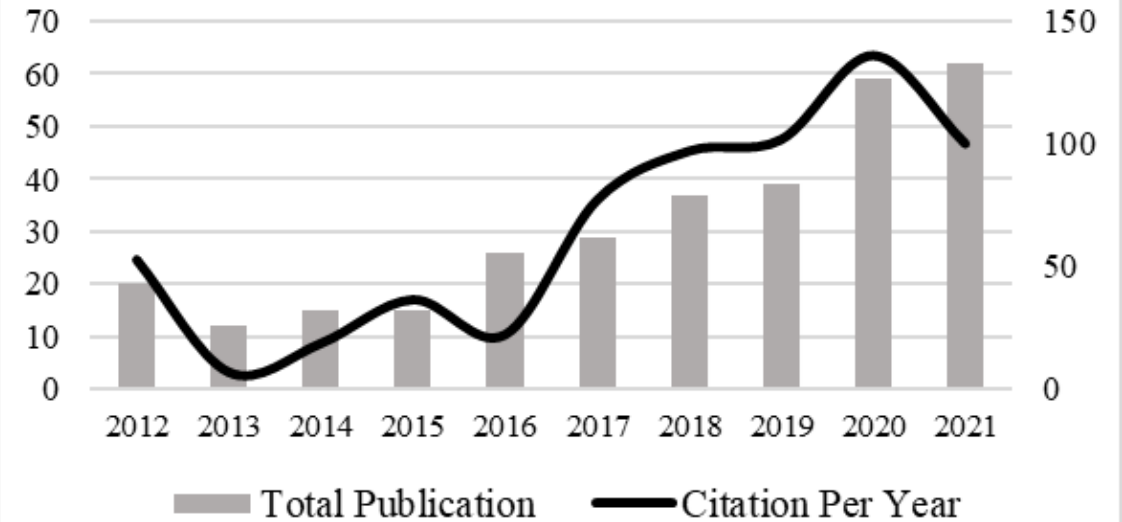
### The distribution of publications by year (2012-2021)

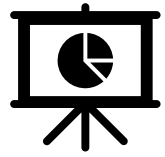
The number of published documents on women entrepreneurship has significantly increased over the past 10 years since 2012 though in a slowing trend. The accumulative percentage of research productivity on women entrepreneurship grows sluggishly at 4 to 8 percent from 2012 to 2017; and shows a growth at 10 to 20 percent from 2018 to 2021.

### Publication Trends by Year



### Total Publication and Citation per Year





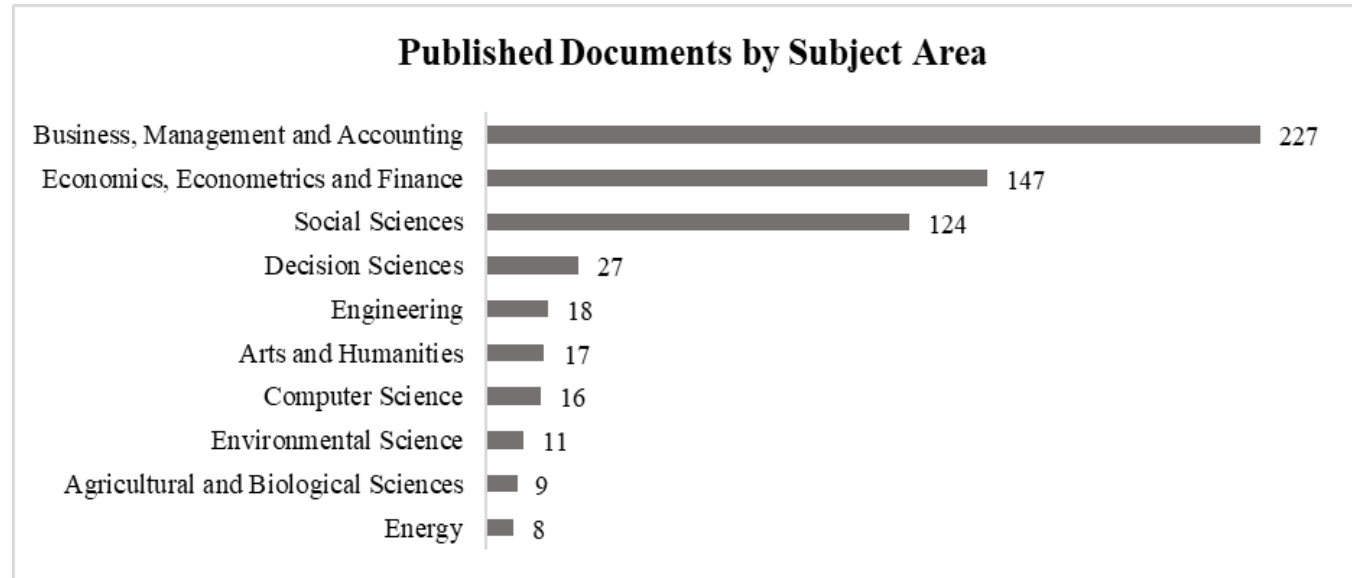
# Results

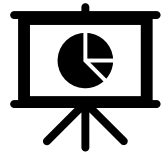
## - Research Trend Analysis

### Most active corresponding author's countries

Author Name	Total Documents	%	Affiliation	Country
Brush, C. G.	11	3.50%	Babson College	United States
Foss, L.	8	2.55%	UiT The Arctic University of Norway	Norway
Dana, L P.	7	2.23%	Montpellier Business School	France
Ratten, V.	7	2.23%	La Trobe University, Melbourne	Australia
Henry, C.	7	2.23%	Dundalk Institute of Technology	Ireland

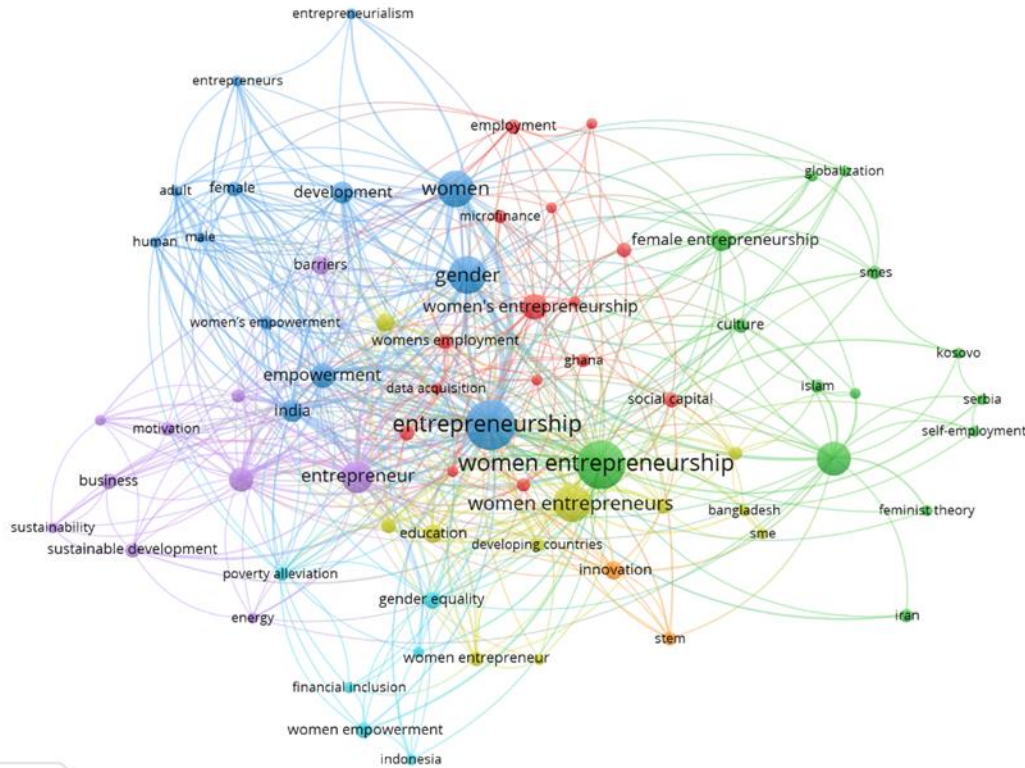
### Publication on SCR topic by Subject Area





# Results - Keyword Analysis

- The mapping for the co-occurrence of author keywords was derived through VOSviewer, which provides 190 threshold items grouped under 8 clusters..
- The clusters have been harmonized (re-grouped) by the researcher into 5 themes, i.e. are (i) acquisition of resources and intelligence, (ii) success factors for women entrepreneurs, (iii) women leaders and identity construction, (iv) women roles and involvement, and (v) women and science and technology.



The most popular/higher interest topic on Women Entrepreneurship

Cluster	No. of items	Author Major Keywords	Proposed Dominant Research Topics on Women Entrepreneurship
1	17	<i>Data acquisition, decision making, human capital, microfinance, social capital, employment</i>	Acquisition of resources & intelligence
2	16	<i>Challenges, barriers, sustainability issues, women status, motivation, financial inclusion, gender equality, poverty alleviation</i>	Success factors of women entrepreneur
3	14	<i>Globalization, internationalization, culture, institutional theory, feminist theory</i>	Women leaders & identity construction
4	13	<i>Female, gender, adult, women's empowerment, family, marriage</i>	Women roles and involvement
5	4	<i>Innovation, STEM, entrepreneurialism, education</i>	Women and Innovation

# Conclusion & Future Direction

- This study examined **314 articles on women entrepreneurship from the Scopus database**. The evaluation of the performance of publication was analysed using Harzing's platform, while the mapping of the bibliometric network was visualized using VOSviewer.
- The results show a **significant growth in the number of publications and citations in the research** domain across the 10-year study period, with **five dominant themes** of women entrepreneurship derived from the network visualisation analysis - **(i) acquisition of resources and intelligence, (ii) success factors for women entrepreneurs, (iii) women leaders and identity construction, (iv) women roles and involvement, and (v) women and science and technology**. The analysis revealed that **women entrepreneurship is a multidisciplinary field of research**.
- This paper focused exclusively on the bibliometric analysis of the publications obtained from a single source (i.e. Scopus), thus **might not attain rich datasets as compared to a combination use of multiple databases**. Nonetheless, this study contributes as a **point of reference** on the extant and emergent topics and methodology decisions for future studies on women entrepreneurship.
- For future study, document searching can take a **broader range of keywords** to provide more rigorous data, for example, to use multiple keywords like "female entrepreneur" OR "women-led start-up" OR "female-led start-up". Furthermore, other available **document in other academic databases like Dimensions and Web of Science (WOS)** can also be included in future research to get rich datasets to be analysed.