

Sustainability of Empowerment Initiatives: A Bibliometric Analysis and Knowledge Mapping Using Biblioshiny

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ABSTRACT:

Sustainable business practices support and provides way for meeting the requirements of the future generations without making concessions to the present environment and suggestions. The empowerment initiatives focus on the long run which provides a triangular comfort to the environment, society and the economy. This study attempts to identify the growth of research papers written over the years and the development of articles at different time periods which us to know the various dimensions and assessments on sustainability. The study applies the bibliometric software which helps to make an understanding of the review of literature in a systematic manner and to know the contribution of different authors towards the topic of study. The search option selected in the Scopus database with the bullion search: sustainability and of empowerment initiatives” helped to identify the research publications over the years. The study analysed 459 global publications pertaining to Sustainability of Empowerment Initiatives indexed in Scopus database. The articles with the keyword with sustainability were 145 in number which states the growing need of sustainability in the recent days, The article demonstrated a three-field plot portrays the relationship between authors, titles, and keywords; the annual scientific production, word counts and a collaborative network of papers. The tree map constitutes the words and the usage of the terms at various percentage and the flow of the

words in the growth of years, The study also states the thematical map which helps to identify the trending topics and provides the area for future research.

Keywords: Sustainability, Bilioshiny, Empowerment Iniatives, Thematic Map

1. INTRODUCTION

Sustainability refers to the ability to meet the needs of the present without compromising the ability of our future generations in order to meet their own needs. It is applicable in almost all the areas such as education, business, engineering, environment etc. Recently the study of sustainability has become an influential research topic in every field. The influence of sustainability practice in business is inevitable. Sustainability in business refers to a corporation's policies and activities to reduce contrary environmental and social effects resulting from business activities in the market. It is mostly analyzed against environmental, social and governance metrics. It supports responsible resource management, reduce and mitigate wasteful spending and utilize resources in more efficient manner. By this way of practicing sustainability in business, helps to attract customers, produce quality product and services and attracts investors in the long run. This practice is gaining priority and is practiced by corporate entrepreneurs as it ensures wise use of limited natural resources, prevent pollution and waste. In 1987, the United Nations Brundtland Commission defined sustainability as "Meeting the needs of the present without compromising the ability of future generation to meet their own needs".

Empowerment initiatives refer to activities and programs to make individuals and groups to achieve skills, confidence and resources they need to have a command over their lives, make decisions and influence outcomes. These often focus on improving people's ability in participating fully on social, political and economic activities. Empowerment initiative programs give people more control over their lives, work and community. It can be implemented in workplace, communities, or in the context of diversity, equity and inclusion. It can be and practice, scheme transaction or initiatives that improves and promotes compliance with the Act or other law promoting economic empowerment.

1.1 REVIEW OF LITERATURE

Gutiérrez-Fernández et al., (2024) highlights the importance of achieving minimum female representation for improved Corporate Social Responsibility (CSR) and calls for greater gender diversity in the banking sector to support sustainable development goals. Girrback (2024) , research the communication behaviour of generation Z in the work place, highlighting the high level of insecurity when interacting with the superiors due to factors like social media and information overload. It also emphasizes the importance of appreciative leadership, which fosters trust, improves communication and boost employee loyalty and productivity ultimately et al., (2021) says that empowerment directly enhances employee performance with information and communication technology playing a key role in facilitating knowledge exchange and cooperation. Further research should address limitation such as sample size and explore additional factors like leadership and work environment as it influences on employee performance.

Riza et al., (2023) studied the importance of community involvement in tourism, showing how empowering local people can strengthen their connection to their region and promote innovation. It focused the need for tourism planners to include local perspectives in decision making, especially in post -pandemic era, to boost local support and recovery in the tourism sector. Van Heerden et al., (2021) the researcher found that neonatal resuscitation skills improved after training, leading to better outcomes and reduced cases of neonatal asphyxia. The PRAR model was effectively applied to sustain quality improvements, though sustainability challenges remain, require further research over time. Shahid et al., (2023), the study done by the authors explores, how financial inclusion can drive sustainable entrepreneurship by helping entrepreneurs identify opportunities that benefit the economy, society and the environment. It highlights that in resource- limited countries, sustainable entrepreneurship fosters economic growth, creates business opportunities and promotes inclusive developments.

1.2 OBJECTIVES OF THE STUDY

The present study is proposed to accomplish the following objectives.

- 1) The bibliometric profile of sustainability of empowerment initiatives
- 2) To find out the growth of publications over the years.
- 3) Distribution of publications by document wise,

1.3 MATERIALS AND METHODS

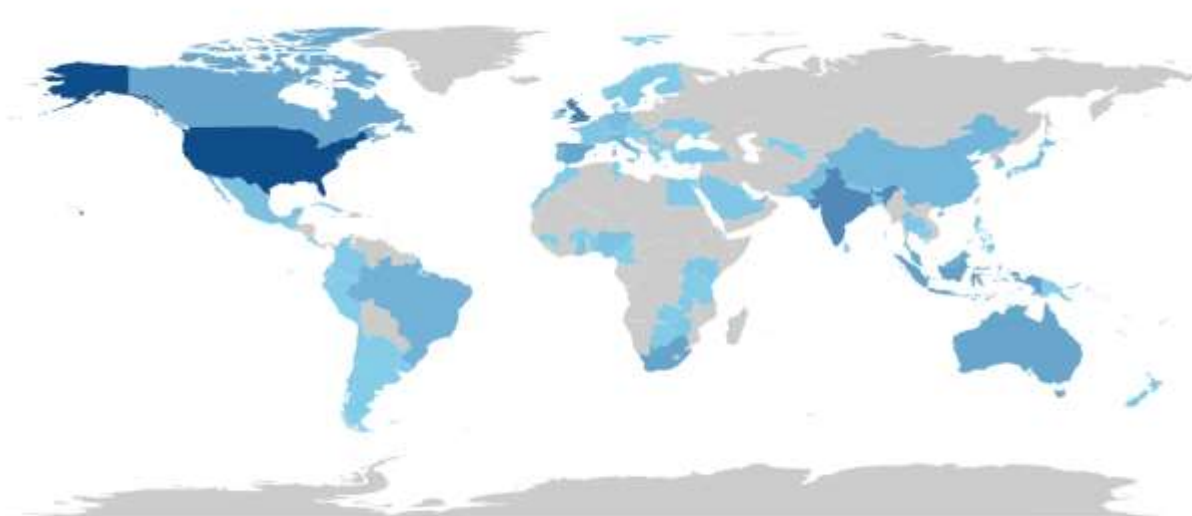
The articles on sustainability and empowerment initiatives were collected and the completeness of data was analysed using the biblioshiny software. The data collected were measured using various parameters like abstract, document type, journal, language, publication year, title, total citation which were excellent. The keyword selection and use were to an acceptable limit and the key word plus and science categories had missing counts at 57.73 % and 100% respectively. The total documents collected were 459 documents from the Scopus database using the search term sustainability, empowerment and initiatives which spotted out 459 relevant documents in the article title, abstract and keywords. The reference was drawn from various subject areas which includes engineering, education and environmental science, social science, energy and others. The papers were typically taken from articles trailed by conference and review papers. The data were acquired from Scopus over the years. 145 papers specifically focus on sustainability showing it's a growing area of interest.

FIGURE 1: Authors Production Overtime

Author	year	freq	TC	TCpY
ABU TALIB NB	2013	1	8	0.615
ABU TALIB NB	2015	1	52	4.727
AHMAD A	2024	1	1	0.500
AHMAD A	2025	1	0	0.000
ALI A	2024	2	1	0.500
ALI M	2023	1	0	0.000
ALI M	2024	1	0	0.000
ASHTON JR	2006	1	2	0.111
ASHTON JR	2016	1	5	0.500
DE MELO BRANCO A	2005	2	15	0.714
DOMENECH B	2024	2	4	2.000
FERRER MARTÍ L	2024	2	4	2.000
JAGANNATH S	2013	3	0	0.000
UTTING P	2013	3	3	0.231

The above table highlights authors productivity and the impact of their work over time. It explains the authors contributions to publication during each year along with the number of publications and their citations. The figure also reveals the average number of citations per year for the author. Abu Talib NB published paper in the year 2015 with highest number of citations (52), resulting in a very high TCpY (Total Citation per Year) of 4.727, which indicates impactful contributions. This indicates a significant impact for his contribution. Johnathan S and Utting P in the year 2013 have relatively low citations metrics with TCpY of 0.231. The recent publications (2023-2025) generally have low TCpy, reflecting due to limited time for citations.

FIGURE 2: Countries Scientific Production



This figure indicates specific output of various countries. USA leads the maximum number of productions with 185 contributions, highlighting its dominant role in this field of research, followed by UK with 112 contributions. India ranks third with 95 contributions reflecting its growing influence. Countries like China, Italy, Portugal, Germany and Netherlands contribute the least. Countries such as Australia, Canada, Spain, Malaysia and South Africa contribute a moderate effect.

The below scatterplot, created using a factorial analysis method like Principal Component Analysis (PCA) or Correspondence Analysis (CA), shows the key patterns and connections in the data. The first dimension (Dim1) which explains 85.17% of the data's variation, highlighting the main trends, while the second dimension (Dim2), at 5.35%, reveals secondary patterns. The top-right most group of terms focusing on sustainability-related topics such as sustainable development and sustainability, suggesting research on global sustainable practices. The center part includes terms such as leadership, education and US, representing studies around leadership and education frameworks, particularly in US. The bottom-left links terms such as male, female, human experiment and public health suggesting studies on demographic and health. The bottom-right centers on participatory approach, governance approach and local participation, reflecting a focus on community-driven governance models. The terms like economic development and empowerment close to sustainability and community participation and community participation shows their relevance to social development.

FIGURE 3: Factor Analysis

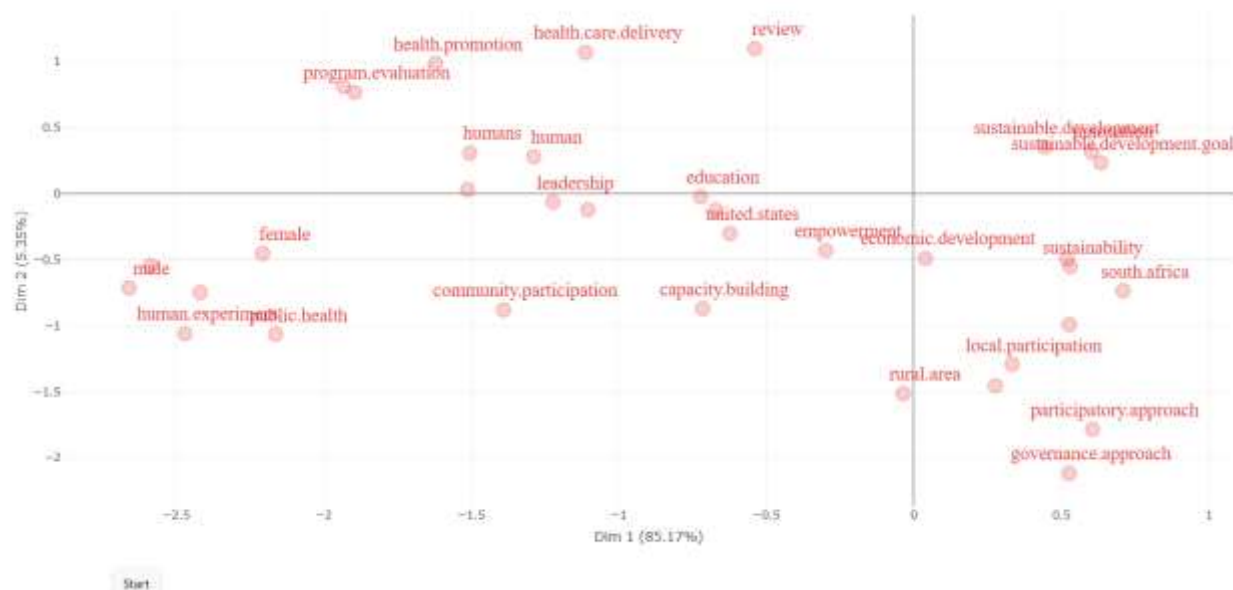
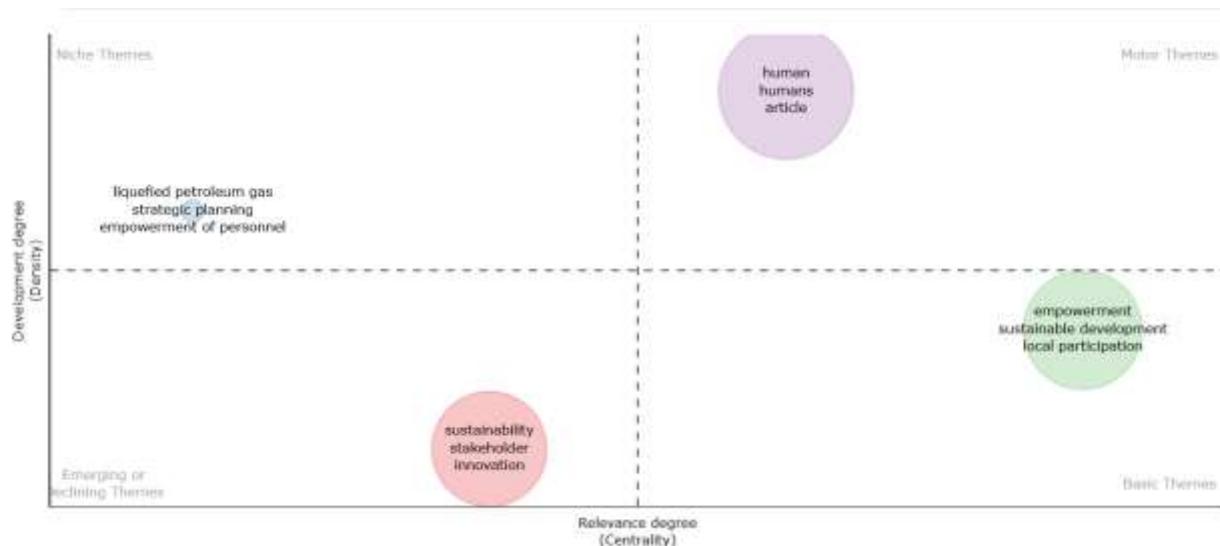


FIGURE 4: Most Local Cited Documents

Document	DOI	Year	Local Citations	Global Citations	LC/GC Ratio (%)	Normalized Local Citations	Normalized Global Citations
SAEED BB, 2019, CORP SOC RESPONSIB ENVIRON MANAGE	10.1002/csr.1684	2019	5	569	0.88	24.00	17.33
FEOLA G, 2014, GLOBAL ENVIRON CHANGE	10.1016/j.gloenvcha.2013.11.011	2014	2	229	0.87	15.00	8.24
HENNINK M, 2012, DEV PRACT	10.1080/09014524.2012.640007	2012	2	72	2.78	12.00	4.11
MASRI HA, 2017, J CLEAN PROD	10.1016/j.jclepro.2016.12.087	2017	2	407	0.49	11.50	9.66
ANGELIDOU M, 2017, SUSTAINABLE CITIES SOC	10.1016/j.scs.2017.05.010	2017	2	137	1.46	11.50	3.25
ALLWRIGHT E, 2021, CLIN EXP DERMATOL	10.1111/cod.14516	2021	1	17	5.88	32.00	3.02
ADOM RK, 2022, NAT RESOUR FORUM	10.1111/1477-8947.12264	2022	1	18	5.56	40.00	3.19
ADINOLFI P, 2016, J HEALTH MANAGE	10.1177/0972063415625524	2016	1	36	2.78	11.50	1.03
BHUPENDRA KV, 2016, J CLEAN PROD	10.1016/j.jclepro.2016.05.159	2016	1	27	3.70	11.50	0.77
DISTERHEFT A, 2015, J CLEAN PROD	10.1016/j.jclepro.2014.01.030	2015	1	226	0.44	13.00	6.30
MANSURI G, 2004, WORLD BANK RES OBS	10.1093/wbro/40.012	2004	1	677	0.15	5.00	3.43
DINGWERTH K, 2010, GLOBAL ENVIRON POLIT	10.1162/GLEP_a_00815	2010	1	175	0.57	9.00	2.82
MACPHAIL C, 2006, SOC DYN	10.1080/025339606008626731	2006	1	6	16.67	3.00	1.20
RASOOLA, 2024, GROUNDW SUSTAIN DEV	10.1016/j.gsd.2024.101269	2024	0	1	0.00		0.86
SILALAH HT, 2024, GLOB J ENVIRON SCI MANAG	10.22034/gyesm.2024.04.29	2024	0	0			0.00
MALHOTRA N, 2024, SUSTAIN PATHWAYS: THE ROLE OF INDIG TRIBES AND NATIV PRACT IN INDIA'S ECON MODEL		2024	0	0			0.00
AI DARWISH R, 2024, RFV	10.33298/rfv.85.7	2024	0	0			0.00

The above figure shows the documents with highest global citations is MANSURI G, 2004, World Bank Res OBS with 677 citations, but its local citations are low (only 1), resulting in an LC/GC ratio of 0.15%. The highest normalized local citations is for ADOM RK, 2022, NAT RESOUR FORUM, indicating a strong local impact despite relatively lower global citations. Some 2024 publications have zero citations in both local and global categories, which may be due to their reason publications. Older documents tend to have higher global citations. Normalized citations metrics allow fairer cross comparisons across different publications years.

FIGURE 5: Thematic Map



The above figure is a thematic map explaining the relation between Development Degree and Relevance Degree. The map is divided into four Quadrants, each representing different themes. Motor themes (top right quadrant), key words such as human, humans, articles, these themes are both highly developed and highly relevant and are core to the research area and dry the field forward and further research will continue to focus on these themes. Basic Themes

(bottom right quadrant), keywords like empowerment, sustainable development, local participation. These themes have high relevance but low development.

They form the foundation of the research field but need further exploration to improve their internal structure. Niche Themes (top left quadrant), keywords such as LPG, strategic planning, empowerment of personnel, these themes are well developed internally but have limited relevance to the broader research field and are specialized topics that are important in specific contexts but not widely connected. Emerging or Declining themes (bottom left quadrant), keywords such as sustainability, stake holders' innovations.

These themes have low development and low relevance and such research needs further study or declining areas that are losing relevance. Motor themes are driving the research field and are well developed. Basic themes (empowerment, sustainable development is foundational and require more research efforts to develop further. Emerging themes (sustainability, innovation) need more attention to become central to the field.

FIGURE 6: Tree Map



This figure provides a tree map, which displays various thematic areas based on their relative importance within a dataset. Each rectangle theme represents a theme.

The empowerment theme (98 occurrence, 11%) is the most prominent theme indicating a strong focus on empowerment. Sustainability (65 occurrence, 7 %) is a significant area highlighting, ongoing research interest. Sustainable development (58 occurrence, 7%) is another major theme closely relating to sustainability. The map illustrates a wide range of topics covered in the data set ranging from empowerment, participation, leadership to sustainability, climate change. The above figure indicates that empowerment, sustainability and sustainable development are core areas of focus with significant coverage.

This figure gives a visualization of the popularity of various terms related to sustainable development environmental management and other related topics overtime. The Y axis represents the topics or keywords and X axis indicates years ranging from 1995 to 2023. The horizontal line states period during which a specific term was relevant and actively used. The size of dots along the lines suggests the frequency of usage during specific years. Large dots imply higher frequency for that year. Sustainable development and economic growth show long lasting relevance.

Sustainable development goals and perception shows more reason prominence, appearing later in timeline. Topics like climate change and sustainability have an increasing number of large dots in reason years indicating its growing relevant.

FIGURE 7: Trending topics

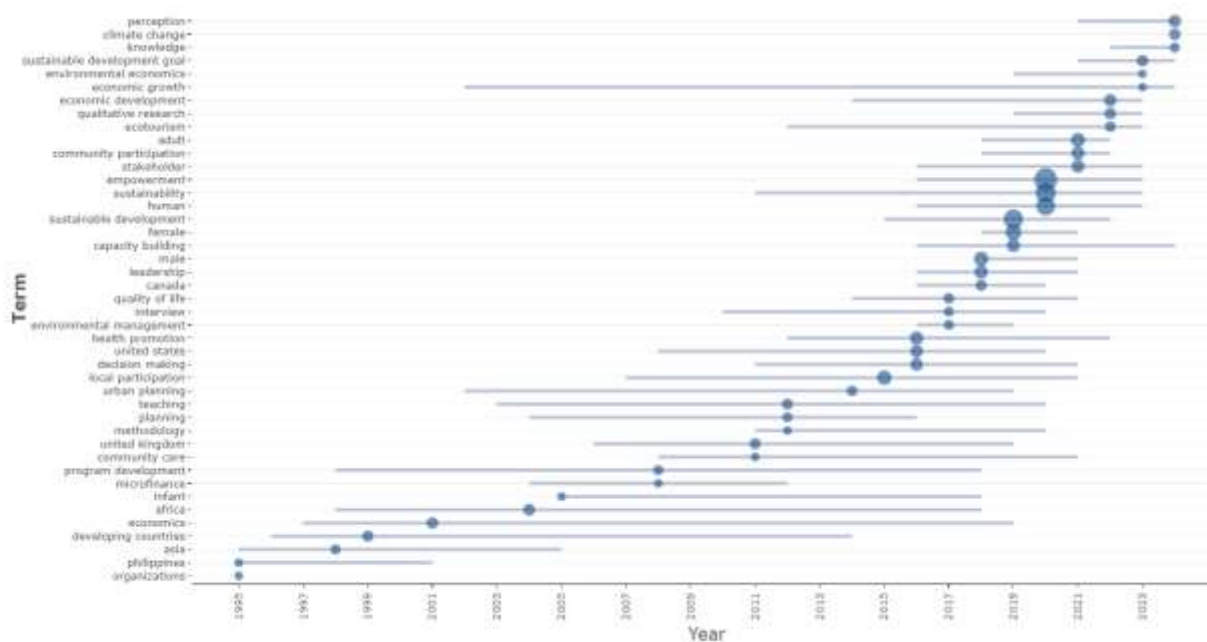


FIGURE 8: Word Cloud



This figure is a word cloud visualization representing the prominence of various terms based on their relative size in the diagrams. The term empowerment, sustainable development, sustainability, human and article reveals a large and high prominent relevance. Less frequent terms are shown in smaller sizes such as governance approach, teaching etc.

1.4 CONCLUSION

The present study analyzes the growing importance of sustainability and empowerment initiatives through a bibliometric analysis of 459 publications indexed in Scopus. It highlights the rise in research on this topic over time with a focus on the relationship between sustainability, empowerment and their contributions to environmental, societal and economic goals. The study provides valuable insights in to the ongoing trends and relevance in sustainability and empowerment research, offering a foundation for future studies in these areas.

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