

DISCOVERING THE WORLD LANDSCAPE OF MICROCREDIT AND WOMEN'S DECISION MAKING: A BIBLIOMETRIC ANALYSIS

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Abstract: *This paper aims to examine the current trend and academic growth of microcredit and women's decision-making using bibliometric analysis. This paper also analyses document type, sources of publication, authorship, and other bibliometric indicators. The study focused on a total of 310 articles published from 1999 to 2021. These papers were obtained automatically from the Scopus database and analysed afterward with the use of Harzing's Publish or Perish and VOSviewer. The result shows that 2021 had the highest productivity with a total of 50 documents produced, whereas 1999 and 2001 had the lowest productivity with a total of one document produced.*

Keywords: *Microcredit, women decision making, bibliometric analysis*

Introduction

Microcredit is one of the microfinance components offered to women, especially those who are poor. In conjunction with this, microcredit has the potential to significantly lessen women's vulnerability to poverty by granting them access to financing for income-generating activities. In fact, there is evidence that shows women, if given access to microcredit, can achieve financial autonomy and that financial gains are shared widely throughout the household and community. This is supported by Holvoet's (2005) finding that channelling credit to women enables them to obtain a substantially higher stake in decision-making matters that are directly related to the use of financial support itself. In addition to this, a study by Ashraf, Karlan, and Yin (2010) found positive impacts for women with below median decision-making power in the baseline, leading to a shift towards female-oriented durable goods purchased in the household. The commitment product positively impacts household decision-making power for women (i.e., the

household is more likely to buy female-oriented durables), self-perception of savings behaviour (time-inconsistent females report being more disciplined savers), and actual consumption decisions regarding durable goods. Another study conducted by Van Rooyen, Stewart, and De Wet (2012) found that poor people's incomes are impacted by microcredit in both positive and negative ways. The introduction of micro-savings also may positively impact the levels of poor people's savings. However, this study suggests that micro-savings should not be promoted as a means to reduce poverty. The impact of microfinance, which consists of microcredit and micro-savings, has negative impacts by increasing poverty, reducing children's education levels, and disempowering women. However, microcredit was suggested to contribute to Uganda's women's decision-making power. As supported by Haile, Bock and Folmer (2012), the results of microfinance programmes can best be described as expanding women's decision-making power regarding household expenditure and increasing their ownership of assets and savings.

Studies of women and decision-making have repeatedly shown there is a relationship between microcredit and decision-making. However, the discussion in this area has to be reviewed extensively. Thus, the purpose of this study is to use bibliometric analysis to evaluate the scientific literature that has been published in the areas of microcredit and women's decision-making. While previous studies have largely focused on understanding microcredit and women's decision-making from a variety of angles, little has been done to ascertain whether global collaboration or equal sharing of this research area is growing. The bibliometric analysis that was previously reported had been carried out on a bibliometric evaluation of microfinance research (Zaby, 2019), microfinance performance and future research (Akter, Uddin and Tajuddin, 2021), and a very recent bibliometric investigation was carried out on socioeconomic outcomes of microfinance (Ribeiro, Duarte & Gama, 2022). The study by Kaushal, Singla, Jain, and Ghalawat (2021) used bibliometrics and network analysis to understand the intellectual structure (IS) of microcredit and women's empowerment. However, there is a dearth of thorough understanding in this field because few bibliometric analyses are used to explore women's decision-making studies. Most of the bibliometric study on women focuses on gender diversity (Vieira, Madaleno & Lobao, 2022), gender presence (Sixto-Costoya, Alonso-Arroyo, Castelló-Cogollo, Alexandre-Benavent, & Valderrama-Zurián, 2022), and gender disparities in corporate decision-making bodies (Rodrigues-Fernandez, Sánchez-Teba, & Herrera-Ballesteros, 2021) Therefore, the bibliometric approach is used as a quantitative analysis technique by investigating the area of microcredit and women's decision-making.

The objectives of this paper are as follows: (1) this paper examines the trends and productivity of research about microcredit and women's decision-making using bibliometric analysis. This analysis is a technique that examines all articles that make use of the keywords in question, sorting them by document and source type, year of publication, subject area, and most active source titles. For the present analysis, a bibliometric analysis will be conducted for the years between 1999 and 2021; (2) this paper addresses the analysis of the clusters comprising two co-occurrence networks. This means that the bibliometric analysis will take into account the keywords of the examined publications and look at which keywords, as well as words appearing in titles and abstracts, tend to frequently appear in the same article; and (3) produce a synthesised analysis of research trends on microcredit and women's decision-making with a particular eye toward the geographical distribution of publications and authorship.

The remaining paper is divided into five sections that cover the methodology used in the current research, data analysis, and results with the conclusion and suggestions.

Methodology

The objectives of this paper are as follows: (1) this paper examines the trends and productivity of research about microcredit and women's decision-making using bibliometric analysis. This analysis is a technique that examines all articles that make use of the keywords in question, sorting them by document and source type, year of publication, subject area, and most active source titles. For the present analysis, a bibliometric analysis will be conducted for the years between 1999 and 2021; (2) this paper addresses the analysis of the clusters comprising two co-occurrence networks. This means that the bibliometric analysis will take into account the keywords of the examined publications and look at which keywords, as well as words appearing in titles and abstracts, tend to frequently appear in the same article; and (3) produce a synthesised analysis of research trends on microcredit and women's decision-making with a particular eye toward the geographical distribution of publications and authorship.

The remaining paper is divided into five sections that cover the methodology used in the current research, data analysis, and results with the conclusion and suggestions.

Source and Data Collection

The Scopus database was utilised for the present bibliometric analysis to extract the necessary data for this analysis. This is because the Scopus database is one of the most prominent academic databases available today, with approximately 310 titles; therefore, this study employed the Scopus database as the primary source for data collection.

The topical scope of this review was delimited to 'microcredit, microfinance, women, and decision-making'. In operational terms, the authors followed PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines for the document search as presented in Figure 1 (Zakaria, Ahmi, Ahmad, & Othman, 2020). A series of searches were conducted using different combinations of the following keyword string: (TITLE-ABS-KEY (microcredit OR microfinance AND wom?n OR female)) AND (decision AND making) AND (EXCLUDE(PUBYEAR, 2022)). This Scopus search generated a total of 310 documents, and the search was conducted on March 6, 2022. Next, the filtration was done by excluding: (1) publications in 2022; and (2) papers that did not fulfil the concept of microcredit and women's decision-making. A total of 310 documents were generated and analysed comprehensively. Therefore, tools such as Harzing's Publish or Perish, Microsoft Excel, and VOSviewer were used for further analysis.

Findings

The analysis for the extracted academic work in the search process was based on the following attributes: document and source type, subject area, most active source title, distribution of publications by countries, most active institutions, authorship analysis, keyword analysis, title and abstract analysis, and citation analysis. Annual growth data up until 2021 were also presented in the findings, which include their frequency and percentage. Further descriptive analysis was done to analyse the types of documents and source types in which the research on microcredit and women's decision-making was published.

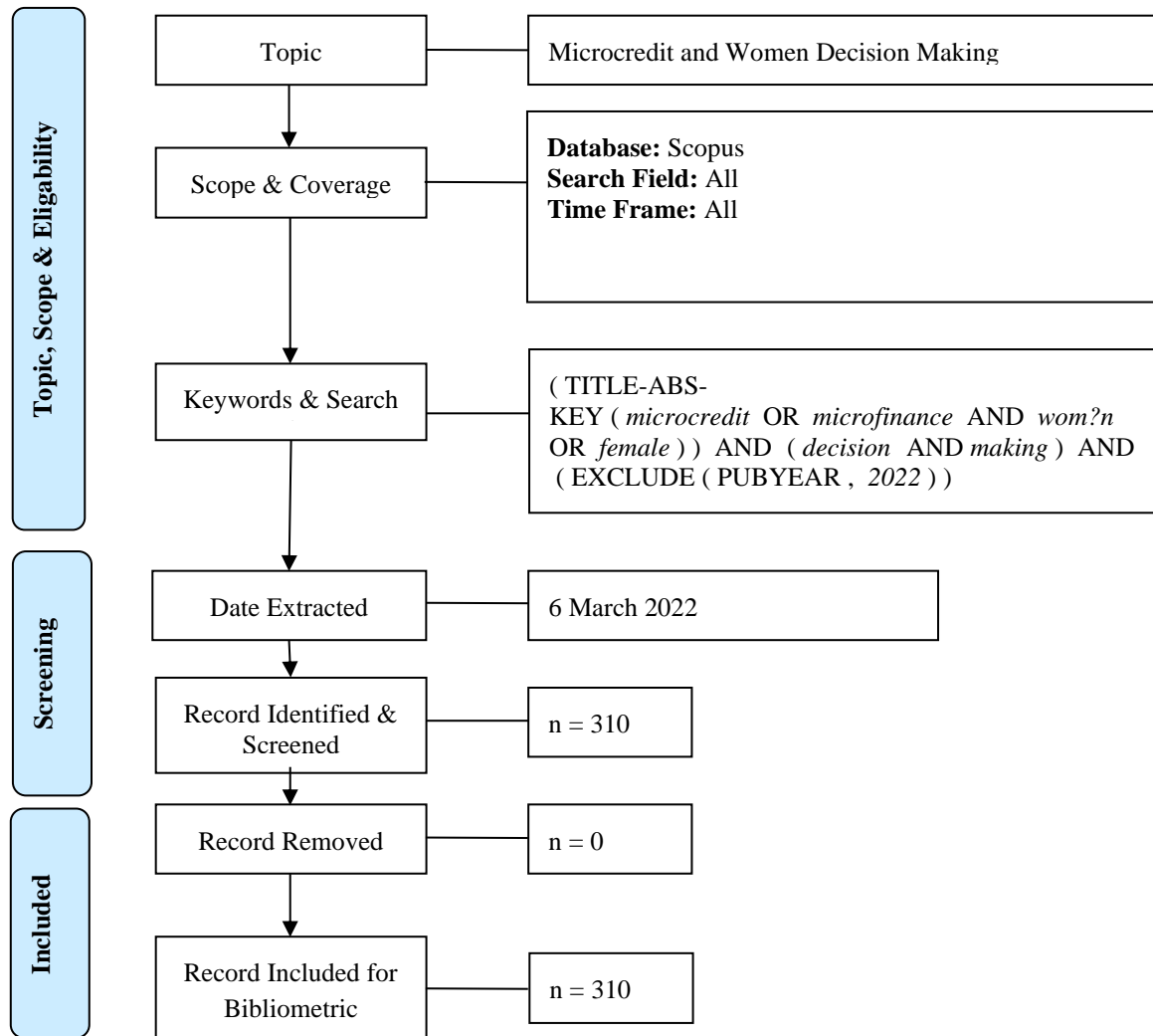


Figure 1: Flow Diagram of The Search Strategy

Source: Zakaria et al. (2020)

Document Type

Results of the document type, as presented in Table 1, show most of the studies on microcredit and women's decision-making were published as articles (85.48%), followed by book chapters (5.48%), books (3.55%), and review papers (3.23%). Others were found as conference papers and notes with 1.94% and 0.32%, respectively.

Table 1. Document type

Document Type	Total Publication (TP)	Percentage (%)
Article	265	85.48
Book Chapter	17	5.48
Book	11	3.55
Review	10	3.23
Conference Paper	6	1.94
Note	1	0.32
Total	310	100

Source type

The research also found that these documents are categorised into four source types: journals, book, book series, and conference proceedings (refer to Table 2). From the 310 documents, 89.03% of the documents were published in journals, 8.71% in books, and 1.29% in book series. In contrast, conference proceedings had the lowest number, with 0.97%.

Table 2: Source Type

Source Type	Total Publication (TP)	Percentage (%)
Journal	276	89.03
Book	27	8.71
Book Series	4	1.29
Conference Proceeding	3	0.97
Total	310	100

Year of publication

Research on microcredit and women's decision-making was first published in 1999. After the year 2010, scholars started to publish articles actively associated with microcredit and women's decision-making until the year 2020. The year 2021 was the highest year for publication in this area, with a total of 50 articles published (16.13%). This is followed by the years 2020 (12.26%) and 2019 (11.61%). Meanwhile, in the year 2018, less than 10% of publications were produced regarding this topic or theme (Table 3).

Table 3: Year of Publications

Year	Total Publication (TP)	Percentage (%)
2021	50	16.13
2020	38	12.26
2019	36	11.61
2018	23	7.42
2017	26	8.39
2016	27	8.71
2015	21	6.77
2014	22	7.10
2013	12	3.87
2012	13	4.19
2011	13	4.19
2010	4	1.29
2009	5	1.61
2008	5	1.61
2007	3	0.97
2006	3	0.97
2005	1	0.32
2004	2	0.65
2002	4	1.29
2001	1	0.32
1999	1	0.32
Total	310	100

Similarly, in graph form, Figure 2 demonstrates the growth of publication activities on this subject from 1999 to 2021. Based on the pattern and growth, it seems that microcredit and women's decision-making gained much interest among scholars at that time.

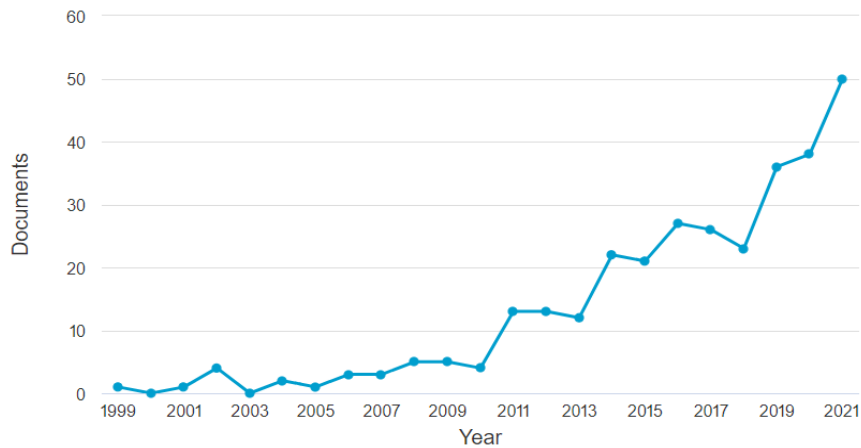


Figure 2: Documents by The Year 1999 – 2021

Subject area

Table 4 summarises the publications based on the subject area. It demonstrates that the largest number of publications were categorised under “social sciences”, with a total of 175 (34.18%) publications. This is followed by “economics, econometrics, and finance” (18.75%), and “business, management, and accounting” (15.82%). Other subject areas were below 5% of the total publications, including biochemistry, arts and humanities, medicine, engineering, environmental science, agricultural and biological science, psychology, computer science, multidisciplinary, energy and decision sciences.

Table 4: Subject area

Subject area	Total Publication (TP)	Percentage (%)
Social Sciences	175	34.18
Economics, Econometrics and Finance	96	18.75
Business, Management and Accounting	81	15.82
Arts and Humanities	24	4.69
Medicine	23	4.49
Engineering	16	3.13
Environmental Science	15	2.93
Agricultural and Biological Sciences	14	2.73
Psychology	13	2.54
Computer Science	12	2.34
Multidisciplinary	11	2.15
Energy	9	1.76
Decision Sciences	5	0.98

Most Active Source Title

Table 5 addresses the most active source titles on microcredit and women's decision-making. The highest source was World Development, with nine (3.73%) publications. The second and third highest were the Journal of Development Studies and Journal of International

Development, with six and five publications, respectively. This is followed by Development and Change, the European Journal of Development Research, Journal of Interpersonal Violence, and Sustainability Switzerland with a total of 4 publications (1.66%). Whereas the Australian Journal of Basic and Applied Sciences, Development in Practice, International Journal of Recent Technology and Engineering, International Journal of Social Economics, Journal of Business Venturing, Journal of Development Effectiveness, Journal of Human Behaviour in the Social Environment, Journal of Social Service Research, and Violence against Women had the lowest source with 3 (1.24%) publications.

Table 5: Most Active Source Title

Source Title	Total Publication (TP)	Percentage (%)
World Development	9	3.73
Journal Of Development Studies	6	2.49
Journal Of International Development	5	2.07
Development And Change	4	1.66
European Journal Of Development Research	4	1.66
Journal Of Interpersonal Violence	4	1.66
Sustainability Switzerland	4	1.66
Australian Journal Of Basic And Applied Sciences	3	1.24
Development In Practice	3	1.24
International Journal Of Recent Technology And Engineering	3	1.24
International Journal Of Social Economics	3	1.24
Journal Of Business Venturing	3	1.24
Journal Of Development Effectiveness	3	1.24
Journal Of Human Behavior In The Social Environment	3	1.24
Journal Of Social Service Research	3	1.24
Violence Against Women	3	1.24

Geographical Distribution of Publications

This study also presents the most active countries that published documents on microcredit and women's decision-making. Table 6 recorded the top countries that contributed to the publications as being the United States (19.06%), India (12.33%), and the United Kingdom (9.19%), with more than 40 publications.

Table 6: Top Countries Contributed To The Publications

Country	Total Publication (TP)	Percentage (%)
United States	85	19.06
India	55	12.33
United Kingdom	41	9.19
Malaysia	28	6.28
Australia	19	4.26
Bangladesh	17	3.81
South Africa	12	2.69
Belgium	11	2.47
Canada	10	2.24

China	10	2.24
Germany	10	2.24
Ghana	10	2.24
Norway	10	2.24
Pakistan	9	2.02

Text Analysis

The title and abstract from the documents gathered were analysed using the full counting method via the VOSviewer software. The binary counting method is a method where the occurrence of a noun in an article is calculated based on a specific number of times (van Eck & Waltman, 2014). The analysis results show that microcredit, microfinance, empowerment, financial inclusion, and decision-making are closely related and often occur together. A visualisation of the noun occurrences based on the title and abstract is displayed in Figure 4. The strength of the occurrences is indicated by the size of the nodes, while the strength of the relationship is displayed by the thickness of the lines between nodes. Related words are grouped to show their relationship. Three different colours were generated from the analysis representing three essential groups.

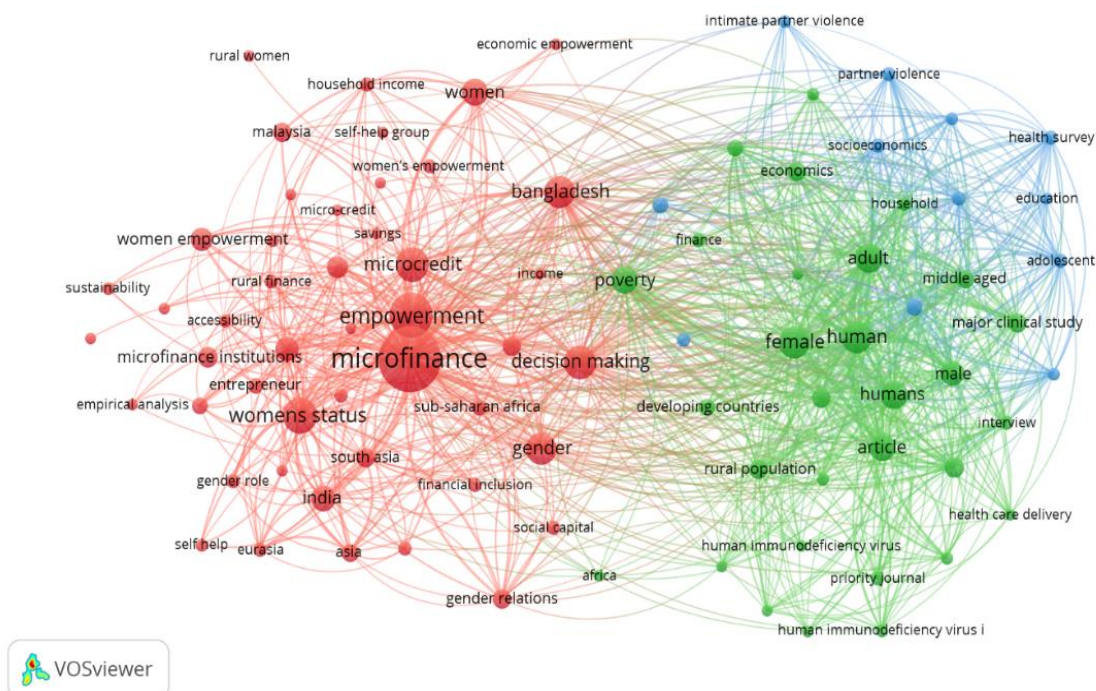


Figure 4: Vosviewer Visualization of A Term Co-Occurrence Network Based On Title And Abstract Fields (Binary Counting)

Citation Analysis

Harzing's Publish or Perish software was utilised to find the citation metrics for the retrieved data from the Scopus database. Table 7 presents the citation metrics for the retrieved documents as of March 6, 2022. The short description contains the number of citations with their citations per year, citations per paper, and citations per author.

In total, there were 310 papers with 3932 citations, averaging 170.96 citations per year for microcredit and women's decision-making publications. Each paper was cited 12.68 times, and the total h-index and the g-index were at 33 and 53 for all the publications.

Table 7: Citation Metrics

Metrics	Data
Publication year	1999-2021
Citations	3932
Papers	310
Cites_Year	170.96
Cites_Paper	12.68
Cites_Author	1951
Papers_Author	158.54
h_index	33
g_index	53

The top 20 most cited articles on microcredit and women's decision-making are presented in Table 8 below. C. van Rooyen, R. Stewart, T. de Wet, with the title "The Impact of Microfinance in Sub-Saharan Africa: A Systematic Review of the Evidence", was the most cited article to date, with 229 total citations altogether. This is followed by D. Karlan, and J. Zinman with the article entitled "Microcredit in theory and practice: Using randomized credit scoring for impact evaluation".

Table 8: Highly Cited Articles

No.	Authors	Title	Year	Cites	Cites Per Year
1	C. van Rooyen, R. Stewart, T. de Wet	The Impact of Microfinance in Sub-Saharan Africa: A Systematic Review of the Evidence	2012	229	22.9
2	D. Karlan, J. Zinman	Microcredit in theory and practice: Using randomized credit scoring for impact evaluation	2011	182	16.55
3	B. Guti�rrez-Nieto, C. Serrano-Cinca, C. Mar Molinero	Social efficiency in microfinance institutions	2009	158	12.15
4	N. Ashraf, D. Karlan, W. Yin	Female Empowerment: Impact of a Commitment Savings Product in the Philippines	2010	137	11.42
5	N. Holvoet	The impact of microfinance on decision-making agency: Evidence from South India	2005	135	7.94
6	R.B. Swain, F.Y. Wallentin	Does microfinance empower women? Evidence from self-help groups in India	2009	132	10.15
7	C. Leigh Anderson, L. Locker, R. Nugent	Microcredit, social capital, and common pool resources	2002	122	6.1

8	L.I.O. Berge, K. BJORVATN, B. TUNGODDEN	Human and financial capital for microenterprise development: Evidence from a field and lab experiment	2015	85	12.14
9	I. GUÃ©RIN	Women and money: Lessons from Senegal	2006	68	4.25
10	F.N.-A. DODOO, A.E. FROST	Gender in African population research: The fertility/ reproductive health example	2008	65	4.64
11	B. D'ESPALLIER, I. GUERIN, R. MERSLAND	Focus on Women in Microfinance Institutions	2013	64	7.11
12	L.C.H. FERNALD, R. HAMAD, D. KARLAN, E.J. OZER, J. ZINMAN	Small individual loans and mental health: A randomized controlled trial among South African adults	2008	61	4.36
13	R. AGGARWAL, J.W. GOODELL, L.J. SELLECK	Lending to women in microfinance: Role of social trust	2015	55	7.86
14	A. OJO, T. JANOWSKI, J. AWOTWI	Enabling development through governance and mobile technology	2013	54	6
15	K.S. MOHINDRA, S. HADDAD, D. NARAYANA	Can microcredit help improve the health of poor women? Some findings from a cross-sectional study in Kerala, India	2008	53	3.79
16	C. BRODY, T. DE HOOP, M. VOJTKOVA, R. WARNOCK, M. DUNBAR, P. MURTHY, S.L. DWORKIN	Can self-help group programs improve women's empowerment? A systematic review	2017	49	9.8
17	D. RAHA, P. MAHANTA, M.L. CLARKE	The implementation of decentralised biogas plants in Assam, NE India: The impact and effectiveness of the National Biogas and Manure Management Programme	2014	49	6.13
18	H.B. HAILE, B. BOCK, H. FOLMER	Microfinance and female empowerment: Do institutions matter?	2012	47	4.7
19	R.D.M. PANJAITAN-DRIODISURYO, K. CLOUD	Gender, self-employment and microcredit programs An Indonesian case study	1999	47	2.04
20	N.S. MURSHID, A. AKINCIGIL, A. ZIPPAY	Microfinance Participation and Domestic Violence in Bangladesh: Results From a Nationally Representative Survey	2016	46	7.67

Conclusion and recommendations

This paper revealed a bibliometric analysis of microcredit and women's decision-making as a theme in the current research agenda. A total of 310 articles recorded in the Scopus database that were published between 1999 and 2021 were analysed. The bibliometric indicators and analytical analysis based on the tools and techniques used in this present study accentuate the

input of the data mining process and bibliometric techniques to enhance the process of selecting the literature. The study identified the trend and productivity of research on microcredit and women's decision-making using bibliometric analysis (documents and source types, year of publications, subject area, most active source titles, all keywords and titles, abstracts, and the geographical distribution of publications from 1999 to 2021).

The results indicate that the topic of microcredit and women's decision-making has been an emerging topic since 1991. However, this topic received massive attention among scholars in 2011. As for the contributing publications, the United States reported the highest number of contributing authors, followed by India, the United Kingdom, and Malaysia.

The most significant fields in which the sources were produced were social science, economics, econometrics and finance, business, management and accounting, and arts and humanities. However, the topic also appears in publications covering other subject areas, such as medicine, engineering, environmental science, agricultural and biological sciences, and psychology. Although this study has made a few contributions to the field, it also has a few limitations. Firstly, this study employed specific queries/keywords to locate the initial list of scholarly works published as indexed by Scopus, a practise commonly conducted in past bibliometric studies.

Although Scopus is recognised as one of the most extensive online databases that index all scholarly works, it still does not cover all accessible sources. Thus, some exclusions are very much expected from this study. Besides, no search query is 100% perfect for capturing all the scholarly works in this area. Secondly, this study analysed the publications with stringent limitations to avoid attaining inappropriate search responses.

This work may be enriched in the future in order to acquire more precise results when probing for articles. It has been suggested for future research to extend this work to other databases, as well as bibliometric analyses of microcredit and women's decision-making in urban and rural areas. To empower women's decision-making, the government should provide a good financial policy to support decision-making and the use of microcredit.

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