A Bibliometrik Analysis of Crowdfunding in Smes: A Decade Study Based on Sopus Scientific Mapping

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ABSTRACT
This study aims to describe and illustrate quantitative bibliometrics. Validity and relational techniques were used to generate outcome findings and map research themes, impacts, directions, and collaboration trends. Topic classification is also included to review results from different types of analysis. The theme of the Scopus publication is SMEs Crowdfunding. This began to be heavily researched in 2019 and peaked in 2020. From the analysis, it is stated that SMEs Crowdfunding is widely discussed in relation to various research themes. One of the interesting ones is related to women entrepreneurship. SMEs have difficulty accessing funding, so the emergence of Crowdfunding is an alternative financing. Bibliometric analysis is used to examine bibliographic data collected from the Scopus database. SMEs have difficulty accessing funding, so the emergence of Crowdfunding is one of the financing alternatives. Bibliometric analysis is used to test bibliographic data collected from the Scopus database.
INTRODUCTION

Economic growth is considered to be highly correlated with the development of Micro, Small, and Medium Enterprises (SMEs), which in Europe emphasizes the importance of SMEs as engines of economic growth because they are considered more efficient and provide certainty and sustainability (Gordon Dickinson, 2013). In Asian countries, it is also a contributor to economic growth. The Micro, Small, and Medium Enterprises (SME) sector contributes 8 percent growth to India's GDP and is the most dynamic and growing sector for five decades. The SME sector is also one of the economic drivers, namely 57.85% to 60.34% of GDP, and is a workforce driver of 96.99% to 97.22%. This sector also shows resilience in the economic crisis even though Covid-19 is an obstacle (Kusumawardani, 2014). Although not all small businesses develop into large businesses, they face the same problems, one of which is appropriate financing to start and develop their business (Abe et al., 2015). Evidence shows that there are similarities between SMEs in England and China, where the primary financing for running their business still depends on financial support from themselves, close family, and financial support from banks (Hussain et al., 2006).

Micro, Small, and Medium Enterprises (SMEs) generate economic growth by increasing income and employment opportunities. Nearly 98.5 percent of companies in Malaysia are SMEs covering various sizes and sectors. However, in Malaysia, it is challenging to access external financing due to more complicated procedures in the financial and government institutional sectors (Abd Rashid et al., 2021). In China, family companies and companies with financial limitations have a much smaller and greater chance of seeking FinTeck financing (Xiang et al., 2021). Meanwhile, debt financing actually makes the performance of SMEs less conducive, so non-bank financing sources are needed (Cheong et al., 2020). One source of non-bank financing is crowdfunding. Crowdfunding developed rapidly in Finland starting when it became a common interest between the Ministry of Finance, the Ministry of Employment, and the economy. This is seen as a faster, more effective and flexible funding channel, especially for new companies and developing (Harju & Kallio, 2020).

Crowdfunding is currently booming and seems to be an alternative for financing SMEs and Startup businesses where innovative funding is open and makes crowdfunding social capital an alternative and provides openness for funders (Giudici & Rossi-Lamastra, 2018). A total of 322 American companies used crowdfunding and it was found that Crowdfunding was proven to mediate success and encourage innovation (Sahaym et al., 2021). In research (Ibrahim et al., 2021) SMEs in the Peura region, Peru stated that SMEs are starting to reduce financing through credit access and are starting to switch to financing through Crowdfunding due to the perspective of financial costs, speed of access and flexibility. Not many Small and Medium Enterprises have the intention to adopt the Crowdfunding financing model as an alternative funding source (Ahinful et al., 2021).
Several articles take a bibliometric approach, such as in (Yanti et al., 2022) taking a bibliometric approach regarding the concept of Enterprise Resource Planning in Micro, Small and Medium Enterprises (SMEs). The findings show that there is an increase in publication volume, with 449 published articles indexed by Scopus until 2022. (Zainuldin & Lui, 2022) research discusses how CSR literacy has developed between 2009 and 2019 in Scopus indexed journals. The researcher aims to take a bibliometric approach to crowdfunding in the micro, small and medium enterprise sector because there are no special publications discussing securities crowdfunding in micro, small and medium enterprises using a bibliometric approach.

LITERATURE REVIEW

Definition of SMEs

The definition of SMEs depends on which agency provides the definition, namely the State Ministry of Cooperatives and SMEs (Menegkop & UKM) in Law no. 9 of 1995 defines a small business as a unitary business whose total initial assets are up to Rp. 200 million to Rp. 1 billion, Medium Enterprises have business units with an annual value of more than Rp. 1 billion but less than Rp. 50 Billion. Where the Minister of Cooperatives & UKM does not define it explicitly. BPS defines it based on the number of workers from each work unit. Meanwhile, the Ministry of Industry also defines companies based on size in the sector, number of workers as defined by BPS (Abdi et al., 2022; Abdulgadr et al., 2021; Gordon Dickinson, 2013). SMEs are defined as independent, small-scale community economic activities whose management is carried out by community groups, families or individuals (Gordon Dickinson, 2013; Purba, 2019).

Most countries around the world depend on micro, small and medium enterprises (SMEs) to maintain economic, social and environmental balance (Abdullah et al., 2010; Gopi & P.G., 2023; Rupeika-Apoga & Saksonova, 2018) ). Currently, SMEs are considered the backbone of the economy due to their participation in economic development, because they contribute to domestic products, large export revenues, lower capital requirements, business development and a useful contribution to low import revenues, this is very desirable for businesses to progress and develop (Al-Isma’Il et al., 2016). SMEs in Indonesia are always described as a sector that has an important and strategic role in national economic development because of its role in economic growth and employment opportunities so that it is considered one of the pillars of a developing economy (Abdi et al., 2022; Edward et al., 2023; Rapini et al., 2018).

The Indonesian government has tried to support the development of micro, small and medium enterprises because they are considered to play an important role for job creation but also for GDP growth and export
development (Pedroso et al., 2021; Tambunan, 2009). Historically, SMEs have been the main players in the domestic economy, especially in providing employment opportunities for rural areas (Abdulgadr et al., 2021; Ahinfu et al., 2021; M. H. Ali et al., 2008).

**Crowdfunding**

Various challenges of funding and attracting investment to encourage entrepreneurship are classic problems, especially for start-up businesses, entrepreneurs are required to think creatively, dare to take risks, be independent and creative to realize business opportunities (Giudici & Rossi-Lamastra, 2018; Ibrahim et al., 2021; Rita et al., 2022). For the development of Micro, Small and Medium Enterprises (SMEs), implementing digitalization is important so that they can develop and be successful in global competition (Abdi et al., 2022; Amoozad Mahdiraji et al., 2023; Cicchiello & Leone, 2020).

Crowdfunding is seen as an alternative way to attract external funding sources for small and medium-sized businesses. In the last 10 years, Crowdfunding has grown significantly, where in 2014 it showed an increase of up to 144%, reaching a transaction volume of 2,957 million Euros, so it is considered to support economic development and become an investment alternative (Dibrova, 2016).

There are several types of Crowdfunding (Ribeiro-Navarrete et al., 2021; Xu & Ge, 2017). Based on the findings of Lambert and Schwienbacher (Al-Mulla et al., 2022; Galli et al., 2023), categorize first Crowdfunding Donation based which is donation based because there is no reward in a physical or financial form, which is referred to as stock Crowdfunding. Secondly, called passive investment with high risk offers some form of reward to attract investors, owners crowdfunding. This only focuses on raising capital but does not use other potential sources of support crowdfunding (Amoozad Mahdiraji et al., 2023; Astuti et al., 2021; Bagheri et al., 2019). Third active investment offering the potential to be active in the project and providing rewards is seen as an active investment business model (Giudici & Rossi-Lamastra, 2018; Liang et al., 2019; Ribeiro-Navarrete et al., 2021; Troise et al., 2023).

**METHODOLOGY**

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Figure 1. Topologies of Bibliometrics Analysis

Bibliometric analysis uses bibliographic data to relate the internal relationships of literature, analyzing levels of citations and co-citations by identifying clusters algorithmically. There are evaluative and relational bibliometrics (Gil-Gomez et al., 2023; Mora-Cruz & Palos-Sanchez, 2023; Yanti et al., 2022). This research data collection is based on The first two criteria are a database from Scopus with the keyword "Securities Crowdfunding SMEs", "SMEs Crowdfunding", secondly, the data being examined is vulnerable on Scopus publication 2013-2023. Where data is adjusted to procedures obtain data in bibliometric analysis (Chandel et al., 2023). Researcher Using Scopus indexed is considered the best indexed and published data various studies (Zainuldin &
Analysis used by researchers using Vos Viewer 1.6.15 software in select expressive visualization and Compatibility to support metadata files exported from Scopus. This tool is one that is used in bibliometric analysis (Chandel et al., 2023; Gil-Gomez et al., 2023).

RESULT
The analysis used in this research is descriptive analysis and network analysis. Descriptive analysis explains research performance based on productivity measures by including basic information related to existing literature, while network analysis uses a database to find predictive relationships hidden in it (Gora et al., 2023).

Analisis Deskriptif

Based on the findings of Scopus indexed journals from 2013 to 2023, found 123 published articles indexed by Scopus on the topic of Business Micro, Small and Medium Enterprises and Crowdfunding.

![Figure 1. Artikel Terindeks Scopus](image)

The classification of Scopus indexed articles has 118 different Affiliations, from articles indexed by Scopus publications on the topic of Micro, Small and Business Enterprises Middle and Highest Crowdfunding in 2020 with 20 articles, 2022 with 19 articles whereas in 2019 and 2023 there is the same amount of articles with 17 articles, 2016 with 9 articles, 2017 with 8 articles, year 2018 with 7 articles, 2015 with 5 articles, 2014 with 3 articles and in 2013 with 2 Scopus indexed publication articles.

| Table 1. The Top Ten Journals Based on Number of Publications |
|-------------------|-------------------|
| **Publisher**       | **Artikel**       |
| Elsevier            | 11                |
| Emerald Publishing  | 11                |
| Springer Science and Business Media Deutschland GmbH | 7 |
| World Scientific    | 7                 |
| Springer            | 5                 |
| MDPI               | 5                 |
Based on the research carried out, 57 publishers were found, of which there were 6 publishers with the most publications by Elsevier and Emerald publishers Publishing with 11 articles each, Springer Science and Business Media Deutschland GmbH and World Scientific each with 7 articles and MDPI and Springer each had 5 articles which were cited by 51 publishers where with articles under 5 articles.

Table 2. Affiliation Publication

<table>
<thead>
<tr>
<th>Affiliations</th>
<th>Publication</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of South Africa</td>
<td>4</td>
</tr>
<tr>
<td>University of Turin, Italy</td>
<td>3</td>
</tr>
<tr>
<td>Islamic University Malaysia</td>
<td>3</td>
</tr>
<tr>
<td>University of Genoa, Italy</td>
<td>3</td>
</tr>
<tr>
<td>Kairouan University, Kairouan, Tunisia</td>
<td>2</td>
</tr>
<tr>
<td>University of Latvia</td>
<td>2</td>
</tr>
<tr>
<td>Griffith University, Australia</td>
<td>2</td>
</tr>
<tr>
<td>Polytechnic University of Catalonia, Spain</td>
<td>2</td>
</tr>
<tr>
<td>University of Limpopo, Sovenga, South Africa</td>
<td>2</td>
</tr>
<tr>
<td>International Islamic University Malaysia</td>
<td>2</td>
</tr>
<tr>
<td>Universiti Putra Malaysia</td>
<td>2</td>
</tr>
<tr>
<td>Niccolò Cusano University, Rome, Italy</td>
<td>2</td>
</tr>
<tr>
<td>Rhein-Waal University of Applied Sciences, Germany</td>
<td>2</td>
</tr>
<tr>
<td>Warsaw University of Technology, Warsaw Poland</td>
<td>2</td>
</tr>
</tbody>
</table>

There are 14 affiliations with more than one publication, whereas the other affiliations only have one publication. Of the highest affiliations by the University of South Africa there are 4 publications, what is interesting is that from the top number of publications based on affiliation there are 3 affiliations in one country, the first being Italy, with the University of Turin Italy, the University of Genoa Italy and Niccolò Cusano University Rome Italy, as well as Malaysia. There are three affiliations, namely Islamic University Malaysia, International Islamic University Malaysia and Universiti Putra Malaysia. The country of South Africa has two affiliations.
Table 3. Most Cited Articles

<table>
<thead>
<tr>
<th>Authors</th>
<th>Source</th>
<th>Title</th>
<th>Citation</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Olanrewaju et al., 2020)</td>
<td></td>
<td>Success in the management of crowdfunding projects in the creative industries</td>
<td>112</td>
</tr>
<tr>
<td>(Sahaym et al., 2021)</td>
<td></td>
<td>Crowdfunding success through social media: Going beyond entrepreneurial orientation in the context of small and medium-sized enterprises</td>
<td>52</td>
</tr>
<tr>
<td>(Ribeiro-Navarrete et al., 2021)</td>
<td></td>
<td>Key factors of information management for crowdfunding investor satisfaction</td>
<td>28</td>
</tr>
<tr>
<td>(Nasir et al., 2022)</td>
<td></td>
<td>Supply chain viability in the context of COVID-19 pandemic in small and medium-sized enterprises: implications for sustainable development goals</td>
<td>27</td>
</tr>
<tr>
<td>(Sybirianska et al., 2018)</td>
<td></td>
<td>Fintech platforms in sme’s financing: eu experience and ways of their application in Ukraine</td>
<td>27</td>
</tr>
<tr>
<td>(Paoloni et al., 2019)</td>
<td></td>
<td>Crowdfunding as a Fast-Expanding Market for the Creation of Capital and Shared Value</td>
<td>25</td>
</tr>
<tr>
<td>(Tiberius &amp; Hauptmeijer, 2021)</td>
<td></td>
<td>Equity crowdfunding: Forecasting market development, platform evolution, and regulation</td>
<td>24</td>
</tr>
<tr>
<td>(Rupeika-Apoga &amp; Saksonova, 2018)</td>
<td></td>
<td>SMEs' alternative financing: The case of Latvia</td>
<td>16</td>
</tr>
</tbody>
</table>

Writer who publishes Scopus on the topic SMEs Crowdfunding and Securities Crowdfunding SMEs the most frequently quoted (Hobbs J et al., 2020) with 112 citations, of the 123 articles shown the most citations are p This proves that the topic is quite interesting SMEs Crowdfunding in various worlds.
Number of publications by country, Italy is the highest in publications with Micro, Small and Medium Enterprises theme with 20 publications, United Kingdom with 13 publications, China with 10 publications, United States and Malaysia with 9 publications, Germany and South Africa with 6 publications, Poland and India with 5 temporary publications in Indonesia and Australia with 4 publications of which 32 publications from various countries. There are findings of collaborative publications between countries, including United Kingdom publications and France, one publication in the United Kingdom with one Iranian researcher publication, and there are 3 author publications. The country is a United Kingdom with one Italian and a Finnish writer publication. There is a collaboration between Polish and French authors in 3 publications as well as Polish one publication. Chinese writer with France 1 publication as well Australia with Poland 2 publications, Malaysian author with German author with one publication and other authors from various countries, both written among author in one country or between countries as many as 32 publications.

Figure 3. Mapping of Bibliographic Coupling Analysis

Figure 4. Overlay Mapping of Bibliographic Coupling Analysis
In the mapping in Figure 3 and Figure 4, it is depicted that SMEs and Crowdfunding are discussed a lot in research on crowdfunding financing in SMEs mapping, it turns out to be related to other subjects that are interesting where SMEs Crowdfunding is related to entrepreneurs, Social Media Innovation, fintech which is also interesting where SMEs Crowdfunding is also with research on female entrepreneurship. Where is research on the theme of SMEs and Crowdfunding became a hot topic, with publications increasing rapidly at the start of 2019 and the highest in 2020.

DISCUSSION

Micro, Small and Medium Enterprises are the economic support of countries throughout the world, in addition to driving the people's economy, absorbing energy SMEs work is also considered a sector that is vulnerable to crisis. Almost in All countries in the world of SMEs face the same problems in the form of access to capital. With the existence of a funding scheme, Crowdfunding is one source of funding that is considered to be one solution. in this research, it was precisely in dealing with the Covid-19 pandemic The SMEs research trend actually started to rise in 2019 and even peaked in 2020. From 123 articles indexed by Scopus on the subject of SMEs Crowdfunding from 2013 to 2020.

With many Scopus-indexed publications discussing SMEs, Crowdfunding proves the importance of SMEs as an industrial sector people who are close to the community and have a direct impact on it public. Articles published in leading publishers indexed by Scopus including publishers Elsevier and Emerald being the highest publishers use by the authors with 11 articles each. Springer Science and Business Media Deutschland GmbH and Wold Scientific with 7 each articles and MDPI and Springer each with 5 articles which were cited by 51 publishers with articles under 5 articles. Of those published, many have affiliations with the University of South Africa, which is the highest publication center for SMEs Crowdfunding-themed publications. The interesting thing is that there are 3 affiliations in one country, the first country being Italy, with the University of Turin, Italy, the University of Genoa, Italy and Niccola Cusano University. Rome Italy. Malaysia also has 3 affiliations, namely Islamic University Malaysia, International Islamic University Malaysia and Universiti Putra Malaysia. The country of South Africa has two affiliations consisting of the University of South Africa with 4 publications and the University of Limpopo Soyenga South Africa with two publications. Kairouan University Kairoun Tunisia with 2 publications, University of Latvia with 2 publications, Rhein-Waal University of Applied Sciences, Germany with 2 publications and Warsaw University of Technology, Warsaw Poland with 2 publications. Publications with the theme SMEs Crowdfunding indexed by Scopus have not been written by many Indonesian researchers.

The highest citations for SMEs Crowdfunding articles are publications published by research (Hobbs J et al., 2020) with articles Success in the
management of crowdfunding projects in the creative industries was 112 citations and other citations followed, proving that many articles were examined by researchers who published their journals in other publishers and were not indexed by Scopus.

The highest number of publications based on the findings in this article are based on the highest countries by authors from Italy with 20 publications, United Kingdom with 13 publications, China with 10 publications and the United States and Malaysia with 9 publications and other countries where the findings are just from the author and publications from Indonesia only has 3 publications. From these findings, the lack of publications discussing SMEs Crowdfunding in Indonesia is still small and the development of SMEs in Indonesia which is growing rapidly with many support programs from the Government as well as the government's encouragement to open access to SMEs funding through Crowdfunding creates a big opportunity for its development and the many publications in the future.

CONCLUSIONS AND RECOMMENDATIONS

Based on Mapping's bibliometric analysis based on the keyword SMAsH, it turns out that the subject is Crowdfunding. The data searched for Scopus-indexed publishers contained 123 articles. This research began to be widely researched in 2019, with its peak in 2020 during the Covid-19 era. From searches, the publishers indexed by Scopus have published the most articles on the theme SMEs Crowdfunding, publisher Elsevier and Emerald Publishing, Springer Science, and World Scientific are the publishers of choice for authors to publish their publications.

While the most published affiliations are in South Africa, the University of South Africa has the most publications. What is interesting about this publisher is that in Indonesia, few publishers discuss the topic of SMEs crowdfunding, so this is an opportunity for the next writer. The research with the highest citations was written by (Olanrewaju et al., 2020) with the title "Success in the Management of Crowdfunding Projects in the Creative Industries" with 112 citations, with many citations for journals published in Scopus-indexed publishers being proof that there are many studies are published in publications other than Scopus. Italy has the most publications in Scopus-indexed journal publishers, the United Kingdom is also the country with 13 publishers, and China also attracts much research. Research on SME crowdfunding is related to other subjects, such as entrepreneurship and social media innovation, and what is interesting in the findings is that female entrepreneurship is an opportunity for leading research worth developing.

ADVANCED RESEARCH

This research uses a bibliometric approach where the data is limited to Scopus-indexed article data with publication years 2013 to 2023. Future researchers can use other indexers. The subject of SME crowdfunding is related to other subjects where there are many research gaps, which is linked to subjects such as entrepreneurs, SMEs Social Media, Alternative financing,
business angels, venture capital, banking, finance, equity crowdfunding, debt crowdfunding, peer to peer lending, sustainable development, startup. It is best if there are related keywords that are interesting in the analysis of female entrepreneurship.

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