

DEVELOPMENT OF MSME DIGITALIZATION RESEARCH BASED ON BIBLIOMETRIC ANALYSIS

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ABSTRACT

This study was conducted to provide a comprehensive understanding of the MSME digitalization research landscape and its implications for the development and sustainability of the MSME sector in Indonesia in the digital era. The research method used is descriptive quantitative with a bibliometric approach. The main data source used was scientific articles taken from scientific publications on the Google Scholar database with several relevant keywords in the 2020-2023 timeframe. Bibliometric analysis was conducted using bibliometric data visualization software, such as VOSviewer or CiteSpace, to identify citation patterns, co-authorship network mapping, topic trend analysis, and identification of major research clusters. The results show that the topic of digitization of MSMEs is becoming increasingly important and receives great attention in related scientific publications. Network visualization and overlay show an increase in the number of publications of articles related to the digitalization of MSMEs in recent years, as well as interrelated and complex research clusters.

Keywords: Business Digitalization, Business Development, MSMEs.

INTRODUCTION

The rapid development of technology has driven the progress of the digitalization process in various aspects and industries, including in Micro, Small and Medium Enterprises (Zhang et al., 2022). Digital MSME technology is a technological innovation introduced to improve the performance of business processes (Ramdani et al., 2022). Digitalization of MSMEs requires the development of technologies that shift business processes and market conditions while reducing transaction costs. One option for solutions for MSME players in their business processes is to develop an MSME digitalization strategy, which supports the growth of MSMEs in Indonesia. This digitalization process involves shifting from conventional sales to online sales in certain marketplaces, which is a strategy for MSME players to continue to survive and continue to strengthen the Indonesian economy. MSME digitization is a necessity and a solution for MSME players to expand their marketing reach (Wijoyo & Widiyanti, 2020). The micro-economic sector, also called MSMEs (Micro, Small and Medium Enterprises), is directly related to the economic practices of the people, especially people at the middle to lower economic levels. Therefore, it is very natural that small and medium enterprises become one of the main pillars of the recovery of the community's economic system, or even the economic system in Indonesia (Arifqi, 2021). In addition, the impact that occurs in the MSME sector is limited human resources and less able

Proceeding 2nd Medan International Economics and Business

Volume 2, Issue 1, 2024

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to adapt to changes. A strategy for developing the MSME sector is needed so that it can adapt to advances in information technology. But the fact is that there are still many MSME sectors in Indonesia that have not adapted to digitalization (Arianto & Sofyan, 2022). In connection with the digitalization era, the main strategy for the development of MSMEs today is the use of digital for marketing, business communication, and branding strategies. This is because application-based digital marketing is very influential on the competitiveness of small and medium enterprises (Pasaribu, 2021). Therefore, MSME players need creative means so that they can strengthen digital marketing in order to expand the market.

When looking at the potential of the digital economy in Indonesia, it is only right that MSME sector players must adapt to digitalization. This is characterized by the increasing number of millennials and Gen Z, who are under 35 years old, which account for about 54 percent of the Indonesian population. It is interesting that the younger generation is highly dependent on digitalization and social media. Therefore, digital transformation must focus on increasing the competence of MSME players so that they are able to move in line with the rapid advancement of digital technology. Various forms of competency strengthening can be found from the many trainings for MSME players in utilizing social media as a means of business development such as branding strategies (Fadhilah, et al, 2022; Tjhin et al., 2021). Optimizing digital marketing is one of the steps that can be taken by MSME players, this is especially true for online advertising, social media advertising, video advertising, search engine advertising, and website management (Raharja & Natari, 2021). Entrepreneurs must adapt and be able to keep up with developments in the current era. With the use of business digitalization, business actors can use technology as an advantage in their operations, one of which is marketing (Razumovskaia et al., 2020). This research was conducted to provide a comprehensive understanding of the MSME digitalization research landscape, and its implications for the development and sustainability of the MSME sector in Indonesia in the digital era. The main objective of this study is to analyze the development and trends of research related to the digitalization of MSMEs based on bibliometric analysis of scientific publications.

METHOD

The research was conducted using descriptive quantitative with a bibliometric approach. The analysis used in this research is scientific articles and uses data sources taken from scientific publications. The data collection technique used was secondary data. The criteria for selecting articles used in this study are articles that discuss the topic of digitalization of MSMEs published in the 2020 – 2023 time span. The main data source used was Google Scholar, one of the leading scientific article search engines. The search was conducted using keywords such as “business digitalization”, “MSME”, “MSME digital marketing”, and other relevant keyword combinations. After collecting relevant articles, bibliometric analysis was conducted using special software for bibliometric data visualization, such as VOSviewer or CiteSpace. This analysis includes identifying citation patterns, mapping co-authorship networks, analyzing topic trends, and identifying major research clusters.

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RESULTS

Citation of MSME Digitalization Development Articles based on Bibliometric Analysis

The search results show that based on publications related to the development of MSME digitalization indexed by the Google Scholar database, there are 5 top articles from the total number of studies as presented in Table 1. Table 1 shows that the article entitled “Recovery of the Indonesian economy through the digitalization of sharia-based MSMEs during the Covid-19 pandemic” by MM Arifqi and D Junaedi received 111 citations. The next article can be seen in Table 1 below.

Table 1. Ranking of The Top 5 Most Cited Articles 2014-2024

No	Year	Author	Title	Reference	Publisher	Cites
1	2021	MM Arifqi, D Junaedi	Pemulihan perekonomian indonesia melalui digitalisasi UMKM berbasis syariah di masa pandemi Covid- 19	Al-Kharaj: Jurnal Ekonomi, Keuangan	journal.laaroiba.ac.id	111
2	2022	AL Kilay, BH Simamora, DP Putra	The Influence of E-Payment and E-Commerce Services on Supply Chain Performance: Implications of Open Innovation and Solutions for the Digitalization of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia	Journal of Open Innovation: Technology, Market, and Complexity	Elsevier	102
3	2021	LA Octavina, MR Rita	Digitalisasi umkm, literasi keuangan, dan kinerja keuangan: Studi pada masa pandemi Covid- 19	Perbanas Journal of Business and Banking	journal.perbanas.ac.id	86

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4	2022	O Veza, NY Arifin, AL Setyabudhi	The Economy In The Time Of Covid-19 And The Impact On Technology And Digitization	Economic and Business Management International Journal (EABMIJ)	mand-ycmm.org	83
5	2023	MAC Perdana, NW Sulistiyowati	Analisis Pengaruh Pembiayaan, Skala Usaha, dan Ketersediaan Sumber Daya Manusia terhadap Profitabilitas UMKM	Sanskara Ekonomi dan Kewirausahaan (SEK)	sj.eastasouth- institute.com	60

Map of Publication Development Based on VOSviewer Results

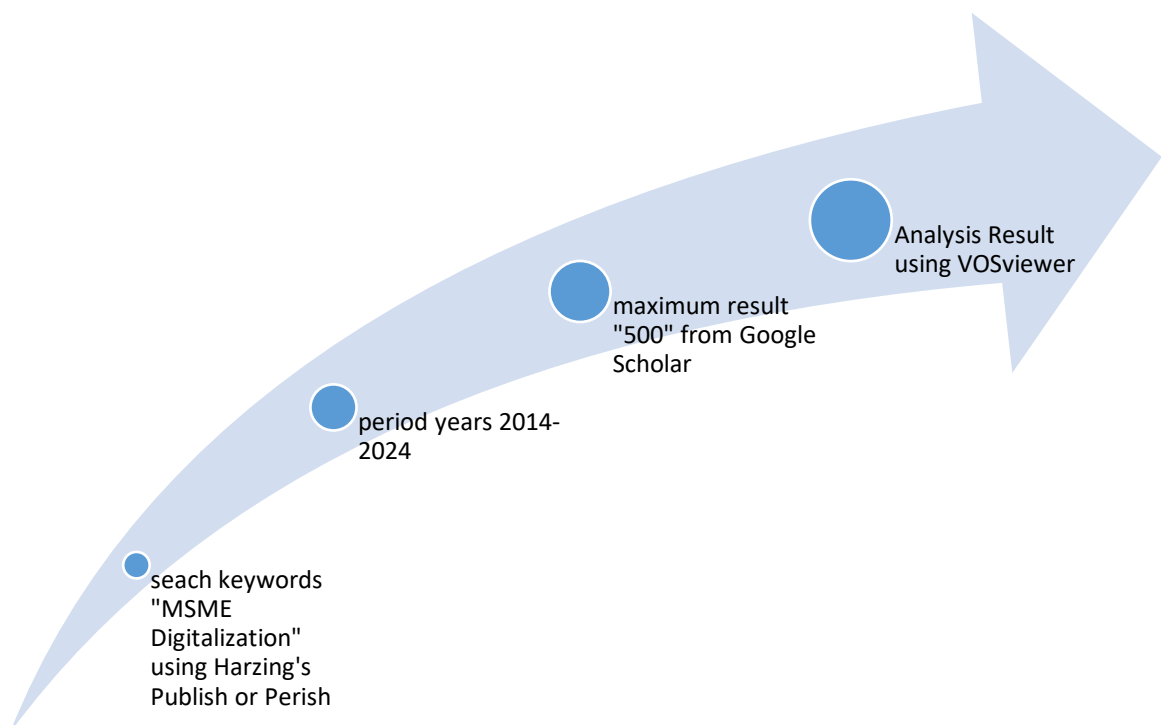
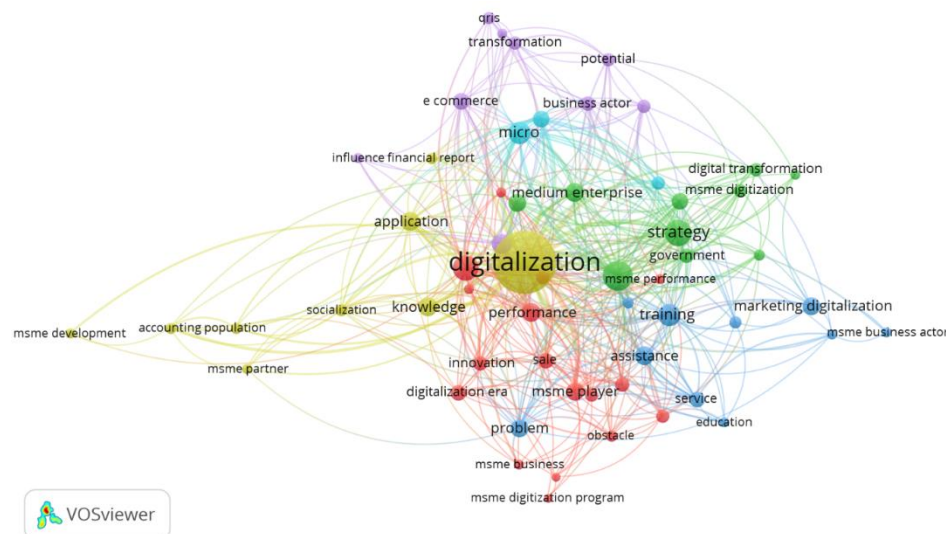


Figure 1: Bibliometric analysis using 5 steps

Figure 1 illustrates the five steps used in bibliometric analysis to research MSME digitalization. The development map of MSME digitalization publications shows that more and more research has been conducted on this topic in recent years. The interrelated clusters of research show that MSME digitalization is a complex topic and requires comprehensive research. These steps include keyword identification, data collection, data cleaning, data analysis and interpretation of results. This systematic approach ensures that every aspect of the research is thoroughly evaluated to provide an accurate insight into the growing literature in this area.

Figure 2. Network Visualisation based on Google Scholar Database



The development map of MSME digitization publications in figure 2 shows that there are 6 clusters, namely (1) red cluster; (2) green cluster (3) blue cluster; (4) yellow cluster; (5) purple cluster; (6) light blue cluster. This network visualization provides an overview of the relationships and citation patterns between articles related to the topic of MSME digitization. Each node or point on the network represents an article, while the lines connecting the nodes represent the citations between the articles. The thicker the line connecting two nodes, the more citations that occur between the two articles. In this network visualization, several clusters or groups of articles can be seen. These clusters show that there is a close relationship between articles in the same group, either in terms of topics, approaches, or methods used.

Table 2. Keywords representing clusters

Cluster	Keywords	Occurences
Cluster 1 (red)	Ability	10
	Benefit	6
	Competitiveness	10
	Msme digitalization	35
Cluster 2 (green)	Case study	5
	Development	46
	Digital marketing	17

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	Medium enterprise	19
Cluster 3 (blue)	Assistance	18
	Education	6
	Marketing digitalization	16
	Problem	17
Cluster 4 (yellow)	Accounting	7
	Application	14
	digitalization	205
	Financial report	7
Cluster 5 (purple)	Business actor	11
	E commerce	5
	Growth	14
	Technology	20
Cluster 6 (light blue)	challenge	10
	Medium enterprises	15
	micro	26

Table 2 lists the keywords identified in the various clusters based on the bibliometric analysis. Each cluster is identified with a different color and covers a range of important topics:

- Cluster 1 (red) includes keywords such as “Ability”, “Benefit”, “Competitiveness”, and “MSME Digitalization”, indicating a focus on the ability and benefits of digitalization for MSME competitiveness.
- Cluster 2 (green) includes “Case study”, “Development”, “Digital marketing”, and “Medium enterprise”, indicating a focus on case studies and digital marketing development.
- Cluster 3 (blue) includes “Assistance”, “Education”, “Marketing digitalization”, and “Problem”, indicating a focus on support and education in marketing digitalization.
- Cluster 4 (yellow) includes “Accounting”, “Application”, “Digitalization”, and “Financial report”, indicating a focus on accounting aspects and digital applications.
- Cluster 5 (purple) includes “Business actor”, “E-commerce”, “Growth”, and “Technology”, indicating a focus on business actors and technological growth.
- Cluster 6 (light blue) includes “Challenge”, “Medium enterprises”, and “Micro”, indicating a focus on the challenges faced by medium and micro enterprises.

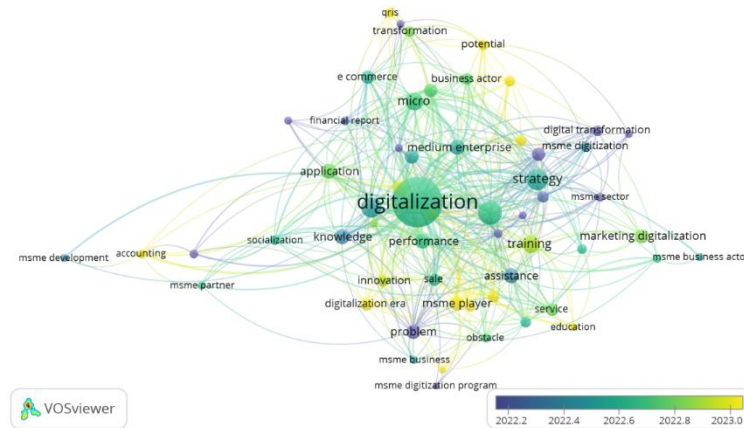


Figure 3. Overlay Visualization based on Google Scholar Database

Figure 3 is an overlay visualization that shows the temporal distribution of the articles analyzed in this study based on data from Google Scholar. This visualization provides an overview of the development of research related to the digitization of MSMEs over time. Each circle or node in this visualization represents an article, with different colors indicating the year of publication of the article. The yellow nodes represent articles published in more recent years, while the darker nodes represent articles published in earlier years. From this visualization, we can see that there has been an increase in the number of publications of articles related to the digitalization of MSMEs in recent years, as indicated by the increasing number of yellow nodes. This shows that the topic of MSME digitalization is becoming increasingly important and receiving greater attention from researchers and academics.

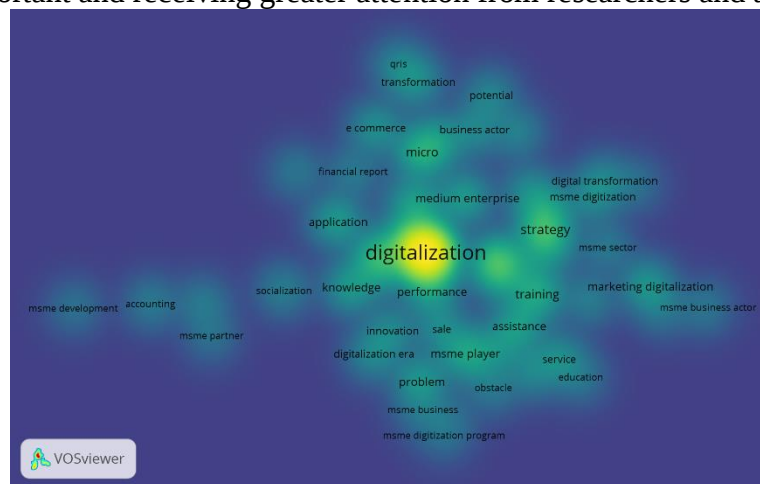


Figure 4. Density Visualization based on Google Scholar Database

Figure 4 is a density visualization that shows the concentration or density of articles analyzed in research related to the digitization of MSMEs. This visualization is generated based on data obtained from Google Scholar. The denser areas indicate topics that have a lot of research and academic interest, such as MSME digitalization, technological challenges,

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and digital marketing strategies. The main cluster seen in this visualization is located in the middle. This cluster is the area with the highest concentration of articles, indicating that topics related to MSME digitalization are generally the main focus of research.

DISCUSSION

Effect of Digitalization in MSME Business Development

MSME digitization is the practice or utilization of market knowledge results to create new products. This can affect the growth of MSMEs in the field of technology (Octaviana & Rita, 2021). The importance of the role of technology is able to change people's daily habits and behavior for the business world. Digitalization has brought significant changes in the business landscape of MSMEs in Indonesia. The bibliometric analysis conducted shows that the digitalization of MSMEs is increasingly important and has received significant attention from related scientific publications. MSMEs must be able to utilize technological developments to increase their business productivity. In the current digitalization era, MSMEs must be able to take advantage of technological developments to increase their business productivity. Both in terms of production and in terms of marketing. The current condition of MSMEs still has limitations in the use of technology, so that many MSME businesses cannot compete with other businesses at home and abroad (Astuti et al., 2020). Challenges and barriers While digitalization provides various benefits, the research also revealed several challenges and barriers that MSMEs face in adopting digital technology. Some of these include a lack of digital knowledge and skills, limited financial resources, and inadequate technology infrastructure in some areas (Yuen, 2023). Therefore, greater efforts are needed to support MSMEs in overcoming these challenges and making the most of the potential of digitalization. Nowadays, the increasingly sophisticated digital era has made it easier for businesses to market and sell their products online. Businesses can use social media to promote and sell their goods and services and provide information about sales locations so that customers can go directly to the store (Elvlyn & Marhaen, 2022). Optimizing the use and utilization of digital media increases partners' knowledge and skills and influences marketing improvements (Batubara, et al, 2022).

CONCLUSION

This research reveals that the digitalization of MSMEs has become an increasingly important topic and has received considerable attention in scholarly publications in recent years. Through bibliometric analysis, there has been a significant increase in the number of articles addressing this topic, especially in the context of economic recovery and digital transformation in various aspects of MSME businesses. Network visualizations and overlays based on data from Google Scholar show six main research clusters covering various aspects of MSME digitization, such as digital marketing, digital transformation, and challenges faced. The most cited articles show that MSME digitization plays an important role in improving competitiveness, expanding market reach, and increasing MSME visibility. To maximize the development of MSME Digitalization Research, further research is also expected to continue to monitor the development of MSME digitalization and identify the most effective strategies to help MSMEs in facing the digital era. In this study, there are limitations, namely the use of databases used only from Google Scholar, so it is hoped that

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future researchers can use a more diverse database in order to be able to thoroughly describe the topic of MSME digitalization research development.

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