A Bibliometric Analysis of Digital Payment in Indonesian MSMEs

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Abstract

This paper collects articles using the Publish or Perish software, which includes the top 747 scientific articles indexed by Google Scholar from 2014 to 2023. The purpose of this paper is to analyze how digital payment articles are classified. Furthermore, to identify the research trends in digital payments, determine which research topics have the highest number of publications, and analyze future digital payment topics that provide opportunities for further investigation, All of these objectives are based on the research objectives of Indonesian MSMEs. In the context of this research, we conclude that public awareness regarding the use of digital payment services by MSMEs in Indonesia has been established. Based on the findings of this study, there are also specific issues that can be explored in more detail. Topics such as income, impact, and consumers provide opportunities for further research.

Keywords: Digital Payment, UMKM Indonesia, MSMEs, Bibliometric Analysis, Publish or Perish, Mendeley, Vosviewer.

1. INTRODUCTION

The MSMEs sector demonstrates proficient and reliable capabilities and holds a vital position in the economic landscape of the nation. MSMEs comprise 99.99% of the overall business entities in Indonesia, totaling 56.54 million units. Micro, small, and medium enterprises have established their presence and significance in the Indonesian economy [1]. Advancing the development of MSMEs will broaden the economic foundation and make a substantial contribution to expediting structural enhancements, including the growth of regional economies and bolstering national economic resilience [2].

With the passage of time, the significance of MSMEs as a cornerstone of domestic economic growth continues to grow [3]. MSMEs play a crucial role in shaping the well-being of society and the economic advancement of a nation. Moreover, they exhibit adaptability in their business models, with the adoption of digital technology being a notable contributing factor, evident in the digitalization trends observed among MSMEs. These qualities empower MSMEs to propel progress in sectors that significantly contribute to the economy while also providing opportunities for absorbing additional informal labor affected by economic downturns [4].

MSMEs also play a crucial role in driving positive changes in terms of production innovation, technology utilization, and marketing through digitalization [5]. Technological advancements are progressing rapidly, not only in Indonesia but worldwide, with technology constantly evolving significantly. One example is in the financial sector, where the development of financial technology (Fintech) has brought forth various innovative applications in financial services, such as payment tools, lending instruments, and others, which have become increasingly popular in this digital era [6]. The use of digital payment methods is growing, as these payment methods offer numerous benefits for both MSMEs and consumers. Some benefits of using digital payments include increasing sales revenue, providing payment options for consumers, facilitating transaction tracking, enhancing payment security, and improving payment effectiveness and efficiency [7].

When MSMEs engage in continuous usage of digital payment services, there are several influencing factors. One of them is financial knowledge, where a higher level of financial knowledge

among MSMEs leads to a greater interest in using digital payments. Additionally, the perceived ease of use has a positive and significant impact on the intention to use digital payments. This means that the easier the perceived usability, the higher the interest of MSMEs in using digital payments. Furthermore, e-commerce activities also have a positive and significant influence on the intention of MSMEs to use digital payments. This implies that the more active the e-commerce activities, the higher the interest of MSMEs in using digital payments [8].

The aim of this paper is to address the following questions: (1) How are articles on digital payment classified? (2) What are the research trends in digital payment in Indonesian MSMEs? (3) Which research topics have received more publications? (4) Which digital payment in Indonesian MSMes topics offer opportunities for further research in the future? This paper begins with a literature review of the term "digital payment" based on previous research findings. Additionally, the research objectives are presented in Section 1. Section 2 explains the digital payment in Indonesian MSMes and provides an overview of existing terms related to it. The methodology used to conduct bibliometric analysis, including the steps and methods associated with the use of databases from the three journals, is described in Section 3. Section 4 presents the results using VOSviewer. Research recommendations, conclusions, and limitations are discussed in Section 5.

1. Digital Payment in Indonesian MSMEs

A payment system is a system that encompasses a set of rules, institutions, and mechanisms used to carry out fund transfers to fulfil obligations arising from economic activities. There are several elements in the payment system, including payment instruments, clearing mechanisms for settlement, and other components such as institutions involved in managing the payment system. These include banks, non-bank financial institutions, non-bank funds transfer agents, switching companies, and even the central bank. The development of payment instruments has been rapid and advanced. Digital payment methods are very helpful in the transaction process, especially for MSMEs [7].

Based on research focused on MSMEs using digital payment services through the GoPay and OVO applications in Bandung, several conclusions have been drawn. Business owners of MSMEs feel confident that using the GoPay and OVO applications makes their transactions easier and faster. They also find it convenient to use these applications for payment transactions with consumers. Additionally, MSMEs feel secure and comfortable with these payment transactions [9]. Digital payments for transactions encourage MSMEs to reach a wider market with various facilities and conveniences via the internet. However, the most important thing is that MSME actors can experience the benefits after implementing it in their businesses. There are many benefits that businesses can experience after using a digital payment system [7].

Table 1. Several Bibliometric Analyses That Have Been Done by Previous Researchers on The Topic of Digital Payment

Author(s) & Year	Number of Documents Analyzed	Sources	Findings
[10]	224	Scopus Databases	The current study examines the m-payment publication trend, significant articles, and most productive and significant writers. Then, to find topic clusters, a bibliometric analysis was done using VOS Viewer. The creation of the

			network map utilizing co-citation analysis and bibliographic coupling uncovers intriguing themes and trends in the area of m-payment. Our study helps to clarify the m-payment industry, and future directions were suggested in light of the findings.
[11]	177	WoS Databases	The findings give a thorough summary of the topic research that has already been done, and a clear upward trend indicates areas of prospective future study. The findings offers a direction for additional study.
[12]	1348	Scopus Databases	E-wallets start offering a spike escalation in 2019. This publication pattern is most likely caused by the acceptance of e-wallet usage. The Covid-19 epidemic also alters how people act in relation to the acquisition and usage of technology. For instance, the mobility control order promotes online shopping, encouraging the use of e-wallet.
[13]	189	Scopus Databases	The numerous articles in 2020 clearly show consumer behavior about the use of mobile payments. As a result of the covid-19 virus's rapid proliferation during the time, there was a significant death rate. Consumer behavior has changed from a cash payment system to a digital payment system as a result of the adoption of government laws through working from home.

2. METHODOLOGY: A BIBLIOMETRIC ANALYSIS

The purpose of this paper is to answer the questions of how articles on digital payments in Indonesian MSMEs are classified, what are the research trends on digital payments, what research topics are the subject of more publications, and what digital payment in Indonesian MSMEs topics will provide opportunities for further research in the future.

2.1 Search For Specific Journals on The Topic of Digital Payment and Msmes

A bibliometric review, which focuses on a quantitative analysis of journal articles, books, or other forms of written communication, is typically employed in scientific fields [14]. The first step of the process is to conduct a Google database search for articles that particularly discuss The first step of the process is to conduct a Google database search for articles that particularly discuss digital payment in Indonesian MSMEs.

2.2 Journal Metrics Information

This section describes explicitly the profiles and metrics of the selected journals. Table 2 shows some important things to know from the chosen journals. This metric information is obtained from metadata information using the Publish or Perish (PoP) application on Jun 11 2023.

Table 2. Metrics Information of Selected Journals

Citation metrics	
Publication years	2014-2023
Citation years	9 (2014-2023)
Papers	747
Citations	5107
Cites/year	567.44
Cites/paper	6.84
Authors/paper	2.42
h-index	34
g-index	55
hI,norm	26
hI,annual	2.89
hA-index	19

2.3 Reference Management

After downloading articles from the two journal websites, the next step is to organize references using the Mendeley program. References are required to ensure that each article's metadata, which includes information on the author, keywords, abstracts, and other details, is comprehensive.

2.4 Bibliometric Analysis

The next step is to perform a bibliometric analysis if it has been determined that all of the article's metadata is accurate. VosViewer was the program used to analyse the bibliometrics in this article.

3. RESULTS AND DISCUSSION

To answer the first purpose of this paper about how are digital payment articles classified, using VosViewer software, through creating a map based on text data using the title and abstract fields, with the binary counting method there are 4130 terms found. With a minimum number of occurrences of a term of 7 times, 51 thresholds were found. However, for each of the 51 terms, a relevance score will be calculated. Based on this score, the most relevant terms will be selected automatically by default as much as 60%, so we get the 31 most appropriate words. However, the verification process still has to be done manually by eliminating unrelated words, such as editorial, sample, abstract, and others. Thus, the total words that can be included in making a map are 26 words.
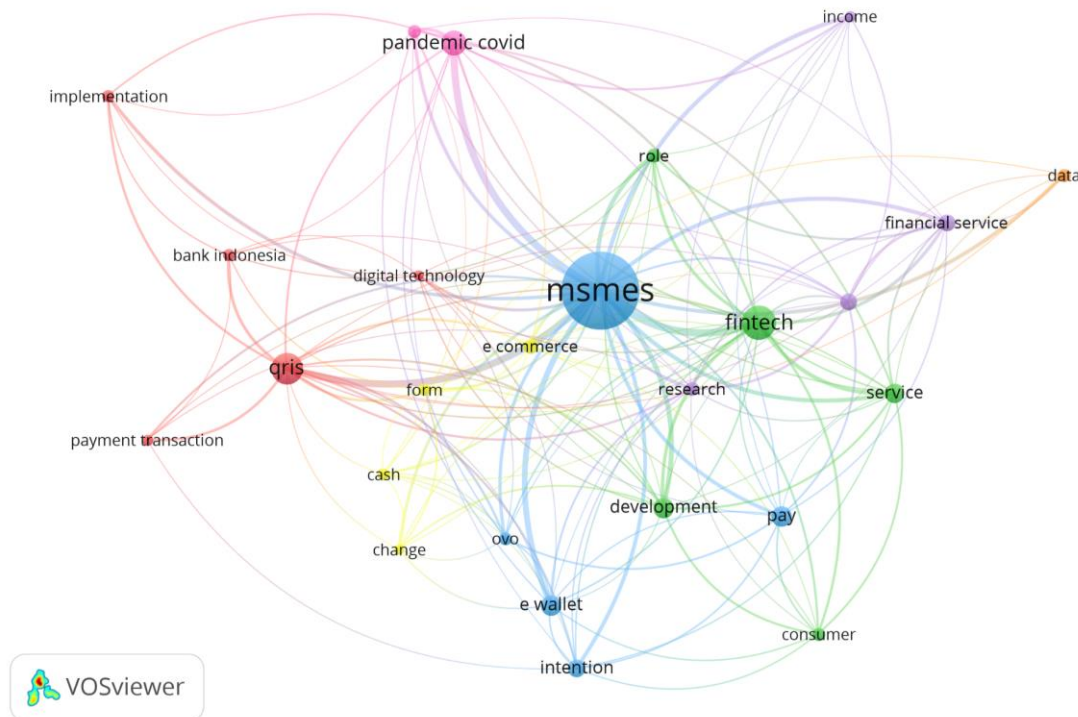
Figure 1. Network Visualization Map of Keywords

Based on Figure 1, there are seven clusters characterized by red, blue, yellow, purple, pink, green, and orange. Based on the number of articles, several words appear most frequently within the clusters. This clustering indicates that there have been eleven classifications of published articles up to now. More details can be seen in Table 3.

Table 3. Clusters And Keywords Therein

Cluster	Total items	Most frequent keywords (occurrences)	Keywords
1	5	bank indonesia (11), digital technology (9), implementation (11), payment transaction (11), qris (75)	bank indonesia, digital technology, implementation, payment transaction, qris
2	5	consumer (16), development (36), fintech (92), role (16), service (30)	consumer, development, fintech, role, service
3	5	e wallet (33), intention (24), msmes (476), ovo (15), pay (38)	e wallet, intention, msmes, ovo, pay
4	4	cash (14), change (8), e commerce (18), form (12)	cash, change, e commerce, form
5	4	financial service (23), income (10), payment gateaway (22), research (16)	financial service, income, payment gateaway, research
6	2	impact (14), pandemic covid (49)	impact, pandemic covid
7	1	data (14)	data

Then, to answer what the trend of digital payment research is, we can actually see the answer in the cluster itself. Figure 2 shows the density visualization of articles published. Cluster 1, with the words fintech and development being the words that appear most often.
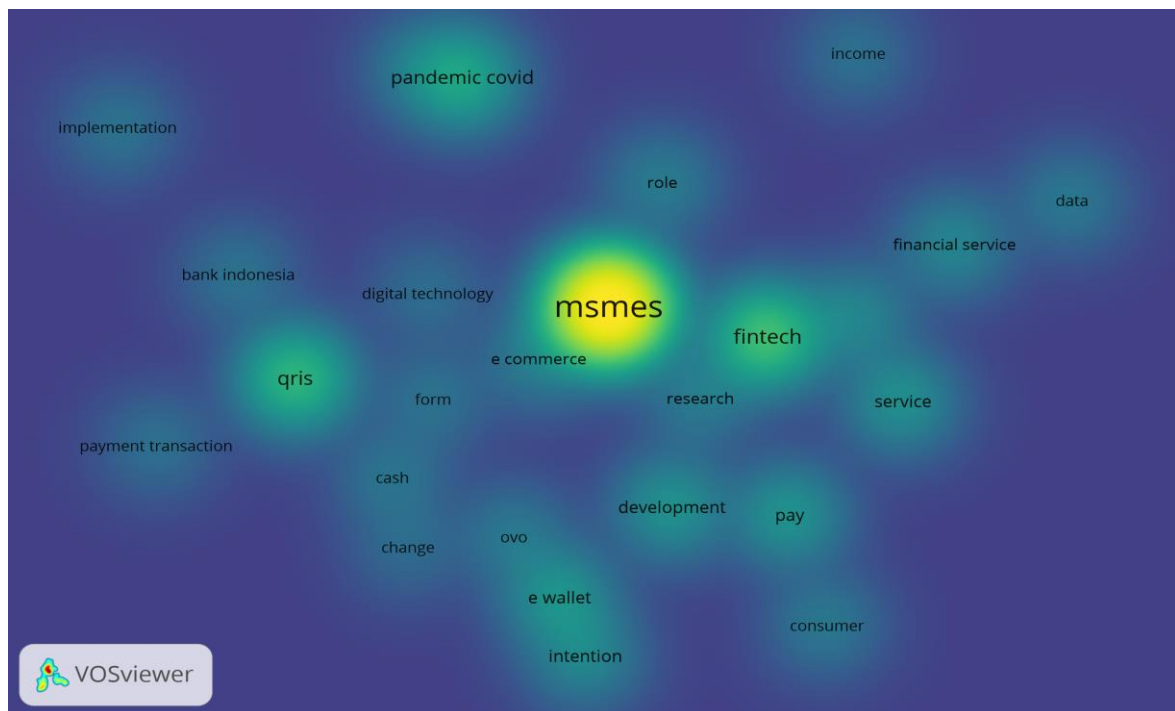

Figure 2. Density visualization map of keywords

In table 3, there is a cluster of the results of this mapping that appears at least in the keyword, namely cluster 5. This cluster covers topics about financial service and payment gateway. Also, in each cluster, some words rarely appear in keywords, such as income, impact, or those related to consumer. The implication is that there are still research gaps that are highly likely to catch on in the future and are, of course, tailored to the current state of the globe and the coming years. There are also four clusters from the researcher's perspective, as seen in Figure 3.
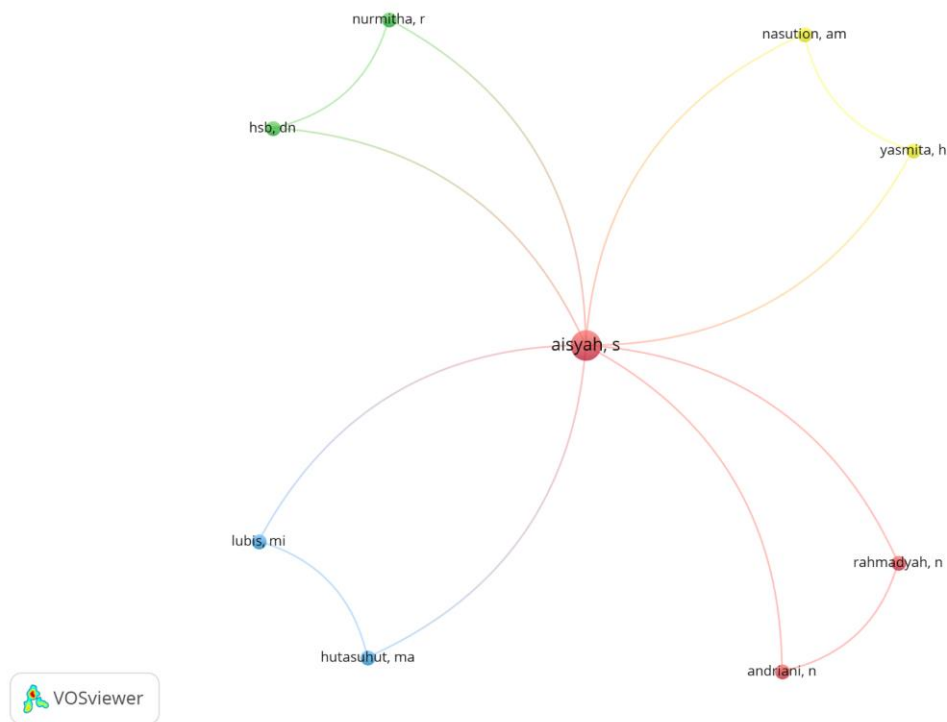
Figure 3. Network Visualization Map of Authors

Based on Figure 3, it can be seen that there are four big names from each cluster that are marked with large dots in each cluster. In the picture, only writers who are related in their publications are shown. In Table 4, it is known that there are 15 documents that are most cited, along with other detailed elements, calculated on June 11, 2023.

Table 4. The Top Ten Cited Documents

Citations	Title	Year	Reference
308	Peran fintech dalam meningkatkan keuangan inklusif pada UMKM di Indonesia (pendekatan keuangan syariah)	2018	[15]
165	Strategi UMKM untuk meningkatkan perekonomian selama pandemi COVID-19 pada saat new normal	2020	[16]
122	Kajian dan strategi pendukung perkembangan e-commerce bagi UMKM Di Indonesia	2018	[17]
104	Optimization of MSMEs empowerment in facing competition in the global market during the COVID-19 pandemic time	2020	[18]
102	Peran perkembangan teknologi digital pada strategi pemasaran dan jalur distribusi UMKM di Indonesia	2018	[19]
102	Analisis akad Tijarah pada transaksi fintech syariah dengan pendekatan maqhasid	2018	[20]

91	Peran Fintech dalam Usaha Mikro Kecil dan Menengah (UMKM)	2020	[21]
87	Peran fintech dalam meningkatkan literasi keuangan pada Usaha Mikro Kecil Menengah di Malang	2019	[6]
85	Implementasi Sistem Pembayaran Quick Response Indonesia Standard Bagi Perkembangan UMKM di Medan	2020	[22]
78	Income and Net Profit of Culinary MSMEs in Bandar Lampung Before and After Using Fintech Payments	2021	[23]
77	Lingual Dominance and Symbolic Power in the Discourse of Using the Peduli Lindungi Application as a Digital Payment Tool	2021	[24]
77	Financial Technology (Fintech) Dalam Inklusi Keuangan Nasional di Masa Pandemi Covid-19	2021	[25]
68	QRIS di mata UMKM: eksplorasi persepsi dan intensi UMKM menggunakan QRIS	2020	[26]
66	Program ladit (lapak digital): optimalisasi media digital sebagai wadah dalam pengembangan UMKM di Madura	2019	[27]
65	Model financial dan teknologi (fintech) membantu permasalahan modal wirausaha UMKM Di Indonesia	2019	[28]

As can be seen, the document on digital payments and MSME was most frequently referred to between 2018 and 2021. Except for the writers who have already conducted studies in this area and are relatively well-known, the most current materials tend not to be mentioned very often. Then, using Table 5, we can identify which study areas have generated more articles.

Table 5. The 26 Most and Fewer Occurrences Terms

Most Occurrences		Fewer Occurrences	
Occurrences	Term	Occurrences	Term
476	msmes	8	change
92	fintech	9	digital technology
75	qris	10	income
49	pandemic covid	11	bank indonesia
38	pay	11	payment transaction
36	development	11	implementation
33	e wallet	12	form
30	service	14	data
24	intention	14	impact
23	financial service	14	cash
22	payment gateway	15	ovo
18	e commerce	16	research
16	role	16	consumer

In addition to explaining the most frequently appearing subjects in publications, Table 5 also describes the final objective of this paper, which is to identify future topics of digital payment in

Indonesian MSMEs that provide opportunities for further research. Issues that can be explored in more detail are more specific. Topics such as income, impact, and consumer have not been extensively researched. Meanwhile, issues such as fintech and QRIS have been extensively studied.

4. CONCLUSIONS

The articles were collected using the Publish or Perish software, which includes the top 747 scientific articles indexed by Google Scholar from 2014 to 2023. In the context of this research, we conclude that public awareness regarding the use of digital payment services by MSMEs in Indonesia has been established. Based on the findings of this study, there are also specific issues that can be explored in more detail. Topics such as income, impact, and consumer provide opportunities for further research.

This study has at least two limitations. First, the study is based on articles listed on Google Scholar. Second, despite the use of formal tools such as PoP software, VOSviewer, and Mendeley, subjective assessments by the authors still exist and may introduce errors. Future studies should use a larger sample size by involving other journals. It is recommended for future research to focus on more specific and reliable sources, such as the Scopus index, to generate more diverse bibliometric maps.

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