

# Digital Economics in Indonesia: Development and Research Trend

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The development of the digital economy in Indonesia is driven by various factors, including the increasing use of technology in various sectors of the economy, the growth of e-commerce and digital payments, and government policies aimed at encouraging the digital economy. This study aims to determine the extent of the development of research on the theme of Digital economy in Indonesia. The results of the study show that the number of research publications related to this topic is 490 journal articles indexed by Dimensions. In the development of research related to Digital economy in Indonesia based on bibliometric keyword mapping, it is divided into 4 clusters with the most used words are technology, industry, economy, government, role, country, community, system, innovation, covid, and service. Based on the keywords that are often used, it can then be grouped into 4 research map clusters with topics that discuss: (1) Application of the Digital Economy in Rural Areas; (2) Competitiveness of MSMEs and Digital Transformation; (3) Economic growth and Digital Economy Development; and (4) Digital Economy and Pandemic Covid-19.

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## INTRODUCTION

The digital economy refers to economic activities enabled and facilitated by digital technologies, such as the Internet, artificial intelligence and cloud computing. It covers a wide range of economic activities, from the production of digital goods and services in the IT/ICT sector to the use of digital technologies in all areas of the economy, including e-commerce, e-business and digital logistics (Bukht & Heeks, 2017; Williams, 2021; Zhang et al., 2022). The digital economy is growing rapidly, especially in developing countries, and is estimated to account for about 5% of global GDP and 3% of global employment (Bukht & Heeks, 2017). Li & Wu (2023) emphasized that the digital economy is seen as a key driver of economic growth and development, as it can reduce transaction costs, increase production efficiency, and improve the matching of consumer demand with consumption supply. The digital economy is also associated with the concept of Industry 4.0, which refers to the fourth industrial revolution characterized by the integration of digital technologies into manufacturing and production processes (Williams, 2021).

In its development, the digital economy has several key characteristics, namely clean, efficient, environmentally friendly and recyclable, as it reduces the need for physical resources and facilitates the recycling of digital content (Zimmermann, 2000). In addition, Unold (2003) adds another characteristic, namely mobility, where digital technology allows businesses to conduct economic activities from anywhere, anytime, thus increasing the flexibility and reach of economic activities. Wide reach and ubiquity, the digital economy is characterized by the ability to reach a global audience and the availability of digital products and services anytime and anywhere. Convenience, where digital technologies enable businesses to offer convenient ways for customers to access and use their products and services, thereby increasing customer satisfaction and loyalty. Global platform - the digital economy provides a global platform for interaction, communication, collaboration and information retrieval, enabling businesses to reach a global audience and optimize their operations. Web-based IT and e-commerce, associated with the digital economy are facilitated by web-based IT and e-commerce, which enable businesses to conduct transactions and provide services online, thereby increasing their reach and efficiency. Web-based applications, the digital economy relies on web-based

applications to deliver exceptional customer service and support, and to drive innovation and strategic advantage.

Furthermore, in Indonesia itself, the digital economy is growing rapidly. The development of the digital economy in Indonesia is driven by various factors, including the increasing use of technology in various sectors of the economy, the growth of e-commerce and digital payments, and government policies aimed at encouraging the digital economy. Dudhat & Agarwal (2023) explained that Indonesia's digital economy is growing rapidly, with the digital economy estimated to reach \$130 billion by 2024, mainly driven by e-commerce, ride-hailing, and digital payments. The rapid digital economy is also strategic for increasing labor productivity in the country, contributing to connecting workers with service providers through online platforms. This is supported by the Indonesian government, which has implemented policies to support the development of the digital economy, including policies on the ease of starting a digital business, tax payment policies, and guidance on mastering computer technology (Hartanto et al., 2021).

Although the growth of the digital economy in Indonesia is promising, there are also challenges and threats posed by digitalization, such as data misuse and exploitation, cyberattacks, and transaction fraud (Dudhat & Agarwal, 2023). Aji & Tominaga (2023) added other challenges, namely 1) inadequate telecommunications and internet infrastructure. The digital economy relies on strong internet infrastructure, but many areas in Indonesia lack access to high-speed internet, which can hinder the growth of digital businesses. 2) Access to information. Some regions in Indonesia rely heavily on industries that lag behind in technology adoption, and access to information about new technologies and their benefits is a barrier to innovation. 3) Cost of new technologies. The high cost of new technologies and difficulties in accessing financial support can hinder technology adoption, especially for small and medium-sized enterprises (SMEs). 4) Lack of skilled labor. Adequate numbers of well-trained workers are becoming increasingly important for competitiveness, but Indonesia needs to ensure the supply of local skills matches the needs of companies in the growing regions. 5) Regional disparities. The digital economy has the potential to add \$2.8 trillion to Indonesia's economy by 2040, but this growth may not be evenly distributed across the country, with some regions expected to experience higher growth rates than others.

To address these challenges, Indonesia needs targeted policies that aim to improve telecommunications and internet infrastructure, provide support for technology adoption, and develop education and training programs to ensure local skills supply. Local governments have an important role in identifying and designing these policies, as they tend to have an information advantage over the central government in responding to local needs (Aji & Tominaga, 2023).

Thus, it is important to see the extent of the current development of the *Digital Economy in Indonesia* through research, and one method that can be used to see the development of research is bibliometrics using VosViewer. The method is able to create and display author journal maps and research paths based on co-citation data or keyword maps based on co-incidence data. A number of relevant studies include Purnomo et al (2020) mapping the status of Scopus-indexed digital market studies using a bibliometric approach. The results revealed that the most productive countries, research institutions, and individual researchers in digital market studies are the United States, Yale University, and Alexander Schachinger. The most intensive fields of study and publication sources in digital market studies are computer science and Ink World. In addition, Spain is one of the collaborative map research groups. This research proposes a classification of convergence axes comprising digital market studies to characterize the body of knowledge generated from four decades of studies: Management information systems, E-commerce, Digital printing, Data, and Digitalization.

Purnomo et al (2020) mapped the status of digital entrepreneurship studies published internationally and indexed by Scopus using bibliometric visualization. The results show that the most productive countries, institutional affiliations, and individuals in the publication of digital entrepreneurship studies are the United States, Universität Liechtenstein, and Kraus, S. The most document types and fields of study in digital entrepreneurship studies are Articles and Business, Management and Accounting. There is one pattern of collaborative researchers in digital entrepreneurship studies. Purnomo et al (2022) studied the digital economy continues to grow but is limited to one country and/or field. The results of this study propose a grouping of digital economy research themes: Information Systems, Digitalization, E-commerce, Education, Engineering, Marketing, Industrial Revolution, and Information Technology.

Sarjana et al (2021) conducted a bibliometric analysis to encourage the development of scientific studies of the digital economy. The results of the analysis reveal that there are several topics that have high novelty elements and have the feasibility of being developed in various sectors to support economic growth, including artificial intelligence, block chain technology, sharing economy, digital platforms, knowledge economy, non-cash transactions, demonetization, and financial technology. Tayibnapis et al (2018) examined the development of the digital economy in Indonesia. The results showed that there are still several regulatory, collaboration, and infrastructure issues that need to be addressed so as not to hinder the growth of the digital economy and financial system stability in Indonesia.

Based on a number of these studies, this research was conducted to complement existing research and fill the void of previous research and to expand the literature related to the *Digital Economy in Indonesia* through the research path. Specifically, the purpose of this research is to see the development of "Digital Economy in Indonesia" research published by journals with this theme and see future research opportunities by formulating a research agenda.

## METHOD

Data is collected by searching for journal publications indexed in the Dimensions database using the keyword *Digital Economy in Indonesia*. After that, scientific articles or journals that are relevant to the research theme will be selected based on the publication data that has been collected. Journals equipped with DOI are the criteria in the screening process and data processing using software. There were 490 journal articles published from within the *Digital Economy in Indonesia* research theme. The development of publication trends related to the research topic was analyzed using VOSviewer software, which can generate bibliometric maps and allow for more detailed analysis (Maulida, 2023).

In order to build the map, VOSviewer uses the abbreviation VOS which refers to Visualizing Similarity. In previous studies, the VOS mapping technique has been used to obtain bibliometric visualizations which are then analyzed. Furthermore, VOSviewer is able to create and display author journal maps based on co-citation data or keyword maps based on co-incidence data. Therefore, this research will analyze journal maps related to *Digital Economy in Indonesia*, including author maps, and keywords which

are then analyzed for research paths that can be carried out in the future through clusters on *keyword mapping*.

## RESULT AND DISCUSSION

This research discusses the "*Digital Economy in Indonesia*" by utilizing 490 publications of journal articles indexed in Dimensions. Bibliometrics is a method used to measure and evaluate scientific performance by taking into account factors such as citations, patents, publications, and other more complex indicators. Bibliometric analysis is conducted to evaluate research activities, laboratories, and scientists, as well as the performance of countries and scientific specializations. Some of the steps in bibliometric analysis include identifying the background of the research, collecting the databases to be used, and determining the main indicators to be used in the research.

This section will deepen the meta-analysis results by showing a visual mapping chart depicting 490

journals related to "*Digital Economy in Indonesia*". In this research, mapping is done by analyzing keywords and important or unique terms contained in journal articles. Mapping is a process to identify knowledge elements, configurations, dynamics, dependencies, and interactions among these elements. The results of the network visualization of 490 journals with the theme "*Digital Economy in Indonesia*" will be explained in more detail in the next section.

## Bibliometric Author Mapping

Using bibliometric analysis using VOSviewer software, a mapping of authors contributing to the field of "*Digital Economy in Indonesia*" is obtained. The resulting image provides a visual representation of the mapping, the bigger and brighter the point marked in yellow, the more the number of journal publications related to the theme "*Digital Economy in Indonesia*" that have been published by that author.

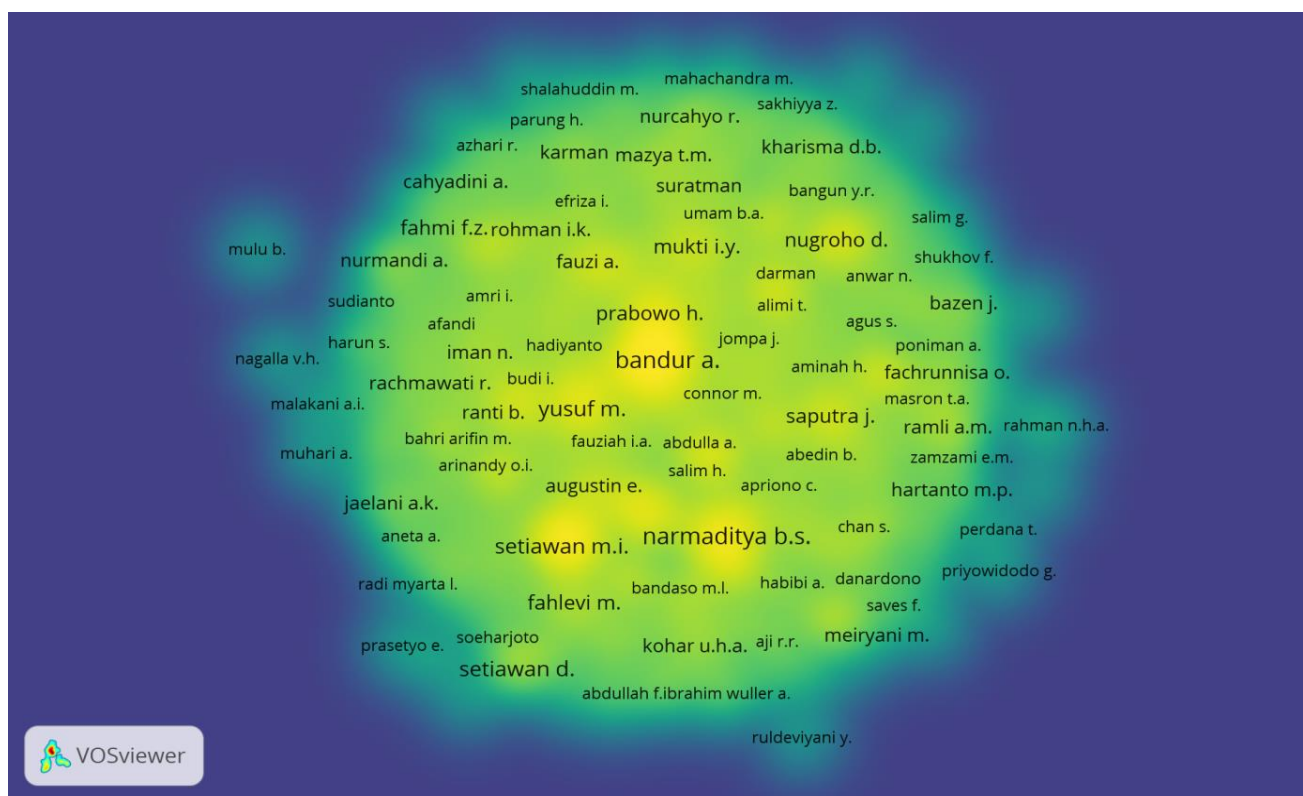


Figure 1. Author mapping

The figure above explains that the cluster density in the bibliometric map depends on the intensity of the yellow color shown. And the yellow color on the map depends on how many items are related to other items. For this reason, this section is very important to get an overview of the general structure of the bibliometric map that is considered

important to analyze. From this, it is possible to identify the authors who publish the most works.

In general, each author or researcher has different tendencies in each publication of their work. On some occasions, an author appears as a single author, but on other occasions the author may co-author with other authors or researchers, so this will



affect the cluster density and some clusters show different densities. However, authors who have a large enough cluster density identify that the author has published the most research on the theme "*Digital Economy in Indonesia*", when compared to authors whose cluster density is lower, so the results found can be a reference for other researchers in the future. From the analysis, it was found that the authors who published the most publications related to "*Digital Economy in Indonesia*" were Bandur A; Yusuf M; Narmaditya B.S; Setiawan M. I; Setiawan D; Wibowo A; Mukti I. Y; Fauzi A; Prabowo H; Fachrunnisa O; Nurcahyo R;

Karman; Cahyadi A; Kharisma D.B; Fahmi F. Z; Nugroho D; Iman N; Nurmandi A; Bazen J; Rachmawati R; Jaelani A. K; Meiryarni M; Hartono M. P; Fahlevi M; Ramli A. M; and Ibrahim H.

## Research Map

The figure below describes the trend of keywords that appear in research on the theme "*Digital Economy in Indonesia*" and the larger shapes are the most used words in journal publications on the theme "*Digital Economy in Indonesia*".

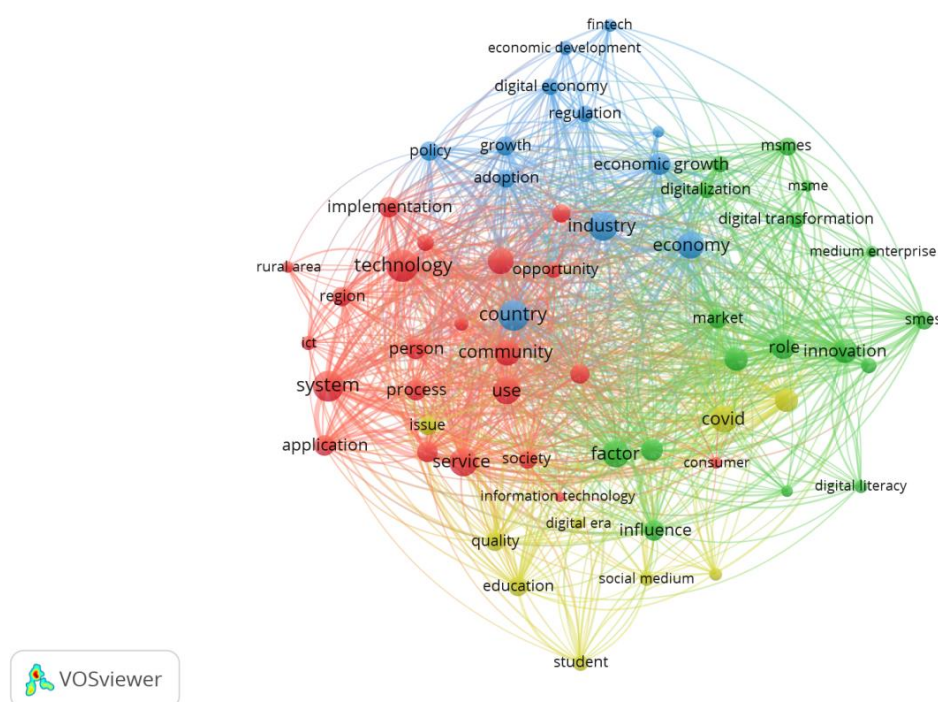


Figure 2. Research mapping (clustering)

As for the mapping, the keywords that appear most in the publication "*Digital Economy in Indonesia*" include technology, industry, economy, government, role, country, community, system, innovation, covid, factor, service, and use, which are then divided into 4 clusters, as follows:

### Cluster 1: Application of the Digital Economy in Rural Areas

The first cluster consists of 22 keywords, namely; application, benefit, change, community, consumer, digital technology, government, ict, implementation, information technology, internet, opportunity, person, problem, process, region, rural area, service, society, system, technology, and use. Based on these keywords, one of the relevant research

topics relates to the implementation of the digital economy in rural Indonesia. There are still quite a few studies on this topic, and a number of relevant studies include [Tosida et al \(2022\)](#) who investigated the impact of technology-based village development on the smart economy in Indonesia. The results found that citizen science plays an important role in the success of smart villages, with indicators such as ICT literacy, education, and collaboration with private and local sectors driving the smart economy.

[Aryani & Yuniarsa \(2023\)](#) examined ways to enhance economic development of rural areas in Indonesia by utilizing digital platforms and the tourism industry. The research concludes that social enterprises can play an important role in bridging the gap between rural communities and technology, resulting in

increased productivity and income. The experiment showed promising results in engaging the younger generation and encouraging collaboration between local and central government, stakeholders, and communities.

Kurniawan & Setiawan (2022) describe the characteristics of economic growth in rural communities, identify significant factors, and provide alternatives to increase economic growth through the digital economy. The results of the study explain that the Digital Economy formation model which previously consisted of 12 components can be reduced to only 4 factors in rural areas, namely factors of community environmental conditions, communication processes, implementation of activities, and competence of entrepreneurs. The roles that are considered influential and strategic for the development of the digital economy in rural areas are all factors that form the digital economy. The competence of business actors is very diverse, but business actors who want to learn to adapt to the development of digital technology will increase economic growth in their villages. Discordance, Internet Networking, Immediacy, and Knowledge variables have a strong relationship with the four factors that form the digital economy.

Sarip & Fitriana (2018) examined the legal anthropology approach to the implementation of village websites in the digital economy era in Indonesia. In this study, it is explained that in terms of anthropological trends, there are trends that are adjusted to the cultural dynamics of society, including the acceleration of the digital economy for villages. Anthropology only views law as one aspect of culture, namely the aspect used by public authorities in regulating behavior and society, so that deviations and deviations from predetermined social norms do not occur. Legal anthropology sees the possibility of differences or even conflicts to assess the culture of modernization with the level of understanding in the village. The novelty and renewal of law in the village related to the acceleration of the digital economy is considered as a channel, a means, and a kind of membrane that can be penetrated without disturbing or damaging the membrane.

## Cluster 2: Increasing the Competitiveness of MSMEs and Digital Transformation

The second cluster has 17 keywords, namely; business, company, competitiveness, digital literacy, digital transformation, digitalization, effect, factor,

influence, innovation, market, medium enterprise, msme, msmes, role, smes, and sustainability. One of the research topics relevant to these keywords is related to increasing the competitiveness of MSMEs and digital transformation. Research that specifically examines this topic is still quite rare, and among the relevant studies, Firmansyah et al (2023) proposed a model for improving the economic competitiveness of MSMEs in the creative industry sector in Indonesia. This study found that innovation capability plays a mediating role in the relationship between digital transformation and economic competitiveness. This model highlights the importance of digital competencies and resources and innovation in strengthening the economic strength of MSMEs.

Kurniawati et al (2021) examined the digital transformation of MSMEs in Indonesia during the pandemic. The results showed that marketing innovation is a priority for MSMEs, most MSME players are very responsive to e-commerce, e-commerce digital technology is indispensable in MSMEs, MSME players experience difficulties and obstacles in the adaptation process, and a combination of offline and online marketing methods is the choice of MSME players as a survival strategy during the Covid-19 pandemic. Susanti et al (2023) discussed competitive advantage mediating the impact of digital transformation and innovation on the performance of women-owned MSMEs. The results found that the performance of women-owned MSMEs was not directly affected by digital transformation. This does have an impact on innovation and competitive advantage. Innovation and competitive advantage can improve the performance of women-owned MSMEs and play a mediating role in the digital transformation of women-owned MSMEs in Indonesia. The findings of this study also confirm and extend the RBV statement regarding the importance of innovation in determining the competitive advantage of women's MSMEs.

## Cluster 3: Economic growth and Digital Economy Development

The third cluster consists of 12 keywords, namely; adoption, country, digital economy, digital platform, economic development, economic growth, economy, fintech, growth, industry, policy, and regulation. One of the relevant research topics is related to economic growth and digital economy development. The relevant research includes Barata (2019) strengthening national economic growth and

income distribution through the Islamic digital economy in Indonesia. The results found that national economic growth grew by 0.048 percent or economic output increased by Rp 5.08 trillion. The impact on gross value added (GVA) grew by 0.072 percent or increased by Rp3.72 trillion. In addition, national labor income increased by IDR 795.36 billion with investment in the Islamic e-commerce subsector. After additional shocks to the Fintech and trade sectors, economic growth increased by 0.052 percent or IDR5.48 trillion. Islamic e-commerce and Islamic Fintech should be able to have a major impact on economic growth, increasing the amount of labor required so that it can absorb more of the national workforce. Thus, economic growth, increased income, and job creation have the potential to reduce poverty and inequality, which in the long run will further strengthen sustainable national economic growth.

Ratnawati & Susilowati (2022) examined the impact of financial technology and the digital economy on the performance of the financial services sector in Indonesia. The study found that the digital economy acts as a mediator in the relationship between financial technology and performance, and that financial technology plays an important role in driving economic growth and development. Overall, both financial technology and the digital economy have a significant influence on the performance of the financial services sector. Murgiansyah (2020) examines Indonesia's economic diplomacy in the face of digital disruption and argues the need to implement "innovation diplomacy" to optimize the potential of the digital economy. This research explains that the Indonesian government must implement an intermestic, comprehensive and integrative strategy in its economic diplomacy by integrating the new economy through the construction of "innovation diplomacy". The research found that the current economic diplomacy is heavily geared towards "conventional" commercial diplomacy, but does not provide enough space for the new economy to develop significantly, due to the absence of a concept that supports the running of innovation-focused economic diplomacy.

Khodijah et al (2022) examined the impact of the digital economy on economic growth in Indonesia. The results showed that the digital economy has business resilience and is significantly able to make a positive contribution to economic growth. The conclusion of this study shows that the digital economy is an economic sector that will continue to grow rapidly in the future. The need for a complete digital economy

database that can be accessed by researchers, so that they can contribute their thoughts, so that the digital economy can act as business resilience and make a positive contribution to sustainable economic growth.

Imsar et al (2023) analyzed the impact of digital economy, economic openness, I-HDI and investment on Indonesia's GDP growth. The results showed that there is a causal relationship between IHDI and digital economy, digital economy and GDP, GDP and IHDI, IHDI and GDP, GDP and investment, economic openness and GDP. Then, there is a positive and significant relationship between the digital economy, economic openness, IHDI and investment on the growth of Indonesia's Gross Domestic Product in the long run, while in the short run all variables have no significant effect on Indonesia's GDP growth. In the long run, the strong and dominant variable affecting GDP growth is investment. Finally, the largest composition that contributes to the Gross Domestic Product (GDP) variable is the digital economy (32%) and IHDI (27.4%).

#### Cluster 4: Digital Economy & Pandemic Covid-19

The fourth cluster consists of 9 keywords, namely; covid, digital era, education, issue, knowledge, pandemic, quality, social medium, and student. Research topics relevant to these keywords are related to the digital economy and the Covid-19 pandemic. The relevant research includes Fridayani et al (2022) examining the problems, potential, and challenges faced by Micro, Small, and Medium Enterprises in facing the COVID-19 Pandemic in Indonesia. The digital economy is predicted to increase the competitiveness of products and services. Indonesia has a Micro, Small, and Medium Enterprises sector that can be the backbone of the country's economy and help in its recovery, despite the economic volatility brought about by the Covid-19 outbreak. The SWOT analysis shows that digital usage is the most important issue for Micro, Small, and Medium Enterprises in Kulon Progo Regency. According to the survey, only 13% of Micro, Small and Medium Enterprises use technology to run their businesses. The power of the digital economy has proven valuable, and its application can improve communication skills, interpersonal skills, and enterprise operations and performance of Micro, Small, and Medium Enterprises. On the other hand, shortcomings are facilities that address the problem of limited knowledge among Micro, Small, and Medium Enterprise actors.

Meanwhile, the opportunities are many, many natural resources; many productive human resources from the government; many partners working together to create Micro, Small, and Medium Enterprises; more than one superior product. In addition, the use of the digital economy helps in the economic development of a country. Finally, market availability is reduced by superior quality and often even cheaper imported products. This is a challenge for Micro, Small, and Medium Enterprises, and the government should create a favorable trading environment for them.

Dudhat & Agarwal (2023) examined the growth of Indonesia's digital economy and the challenges it poses from a national defense perspective. The results showed that Indonesia's digital economy is growing well enough to increase the country's GDP. It also shows that productivity is increasing, production, consumption, and distribution are moving faster, there is economic growth in various sectors, and the country can continue to operate despite the Covid-19 pandemic. However, the digital economy also poses a threat to national security because digitalization forces all data to be connected to servers that are vulnerable to data misuse and exploitation, unsecured transactions from malware-based cyberattacks, fraudulent transactions or hacking by hackers, and limited infrastructure that has not yet reached all parts of Indonesia.

Triwahyuni (2022) optimized the use of Information Technology in Indonesia's diplomacy during the COVID-19 pandemic, especially in the economic sector. The results concluded that Indonesia does not yet have a clear agenda or blueprint in the use of digital diplomacy. As the use of information technology to publicize policies during the COVID-19 pandemic is increasing, Indonesia must continue to learn from many countries in introducing the formulation of an economic digital diplomacy agenda, from institutional adaptation to new approaches in socializing foreign policy through new media.

Kushadiani et al (2021) conducted a bibliometric analysis and presented a narrative review of the development of digital platforms that can be used by MSMEs. The findings found that digital platforms can be used by MSME players, and the effectiveness of methods in evaluating the social impact of implementing digital platforms. Furthermore, this research also highlights digital platforms for the development of MSMEs in Indonesia. Wijaya (2021) examined the effect of the digital economy, investment, the COVID-19 pandemic, and the Job Creation Law

on the structure of the transportation sector labor market in Indonesia. The results concluded that the digital economy has no effect on the structure of the transportation sector labor market in Indonesia. Meanwhile, investment, the COVID-19 pandemic, and the Job Creation Law each have a significant effect on the labor market structure of the transportation sector in Indonesia. The impact of investment and the COVID-19 pandemic on the labor market structure of the transportation sector in Indonesia is negative. Meanwhile, the impact of the Job Creation Law on the labor market structure of the transportation sector in Indonesia is positive. Together, the digital economy, investment, COVID-19 pandemic, and Job Creation Law affect the labor market structure of the transportation sector in Indonesia.

Other relevant research, namely Siregar (2021) discusses economic digitization for the Indonesian economy and its role during the Covid-19 pandemic; Purbasari et al (2021) discusses the digital entrepreneurship ecosystem framework in the Covid-19 pandemic era; Chollisni et al (2022) examines the concept of strengthening creative economic development after the Covid-19 pandemic in Indonesia; Ameliany & Iryani (2022) discuss the impact of industry 4.0 in responding to the potential of the digital economy in Indonesia during the Covid 19 pandemic; Wardhono et al (2022) examine whether the digital economy encourages economic growth in the Sumatran region during the pandemic; and Legowo et al (2021) discuss the digital economy model to encourage national economic recovery during the Covid-19 pandemic.

## CONCLUSION

This study aims to determine the extent of the development of research on the theme of Digital economy in Indonesia. The results of the study show that the number of research publications related to this topic is 490 journal articles indexed by Dimensions. Furthermore, based on the results of the analysis on bibliometric author mapping shows that Bandur A; Yusuf M; Narmaditya B.S; Setiawan M. I; Setiawan D; Wibowo A and several other authors are the most published authors with the theme of Digital economy in Indonesia. Furthermore, in the development of research related to Digital economy in Indonesia based on bibliometric keyword mapping, it is divided into 4 clusters with the most used words are technology, industry, economy, government, role, country, community, system, innovation, covid, and service.



Based on the keywords that are often used, it can then be grouped into 4 *research map* clusters with topics that discuss: (1) Application of the Digital Economy in Rural Areas; (2) Competitiveness of MSMEs and Digital Transformation; (3) Economic growth and Digital Economy Development; and (4) Digital Economy and Pandemic Covid-19.

## REFERENCES

- Aji, P., & Tominaga, J. (2023). Indonesia's Digital Transformation: Leave No Region Behind. Asian Development Blog. <https://blogs.adb.org/blog/indonesia-s-digital-transformation-leave-no-region-behind>
- Ameliany, N., & Iryani, L. (2022, March). The impact of industry 4.0 in responding to the digital economy's potential in Indonesia at pandemic covid 19. In 2nd International Conference on Social Science, Political Science, and Humanities (ICoSPOLHUM 2021) (pp. 334-338). Atlantis Press.
- Aryani, N. W. S., & Yuniarsa, S. O. (2023). Enhance Economic Village into a Digital Platform Tourism Indus-try: Case Study in Makasar Indonesia. Journal of Economics Finance and Management Studies, 6(01).
- Barata, A. (2019). Strengthening national economic growth and equitable income through sharia digital economy in Indonesia. Journal of Islamic Monetary Economics and Finance, 5(1), 145-168.
- Bukht, R., & Heeks, R. (2017). Defining, conceptualizing and measuring the digital economy. Development Informatics working paper, (68).
- Chollisni, A., Syahrani, S., Shandy, A., & Anas, M. (2022). The concept of creative economy development-strengthening post COVID-19 pandemic in Indonesia. Linguistics and Culture Review, 6, 413-426.
- Dudhat, A., & Agarwal, V. (2023). Indonesia's digital economy's development. IAIC Transactions on Sustainable Digital Innovation (ITSDI), 4(2), 109-118.
- Firmasnyah, D., Ahman E., Disman, Mulyadi, H., Rifa'i, A. A., & Suryana, A. (2023). Model for Increasing the Economic Competitiveness of MSMEs in the Creative Industry Sector in Indonesia. Journal of Advanced Zoology, 44(S6), 1355-1365.
- Fridayani, H. D., Iqbal, M., Chiang, L. C., Pratama, M. A., & Atmojo, M. E. (2022, March). Opportunities and Challenges of Digital Economy for Micro, Small, and Medium Enterprises Facing Pandemic Covid-19 in Indonesia: A Case Study. In International Conference on Public Organization (ICONPO 2021) (pp. 83-89). Atlantis Press.
- Hartanto, M. P., Stephanie, & Alamsyah, D. P. (2021). The Digital Economy Growth in Indonesia through E-Commerce. Proceedings of the International Conference on Industrial Engineering and Operations Management, Sao Paulo, Brazil, April 5-8, 2021.
- Imsar, I., Nurhayati, N., & Harahap, I. (2023). Analysis Of Digital Economic Interactions, Economic Openness, Islamic Human Development Index (I-HDI) And Investment On Indonesia's GDP Growth. Islamic Education: Journal of Islamic Education, 12(01).
- Khodijah, Kamila, M., & Siddiq, M. R. (2022). The Impact of Digital Economics on Economic Growth in Indonesia. Fara'id and Wealth Management, 2(1).
- Kurniawan, I., & Setiawan, B. (2022, January). Factor Analysis of The Digital Economy In The Villages. In Proceedings of the Third International Conference Administration Science, ICAS 2021, September 15, 2021, Bandung, Indonesia.
- Kurniawati, E., Idris, I., Handayati, P., & Osman, S. (2021). Digital transformation of MSMEs in Indonesia during the pandemic. Entrepreneurship and Sustainability Issues, 9(2), 316.
- Kushadiani, S. K., Nugroho, B., Mardian, S., Muhammad-Bello, B., & Hermawan, A. (2021, September). Evaluating digital economy in the Covid-19 pandemic era: a review. In Proceedings of the 6th International Conference on Sustainable Information Engineering and Technology (pp. 80-85).
- Legowo, M. B., Sorongan, F. A., & Subanidja, S. (2021, December). Digital economic model to encourage national economic recovery during Covid-19 pandemic. In Conference Towards ASEAN Chairmanship 2023 (TAC 23 2021) (pp. 55-60). Atlantis Press.
- Li, X., & Wu, Q. (2023). The impact of digital economy on high-quality economic development:

- Research based on the consumption expansion. *Plos one*, 18(12), e0292925.
- Margiansyah, D. (2020). Revisiting Indonesia's economic diplomacy in the age of disruption: Towards digital economy and innovation diplomacy. *Journal of ASEAN Studies*, 8(1), 15-39.
- Maulida, S. (2023). Clustering research on Islamic fintech studies. *Islamic Finance and Technology*, 1(1).
- Purbasari, R., Muttaqin, Z., & Sari, D. S. (2021). Digital entrepreneurship in the Covid 19 pandemic era: The digital entrepreneurial ecosystem framework. *Review of integrative business and economics research*, 10, 114-135.
- Purnomo, A., Firdaus, M., Sutiksno, D. U., Latukismo, T. H., & Rachmahani, H. (2020, August). A study of digital market status using the bibliometric approach during four decades. In *2020 International Conference on Information Management and Technology (ICIMTech)* (pp. 458-463). IEEE.
- Purnomo, A., Susanti, T., Rosyidah, E., Firdausi, N., & Idhom, M. (2022). Digital economy research: Thirty-five years insights of retrospective review. *Procedia Computer Science*, 197, 68-75.
- Purnomo, A., Susanti, T., Sari, A. K., Firdaus, M., & Dewi, R. (2020, August). A study of digital entrepreneurship through bibliometric visualizing from 1993 to 2019. In *2020 International Conference on Information Management and Technology (ICIMTech)* (pp. 911-915). IEEE.
- Ratnawati, K., & Susilowati, C. (2022). Implication of Digital Economy and Financial Technology Towards Performance of Financial Services Sector in Indonesia. *MIX SCIENTIFIC JOURNAL OF MANAGEMENT*, 12(1), 140-157.
- Sarip, S., & Fitriana, D. (2018). Legal Anthropology Approach on The Application of Village Website in Digital Economic Era in Indonesia. *UNIFIKASI: Journal of Legal Science*, 5(2), 96-105.
- Sarjana, S., Najib, M. A. A., & Khayati, N. (2021, December). Bibliometric Analysis to Encourage the Development of Digital Economy Scientific Studies. In *Conference Towards ASEAN Chairmanship 2023 (TAC 23 2021)* (pp. 14-21). Atlantis Press.
- Siregar, I. P. (2021). Digitalization of the Economy for the Indonesian Economy and Its Role During the Covid-19 Pandemic. *Enrichment: Journal of Management*, 12(1), 941-945.
- Susanti, E., Mulyanti, R. Y., & Wati, L. N. (2023). MSMEs performance and competitive advantage: Evidence from women's MSMEs in Indonesia. *Cogent Business & Management*, 10(2), 2239423.
- Tayibnapis, A. Z., Wuryaningsih, L. E., & Gora, R. (2018). The development of digital economy in Indonesia. *IJMBS International Journal of Management and Business Studies*, 8(3), 14-18.
- Tosida, E., Herdiyeni, Y., Marimin, M., & Suprehatin, S. (2022). Investigating the effect of technology-based village development towards smart economy: An application of variance-based structural equation modeling. *International Journal of Data and Network Science*, 6(3), 787-804.
- Triwahyuni, D. (2022). Indonesia Digital Economic Diplomacy during the Covid-19 Global Pandemic. *Journal of Eastern European and Central Asian Research (JEECAR)*, 9(1), 75-83.
- Unold, J. (2003). Basic aspects of the digital economy.
- Wardhono, A., Nasir, M. A., Aprilia, A., Putra, P. T. N., & Zebua, B. H. N. (2022). Is the Digital Economy Driving the Economic Growth of the Sumatra Region During the Pandemic? *Journal of Economics Research and Social Sciences*, 6(1), 76-92.
- Wijaya, S. (2021). The Labor Market Structure of Transportation Sector in Indonesia: Digital Economy, Investment, COVID-19 Pandemic, Job Creation Law. *Jambura Equilibrium Journal*, 3(2).
- Williams, L. D. (2021). Concepts of Digital Economy and Industry 4.0 in Intelligent and information systems. *International Journal of Intelligent Networks*, 2, 122-129.
- Zhang, J., Zhao, W., & Li, A. (2022). The impact of digital economy on the economic growth and the development strategies in the post-COVID-19 era: evidence from countries along the "Belt and Road". *Frontiers in public health*, 10, 856142.
- Zimmermann, H. D. (2000). Understanding the digital economy: Challenges for new business models. Zimmermann, Hans-Dieter, "Understanding the Digital Economy: Challenges for New Business Models" (2000). *AMCIS 2000 Proceedings*. Paper, 402.