



Bibliometric Analysis: The Important Role of Cooperative Economy in Indonesia

Hilmy Pradana Sundawan*¹, Umar Yeni Suyanto¹, Kiromim Baroroh¹

¹ Universitas Negeri Yogyakarta

E-mail: hilmypradanasundawan@uny.ac.id

Article Info	Abstrak
Article History Received: December, 2024 Revised: May, 2025 Published: June, 2025	This study aims to analyze the economic role of cooperatives in Indonesia using a bibliometric approach. With data from various scholarly sources, this study explores research trends, key themes, and methodologies related to cooperatives. The analysis showed that cooperatives play an important role in the agriculture, fisheries, and MSME sectors, despite facing challenges such as capital limitations, technology adoption, and digitalization. The bibliometric visualization identified five main clusters, namely sustainability, circular economy, agroindustry, policy strengthening, and digital management. In addition, trend analysis showed that local wisdom-based cooperatives and circular economy implementation are still under-discussed and require more attention for future research. The research also revealed that cooperatives contribution to sustainable development can be strengthened through government policy support, digitalization, and technology adoption. Highly cited articles in the Scopus database indicate that cooperative-related research in Indonesia continues to grow, especially in the areas of waste management and cooperative digitalization.
Keywords: Bibliometric Analysis, Cooperative Economics, Indonesia, Sustainability, Circular Economy	
Doi: http://dx.doi.org/10.23960/E3J/v8.i1.30-36	

INTRODUCTION

Cooperatives can be used as an alternative in the Indonesian economy that functions as an instrument to improve the welfare of members and encourage national economic growth. Cooperatives based on the principles of voluntary membership and participatory management can play an important role in supporting productive sectors, especially in agriculture, fisheries, plantations, and Micro, Small and Medium Enterprises (MSMEs). According to Kamsidah (2022) Indonesia's Gross Domestic Product (GDP) income in 2022 of 5.1% came from the contribution of cooperatives. The results that have not been maximized are due to the many structural challenges faced by cooperatives in Indonesia.

The most important challenge is the digitalization of cooperatives and the lack of technology adoption. Research conducted by Nurjawahir et al. (2022) states that digital financial services in cooperatives can contribute to a reduction of up to 80% of total operational expenses. By utilizing digital technology, it will have a major impact on the online business or trade sector (Aprita, 2021). Then Rosmayati (2022) obtained research results that cooperatives that have reformed to the digital era have an effect on Corporate Governance.

Apart from technological challenges, the challenges in cooperatives are limited capital and access to financing. In research Ardiansyah (2019) states that capital is an obstacle in the relationship between finance and technology. Reinforced by the difficulty of raising funds from banking entities by micro-entrepreneurs (Yasin et al., 2022). So that Microfinance Institutions (MFIs) are a solution in applying for financing for micro business finance (Oktafia, 2017).

In another view, the contribution of cooperatives to sustainable development goals (SDGs) is an important concern. In cooperatives there are alternatives to grow the economy, according to Ilham et al. (2022) with a circular economy where economic actors keep resources in use for as long as possible, extracting maximum value from use, then recovering and regenerating products and materials at each service life. Reinforced by Wibawa (2021) who revealed that local community-based cooperatives can play a role in implementing circular economy principles. So it can be said that cooperatives play an important role in realizing sustainable development in Indonesia.

Then there is the important role of the government in making policies to strengthen cooperatives in Indonesia through regulatory support and fiscal incentives. The results of research Tambunan &

Indriani (2022) show that MSME and Cooperative Taxpayers are business entities that play an important role in supporting the national economy. The results of research Suprihartini & Kurniawan (2020) also state that the role of government affects the increase in cooperatives.

This research aims to conduct a thorough bibliometric analysis to examine the current trends, main themes, and methodologies used in studies related to the relationship between “Economy”, “Cooperative”, and “Indonesia”. Through a systematic synthesis of the literature, this research seeks to identify gaps, inconsistencies and directions of research development in the field. The results are expected to provide useful insights for researchers, policy makers, and practitioners.

It is expected that this study will provide insights and understanding of the rapidly growing cooperative economy in Indonesia. To provide insights and recommendations for future research on cooperative economics, it is important to understand previous research related to research differences and research scope in the existing literature. Therefore, the questions of this study are as follows:

RQ1: What is the current distribution of research related to cooperative economics in Indonesia?

RQ2: What topics are emerging in research related to cooperative economics in Indonesia?

RQ3: What are the topics that are less covered that could be used for future research?

METHODS

The method used in this research is a literature review with a bibliometric approach to analyze the development of research on cooperative economics in Indonesia. The stages of this research methodology include identification of data sources, data collection, data processing, and data analysis (Ramanan et al., 2020). First, data sources will be identified through scientific databases such as Scopus using keywords related to “Economy”, “Cooperative” and “Indonesia”. Second, relevant scientific publication data will be collected, including information on title, year of publication, journal or conference where published, and citations received. Third, the data will be processed to extract bibliometric metrics such as number of publications per year, number of citations per article, and h and g indices. Finally, the data will be analyzed descriptively and statistically to identify trends in research development, citation patterns, as well as the contribution of journals, authors, and institutions in the cooperative field in Indonesia. This methodology will provide deep insights into the status and dynamics of research in this domain as well as enable the identification of future research directions.

RESULTS AND DISCUSSION

Table 1. Research Data Metrics

Metrics Data	Information
Publication years	1986-2025
Citation years	38
Papers	79
Citations	635
Cites/year	16,71
Cites/paper	8,04
Cites/author	635
Papers/author	77,99
Authors/paper	0,99
h-index	14
g-index	23
hI,norm	14
hI,annual	0,37
hA, index	7

Source: documents imported (2024)

Table 1 above presents research data metrics covering a range of publication years from 1986-2025, with 38 years counted for citations. The data includes 79 articles with a total of 635 citations, an average of 16.71 citations per year, and an average of 8.04 citations per article. The average citations per author reached 635, while each article had an average of 77.99 authors with the number of authors per article around 0.99. The h index is at 14, while the g index reaches 23. hI, norm is 14, while hI, annual is 0.37. This data provides a comprehensive picture of the impact and productivity of the scientific work

associated with the research, taking into account the number, distribution and influence of citations and the number of authors involved.

RQ1: What is the current distribution of research related to cooperative economics in Indonesia?

Based on the data, 21 countries account for the number of publications on cooperative economics in Indonesia. With data that has been grouped by country, it can be used to see the mapping of collaboration between country researchers and see trends in which countries this cooperative economics research is leading. For this reason, the following research on cooperative economics is presented based on country territory:

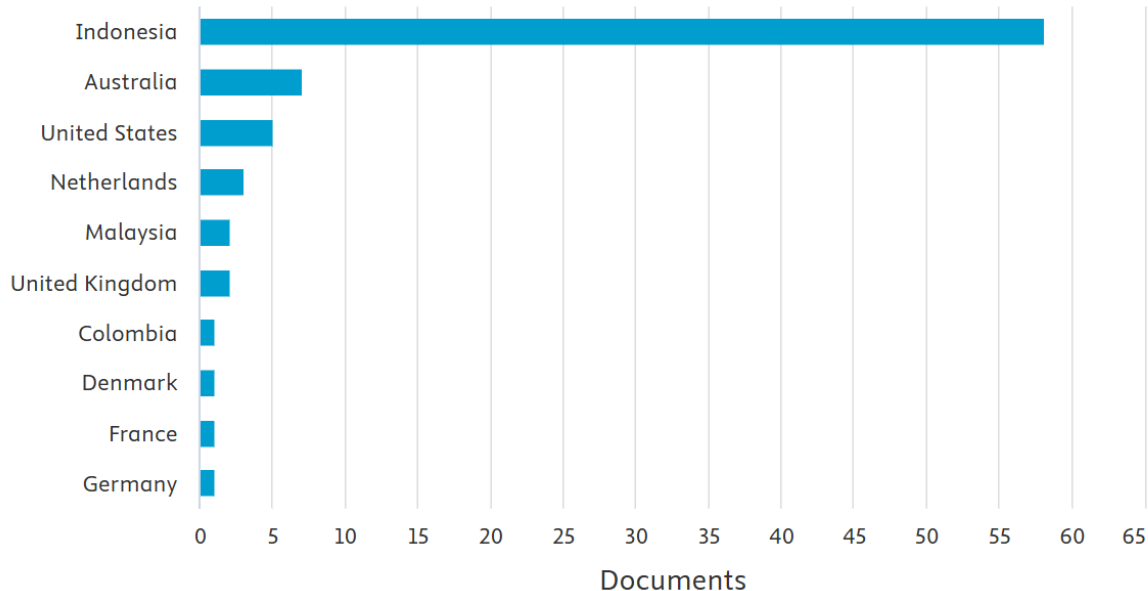


Figure 1. Research on Cooperative Economics in Indonesia (1986-2024)

Figure 1 shows that the productivity of research on cooperative economics is dominated by Indonesia with a total of 58 publications in Scopus data. Furthermore, Australia, the United States, and the Netherlands with the number of publications <10 articles.

The next step is to find out how the articles that have been published on the Scopus database have the most impact. Research with the highest citations usually indicates that the work is relevant and has a major impact in its field Thelwall (2020). The following is data on the most impactful articles on cooperative economics in Indonesia in the Scopus database.

Table 2. Top 10 Ranking Article Authors Based on Number of Citations

Rank	Author	Year	Title	Cites
1	Damayanti, M., Scott, N., Ruhanen, L.	2017	Cooperative behaviours in an informal tourism economy	56
2	Effency, Fardhal Pratama, M., Rauf, R.A., Mahfudz, Muhandi.	2019	Factors influencing the efficiency of cocoa farms: A study to increase income in rural Indonesia	50
3	Scarborough, V.L., Lucero, L.J.	2010	The non-hierarchical development of complexity in the semitropics: Water and cooperation	47
4	Yuana, S.L., Sengers, F., Boon, W., Raven, R.	2019	Framing the sharing economy: A media analysis of ridesharing platforms in Indonesia and the Philippines	46
5	Cameron, L.	1999	Survey of recent developments	46
6	Witbooi, E., Ali K.D., et al.	2020	Organized crime in the fisheries sector threatens a sustainable ocean economy	38
7	Wahyuningyas, R., Disastra, G., Rismayani, R.	2023	Toward cooperative competitiveness for community development in Economy Society 5.0	28

8	Wijers, G.D.M.	2019	Inequality regimes in Indonesian dairy cooperatives: understanding institutional barriers to gender equality	27
9	Sakai, M.	2010	Growing together in partnership: Women's views of the business practices of an Islamic Savings and Credit Cooperative (Baitul Maal wat Tamwil) in Central Java, Indonesia	24
10	Phelps, N.A.	2004	Tiangular diplomacy writ small: The political economy of the Indonesia-Malaysia-Singapore growth triangle	23

Source: documents imported (2024)

The data in table 2 shows that (Damayanti et al., 2017) with an article entitled "Cooperative behaviors in an informal tourism economy" ranked first with 56 citations even though this article was published in 2017 but has a strong influence, especially in the field of cooperative economics in Indonesia. Furthermore, the article from (Effendy et al., 2019) which has been cited 50 times.

RQ2: What topics have emerged in research related to cooperative economics in Indonesia?

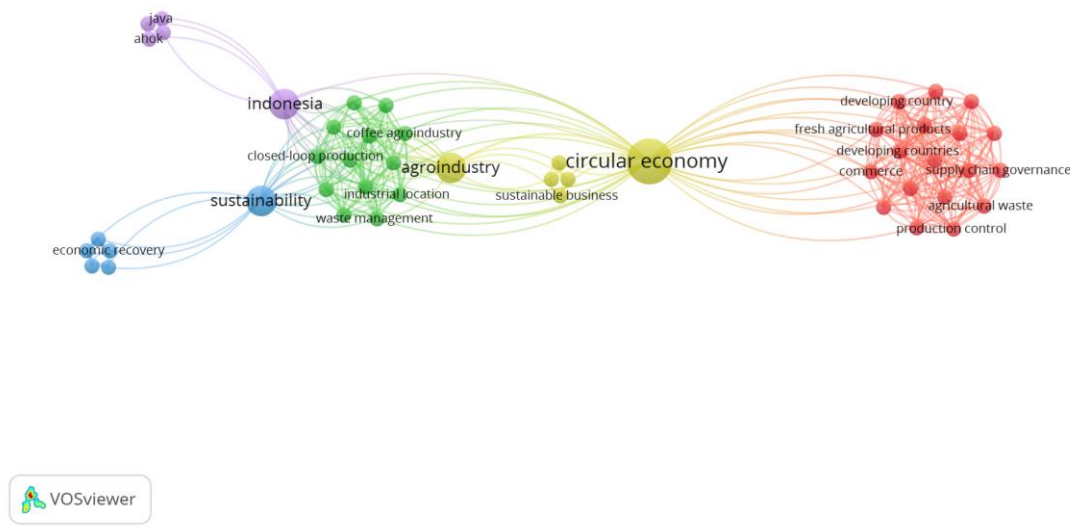


Figure 2. Network Visualization
 Source: documents imported (2024)

In the figure, we can see several clusters indicated by different colors. These clusters usually represent themes or topics that often appear together in the literature. Based on the color and distribution of the dots, there appear to be at least five main clusters:

1. **Red Cluster:** this seems to focus on the sustainability aspects of resource management and economics, with words such as "sustainable agriculture", "agricultural waste", "developing countries", and "supply chains".
2. **Green Cluster:** this cluster concentrates on the environment and sustainability, with words such as "environmental economics", "coffee agroindustry", "sustainable production", and "optimization".
3. **Purple Cluster:** economic, financial, and aspects such as "deposit insurance corporation", "halal consumerism", "Indonesia", and "saving and loan cooperatives".
4. **Blue Cluster:** this cluster is a relevant aspect in various fields in development, economics, and strategic management, with words such as "economic recovery", "innovation", "sustainability", and "theory of change".
5. **Yellow Cluster:** with words such as "agro-industry", "circular economy", "social innovation", "strategic evaluation".

This visualization illustrates how the various aspects of the cooperative economy are interconnected and provides insight into the main focus areas in research or discussions related to the cooperative economy in Indonesia.

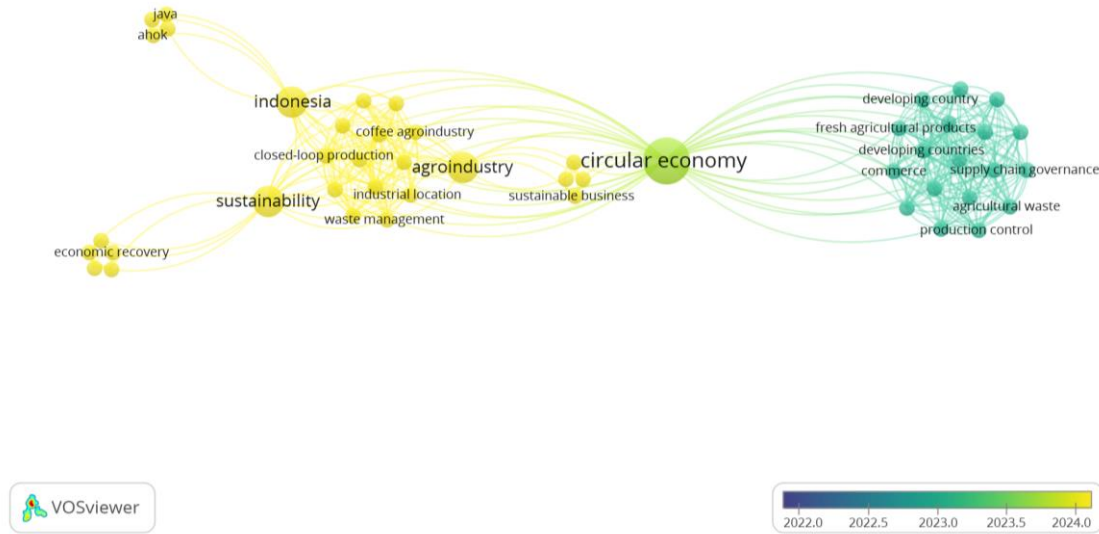


Figure 3. Overlay Visualization
 Source: documents imported (2024)

The timeline in this visualization (from 2022 to 2024) uses a gradient color scheme from purple to yellow, indicating the frequency or dominance of research topics during this time. Topics in green on the right such as “agricultural waste,” “developing countries,” “fresh agricultural products” are generally related to the topics of agricultural waste management, the challenges of managing fresh agricultural products in developing countries, and efforts to reduce and utilize waste from agricultural production. There is a shift in research focus around 2023. This transition indicates increased attention to aspects of the “circular economy”. This may indicate a period where research is focused on creating a sustainable economic system by maximizing resource reuse, minimizing waste, and creating added value.

RQ3: What are the topics that are less covered that could be used for future research?

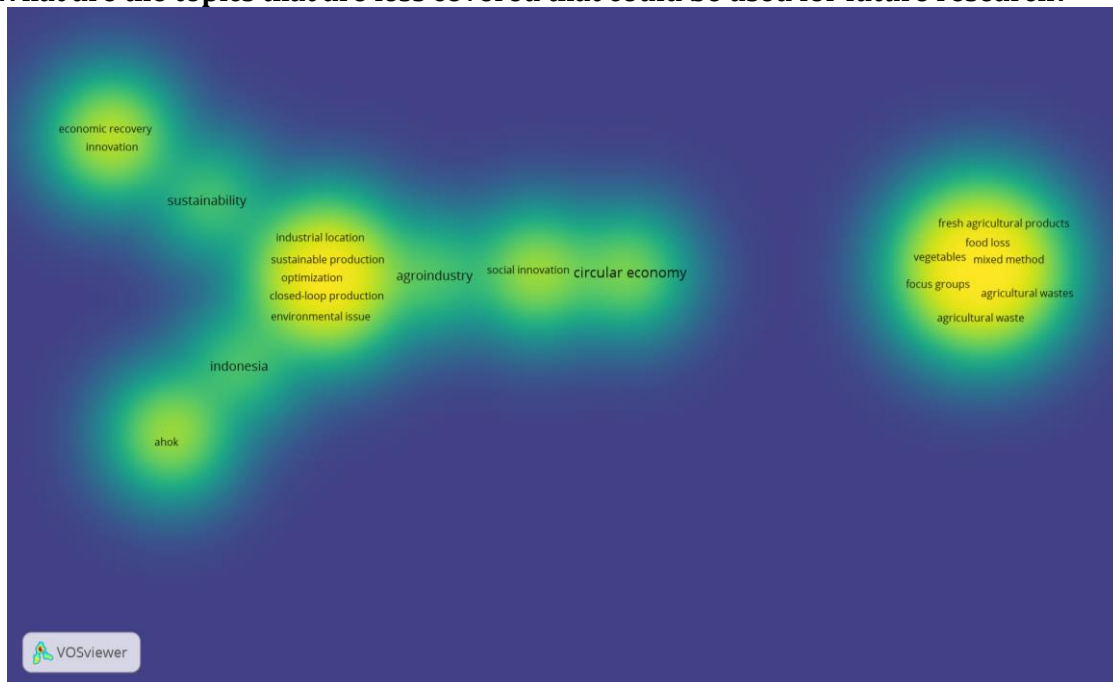


Figure 4. Density Visualization
 Source: documents imported (2024)

This visualization shows that lighter colors on the map mean more frequently used keywords or more focus in the literature, while less bright areas indicate less studied topics that require additional research. The following are some of the faintly lit areas in the image that indicate potential research opportunities:

1. "Sustainability", located at the center of the left side, this topic may have received less attention than other problem areas. Future research could explore the drivers of sustainability, strategies for adapting cooperatives in the digital age, and the impact of government policies on strengthening cooperatives in Indonesia.
2. "Indonesia", located at the bottom of the left side, researchers rarely discuss the cooperative economy in Indonesia. Future research should focus on local wisdom-based cooperative models, the impact of Indonesian government policies on cooperatives, and the digital transformation of Indonesian cooperatives.
3. "Circular Economy", located in the middle, this research topic can be said to be less of a discussion in the cooperative economy in Indonesia due to limited understanding and awareness of the concept of circular economy among cooperative managers. It is expected that this topic will continue to grow in the future as awareness about the green economy and sustainability increases and government policies push towards a more environmentally friendly economic transition.
4. "Agro-industry", located in the middle, this topic has received less attention in Indonesian cooperative economics perhaps because cooperatives in the agricultural sector have focused more on traditional functions. Opportunities in this research topic include strengthening the capacity of agro-industry cooperatives, integrating cooperatives in industrial supply chains, and using digital post-harvest technology to support the sustainability of agro-industry cooperatives.

CONCLUSIONS AND SUGGESTIONS

A. Conclusion

This study examines the development of research related to cooperative economics in Indonesia with a bibliometric approach. From the day of analysis, it was found that cooperatives play an important role in the national economy, especially in the agriculture, fisheries, and MSME sectors. The main challenges faced by cooperatives include limited capital, technology adoption, and digitalization. The implementation of the circular economy and the important role of the government

through fiscal policy and regulatory support are considered important to strengthen cooperatives.

Research on cooperative economics in Indonesia has shown increasing productivity, with the dominance of contributions from Indonesian researchers. Highly cited articles show significant relevance and impact, especially on the topics of sustainability and cooperative management in the agriculture, fisheries and MSME sectors. The bibliometric analysis identified five main clusters in related research, namely sustainability, circular economy, agroindustry, policy strengthening, and digital management.

The bibliometric visualization shows the existence of research clusters related to sustainability, agro-industry, and circular economy that have the potential to be developed in the future. The h, g, and publication productivity indices show that cooperative-related research continues to grow with a focus on digitalization, waste management, and strengthening the role of local wisdom-based cooperatives.

B. Suggestions

This research provides insight into the role of cooperatives as strategic actors in promoting sustainable economic development in Indonesia. The government should pay more attention to the development of cooperatives. This can be done by increasing digitalization, strengthening policies, and implementing a circular economy in cooperatives in Indonesia to support sustainable economic development.

REFERENCES

- Aprita, S. A. S. (2021). Peranan Peer to Peer Lending dalam Menyalurkan Pendanaan pada Usaha Kecil dan Menengah. *Jurnal Hukum Samudra Keadilan*, 16(1).
<https://doi.org/10.33059/jhsk.v16i1.3407>

- Ardiansyah, T. (2019). Model Financial Dan Teknologi (Fintech) Membantu Permasalahan Modal Wirausaha UMKM Di Indonesia. *Majalah Ilmiah Bijak*, 16(2). <https://doi.org/10.31334/bijak.v16i2.518>
- Damayanti, M., Scott, N., & Ruhanen, L. (2017). Coopetitive behaviours in an informal tourism economy. *Annals of Tourism Research*, 65. <https://doi.org/10.1016/j.annals.2017.04.007>
- Effendy, Fardhal Pratama, M., Rauf, R. A., Antara, M., Basir-Cyio, M., Mahfudz, & Muhandi. (2019). Factors influencing the efficiency of cocoa farms: A study to increase income in rural Indonesia. *PLoS ONE*, 14(4). <https://doi.org/10.1371/journal.pone.0214569>
- Ilham, I., Ginting, S., Ritonga, S. H., & Aslam, I. N. (2022). Potensi Penerapan Urban Mining dari E-Waste Berbasis Ekonomi Sirkular dalam Pembangunan Berkelanjutan di Bukittinggi. *Jurnal Himasapta*, 7(1). <https://doi.org/10.20527/jhs.v7i1.5337>
- Kamsidah. (2022). *Optimalkan Potensi UMKM terhadap PDB Indonesia melalui Lelang UMKM*. Kementerian Keuangan Republik Indonesia.
- Nurjawahir, K., Safuan, S., & Alhabshy, M. A. (2022). Penerapan sistem kuelap dalam transformasi koperasi berbasis digital. *Jurnal Cakrawala Ilmiah*, 1(12), 3347–3354. <https://doi.org/10.53625/jcijurnalcakrawalailmiah.v1i12.3197>
- Oktafia, M. dan R. (2017). Percepatan Perkembangan Usaha Mikro, Kecil dan Menengah Melalui Perkuatan Lembaga Keuangan Mikro Syariah (LKMS) di Jawa Timur. *Jurnal Ekonomi Islam*, 03(110).
- Ramanan S., S., George, A. K., Chavan, S. B., Kumar, S., & Jayasubha, S. (2020). Progress and future research trends on Santalum album: A bibliometric and science mapping approach. *Industrial Crops and Products*, 158. <https://doi.org/10.1016/j.indcrop.2020.112972>
- Rosmayati, S. (2022). Reformasi Koperasi Terhadap Corporate Governance Pada Koperasi Simpan Pinjam. *Koalinasi*, 1(2), 87–95.
- Suprihartini, L., & Kurniawan, R. (2020). Peran Dan Kebijakan Pemerintah Terhadap Peningkatan Koperasi Nelayan Kota Tanjungpinang. *Bahtera Inovasi*, 2(2). <https://doi.org/10.31629/bi.v2i2.2532>
- Tambunan, M. R. U. D., & Indriani, I. (2022). Pembekalan Pengetahuan Optimasi Manfaat Kebijakan Fiskal Pasca UU Cipta Kerja (Omnibus Law) bagi Peningkatan Daya Saing UMKM dan Koperasi di Kab. Sukabumi. *Bubungan Tinggi: Jurnal Pengabdian Masyarakat*, 4(4). <https://doi.org/10.20527/btjpm.v4i4.5579>
- Thelwall, M. (2020). Gender differences in citation impact for 27 fields and six english-speaking countries 1996–2014. *Quantitative Science Studies*, 1(2), 599–617. https://doi.org/10.1162/qss_a_00038
- Wibawa, H. (2021). Ekonomi Sirkular bagi Plastik. In *Guyub Peduli Bumi Rumah Kita Bersama*.
- Yasin, D., Wulan Rachmawati, D., & Yasin, A. (2022). Pengaruh Pembiayaan Mikro terhadap Perkembangan UMKM Nasabah BSI KCP Mojopahit 2. *Jurnal Ekonomika Dan Bisnis Islam*, 5(2).