

EXPLORING THE INFLUENCE OF UNIVERSITY-SME COLLABORATIVE INNOVATIONS ON TECHNOLOGY IN INDONESIA: A MULTILEVEL PERSPECTIVE

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Abstract

Technological innovation plays a key role in facing the complex challenges faced by Indonesia in the era of globalization. Collaboration between universities and Small and Medium Enterprises (UKM) has been recognized as an effective way to accelerate technological development that is relevant to society's needs. In this study, we explore the influence of collaborative innovation between universities and SMEs on technology in Indonesia using a multilevel perspective. This perspective includes three levels of analysis: micro, mezzo, and macro. At the micro level, we see the interaction of individuals and organizations in collaboration. At the mezzo level, we consider the dynamics and relationships between universities and SMEs. Meanwhile, at the macro level, we pay attention to external factors such as government policies and economic conditions that influence collaboration. Through this analysis, we highlight the important role of government policy in creating a conducive environment for collaboration, supporting necessary infrastructure, regulatory and bureaucratic reform, determining strategic research priorities, and establishing innovation networks. We conclude that collaboration between universities and SMEs has great potential to accelerate technological development in Indonesia, but requires appropriate support and policies from the government as well as good coordination between various stakeholders.

Keywords: Collaborative innovation, universities, SMEs, technology, Indonesia.

INTRODUCTION

Indonesia, as a densely populated developing country, continues to struggle to achieve sustainable economic growth and improve the standard of living for its citizens. In its efforts to achieve this goal, technological innovation has become one of the main pillars in spurring economic progress and social development. In this context, the role of universities and small and medium enterprises (SMEs) becomes increasingly important. Collaboration between universities and SMEs has become an attractive strategy to encourage innovation and technological development in Indonesia. In this paper, we will explore the influence of collaborative innovation between universities and SMEs on

technological development in Indonesia, by adopting a multilevel perspective, from the local to the national level.

At the local level, collaboration between universities and SMEs has become a key driver in producing innovations that are relevant to the needs of local communities. Universities often have abundant resources, such as high-quality researchers, well-equipped laboratories, and access to research funding. On the other hand, SMEs have a deep understanding of the local market and the challenges faced by local communities. Collaboration between these two entities enables the transfer of knowledge and technology from the academic environment to the industrial sector more effectively. For example, in the agricultural sector, universities can develop innovative technologies such as smart soil sensors or smart irrigation systems, while SMEs can help in adapting and distributing these technologies to local farmers. This kind of collaboration not only increases the competitiveness of SMEs but also increases the productivity and sustainability of the agricultural sector at the local level.

However, the influence of university and SME collaboration innovation is not limited to the local level. At the national level, such collaboration has helped strengthen the technology innovation ecosystem in Indonesia as a whole. By providing a platform for researchers and entrepreneurs to work together, this collaboration facilitates the creation of innovative products and services that can compete in the global marketplace. Apart from that, this kind of collaboration also plays an important role in reducing the technology gap between Indonesia and developed countries. Through technology and knowledge transfer, universities and SMEs can help accelerate the adoption of new technologies in various economic sectors, from manufacturing to health. For example, in the manufacturing sector, collaboration between universities and SMEs has resulted in the development of smart manufacturing systems that improve efficiency and product quality, while in the health sector, collaboration has resulted in innovation in medical devices that are more affordable and easily accessible to the Indonesian people.

Not only does it provide economic benefits, collaboration between universities and SMEs also has a positive impact on human resource development and innovation capacity in Indonesia. Through collaboration programs, students and researchers have the opportunity to be directly involved in research and development of technology relevant to the industrial world. This not only improves their skills but also helps create a stronger culture of innovation among Indonesia's young generation. In addition, this kind of collaboration also encourages knowledge exchange between academics and practitioners, enriching Indonesia's technological innovation ecosystem as a whole.

However, even though the potential for collaboration between universities and SMEs in encouraging technological innovation in Indonesia is enormous, there are still a number of challenges that need to be overcome. One of the main challenges is the lack of supporting infrastructure and adequate policy support. For example, access to research funds and ease of collaboration between the public and private sectors are still obstacles faced by many universities and SMEs in Indonesia. Apart from that, differences in culture and goals between universities and SMEs can also be an obstacle in establishing effective collaboration. Universities tend to focus on pure research and development of new technologies, while SMEs are more interested in practical applications and profitability. To overcome this challenge, joint efforts from government, universities and the industrial sector are needed to create an environment that supports collaboration and innovation.

Overall, collaboration between universities and SMEs has great potential in driving technological innovation and economic development in Indonesia. By providing a platform for the transfer of knowledge and technology, such collaboration can help increase the competitiveness of Indonesian industry in the global market and improve the welfare of society as a whole. However, to optimize the potential of this collaboration, strong support is needed from various parties, including the government, universities and the industrial sector. Only with solid cooperation and strong commitment can Indonesia take steps towards a more innovative and sustainable future.

METHOD

The literature study research method is an effective approach to explore the influence of collaborative innovation between universities and small and medium enterprises (UKM) on technological development in Indonesia using a multilevel perspective. This literature study will involve analysis of various literature sources, including scientific journals, textbooks, research reports, and related academic publications. The first stage in this method is identifying literature sources that are relevant to the research topic, using academic databases such as PubMed, Google Scholar, and ProQuest. Relevant literature sources will be selected based on certain inclusion criteria, such as relevance to the research topic, methodological quality, and accuracy of information. Once relevant literature sources have been identified, the next step is to systematically compile and summarize the information from each source. Relevant information will be extracted, including main findings, research methodology, research results, and conclusions. Next, information from various literature sources will be analyzed comprehensively to identify patterns, trends and general findings regarding the influence of university and SME collaborative innovation on technology in

Indonesia. This analysis will be carried out taking into account multilevel perspectives, from local to national levels, to understand the impact of this collaboration as a whole. Finally, the results of the analysis will be arranged in a structured written form, describing the main findings, implications, and recommendations for further research or technology development policy in Indonesia. By using this literature study research method, it is hoped that it can provide an in-depth understanding of the influence of collaborative innovation between universities and SMEs on technological development in Indonesia, as well as providing a strong basis for further development steps in this field.

DISCUSSION

Technological growth is one of the main drivers of a country's progress in the current era of globalization. In Indonesia, technological innovation is the key to solving various social, economic and environmental problems faced. Collaboration between universities and SMEs (Small and Medium Enterprises) has great potential to accelerate technological developments that are relevant to society's needs. In this context, it is important to explore the influence of collaborative innovation in improving the quality of technology in Indonesia.

A Multilevel Perspective on Collaborative Innovation

In analyzing the influence of collaborative innovation between universities and SMEs on technology in Indonesia, a multilevel perspective can provide a more comprehensive understanding. This perspective involves three levels of analysis: micro, mezzo, and macro. At the micro level, the focus is on the interactions between individuals and organizations in collaboration. The mezzo level looks at the dynamics and relationships between universities and UKM. Meanwhile, the macro level considers external factors such as government policies and economic conditions that influence collaboration.

Table 1: Multilevel Perspectives on Collaborative Innovation

Level of Analysis	Research Focus
Micro	Interaction of individuals and organizations in collaboration
Mezzo	Dynamics and relationships between universities and SMEs
Macro	External factors such as government policy

Influence of Government Policy

One of the key factors that influences the effectiveness and sustainability of collaboration is government policy. Supportive policies can create a conducive environment for collaboration, while unsupportive policies can create obstacles.

The government can provide financial incentives, such as research funds and tax incentives, to encourage universities and SMEs to collaborate in research and technological development. Apart from that, clear regulations and easy licensing procedures are also needed to facilitate this collaboration.

Table 2: Influence of Government Policy on Collaboration

Government Policy	Influence
Financial Incentives	Encouraging collaboration through research funding
Clear Regulations	Facilitate the collaboration process
Licensing Procedure	Streamlining access to resources

Infrastructure Support

Adequate infrastructure is also an important factor in supporting collaboration between universities and UKM. The government needs to ensure easy access to research facilities and laboratories for both parties. Building innovation centers or joint laboratories can increase interaction and knowledge exchange between universities and SMEs. In this way, collaboration can run more efficiently and effectively.

Table 3: Infrastructure Support for Collaboration

Infrastructure	Impact
Research Facilities	Increasing research capabilities of both parties
Joint Innovation Center	Facilitate knowledge exchange
Joint Laboratory	Increasing interaction between universities and UKM

Regulatory and Bureaucratic Reform

Regulatory and bureaucratic reforms are also needed to increase the effectiveness of collaboration. Too many complex regulations and complicated bureaucracy can hinder the collaboration and innovation process. Therefore, the government needs to simplify licensing procedures and cut unnecessary bureaucracy. This will speed up the technology development process and ensure collaboration runs smoothly.

Table 4: Regulatory and Bureaucratic Reform

Reform Steps	Impact
Simplification of Licensing Procedures	Speed up the collaboration process
Cutting Bureaucracy	Reducing administrative barriers
Decision Transparency	Increase trust and accountability

Determining Research Priorities

Governments can also influence the focus and direction of collaboration by determining strategic research priorities. Identify priority sectors that require technological innovation and provide special support to collaborations operating in these sectors. In this way, collaboration will be more focused and relevant to community needs.

Table 5: Determining Research Priorities

Research Priorities	Impact
Priority Sector Identification	Increasing the relevance of technology to society's needs
Special Support	Encouraging collaboration in strategic sectors
Targeted and Relevant	Ensure collaboration has a significant impact

Collaboration between universities and SMEs influences technological development at the local level, and the impact differs between urban and rural areas

Collaboration between universities and small and medium enterprises (UKM) has a significant impact on technological development at the local level in Indonesia. In urban areas, such collaborations often result in paradigm-shifting innovations in various industrial sectors. For example, in the tourism sector, collaboration between universities and SMEs in developing mobile applications or digital platforms has made it easier for tourists to obtain information about tourist destinations, promote local attractions, and increase interaction with tourists. Along with this, such collaborations have also increased the attractiveness of urban tourism, which in turn has resulted in local economic growth and job creation. On the other hand, in rural areas, collaboration between universities and SMEs tends to focus on developing technology that is more suited to the needs of agricultural communities. For example, in the agricultural sector, such collaboration might result in the development of smart irrigation systems or smart soil sensor technologies that help farmers increase productivity and reduce the risk of crop failure. Thus, collaboration between universities and SMEs in rural areas not only improves the welfare of farmers but also contributes to national food security.

However, there are differences in the impact of collaboration between universities and SMEs in urban and rural areas. In urban areas, such collaborations tend to produce innovations related more to information and communications technology (ICT), digital platform-based services, or consumer products. This is due to a higher level of accessibility to technological resources

and larger markets in urban areas. For example, collaboration between universities and SMEs in urban areas may be more likely to produce mobile applications for everyday purposes or e-commerce solutions that facilitate business transactions. On the other hand, in rural areas, such collaboration tends to produce innovations that focus more on developing agricultural technology or renewable energy that meets the needs of agricultural communities. For example, collaboration between universities and SMEs in rural areas may be more likely to result in a system for processing organic waste into biogas energy or the development of environmentally friendly agricultural product preservation technology. Therefore, while collaboration between universities and SMEs in both environments contributes to technological development, the focus and character of the resulting innovation tends to vary depending on the local context.

The importance of collaboration between universities and SMEs in influencing technological developments at the local level is also reflected in various case studies in Indonesia. For example, in the city of Bandung, collaboration between the Bandung Institute of Technology (ITB) and local SMEs has resulted in a number of significant innovations in various industrial sectors. One example of success is the collaboration between ITB and textile SMEs in developing environmentally friendly textile dyeing technology. Through this approach, ITB provides access to knowledge and state-of-the-art laboratory facilities, while SMEs provide market insight and industry needs. The result is the development of more environmentally friendly and efficient textile dyeing technology, which results in increasing the competitiveness of SMEs in the global market and reducing negative impacts on the environment.

On the other hand, in rural areas such as Malang Regency, collaboration between Brawijaya University and local agricultural SMEs has produced various innovations in increasing agricultural productivity and sustainability. For example, the collaboration has developed a smart irrigation system that uses soil sensors to measure soil moisture levels and regulate watering automatically. This system has helped farmers manage water use more efficiently, reduce operational costs and increase crop yields. Apart from that, collaboration between Brawijaya University and agricultural SMEs has also resulted in innovation in the use of organic fertilizers and natural pesticides, which helps improve soil quality and reduce negative impacts on the environment.

Although collaboration between universities and SMEs has a significant impact in influencing technological development at the local level, there are still several challenges that need to be overcome. One of them is the lack of accessibility to technological resources and knowledge in remote or less developed areas. In some areas, especially in rural areas, technological infrastructure such as limited internet access or lack of availability of electronic

devices can be an obstacle in adopting technological innovations produced through collaboration between universities and SMEs. Therefore, efforts are needed to increase accessibility to technology and strengthen local capacity in adopting these innovations.

In order to overcome these challenges, collaboration between the government, universities and SMEs is very important. The government can provide support in the form of policies and funds to facilitate collaboration between universities and SMEs, as well as to increase accessibility to technological infrastructure in remote areas. Universities can help by providing researchers and laboratory facilities necessary for technology development, while SMEs can help by providing relevant market insights and industry needs.

The role of collaboration between universities and SMEs in reducing the technology gap between Indonesia and developed countries, as well as in facilitating the transition to a knowledge-based economy

Collaboration between universities and small and medium enterprises (SMEs) has an important role in reducing the technology gap between Indonesia and developed countries, as well as in facilitating the transition to a knowledge-based economy. First of all, such collaboration enables the transfer of knowledge and technology from more advanced higher education institutions to SMEs in Indonesia. The University has abundant resources, including high-quality researchers, state-of-the-art laboratory facilities, and access to research funding. Through collaboration with SMEs, knowledge and technology produced by universities can be applied in a business context that is more practical and relevant to local market needs. For example, in the manufacturing sector, collaboration between universities and SMEs can result in the development of automated production systems that improve efficiency and product quality. By implementing this technology, SMEs can increase their competitiveness in the global market and reduce the technology gap with developed countries.

Apart from that, collaboration between universities and SMEs also plays a role in facilitating technology transfer from developed countries to Indonesia. Universities often have extensive international networks and collaborations with research institutions and industry in developed countries. Through this collaboration, universities can introduce the latest technology and best practices from developed countries to SMEs in Indonesia. For example, in the information technology sector, collaboration with foreign universities can help Indonesian SMEs learn and adopt the latest technology in developing software or mobile applications. Thus, this collaboration can help reduce the technology gap between Indonesia and developed countries and increase technology adaptability in Indonesia.

Apart from reducing the technology gap, collaboration between universities and SMEs also plays an important role in facilitating the transition to a knowledge-based economy in Indonesia. In a knowledge-based economy, innovation and technological development are one of the main motors of economic growth. Collaboration between universities and SMEs creates a supportive environment for the creation and dissemination of new knowledge, which in turn encourages innovation and creativity in the economic sector. For example, through this collaboration, SMEs can access the latest research in their field and apply it in their production or services. This can improve the efficiency, quality and competitiveness of SME products, which in turn contributes to national economic growth.

Collaboration between universities and SMEs also helps create superior and skilled human resources needed in a knowledge-based economy. Through collaboration programs, students and UKM workers have the opportunity to be involved in research and development of the latest technology. This helps improve their skills in the application of complex technologies and allows them to stay relevant in a changing job market. In addition, such collaboration also encourages the exchange of knowledge and experience between academics and practitioners, which enriches Indonesia's technological innovation ecosystem as a whole.

However, although collaboration between universities and SMEs has great potential in reducing the technology gap between Indonesia and developed countries and in facilitating the transition to a knowledge-based economy, there are still several challenges that need to be overcome. One of the main challenges is the lack of supporting infrastructure and adequate policy support. Access to research funds and ease of collaboration between the public and private sectors are still obstacles faced by many universities and SMEs in Indonesia. Apart from that, differences in culture and goals between universities and SMEs can also be an obstacle in establishing effective collaboration. Universities tend to focus on pure research and development of new technologies, while SMEs are more interested in practical applications and profitability. Therefore, joint efforts are needed from the government, universities and the industrial sector to create an environment that supports collaboration and innovation. Only with solid cooperation and strong commitment can Indonesia take steps towards a more innovative and sustainable future.

Government policies influence the effectiveness and sustainability of collaboration between universities and SMEs in producing technological innovations that are relevant to the needs of Indonesian society

To discuss how government policies influence the effectiveness and sustainability of collaboration between universities and SMEs in producing

technological innovations that are relevant to the needs of Indonesian society, an in-depth understanding of the context and factors that influence this collaboration is needed. Collaboration between universities and SMEs has an important role in accelerating innovation, driving the economy, and solving problems faced by society. However, various policies implemented by the government can have a significant impact on the dynamics and results of this collaboration.

One important aspect of successful collaboration between universities and SMEs in producing innovation is policy support that facilitates the exchange of knowledge and resources between the two parties. Governments can play a key role in creating an enabling environment for this collaboration through various incentives, subsidies and support programs. For example, the government can provide tax incentives or research funding to universities and SMEs involved in innovation collaborations. With this financial support, universities and SMEs will be more motivated to work together to produce technological solutions that are relevant to society's needs.

Additionally, government policies can also influence the effectiveness of collaboration by facilitating access to resources and infrastructure needed for research and development. The government can build innovation centers or joint laboratories that can be used by universities and SMEs to conduct joint research. Apart from that, the government can also provide support to develop human resource capacity through training and education programs that are relevant to the needs of industry and society.

However, the effectiveness and sustainability of collaboration between universities and SMEs can also be influenced by government policies related to regulations and bureaucracy. Too many complex regulations and complicated bureaucracy can hinder the collaboration and innovation process. Therefore, the government needs to reform regulations and bureaucracy to create a more innovation-friendly environment. This can be done through simplifying licensing procedures, cutting unnecessary bureaucracy, and increasing transparency in the decision-making process.

Government policies can also influence the focus and direction of collaboration between universities and SMEs by providing incentives and funding for research and development directed at certain areas that are considered strategic for economic and social development. The government can identify priority sectors that require technological innovation and provide special support to collaborations working in these sectors. In this way, collaboration between universities and UKM will be more focused and relevant to community needs.

Apart from that, government policies can also influence the effectiveness of collaboration between universities and SMEs through the formation of innovation networks and communities involving various stakeholders, including

government, industry and research institutions. The government can facilitate meetings and discussion forums between various parties to exchange knowledge, experience and resources. With a strong innovation network and community, collaboration between universities and SMEs will become more sustainable because they receive support and input from various parties.

However, there are also several challenges that need to be overcome in implementing government policies to influence collaboration between universities and SMEs. One of them is the problem of coordination between institutions and stakeholders regarding innovation policy. Sometimes, policies made by various ministries and institutions are not in sync with each other, which can cause policy overlap or even conflict. Therefore, good coordination is needed between various institutions and relevant stakeholders to ensure that innovation policies are implemented consistently and coordinated.

In the context of collaboration between universities and SMEs in producing technological innovations that are relevant to the needs of Indonesian society, government policy plays a very important role in determining the effectiveness and sustainability of this collaboration. Through incentives, infrastructure support, regulatory and bureaucratic reform, determining research priorities, establishing innovation networks, and coordination between institutions and stakeholders, the government can create a conducive environment for collaboration between universities and SMEs to produce technological innovations that can benefit the Indonesian people.

CONCLUSION

The conclusion from exploring the influence of collaborative innovation between universities and SMEs on technology in Indonesia is that this collaboration has great potential to accelerate technological development that is relevant to society's needs. Appropriate support and policies from the government are critical in ensuring the effectiveness and sustainability of this collaboration. Through financial incentives, facilitating access to resources and infrastructure, regulatory and bureaucratic reform, determining research priorities, and establishing innovation networks, the government can create a conducive environment for collaboration between universities and SMEs. In this way, the resulting technological innovation will be more relevant to society's needs and can have a significant impact in solving various problems faced by the Indonesian nation. To increase the effectiveness of this collaboration, there needs to be good coordination between various institutions and relevant stakeholders as well as building human resource capacity that supports the innovation process. By optimizing collaboration between universities and SMEs, Indonesia can

strengthen its position in the technology realm and encourage sustainable economic growth.

BIBLIOGRAPHY

- Anugrah, AA, & Wahyono, SA (2021, December). Cooperative-based communal marketplaces are a breakthrough innovation for Indonesian MSMEs during the Covid-19 pandemic. In *Proceedings of the National Seminar on Economics and Business* (Vol. 1, pp. 21-33).
- Aripin, Z., Fitrianti, NG, & Fatmasari, RR (2023). Digital Innovation and Knowledge Management: The Latest Approaches in International Business. A Systematic Literature Review in the Indonesian Context. *KRIEZ ACADEMY: Journal of development and community service* , 1 (1), 62-74.
- Aripin, Z., Haryaman, A., & Sikki, N. (2024). INCENTIVE STRUCTURE AND ITS EFFECT ON REFERRALS: AN ANALYSIS OF THE ROLE OF SELF-CONSTRUCTION AS A DETERMINANT. *KRIEZ ACADEMY: Journal of development and community service* , 1 (2), 65-77.
- Aripin, Z., Ichwanudin, W., & Faisal, I. (2023). BRAND SUSTAINABILITY STRATEGY DEVELOPMENT: THE ROLE OF SOCIAL MEDIA MARKETING AND MARKETING MANAGEMENT. *KRIEZ ACADEMY: Journal of development and community service* , 1 (1), 39-49.
- Aripin, Z., Mulyani, SR, & Haryaman, A. (2023). MARKETING STRATEGY IN PROJECT SUSTAINABILITY MANAGEMENT EFFORTS IN EXTRACTIVE INDUSTRIES: BUILDING A RECIPROCITY FRAMEWORK FOR COMMUNITY ENGAGEMENT. *KRIEZ ACADEMY: Journal of development and community service* , 1 (1), 25-38.
- Aripin, Z., Supriatna, U., & Mahaputra, MS (2023). WITH THE ADVENT OF CHATGPT: HOW TO IDENTIFY STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND THREATS FOR THE FIELD OF EDUCATION AND THE BUSINESS WORLD OF VARIOUS DISCIPLINES. *KRIEZ ACADEMY: Journal of development and community service* , 1 (1), 50-61.
- Aripin, Zaenal, Ricky Agusiady, and Didin Saepudin. "POST COVID: WHAT LESSONS CAN BE LEARNED FOR THE BANKING AND MSME INDUSTRY." *Journal of Economics, Accounting, Business, Management, Engineering and Society* 1.1 (2023): 25-36.
- Aripin, Zaenal, Farida Yulianty, Fitriana. "A QUANTITATIVE PERFORMANCE MANAGEMENT FRAMEWORK TO IMPROVE COMMUNITY ECONOMY THROUGH OMNICHANNEL SUPPLY CHAIN: A CASE STUDY IN THE BANKING AND MARKETING INDUSTRY." *KRIEZ ACADEMY: Journal of development and community service* 1.1 (2023): 15-24.

- Fitriana, Fitriana, Didin Saepudin, and Rachmat Agus Santoso. "Fraud Diamond Theory Detect Financial Statement Fraud in Manufac-turing Companies on The Indonesia Stock Exchange." *International Business and Accounting Research Journal* 5.2 (2021): 93-105.
- Fitriana, Fitriana, Didin Saepudin, and Rachmat Agus Santoso. "Fraud Diamond Theory Detect Financial Statement Fraud in Manufac-turing Companies on The Indonesia Stock Exchange." *International Business and Accounting Research Journal* 5.2 (2021): 93-105.
- Fachrurazi, F., Rukmana, AY, Supriyanto, S., Syamsulbahri, S., & Iskandar, I. (2023). Business Revolution in the Digital Era: Strategy and Impact of Technological Process Transformation on Competitive Advantage and Organizational Growth. *West Science Journal of Business and Management* , 2 (03), 297-305.
- Hanafi, AI, & Firdaus, MA (2023). Exploring the Impact of the Latest Technological Innovations in Sharia Investment. *Religion: Journal of Religion, Social, and Culture* , 1 (6), 1316-1335.
- Herlinda, D., Wulandari, P., Marta, TA, & Riofita, H. (2023). Product Innovation and Consumer Attraction: A Case Study in the Marketing Industry. *Journal of Management Economics and Business (JEMB)* , 1 (2), 211-221.
- Khourouh, U., Ratnaningsih, CS, & Rahayudi, B. (2021). Innovation and competitiveness of MSMEs in the new normal era: from the triple helix model to the quadruple helix model. *Journal of Management and Entrepreneurship* , 9 (2), 152-162.
- Mardiana, R., Yani, R., & Andiny, N. (2024). The Role of Sharia Fintech in Encouraging Sharia-Based Entrepreneurship and MSMEs. *Research Accounting and Auditing Journal* , 1 (1), 19-25.
- Nenengsih, RF (2023). Exploration of Higher Education Readiness to Support the Development of Halal Food MSMEs. *El-Kahfi Journal (Journal of Islamic Economics)* Vol , 4 (02).
- Ristianti, DE, Yulianto, R., & Pratiwi, YH (2023, September). Exploration of the Impact of Using E-Commerce on the Growth of the MSME Digital Economy in Malang City. In *FORBISWIRA FORUM BUSINESS AND ENTREPRENEURSHIP* (Vol. 13, No. 1, pp. 87-97).
- Sari, NRK, & Nugroho, SP (2024). SUPPLY CHAIN MANAGEMENT AND SME ORGANIZATIONAL PERFORMANCE IN INDONESIA: THE MEDIATION ROLE OF HRM PRACTICES. *Dewantara Ecobis Journal* Vol , 7 (2).
- Suryadharma, M., Asthiti, ANQ, Putro, ANS, Rukmana, AY, & Mesra, R. (2023). Collaborative strategies in encouraging business innovation in creative industries: a qualitative study of graphic design companies. *Sanskara Management And Business* , 1 (03), 172-181.
- Syafi, A., Brawijaya, A., & Hakim, AR (2023). Innovative Management and Business Strategies in the Digital Era: Analysis of the Influence of Latest Technology on Sustainability and Organizational Performance. *Visionida Journal* , 9 (2), 191-198.

- Triwijayati, A., Luciany, YP, Novita, Y., Sintesa, N., & Zahrudin, A. (2023). Business Innovation Strategy to Increase Competitiveness and Organizational Growth in the Digital Era. *West Science Journal of Business and Management* , 2 (03), 306-314.
- Widyaningsih, H., Fatchuroji, A., Uhai, S., & Lusianawati, H. (2024). The Relationship between Entrepreneurial Competence and the Performance of Micro and Small Enterprises in the Tourism Sector in Indonesia. *Sanskara Economics and Entrepreneurship* , 2 (02), 82-91.