



Digital Cooperatives and MSMEs as Drivers of People's Business Modernization to Strengthen the People's Economy in Indonesia

^{1*} Eka Indah Nurlaili, ² Waspodo Tjipto Subroto, ³ Norida Canda Sakti
^{1,2,3} Pendidikan Ekonomi, Universitas Negeri Surabaya, Surabaya, Indonesia

Alamat: Jl. Ketintang, Ketintang, Kec. Gayungan, Surabaya, Jawa Timur 60231

Korespondensi email: ekanurlaili@unesa.ac.id

Abstract. *This study examines the role of digital cooperatives and MSMEs in driving business modernization to strengthen Indonesia's economy. Cooperatives and MSMEs are essential for economic growth and community welfare, significantly contributing to Indonesia's GDP and employment. However, they face challenges in modernization due to limited technology access and management issues. Using a systematic literature review, this research analyzes the influence of digital transformation on cooperatives and MSMEs, identifying digital technology adoption, collaborative approaches, and governmental support as key factors in modernization. Findings highlight that a structured digital framework, social capital, and policy backing enable cooperatives and MSMEs to enhance operational efficiency, resilience, and competitiveness. This modernization model offers insights into fostering a sustainable, inclusive economy through digitalized cooperative structures. The research underscores the need for ongoing digital adaptation, emphasizing cooperatives' dual role in community development and economic resilience.*

Keywords Cooperatives, MSMEs, Digital, Modernization

1. INTRODUCTION

Cooperatives and MSMEs as one of the people's economic institutions have a strategic role in strengthening the national economy. Its role is not only limited to the social aspect, but also contributes to the welfare of the community. The role of cooperatives and micro, small, and medium enterprises (MSMEs) in strengthening the people's economy is increasingly recognized as a vital component of sustainable economic development. The contribution of MSMEs to gross domestic product (GDP) is very significant. In Indonesia, for example, MSMEs account for around 60.51% of GDP and absorb almost 96.92% of the workforce. This shows the very crucial role of MSMEs in economic performance and job creation (Hermina & Firdaus, 2023).

Currently, Indonesia has a large cooperative sector, with around 127,846 active cooperative units and more than 27 million members (Majid et al., 2020). However, despite their potential, many cooperatives face significant challenges in operational and financial management. These challenges are exacerbated by inadequate technological infrastructure, which limits their ability to compete effectively in a rapidly changing economic landscape. In addition, the lack of public awareness and the co-operative imagery contribute to general mistrust among prospective members, which is often triggered by reports of irregularities and mismanagement within some cooperative bodies. This mistrust hinders the growth and expansion of cooperatives, making it increasingly difficult for them to meet their intended

goals of improving economic well-being for their members and the wider community (Majid et al., 2020).

In the era of increasingly rapid digitalization, cooperatives in Indonesia face significant challenges in keeping up with technological developments and adopting digital systems. These challenges include the need to improve efficiency, transparency, and quality of service to its members. Therefore, the modernization of cooperatives is an urgency that must be overcome so that cooperatives remain relevant in the era of globalization. This research tries to explain how digital cooperatives and MSMEs can be **the Drivers of People's Business Modernization to strengthen the people's economy in Indonesia.**

2. LITERATURE REVIEW

This economic footprint underscores the need for targeted empowerment strategies that can improve the quality of growth and overcome economic disparities (Haryati, Amirul Mustofa, Syahadiyanti, Suyanto, & Astuti, 2023). Cooperatives as collective business entities play a role as a basic element of the people's economy by prioritizing mutual cooperation and sharing benefits among their members. Cooperatives operate based on the principles of kinship and solidarity, which are very important to build community resilience and economic stability (Kusumastuti, 2022). The cooperative model not only facilitates economic activities but also increases social cohesion in society, thus contributing to broader socioeconomic development (Atanaw & Gebeyehu, 2018). In Ethiopia, for example, cooperatives have been shown to have a positive impact on socioeconomic conditions by improving livelihoods and business management practices (Atanaw & Gebeyehu, 2018).

The concept of social capital is very important in understanding the effectiveness of cooperatives. Ruben and Heras (Ruben & Heras Jorge, 2012) highlight that the performance of agricultural cooperatives is greatly influenced by the interaction between internal and external factors. This relationship shows the importance of the level of trust and social networks in increasing collective action in cooperatives. Furthermore, Shrestha's findings (Shrestha, Cameron, Coutts, & Cavaye, 2015) reinforce this idea by showing that leadership, governance, and member commitment are essential in building and maintaining social capital within the cooperative framework. This social capital not only facilitates economic transactions but also strengthens community ties, thereby encouraging a more resilient people's economy. For example, Adams' work (Adams, Atkin, Lee, Hackett, & Hackett, 2022) illustrates how community-centered food cooperatives can lead to transformation

changes in the development of individuals and communities, thereby embedding cooperatives in the social fabric of society.

Cooperatives in Indonesia have a long history dating back to 1896, when they were originally established as a means to protect citizens from exploitative lending practices, especially from loan sharks. The first cooperative model introduced was the savings and loan cooperative, which aims to provide financial support to its members while encouraging economic independence. The basic principles of cooperatives are firmly rooted in the cooperative movement's emphasis on member participation and mutual assistance, which is important for fostering a sense of togetherness and shared responsibility among members (Majid, Azhari, Faisal, & Fahlevi, 2020). As cooperatives grow, they begin to expand their reach to various sectors, including agriculture, which is crucial for the economic development of rural communities (Majid et al., 2020).

In addition, the resilience of the cooperative sector during economic crises, such as the COVID-19 pandemic, deserves attention. Cooperatives have shown the ability to adapt and continue to function, mainly because of their democratic management structure and the social capital they have. This adaptability is essential to ensure that cooperatives can maintain their relevance and effectiveness in the face of external shocks and changes in economic conditions (Yuhertiana, Zakaria, Suhartini, & Sukiswo, 2022). The cooperative model's emphasis on collective action and mutual support is particularly beneficial in times of crisis, as it allows members to pool resources and share risks (Yuhertiana et al., 2022).

3. METHODS

The research method used in this research is systematic literature review (SLR). This study uses SLR with a rigorous approach that involves the collection, evaluation, and comprehensive synthesis of existing research on a specific topic. This method helps identify gaps in knowledge, consolidate findings, and inform future research directions. The process in this study includes several stages, including: defining the research question, conducting a thorough literature search, selecting relevant studies, extracting data, and synthesizing findings to provide a coherent overview of the existing literature. This study has adhered to established protocols, such as the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), not exaggerating, as these guidelines improve the reproducibility and transparency of the review process (Goulding, Simcock, McLachlan, van der Griend, & Sykes, 2020; Harari, Parola, Hartwell, & Riegelman, 2020). The literature search process in this study is an important component of a systematic study, because it

determines the breadth and depth of the study. Therefore, researchers have carefully selected databases and keywords to ensure that they capture a wide variety of relevant studies, which is essential for a robust literature synthesis (Deepal & Jayamaha, 2022).

In this study, the researcher used the keywords "digital cooperatives; modernization of cooperatives; People's Economy" through ScienceDirect. Based on these keywords, in 2023-2025, 171 articles were obtained. Furthermore, the researcher selected articles according to the topic of relevance and access, namely about cooperatives and MSMEs, 17 articles were obtained. This study uses documentation instruments in the form of the articles obtained, then analyzed using thematic analysis.

4. RESULTS

The results of the thematic analysis based on journals discussing the digitalization of cooperatives and MSMEs obtained a digital transformation model in the context of modernizing people's business. The cooperative model in Indonesia is characterized by a dependence on capital generated by members rather than external funding, which can impose interest obligations on cooperatives (Majid et al., 2020). This principle underscores the importance of fostering a strong sense of togetherness and mutual support among cooperative members, as their collective strength is essential to the sustainability and productivity of the agencies. Various studies have shown that cooperatives can significantly increase the income and productivity of smallholders, thereby contributing to poverty alleviation and the reduction of economic inequality. However, the effectiveness of cooperatives in achieving these goals depends on their ability to overcome the various operational challenges they face, including financial mismanagement and technological limitations (Dwiputri, Prastiwi, & Agustin, 2022).

This shows that cooperatives can effectively address local economic challenges while encouraging community development. The success of collective ventures, which are identical to the hallmarks of cooperative businesses, often depend on the willingness of members to engage in reciprocal exchanges. The concept of reciprocity in general, as outlined by Taborsky (Taborsky, 2016) which describes the mechanisms underlying cooperative behavior among unrelated individuals, shows that the evolutionary stability of such interactions is essential for the sustainability of cooperatives. In this case, the interaction between cooperatives and MSMEs is very important in the context of local economic development. Studies show that networks between companies, including cooperatives, can significantly enhance regional development by creating a competitive

advantage for local businesses (Alderete & Bacic, 2012). By encouraging collaboration among MSMEs, cooperatives can facilitate resource sharing, knowledge transfer, and collective marketing efforts, which are essential for increasing competitiveness in the global economy (Bretos & Marcuello, 2017).

The modernization process of cooperatives and MSMEs relies heavily on a structured approach to digitalization, supported by supportive policies, strategic alliances, platform independence, and ongoing training. This collective movement is pushing these sectors to become more competitive and adaptable, with a stronger role in maintaining and improving the local economy. The common thread here is that modernization is not solely about technology but involves a multi-faceted strategy that combines governance, human resources, and a resilient business model. Based on the analysis of the article, it is obtained that the modernization model of people's business through the digitization of cooperatives and MSMEs is described through the following framework:

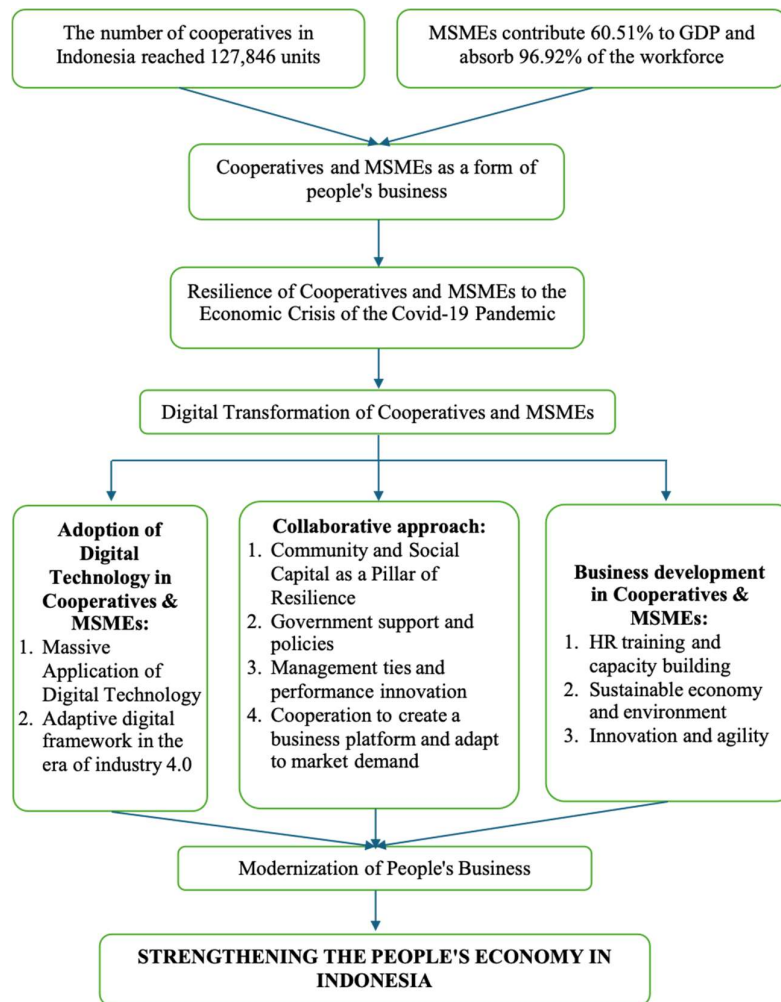


Figure 1. Framework of Digital Cooperatives and MSMEs driving Indonesia's people's economy

5. DISCUSSION

The models results frame work of the thematic analysis on the modernization of cooperatives and MSMEs reveal several general trends and processes that drive the transformation towards a modern, resilient, and economically contributing cooperative sector and form a strengthening model as shown in figure 1. Here are the details:

a. Adoption of Digital Technology in Cooperatives and MSMEs

The advent of digital technology has fundamentally transformed various sectors, including cooperatives, which have historically played an important role in Indonesia's economic landscape, particularly in East Java. This qualitative study aims to explore the current digital cooperative landscape as a driver of cooperative modernization, focusing on its implications for strengthening the people's economy in the region. The integration of digital technology into cooperative practices is not just a trend, but a need to survive and thrive in an increasingly competitive environment. As cooperatives navigate the complexities of the digital age, understanding the factors that facilitate or hinder their modernization becomes important.

1) Massive application of digital technology to cooperatives and MSMEs

- a) Many cooperatives and MSMEs are moving towards digital transformation, motivated by the need for increased efficiency, better market access, and increased competitiveness. This is especially evident in sectors such as agri-food, where digital transformation not only helps reach markets but also addresses issues such as food safety, waste, and sustainability (Qu, Wang, & Li, 2024; Santos, Guzmán, & Ahumada, 2024). For example, the development of digital tools and frameworks such as blockchain for food traceability and quality highlights the sector's goal of leveraging technology to meet operational and social goals.
- b) Many cooperatives and MSMEs are increasingly integrating digital platforms and technologies to increase productivity, efficiency, and market reach. The study highlights that digital transformation, such as the use of smart spray technology in agriculture or digital HR practices in SMEs, contributes significantly to innovation and work productivity. This is seen in efforts across countries where technology adoption, supported by government policies, has empowered MSMEs and cooperatives to modernize their operations (do Prado, Catapan, da Silva Zanuzzi, Matos, & Selig, 2024; Li, Li, Xie, & Zhang, 2024).

2) Industry 4.0 and the Adaptive Digital Framework

- a) Industry 4.0 technologies, including AI and smart systems, are being integrated into the cooperation structure to improve productivity and sustainability. In agriculture, for example, role assignment and AI-based frameworks are applied to optimize task management and scale innovation efficiently. This reflects a modern approach to task allocation, where technology supports traditional cooperation goals through efficient use of data and environmental adaptation (Bisht, Ranjana, & Roy, 2024; Sutisna & Vonti, 2020).

b. A collaborative approach to face the challenges of digital cooperative modernization.

1) Community and Social Capital as a Pillar of Business Resilience

- a) Solidarity in cooperatives, especially in times of crisis, strengthens resilience. The concept of "mutual cooperation" in Indonesian cooperatives, for example, exemplifies how social capital helps cooperatives withstand economic shocks. This internal solidarity and commitment among members allows cooperatives to pool resources, maintain operations, and support each other, underscoring the importance of social networking and mutual assistance in the success of cooperatives (Yuhertiana et al., 2022).

2) Government and Policy Support on Knowledge and Access to Resources

- a) Government-led programs play an important role in supporting cooperatives and MSMEs in their digitalization efforts, especially for small businesses with limited resources. Programs such as those described in Ireland's sectoral DT initiative focus on equipping micro businesses with the digital knowledge and resources they need to compete, thereby creating public value by improving social well-being and local economic development (Balk, 2024; Shirish, Srivastava, Panteli, & Shanahan, 2025).
- b) Government support plays an important role in increasing the resilience and growth of MSMEs and cooperatives. For example, in Mauritius, MSMEs received policy-based assistance during the COVID-19 pandemic, including wage assistance schemes and financial incentives to alleviate operational challenges. This support framework fosters resilience and accelerates recovery during economic crises, highlighting the need for strong partnerships between MSMEs and governments (Ragoobur, Seetanah, Jaffur, & Mooneeram-

Chadee, 2023). In Indonesia and Malaysia, government support in the form of cooperative empowerment initiatives has enabled cooperatives to maintain operational stability and member welfare during crises, such as the COVID-19 pandemic (Yuhertiana et al., 2022).

3) Managerial Ties and Innovation for Performance

- a) In the context of MSMEs, building strategic managerial ties is very important to encourage business model innovation (BMI) and improve company performance. By forging relationships with other companies, government entities, and universities, MSMEs can access resources and knowledge that would otherwise be out of reach, promoting resilience in a volatile economic environment (Bashir, Alfalih, & Pradhan, 2023).

4) Platform Cooperation and Adaptation to Market Demand

- a) There is an important trend towards cooperative models that reduce dependence on large digital platforms. Instead of relying solely on big players, cooperatives are exploring ways to grow collective power and protect individual businesses from the negative impacts of platform monopolies. This model helps cooperatives regain control and build resilience while maintaining adaptability to market shifts (Balk, 2024).

c. Business Development of Cooperatives and MSMEs realizes a Modern People's Business

1) Emphasis on Training and Capacity Building of Human Resources

- a) Beyond technology, the modern cooperative framework also emphasizes the importance of training and capacity building. Digital transformation is not just about adopting tools; It is also about equipping personnel with the necessary skills and knowledge to utilize these tools effectively, ensuring a sustainable and successful transformation (Oliveri, Chiacchio, D'Urso, Munnia, & Russo, 2022).

2) Economic and Environmental Sustainability

- a) Many modern cooperatives and MSMEs are adopting sustainable practices that align with green technology and environmental goals. The policy-driven green technology innovation network, for example, emphasizes reducing the environmental footprint through green practices, from resource-efficient manufacturing to low-emission processes. The push towards sustainable development further reflects the role of MSMEs and cooperatives in

supporting long-term economic growth while preserving the environment (Li et al., 2024).

3) Building Market Competitiveness through Innovation and Agility

- a) MSMEs and cooperatives adopt an agile approach to stay competitive in the global market. By focusing on innovations such as smart agriculture in Ghana or digital HR practices in China, these entities leverage modern technology to increase productivity, manage resources effectively, and reduce operational costs. This focus on agility is essential for MSMEs and cooperatives to scale up and adapt to changing market demand (Addison et al., 2024; Zheng & Mei, 2023).

This figure 01 framework not only strengthens individual companies but also contributes to the economic resilience of society as a whole. In addition, the importance of social and political capital in the sustainability of MSMEs cannot be overstated. The research highlights that these forms of capital are very important for the growth and development of cooperatives and MSME associations, especially in times of economic and digital disruption. The ability of these companies to innovate and adapt to changing market conditions is often attributed to their social networks and political involvement, which can provide access to resources and support systems that enhance operational capabilities. Thus, fostering social and political capital is very important to empower cooperatives and MSMEs to thrive in a competitive landscape.

Digital cooperatives are a convergence of traditional cooperative principles with modern technological advances. The shift towards digitalization is driven by the need for cooperatives to improve operational efficiency, increase member engagement, and expand market reach. (Rustariyuni, 2022) highlighted the success of the use of digital technology innovations in cooperatives, especially in Bali, where the Covid-19 pandemic accelerated the adoption of digital devices. This case study illustrates how digital technologies can serve as catalysts for cooperative resilience and adaptability, enabling organizations to respond effectively to external challenges.

In addition, the performance of cooperatives is influenced by internal and external factors, as evidenced by Golovina's findings (Golovina, Antonova, & Abilova, 2020). Their assessment of agricultural cooperatives in Russia underscores the importance of analyzing cooperative performance through a variety of indicators, including the effectiveness of digital devices. This perspective is particularly relevant for East Java, where cooperatives face unique challenges related to resource allocation and member engagement. The

interaction between digital capabilities and cooperative performance is essential to foster an environment conducive to innovation and growth.

The framework for understanding digital cooperatives is further elaborated by Hasbullah and Bareduan (Hasbullah & Bareduan, 2021). which emphasizes the need for cooperatives to develop skills and knowledge in digital practices. They argue that the sustainability of cooperative operations depends on the ability to adapt to technological advances and market demands. This adaptability involves developing a culture of learning and collaboration among cooperative members. The authors identified key factors influencing cooperative development, including infrastructure, monitoring mechanisms, and access to information, which are critical to the successful implementation of digital strategies.

The modernization of cooperatives through digitalization is not without challenges. Adlan (Adlan, 2023) discusses the dilemmas faced by cooperatives in balancing traditional values with the pressure of digital competition. This tension is especially felt in the Indonesian context, where cooperatives are rooted in cultural and economic principles that prioritize the welfare of the community. The challenge lies in integrating these values with the demands of the digital economy, which often prioritizes efficiency and profitability over the common good. The study aims to investigate how cooperatives in East Java can navigate this complex landscape while remaining true to their basic principles.

The role of innovation in cooperative modernization is further supported by the findings of Szutowski et al. (Szutowski, Szulczewska-Remi, & Ratajczak, 2019) which emphasizes the importance of effectively managing the innovation process. Their qualitative study highlights that the perceived value of innovation projects significantly influences the engagement and participation of cooperative members. In East Java, where cooperatives are often driven by the community, fostering a sense of ownership and involvement in digital initiatives is critical to successful implementation. This participatory approach not only increases member satisfaction but also strengthens the overall performance of the cooperative.

Although cooperatives in Indonesia have a long-standing tradition and significant potential to contribute to economic development and social welfare, today cooperatives face a variety of challenges that hinder their growth and effectiveness. To overcome these challenges, joint efforts are needed to improve operational management, improve technological capabilities, and foster greater public awareness and trust in cooperatives. By strengthening cooperative principles of mutual assistance and community engagement,

Indonesia can harness the full potential of the cooperative sector to drive sustainable economic growth and improve the welfare of its citizens.

6. CONCLUSION

In The modernization of cooperatives and MSMEs is a dynamic process driven by digital transformation, strong government support, community-based resilience, sustainable practices, and competitive innovation. These entities serve as economic anchors, drive job creation, support local communities, and contribute to sustainable growth. Shared commitment among members and alignment with national policies strengthens cooperatives and MSMEs, positioning them as important players in building a resilient and inclusive economy.

7. LIMITATION

The study relies on a systematic literature review, which may limit the findings to pre-existing data and perspectives found in the reviewed studies. This reliance on secondary data could restrict the ability to capture recent on-the-ground challenges and innovations in Indonesian cooperatives and MSMEs.

The conclusions drawn from this research are based on a thematic synthesis of various articles, which may lack the depth of insights that could be obtained through primary, empirical studies directly engaging cooperative members and MSME stakeholders. As a result, the applicability of findings may be limited when applied across diverse sectors and regions within Indonesia.

While digital transformation is discussed as a critical factor in cooperative and MSME modernization, the research does not fully address the barriers to technology adoption in rural and remote areas, where internet access and digital literacy are often limited. This gap may impact the generalizability of digital solutions across all cooperative and MSME settings in Indonesia.

The study acknowledges the role of social capital in cooperative resilience but may not sufficiently delve into the cultural and local socioeconomic dynamics that affect cooperative member participation and trust. These factors are crucial in understanding cooperative engagement but are not deeply explored in a literature-based review.

While the study highlights government support as an enabler for digital transformation, it does not address specific regulatory challenges that cooperatives and MSMEs might face in adopting digital practices. Regulations, such as data privacy laws,

taxation, and digital payment regulations, could impact the pace and manner of digitalization but are not extensively covered.

The rapidly evolving economic landscape, particularly post-pandemic, means that findings based on literature might quickly become outdated. The study may not fully capture the latest shifts in market demands, consumer behavior, and global economic factors affecting MSMEs and cooperatives.

These limitations suggest areas for future research, including primary empirical studies, a closer examination of regional disparities in digital adoption, and a detailed investigation into regulatory and policy impacts on cooperative modernization.

REFERENCES

- Adams, R., Atkin, H., Lee, R., Hackett, S. S., & Hackett, K. L. (2022). Exploring potential for occupational therapy practice models within areas of social deprivation: A qualitative inquiry within a community-centred food cooperative. *British Journal of Occupational Therapy*, 85(10), 828–836. <https://doi.org/10.1177/03080226221092689>
- Addison, M., Bonuedi, I., Arhin, A. A., Wadei, B., Owusu-Addo, E., Fredua Antoh, E., & Mensah-Odum, N. (2024). Exploring the impact of agricultural digitalization on smallholder farmers' livelihoods in Ghana. *Heliyon*, 10(6), e27541. <https://doi.org/10.1016/j.heliyon.2024.e27541>
- Adlan, M. A. (2023). Journal Website: *Tribakti Jurnal Pemikiran Keislaman*, 34(1), 61–78.
- Alderete, M., & Bacic, M. (2012). The impact of inter-firm networks on regional development: The case of Mendoza's wine cluster. *Lecturas de Economia*, 76(76), 177–213. <https://doi.org/10.17533/udea.le.n76a12815>
- Atanaw, E. B., & Gebeyehu, S. G. (2018). The Role of Cooperatives on the Socio-economic Development of Ethiopia. *Journal of Management Research*, 11(1), 1. <https://doi.org/10.5296/jmr.v11i1.13221>
- Balk, A. (2024). Cooperative opportunities for strengthening SMEs in dealing with online platforms. *Journal of Co-operative Organization and Management*, 12(2), 100245. <https://doi.org/10.1016/j.jcom.2024.100245>
- Bashir, M., Alfalih, A., & Pradhan, S. (2023). Managerial ties, business model innovation & SME performance: Moderating role of environmental turbulence. *Journal of Innovation and Knowledge*, 8(1), 100329. <https://doi.org/10.1016/j.jik.2023.100329>
- Bisht, S., Ranjana, & Roy, S. (2024). Optimizing role assignment for scaling innovations through AI in agricultural frameworks: An effective approach. *Advanced Agrochem*, (July). <https://doi.org/10.1016/j.aac.2024.07.004>
- Bretos, I., & Marcuello, C. (2017). REVISITING GLOBALIZATION CHALLENGES AND OPPORTUNITIES IN THE DEVELOPMENT OF COOPERATIVES. *Annals of*

Public and Cooperative Economics, 88(1), 47–73.
<https://doi.org/https://doi.org/10.1111/apce.12145>

- Deepal, A. G., & Jayamaha, A. (2022). Audit expectation gap: a comprehensive literature review. *Asian Journal of Accounting Research*, 7(3), 308–319.
<https://doi.org/10.1108/AJAR-10-2021-0202>
- do Prado, G. M. B. C., Catapan, E., da Silva Zanuzzi, C. M., Matos, F., & Selig, P. M. (2024). Exploring the key success factors: A case study of a digital marketplace platform for Brazilian small farmers. *Procedia Computer Science*, 232(2023), 159–168.
<https://doi.org/10.1016/j.procs.2024.01.016>
- Dwiputri, I. N., Prastiwi, L. F., & Agustin, G. (2022). The Effect of Banks and Cooperatives in Improving Welfare. *Jurnal Ekonomi Kuantitatif Terapan*, 15(1), 59.
<https://doi.org/10.24843/jekt.2022.v15.i01.p05>
- Golovina, S., Antonova, M., & Abilova, E. (2020). Assessment of Agricultural Cooperatives' Performance in Russia: The Case of the Kurgan Region, 392(18), 370–376.
<https://doi.org/10.2991/assehr.k.200113.077>
- Goulding, E. A., Simcock, B., McLachlan, J., van der Griend, R., & Sykes, P. (2020). Low-grade serous ovarian carcinoma: A comprehensive literature review. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 60(1), 27–33.
<https://doi.org/https://doi.org/10.1111/ajo.13105>
- Harari, M. B., Parola, H. R., Hartwell, C. J., & Riegelman, A. (2020). Literature searches in systematic reviews and meta-analyses: A review, evaluation, and recommendations. *Journal of Vocational Behavior*. <https://doi.org/10.1016/j.jvb.2020.103377>
- Haryati, E., Amirul Mustofa, Syahadiyanti, L., Suyanto, S., & Astuti, S. J. W. (2023). Marketplace governance in the context of empowering MSMEs inside the realm of online shopping. *Journal of Community Service and Empowerment*, 4(3), 602–617.
<https://doi.org/10.22219/jcse.v4i3.29432>
- Hasbullah, H., & Bareduan, S. A. (2021). the Framework Model of Digital Cooperative To Explore Economic Potential in Higher Education. *Sinergi*, 25(2), 195.
<https://doi.org/10.22441/sinergi.2021.2.011>
- Hermina, N., & Firdaus, E. (2023). Read Opportunities for Building Business Performance in West Java. *Jurnal Ilmu Manajemen Advantage*, 7(2), 126–133.
<https://doi.org/10.30741/adv.v7i2.1170>
- Kusumastuti, D. (2022). Institutional Strengthening of Msmes Through Easy Cooperative Protection. *Mimbar Keadilan*, 15(1), 1–10. <https://doi.org/10.30996/mk.v15i1.5806>
- Li, J., Li, G., Xie, J., & Zhang, G. (2024). Dynamic simulation of policy-driven green technology innovation networks: Digital empowerment and collaborative efficiency. *Heliyon*, 10(16), e36622. <https://doi.org/10.1016/j.heliyon.2024.e36622>
- Majid, M. S. A., Azhari, A., Faisal, F., & Fahlevi, H. (2020). Do Capital and Business Volume Matter for Productivity of the Cooperatives in Indonesia? *Binus Business Review*, 11(1), 1–8. <https://doi.org/10.21512/bbr.v11i1.5918>

- Oliveri, L. M., Chiacchio, F., D'Urso, D., Munnia, A., & Russo, F. (2022). Successful digital transformations enabled by technologies or by open mind? Italian case studies. *Procedia Computer Science*, 217(2022), 1066–1075. <https://doi.org/10.1016/j.procs.2022.12.305>
- Qu, L., Wang, J., & Li, Y. (2024). Housing-industry transformation development and rural revitalization path based on complex adaptive system in Three Gorges Reservoir Area of China. *Ecological Indicators*, 162(January), 112008. <https://doi.org/10.1016/j.ecolind.2024.112008>
- Ragoobur, V. T., Seetanah, B., Jaffur, Z. K., & Mooneeram-Chadee, V. (2023). Building recovery and resilience of Mauritian MSMEs in the midst of the COVID-19 pandemic. *Scientific African*, 20. <https://doi.org/10.1016/j.sciaf.2023.e01651>
- Ruben, R., & Heras Jorge. (2012). SOCIAL CAPITAL, GOVERNANCE AND PERFORMANCE OF ETHIOPIAN COFFEE COOPERATIVES. *Annals of Public and Cooperative Economics*, 83(4), 463–484. <https://doi.org/https://doi.org/10.1111/j.1467-8292.2012.00473.x>
- Rustariyuni, S. D. (2022). Case Study of Successful Utilization of Digital Technology Innovations Determinants of Cooperative Institutions in Bali: The Impact of the Covid-19 Pandemic. *International Journal of Applied Business and International Management*, 7(3), 1–20. <https://doi.org/10.32535/ijabim.v7i3.1789>
- Santos, F. J., Guzmán, C., & Ahumada, P. (2024). Assessing the digital transformation in agri-food cooperatives and its determinants. *Journal of Rural Studies*, 105(May 2023). <https://doi.org/10.1016/j.jrurstud.2023.103168>
- Shirish, A., Srivastava, S. C., Panteli, N., & Shanahan, J. O. (2025). Journal of Strategic Information Systems A knowledge-centric model for government-orchestrated digital transformation among the microbusiness sector. *Journal of Strategic Information Systems*, 34(1), 101870. <https://doi.org/10.1016/j.jsis.2024.101870>
- Shrestha, R. K., Cameron, D. C., Coutts, J., & Cavaye, J. (2015). Building and Maintenance of Social Capital in Rural Farming Community of the Western Hills of Nepal. *International Journal of Asian Business and Information Management*, 6(3), 28–41. <https://doi.org/10.4018/ijabim.2015070103>
- Sutisna, E., & Vonti, L. H. (2020). Innovation development strategy for hybrid learning based English teaching and learning. *English Review: Journal of English Education*, 9(1), 103–114. <https://doi.org/10.25134/ERJEE.V9I1.3783>
- Szutowski, D., Szulczewska-Remi, A., & Ratajczak, P. (2019). Managing innovation processes in industrial sector. Qualitative study. *Economic Research-Ekonomska Istrazivanja*, 32(1), 282–300. <https://doi.org/10.1080/1331677X.2018.1553681>
- Taborsky, B. (2016). Opening the Black Box of Developmental Experiments: Behavioural Mechanisms Underlying Long-Term Effects of Early Social Experience. *Ethology*, 122(4), 267–283. <https://doi.org/10.1111/eth.12473>
- Yuhertiana, I., Zakaria, M., Suhartini, D., & Sukiswo, H. W. (2022). Cooperative Resilience during the Pandemic: Indonesia and Malaysia Evidence. *Sustainability (Switzerland)*,

14(10), 1–13. <https://doi.org/10.3390/su14105839>

Zheng, Y., & Mei, L. (2023). How to promote the adoption of intelligent spray technology in farmers' cooperatives? —Based on the perspective of evolutionary game. *Heliyon*, *9*(9), e19897. <https://doi.org/10.1016/j.heliyon.2023.e19897>