

Leveraging Triple Helix Synergy for Boosting SME Innovation and Competitiveness: Insights from Blitar

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Abstract

Micro, Small, and Medium Enterprises (MSMEs) in Indonesia play a vital role in the country's economy. Still, they face various challenges, including limited resources, low managerial capabilities, and a lack of access to modern technology. The triple helix approach, which involves academics, business actors, and the government, can be a solution to increase the innovation and competitiveness of MSMEs. This research examines the synergy of the triple helix in developing MSMEs, with a case study of the MSME "MUZA" in Blitar Regency, which produces smoked salted eggs as an innovative product from traditional products. The research method employed is a descriptive exploratory approach, collecting data through in-depth interviews and questionnaires. The research results indicate that, despite training and support from academics and the government, the involvement of MSMEs in implementing training still needs improvement. There are challenges in coordination between related parties which hinder the effectiveness of empowerment. This research highlights the importance of fostering further synergy among academics, the Government, and MSMEs to create an ecosystem that supports the development of more sustainable and competitive MSMEs in both domestic and international markets.

Keywords: Empowerment; MSMEs; Triple Helix; Technology and Innovation.

1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) are strategic drivers of the national economy, significantly contributing to job creation, poverty alleviation, and improving community welfare. However, most MSMEs in Indonesia still face various obstacles, including limited quality human resources, minimal managerial skills, a lack of access to modern technology, and weak innovation and competitiveness capabilities. In the context of increasingly fierce global competition, MSMEs must transform to survive and develop by implementing strategies based on innovation and collaboration [1].

The triple helix approach, which involves three key actors —academics, business actors, and the government—is an effective empowerment method for enhancing the innovation and competitiveness of MSMEs [2]. Academics serve as centers for innovation and knowledge transfer, providing research-based solutions to the various problems that MSMEs face. As a regulator and facilitator, the government is tasked with creating policies that support the development of MSMEs and providing assistance in areas such as training, technology, and infrastructure. On the other hand, business actors have the responsibility to apply these innovations to increase productivity, product quality, and market reach [3]. The synergy between these three components fosters a mutually beneficial relationship and may support the long-term sustainability of MSMEs.

According to [4], one example of implementing the triple helix approach is the UMKM "MUZA" in Blitar Regency, which produces smoked salted eggs as an innovative product from traditional salted egg products. These MSMEs received empowerment from various parties, including academics from the Faculty of Animal Husbandry at Brawijaya University, as well as

support from the Fisheries and Livestock Service and the Cooperative and Micro Enterprise Service. The empowerment program includes training on food safety, packaging techniques, and digital marketing to improve product quality and expand distribution reach. This collaboration not only aims to enhance product competitiveness but also strengthens the capabilities of MSMEs, enabling them to compete in both domestic and international markets [5].

However, implementing the triple helix to empower MSMEs in Indonesia still presents challenges, such as low technological adaptation among MSME players, a lack of coordination between related parties, and obstacles in creating inclusive and flexible regulations [6]. Therefore, a comprehensive and synergistic empowerment strategy is needed, prioritizing innovation and sustainability to address these challenges. This research aims to analyze the triple helix synergy in developing innovation and competitiveness of MSMEs, with a case study of the "MUZA" MSMEs in Blitar Regency. Through this research, an empowerment strategy can be formulated to create a collaborative ecosystem among academics, government, and business actors, thereby establishing an effective model for developing other MSMEs in Indonesia.

2. Materials and Methods

This research uses a descriptive exploratory approach to develop a strategy for empowering Muza smoked salted egg MSMEs in Blitar Regency based on the triple helix model. This approach focuses on collaboration between academics, business actors, and the Government (ABG) to support the sustainable development of MSMEs. Research data was collected through in-depth interviews with the leading actors in the triple helix model, namely representatives of the Fisheries and Livestock Service and the Blitar Regency Cooperative and Micro Enterprise Service, academics from the Doctoral Service team at the Faculty of Animal Husbandry, Brawijaya University, and the head of Muza UMKM. This interview is semi-structured to explore information regarding each party's roles, challenges, and potential for collaboration in supporting the empowerment program. Additionally, closed questionnaires were used to collect quantitative data relevant to the research. At the same time, documentation included collecting secondary data in the form of program reports, government policies, and the results of empowerment activities.

The research procedure was carried out in two main stages. The first stage is identifying the role of the triple helix actor through in-depth interviews. This interview aims to describe the contributions of each party, including implementing training, developing technology, and procuring production equipment for MSMEs. The data obtained from interviews was then analyzed descriptively to identify relationships and synergies between academics, government, and business actors in implementing MSME empowerment [7]. The second stage involves formulating an empowerment strategy based on the findings obtained from the data collection process. Data validity is ensured through source triangulation, which consists of comparing data from interviews, questionnaires, and supporting documents. The results of this research can become strategic recommendations to improve the sustainability of Muza smoked salted egg MSMEs in Blitar Regency.

3. Results and Discussion

3.1. Empowerment Program Profile

The Muza MSME empowerment program in Blitar Regency demonstrates a development model that involves various stakeholders, including academics, the Government, and MSMEs as business actors. In this case, Muza MSMEs received digital marketing, packaging, and product processing training provided by the Doctoral Service team from the Faculty of Animal Husbandry, Brawijaya University. This team comprises marketing, packaging, and livestock product innovation experts, such as Dr. Siti Azizah, S.Pt., M.Sos., M.Commun as team leader. The academic team's digital marketing training encompasses the use of design tools like Canva, product catalog creation, and website development to enhance online marketing. Apart from that, packaging innovations made from rattan or bamboo, which are more environmentally friendly, provide added value to Muza's smoked salted egg products.

On the other hand, the government, through the Department of Cooperatives and Micro Enterprises (DISKOP) and the Department of Fisheries and Livestock (DISPET), also contributes to empowerment by providing digital marketing training in Wlingi District, facilitating Muza's participation in product exhibitions, and providing product certification. The programs carried out by these two agencies run independently without strong synergy with each other, so the effectiveness of the programs has yet to achieve maximum results. Muza MSMEs themselves are the primary recipients of the benefits of this program. However, the involvement of MSMEs in absorbing and implementing the training provided has yet to be optimal. One of the primary obstacles is the centralization of decisions and management in a single individual, which hinders the organization's overall development.

3.2. Involvement of Triple Helix Components in Empowerment

The Muza MSME empowerment model refers to the Triple Helix approach, which involves three main components: academics, Government, and MSMEs as business actors. In-depth analysis shows the role, strengths, weaknesses, and challenges of each element as follows:

3.2.1. Academics

Academics have a vital role in MSME empowerment programs, especially as innovators and knowledge transferors. Through the Service Doctoral Team, which consists of experts from the Faculty of Animal Husbandry at Brawijaya University, Muza MSMEs receive beneficial technical and strategic training. The training includes environmentally friendly packaging made from local materials such as rattan and bamboo, developing more effective digital marketing content to attract a broader audience, and compiling an attractive and informative product catalog. The innovation presented by academics adds value to products produced by MSMEs, especially Muza smoked salted eggs, which now feature more beautiful and environmentally friendly packaging. Apart from that, academics also play a role in facilitating the formation of the "Sehati" cooperative, which manages smoked salted egg products, as an effort to organize and strengthen MSMEs at the local level. However, even though academics make significant contributions, their empowerment programs often tend to run independently without direct coordination with the government. This lack of coordination results in a lack of synergy in managing existing resources and achieving optimal results from the implemented programs [8]. Academics need to be more active in establishing communication with the Government and MSMEs so that these empowerment efforts can be more focused and effective.

3.2.2. Government

Through government institutions, the government, namely the Department of Cooperatives and Micro Enterprises (DISKOP) and the Department of Fisheries and Livestock (DISPET), have a dual role as regulator, facilitator, and catalyst in empowering MSMEs. As a regulator, the government provides policies and regulations that support the development of MSMEs, such as product registration and certification. As a facilitator, the government offers various relevant training, such as digital marketing training to maximize product marketing online and facilitating MSME participation in product exhibitions that can introduce local products to a broader market. Additionally, the government supports Muza product certification, which is crucial in enhancing product credibility in the market. However, despite the government's provision of various support, there are several areas for improvement in managing the empowerment program [9]. One is the need for coordination between related institutions, including DISKOP and DISPET, as well as with academics. Overlapping authority between agencies is an obstacle because programs organized by each agency often require optimal synergy to function effectively. In addition, although the government plays a role as a catalyst, namely the party that encourages the growth of MSMEs, this role has yet to be entirely appropriately realized due to the lack of alignment between the programs being implemented and the actual needs faced by MSMEs. The government

needs to strengthen communication and coordination with various parties, especially academics and MSMEs, to accelerate the growth and development of MSMEs more effectively.

3.2.3. Businessman (UMKM Muza)

As the leading actors in the empowerment program, Muza MSMEs act as beneficiaries and implementers of innovations provided by academics and the government. However, despite receiving various relevant training, Muza MSMEs still require assistance with internal organizational management. One of the primary challenges is the reliance on specific individuals in business management, which hinders decision-making and the implementation of innovation. With a clear organizational structure and organized management, the potential for developing and implementing innovation sustainably is unlimited. However, despite this, Muza MSMEs obtained several vital achievements thanks to their empowerment. Among these is increasing member competency in digital marketing, which allows their products to be marketed more widely through online platforms. Apart from that, they also succeeded in developing product packaging that is more attractive and environmentally friendly, which provides added value to the Muza smoked salted egg product. Through programs organized by the government and academics, Muza MSMEs also gain wider access to the market, both through product exhibitions and more strategic marketing programs. However, the biggest challenge Muza MSMEs faces is managing and maintaining the sustainability of the innovations that have been introduced, as well as ensuring that all members can play an active role in business development. Improvements are needed in organizational structure and business management to ensure that the provided empowerment can be implemented optimally and sustainably [10].

3.3. Relationship Model in the Triple Helix

The relationship between the three components in the Triple Helix model, as applied to the Muza MSME empowerment program, reveals that several obstacles hinder achieving maximum synergy, particularly in communication and coordination. Although academics often communicate directly with the government, particularly DISKOP, and DISPET, to determine the status and handling of assisted MSMEs, communication between these agencies and academics could be improved. This means that vital information and feedback are only sometimes received by academics in a timely manner. As a result, there is a delay in responding to changes in the needs of MSMEs, so the designed empowerment program cannot be improved or adapted optimally to meet evolving needs [11]. With these limitations in communication, opportunities to perfect and increase the effectiveness of empowerment programs need to be improved.

Furthermore, the relationship between DISKOP and DISPET, which should support each other in designing and implementing empowerment programs, is often limited to granting the status of a fostered MSME without any concrete program collaboration. These two institutions, although they share similar goals in developing MSMEs, typically run their programs separately and tend to be sector-specific. Without closer coordination, each institution focuses on achieving its internal goals without considering the impact and linkages with programs from other institutions. This leads to overlapping activities, waste of resources, and a need for efficiency in utilizing the budget and available personnel. Programs that complement and strengthen each other should be run separately to improve their impact on developing MSMEs.

On the other hand, Muza MSMEs tend to take a more passive role in this relationship. Interaction between MSMEs, academics, and the government typically occurs only during the implementation of training programs or activities, without intensive follow-up after the program is completed. This results in limited application of empowerment in the field because there is no ongoing evaluation and monitoring process after the activity is completed. Some empowerment outcomes, such as product packaging and digital marketing, often require assistance, primarily due to a lack of understanding and internal readiness among MSME organizations to manage change. The internal organization of MSMEs, which still relies on specific individuals, needs to be fully prepared to respond to changes implemented by academics and the government, ensuring optimal use of empowerment results [12].

The primary challenge in implementing the Triple Helix model to empower Muza MSMEs lies in the need for full integration of coordination and communication. Although academics and the government have launched numerous initiatives, the limited synergy between these three components hampers the effectiveness of the empowerment provided. For the Triple Helix model to run more effectively, improvements are needed in terms of coordination and integration between academics, the Government, and MSMEs. Increasing open and intensive communication between government institutions, scholars, and MSMEs, as well as between MSMEs and other institutions, can enhance synergy in implementing empowerment programs. Additionally, MSMEs need to participate more actively in every stage of empowerment, including planning, implementation, and evaluation of program results. With improvements in communication, coordination, and collaboration between the three components, the Triple Helix model will successfully and sustainably empower Muza MSMEs.

3.4. Obstacles and Opportunities

The research results identified several obstacles that need to be overcome to enhance the effectiveness of Muza MSME empowerment, both internally and externally. The primary internal obstacle is the limited managerial capacity at the MSME level, which hinders the organization's ability to manage various operational aspects, including finance, production, and marketing. Centralization of business management, which is still focused on one or two individuals, is also an obstacle, as it limits the ability to develop a more structured and team-based system. Apart from that, there is resistance to change within MSMEs, especially in adopting new technology, shifting mindsets, and implementing innovations brought by academics and the government. This resistance is often caused by uncertainty and a lack of understanding regarding the long-term benefits of the implemented changes [13].

Apart from internal obstacles, external factors also influence the success of empowerment programs. One of the significant external obstacles is the need for more synergy between academics and the government in designing and implementing empowerment programs. Although each party has a vital role, they often act independently, and there is a need for more coordination between them. This leads to overlapping empowerment programs, where each institution carries out activities that should complement each other but instead seem separate. Additionally, differences in priorities and policies between local governments and academics can also create gaps that hinder the overall success of empowerment.

However, despite various obstacles, this research also reveals several opportunities that can be exploited to accelerate the development of Muza MSMEs. One of the primary opportunities is the development of environmentally friendly products, which are increasingly in demand in the market. Consumer demand for sustainable and environmentally friendly products continues to increase, creating opportunities for MSME Muza to develop products with high market appeal, such as smoked salted eggs packaged in eco-friendly packaging. Apart from that, digital marketing can be an excellent opportunity to expand the market reach of Muza MSMEs, allowing consumers to become more aware of their products at both the local and national levels. Product exhibitions organized by the government also provide opportunities for Muza MSMEs to introduce their products directly to consumers and parties who have the potential to support the development of their businesses [14].

Apart from that, the potential for stronger collaboration between academics and the government also opens opportunities to create more integrated and holistic empowerment programs. By strengthening the synergy between academics, the Government, and MSMEs, empowerment programs can be implemented with greater focus, measurability, and targeting. This integration will ensure that the programs carried out by each party can support each other in terms of developing managerial capacity, product marketing, and improving the quality of the product itself. The agreement to collaborate more intensively between these three parties will enable Muza MSMEs to optimize existing potential and increase their competitiveness in an increasingly competitive market. By taking advantage of these opportunities, Muza MSMEs can overcome existing obstacles and achieve more sustainable development.

3.5. Development Recommendations

Several strategic steps need to be considered and implemented to optimize the empowerment of Muza MSMEs and ensure the sustainability and effectiveness of the programs being implemented. The first step is Program Integration, which emphasizes increasing coordination and collaboration between academics and government. Overlapping empowerment programs often occur due to a need for improved communication and a deeper understanding of shared goals, objectives, and implementation steps. Therefore, there is a need for a more intensive communication forum or platform between related parties to develop integrated programs. More structured collaboration will ensure that the empowerment programs implemented do not run separately but rather support and strengthen each other to optimize the use of existing resources and minimize waste.

The second step is to increase the capacity of MSMEs, particularly in terms of organizational management. Most of the challenges Muza MSMEs face relate to dependence on specific individuals to manage the business. This creates instability and unsustainability for the company when the individual is no longer actively involved. Therefore, providing comprehensive managerial training to Muza MSME managers is very important. This training can cover business planning, financial management, HR management, and efficient distribution and marketing systems. By strengthening managerial capacity, Muza MSMEs can operate more independently and systematically, reduce their dependence on a single individual, and ensure long-term business continuity.

Furthermore, regular monitoring and evaluation must be carried out to ensure the sustainability and effectiveness of the empowerment program. Regular evaluations involving all parties, including academics, Government, and MSMEs, will enable the identification of problems that arise and provide timely solutions. This will also help assess whether the results of the implemented empowerment align with the set objectives and whether adjustments are needed to improve the achieved results. Transparent and data-based evaluation will provide a strong basis for continuous improvement and increase accountability in implementing empowerment programs.

The next step is Multi-Stakeholder Collaboration, which invites the private sector to actively support the marketing and development of MSME products. The private sector, particularly companies with extensive distribution networks, can help Muza MSMEs access larger and more diverse markets. Apart from that, the private sector can also provide assistance in funding, technology, and digital marketing, which are essential for enhancing the competitiveness of MSME products. By establishing mutually beneficial partnerships between MSMEs, academics, the government, and the private sector, the empowerment of Muza MSMEs can run more effectively and provide a more significant positive impact on the regional economy. By implementing these strategic steps, Muza MSMEs will further develop and increase the competitiveness of processed livestock products, especially smoked salted eggs, and contribute to sustainable regional economic growth. Empowerment that is integrated, capacity-based, and supported by strong partnerships will ensure that Muza MSMEs can thrive, grow, and provide significant benefits to the local community.

4. Conclusion

Muza's empowerment of MSMEs, which refers to the Triple Helix model, which involves the roles of academics, government, and business actors (MSMEs), shows that collaboration between these three components has excellent potential to increase the competitiveness and sustainability of MSMEs, especially in the processing of smoked, salted egg products. However, the application of this model still faces several obstacles that need to be overcome to optimize empowerment results. Limited managerial capacity in MSMEs, ineffective communication between academics, the Government, and MSMEs, and overlapping empowerment programs are the primary obstacles to implementing integrated programs.

Nevertheless, great opportunities are wide open through environmentally friendly product innovation, increased market access through digital marketing, and the potential for stronger

collaboration between academics and the government to create integrated empowerment programs. Based on the results of this analysis, strategic steps such as enhancing coordination among related parties, providing organizational management training for MSMEs, and conducting regular evaluations and monitoring can improve the effectiveness of empowerment. Additionally, involving the private sector in product development and marketing will have a positive impact on Muza MSMEs. By implementing these steps, Muza MSMEs can thrive and grow, enhance the competitiveness of processed livestock products, and contribute to sustainable regional economic development. The success of this empowerment will serve as a good example of how collaboration between academics, government, and business leaders can create synergies that benefit all parties and improve community welfare.

Reference

- [1] Susila, A. R. (2017). Upaya pengembangan usaha mikro kecil dan menengah dalam menghadapi pasar regional dan global. *Kewirausahaan dalam multi perspektif*, 2017, 153-171.
- [2] Etzkowitz, H. (2017). The Triple Helix: University-Industry-Government Innovation and Entrepreneurship.
- [3] Ranga, M., & Etzkowitz, H. (2015). Triple Helix systems: an analytical framework for innovation policy and practice in the Knowledge Society. *Entrepreneurship and knowledge exchange*, 117-158.
- [4] Pangarso, A., Sisilia, K., Setyorini, R., Peranginangin, Y., & Awirya, A. A. (2022). The long path to achieving green economy performance for micro, small, and medium enterprises. *Journal of Innovation and Entrepreneurship*, 11(1), 1-19.
- [5] Suseno, B. D., Nuryanto, U. W., Fidziah, F., Silalahi, S., Saefullah, E., Saleh, M., ... & Asfar, A. H. (2023). Manajemen sumber daya manusia.
- [6] Mungyun, T. (2024). Digital Business Design and Its Implementation During Disruption Era. *Journal of Current Research in Business and Economics*, 3(1), 2919–2952.
- [7] Landoni, M. (2019). Convergence of innovation policies in the European aerospace industry (1960–2000). *Technological Forecasting and Social Change*, 147, 174–184.
- [8] Firmansyah, D., Suryana, A., Rifa'i, A. A., Suherman, A., & Susetyo, D. P. (2022). Hexa helix: kolaborasi quadruple helix dan quintuple helix innovation sebagai solusi untuk pemulihan ekonomi pasca covid-19. *EKUITAS (Jurnal Ekonomi Dan Keuangan)*, 6(4), 476-499.
- [9] Muliana, F. M., & Mansyur, A. (2024). Peran Berbagi Pengetahuan Dan Kualitas Inovasi Terhadap Kinerja Pelaku UMKM. *Jurnal Ilmiah Manajemen, Ekonomi, & Akuntansi (MEA)*, 8(1), 1253-1269.
- [10] Kholid, A., & Rahmi, D. (2023). Strategi Pengembangan UMKM Makanan dan Minuman di Kelurahan Tamansari Kota Bandung. *Jurnal Riset Ilmu Ekonomi Dan Bisnis*, 133-142.
- [11] Khouroh, U., Ratnaningsih, C. S., & Rahayudi, B. (2021). Inovasi dan daya saing UMKM di era new normal: dari triple helix model ke quadruple helix model. *Jurnal Manajemen dan Kewirausahaan (JMDK)*, 9(2), 152-162.
- [12] Hasiana, D., Safira, T., & Fathun, L. M. (2021). Limbah Medis pada COVID-19 di Indonesia: Faktor Kompleksitas dan Upaya Reformasi. *J Sentris*, 2(2), 152-65.
- [13] Brilliantia, N., & Fathah, A. H. A. (2022). Promosi Digital Wisata Kuliner Peneleh Melalui Pendekatan AISAS dan Word-of-Mouth. *Jurnal Pengabdian Kepada Masyarakat Nusantara*, 3(1), 102-116.
- [14] Yakin, M. (2024). Exploring the role of the perceived value of technology and brand recognition on purchase intention of Japanese electronic products. *Journal of Current Research in Business and Economics*, 3(1), 246–278.