

SUSTAINABILITY MANAGEMENT MODEL OF MICRO, SMALL AND MEDIUM-SIZED ENTERPRISES BASED ON THE ENTREPRENEURSHIP ECOSYSTEM IN THE MIMIKA REGION, CENTRAL PAPUA

Djayani Nurdin¹, Husnah^{1*}, Tuti Haryanti², Ayi Latifah², Reza Mahendra Krisnamurti², Cici Rianty K. Bidin¹

¹)Department of Management, Faculty of Economics and Business, University of Tadulako, Palu

²)Balai Besar Perluasan Kesempatan Kerja Bandung Barat, Ministry of Manpower of the Republic of Indonesia

Author coreponden : Husnah
E-mail : husnahatjo@untad.ac.id

Submit: 26 February 2025, Revised: 03 March 2025, Accepted: 07 March 2025

DOI : <https://doi.org/10.22487/agroland.v11i2.2457>

ABSTRACT

This study aims to build a sustainability model for independent workforce in the Mimika Region, grounded in the identification of resources, program impacts, problems encountered, and the possibility for independent workforce development within an entrepreneurial ecosystem. This study employs a qualitative methodology utilizing a case study approach and descriptive analysis. The data used in this study were obtained through several data collection techniques, namely: questionnaires, in-depth interviews and FGDs. The collected data were evaluated through descriptive methods to ascertain the parameters that affect the sustainability of independent workforce. The study's results indicate that the sustainability of independent workforce can be attained through an entrepreneurial environment, facilitated by collaboration with universities and innovation incubation centers. The entrepreneurial ecosystem fosters economic growth and community welfare by promoting innovation, collaboration, and resource sharing among diverse stakeholders. This ecosystem fosters an atmosphere conducive to entrepreneurial endeavors, hence resulting in job creation and sustainable enhancement of the quality of life in the Mimika Region.

Keywords: Sustainability, Entrepreneurship Ecosystem, independent workforce and Mimika.

INTRODUCTION

Sustainable business is an interesting topic in the business world, and micro, small and medium-sized enterprises (MSMEs). have adopted sustainable business practices to provide

environmentally friendly products to their customers and create an environmentally friendly environment in other business procedures (Bhatti et al, 2022). Cherrafi et al., (2018) found factors that contribute to business sustainability including intense competition, technical progress, and the

company's commitment to improving financial performance in the long term. Qiu et al. (2020) emphasized that the function of sustainability goes beyond environmental considerations and argued that sustainability also helps companies improve financial performance and market competitiveness worldwide. The results of a study conducted by Bhatti et al, 2022, more complexly found that the factors that can influence business sustainability are human capital, green management practices, and technological innovation.

MSMEs program in the Mimika area, play a dominant role in the sustainability of their businesses, where Mimika Regency, located in Central Papua Province, Indonesia, shows unique geographic, social, and economic complexities. This region presents significant challenges and opportunities for sustainable development. Located in the southern part of Papua Island bordered by the Arafura Sea to the south, Mimika offers a diverse landscape, including lowlands, swamps, and mountains that are part of the Central Papua Mountains, with the majestic Mount Jayawijaya and Puncak Jaya.

The tropical climate with high rainfall throughout the year supports abundant biodiversity, while its natural resources, especially gold and copper mines, make Mimika one of the largest extraction centers in the world, operated by PT. Freeport Indonesia. However, the exploitation of these resources is not without its impacts, threatening environmental sustainability and creating significant economic disparities between indigenous Papuans and migrants. Socio-economic life in the district capital, Timika, reflects complex dynamics. Despite being a major economic center thanks to mining, formal sector employment is still limited outside the mining industry, creating significant skills and access gaps for local communities. Mass migration also exacerbates these problems, increasing competition in a limited labor market. The uneven

distribution of income, along with limited access to basic services such as education and health in rural areas, indicates the need for in-depth research to identify sustainable solutions that can promote economic inclusion, protect the environment, and improve the standard of living for all Mimika residents.

Mimika, as a region with abundant natural resource potential and known as one of the largest gold producers in the world, faces a paradox in managing its wealth. Amidst the rate of gold production reaching hundreds of kilograms every day and the high income of mine workers, the fact that the poverty rate in Mimika Regency is still at 14.18% by the end of 2024 indicates a serious challenge in equalizing welfare. This condition underlines the need for a strategic approach to address unemployment, improve the skills of the local workforce, and utilize the region's superior potential to create productive and sustainable jobs. The urgency of this research lies in the urgent need to formulate a comprehensive solution that can address these socio-economic gaps, especially through optimizing the area-based employment opportunity expansion program designed by the Ministry of Manpower.

The high poverty rate in the Mimika region faces serious challenges in terms of unemployment and limited employment opportunities, especially among young people and low-income groups. In this context, a comprehensive approach is needed to improve skills, production capacity, and market access for MSMEs, so that they are able to compete in an increasingly competitive market. Area-based facilitation is one solution to overcome this problem by providing support in the form of skills training, assistance with access to capital, and assistance in business legality and marketing. This program is also in line with the 9 Policy Leaps of the Ministry of Manpower which emphasize job creation, reducing unemployment, and increasing labor exchange rates through various policy innovations.

The Indonesian Ministry of Manpower has set a policy direction to empower the workforce through a program to expand regional-based employment opportunities. The hope of this program is to increase workforce absorption. This policy direction is implemented through three stages, namely: (1) preparation of a program plan for expanding regional-based employment opportunities, (2) implementation of a pilot project for a program to expand regional-based employment opportunities, and (3) implementation of a program to expand regional-based employment opportunities. The areas that are priority for development in this program are: (1) super priority tourism areas, (2) outermost, foremost, and disadvantaged areas, (3) urban areas, and (4) areas based on regional superior potential. In 2024, in order to realize the success of the program to expand regional-based employment opportunities, the Ministry of Manpower needs to conduct monitoring, evaluation, and follow-up for 10 western regions and 5 eastern regions. Meanwhile, five (5) regions are Central Lombok (NTB), North Morowali, Central Sulawesi, Likupang, North Sulawesi, Mimika, Bintuni Bay, West Papua. Monitoring and evaluation (Monev) and actualization of programs for the western region are carried out by the Bogor Agricultural Institute, and the eastern region is carried out by Tadulako University.

RESEARCH METHODS

This study aims to determine the current social support circumstances for establishing an employment and entrepreneurial ecosystem in the Mimika Region, and to perform a gap analysis between the prevailing social conditions and the ideal conditions in the Mimika Region. This study used a multi-stage process as outlined below: This research employs a qualitative methodology utilizing a case study approach. Case studies were chosen to offer an in-depth

comprehension of the social and economic backdrop in the two areas of concentration, specifically Mimika. (2) Data gathering: The data utilized in this study were acquired by various data gathering methodologies, specifically: Surveys; Comprehensive Interviews: Executed with diverse stakeholders, encompassing local governments, corporate representatives, and community organizations. This interview is to gather information regarding current social support and the obstacles encountered in establishing an employment and entrepreneurship ecosystem. Focus Group Discussion (FGD): FGDs were conducted with representatives from several sectors, including the private sector, educational institutions, and non-governmental groups. This focus group discussion seeks to ascertain the requirements and anticipations of business stakeholders and measures that can be implemented to enhance social support. The collected data were subjected to descriptive analysis to ascertain the primary parameters associated with the sustainability of MSMEs in the Mimika Region.

RESULTS AND DISCUSSION

MSMEs Profile

As of 2023, MSMEs has been established in the Mimika Area, totaling 24 MSMEs. The MSMEs increases gradually over two years; it is 10 MSMEs in 2022 and 14 MSMEs in 2023. As of 2024, only 17 MSMEs remain active, constituting 70.8%, while 7 MSMEs are inactive.

Upstream-Downstream Ecosystem of Employment and Entrepreneurship in Mimika Area

Application of Environmentally Friendly Production Raw Materials The application of environmentally friendly production raw materials is carried out by MSME Amuro in Mimika, producing instant coffee using original Papuan coffee. The raw materials come from farmers without using organic fertilizer on

their coffee plants. Waste management in the cafe business and coffee producers uses the clean and clear concept. Coffee does not leave dregs. Likewise for MSME managing Chicken Livestock (MSME Permata Yaspin), chicken manure is used for compost. Environmentally friendly management by minimizing the use of plastic at MSME Amuro. Overall, there are 2 MSME that implement environmentally friendly production and 15 MSME have not implemented it, presented in the following Figure.

Adoption of technologies MSME has commenced the integration of digital technologies to enhance operational efficiency and broaden market reach.

Social media utilization aids MSMEs in enhancing production, marketing, and sales operations conducted by MSME Amuro; MSME tilapia aquaculture (MSME Mina Asalam, Mina Kencana, Mina Utama Maju, Satu Honai, Kaonak, Yiogobak, Sejahtera, Nila Jaya, and Demonfai); MSMEs Bhintuka (fish breeding) and MSME Permata Yaspin. The utilization of digital technology remains rudimentary, resulting in suboptimal marketing optimization through this medium in effectively reaching the market. It is demonstrated that 12 MSME have engaged with social media, while 29% have not.



Figure 1. Mimika Area MSMEs Profile (2024)

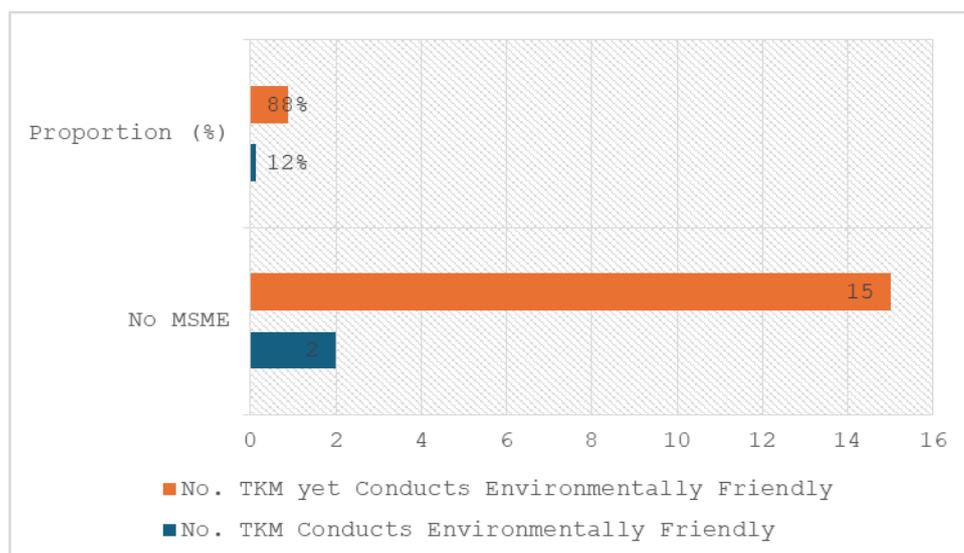


Figure 2. Quantity of MSMEs Utilizing Eco-Friendly Production Raw Materials

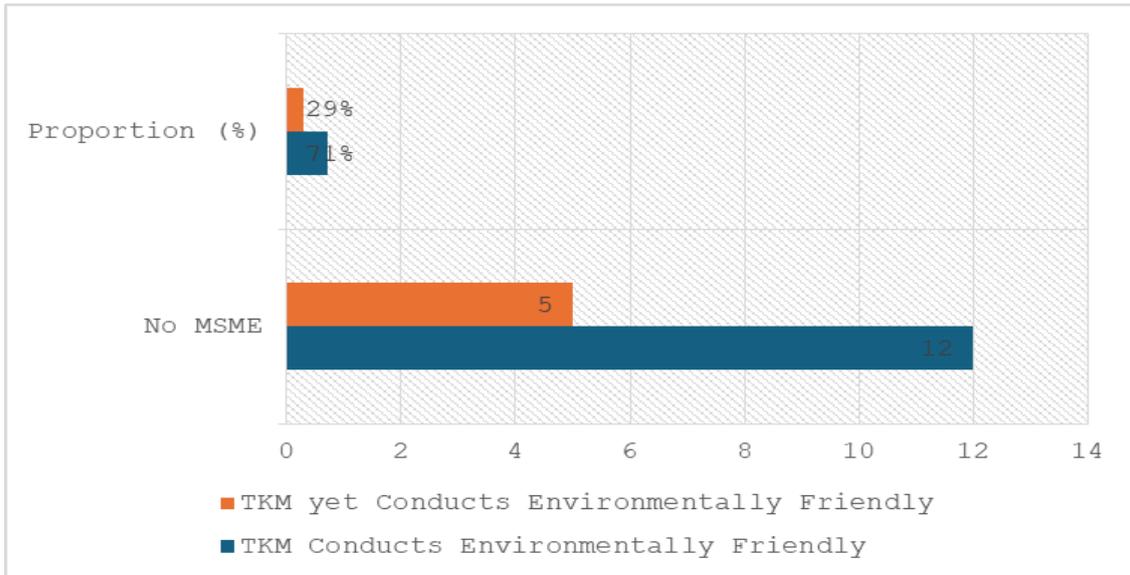


Figure 3. Utilization of Technology.

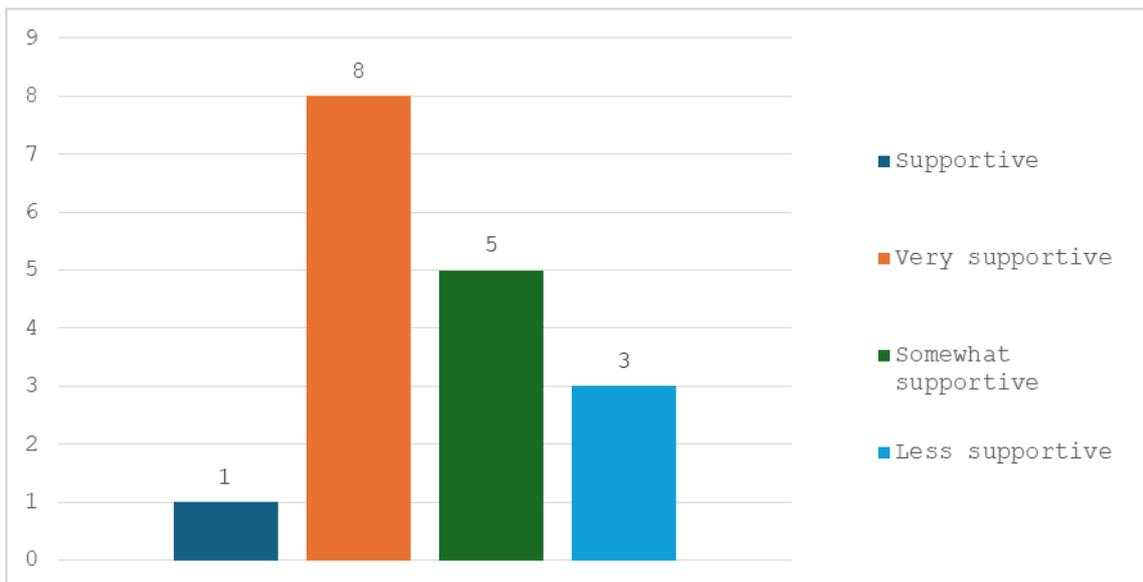


Figure 4. Government and Stakeholder Support.

Government and Stakeholder Support

The perceptions that can be expressed from 17 MSMEs explain government support (related OPDs) and several stakeholders provide information. 8 MSMEs provide information that they strongly support the program from Nekertrans, while there are 3 MSMEs that provide information that they are less supportive of the program from MSMEs, in detail as follows.

Overall, the MSMEs have a comprehensive positive impact on

economic growth in Mimika Regency by improving the community's ability to become entrepreneurs, creating new jobs, and encouraging innovation in various sectors. Through skills training and mentoring, this program not only helps individuals to be financially independent, but also contributes to regional economic diversification, increasing local competitiveness, and strengthening market networks, which ultimately has the potential to improve the welfare of the

community as a whole. The results of FGD 1 captured information on the impact of the Area-based employment opportunity expansion program related to increasing the income of business actors (MSMEs); Making business ideas for other MSMEs; Opening up employment opportunities, by

anticipating unemployment which is predominantly from the indigenous community in Mimika; increasing MSMEs Start Up; and becoming a source of information for coffee farmers in Mimika Regency. The existing conditions are as follows.

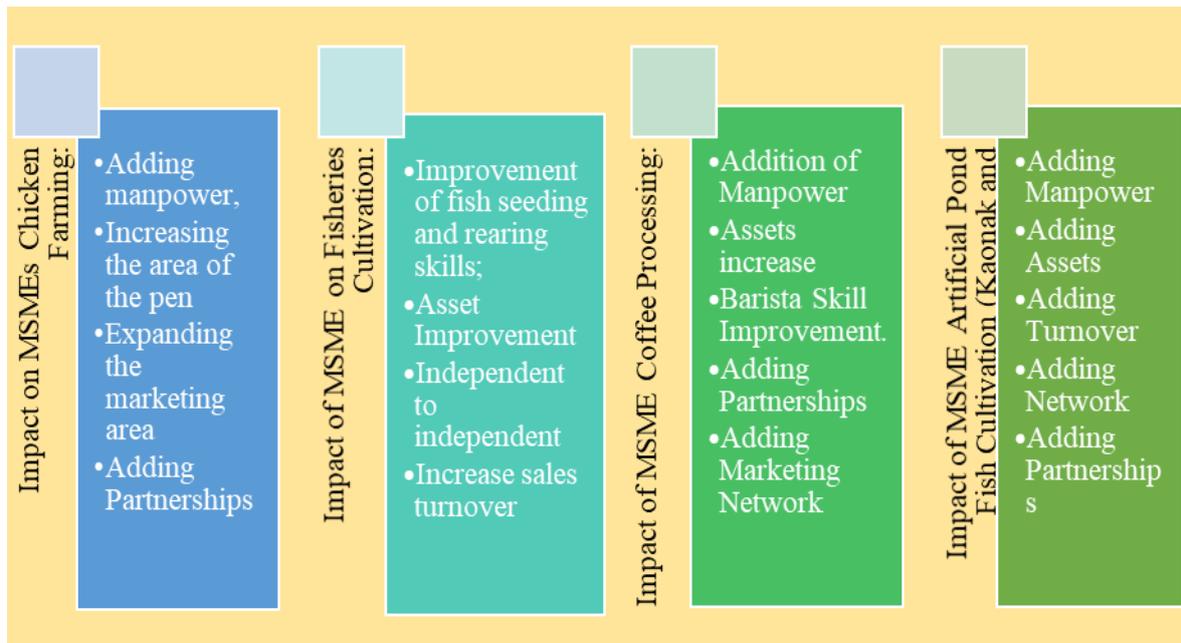


Figure 5. Impact of MSMEs programs

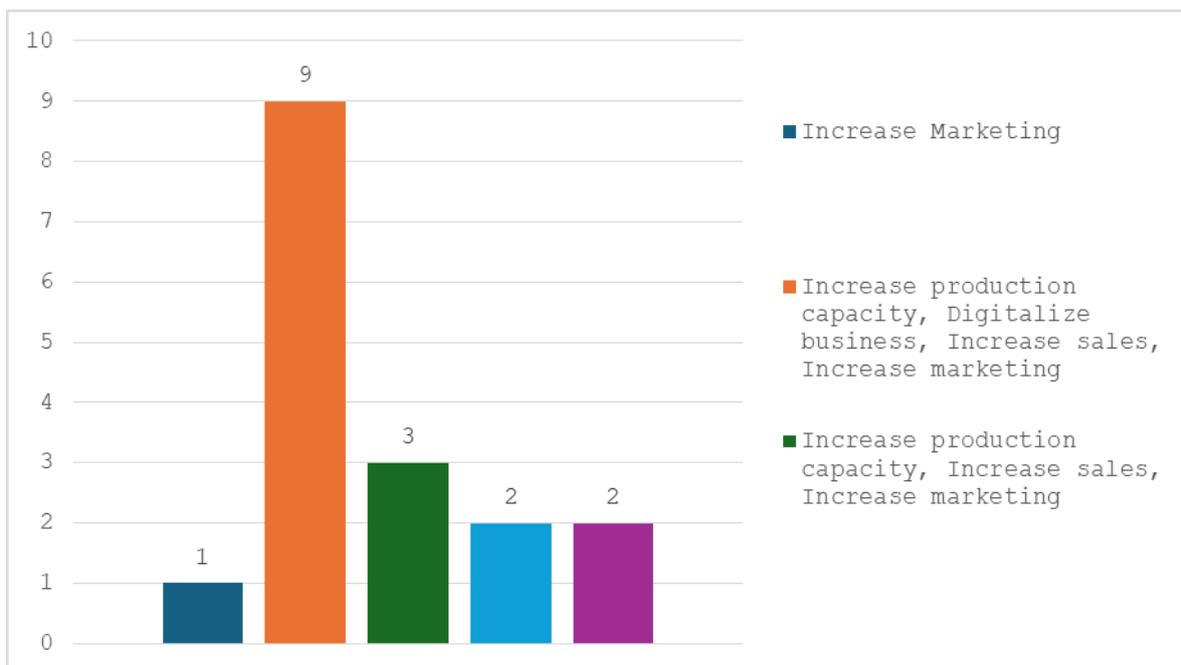


Figure 6. Work plan MSMEs

MSMEs Strategic Plan.

To ensure company sustainability in MSMEs, a business development program is essential. There are nine MSMEs involved in a program aimed at enhancing existing manufacturing capacity through a digital system, hence increasing sales volume. While there is only one MSME that focuses on increasing marketing, presented as follows.

Main Challenges

A total of 17 MSMEs that actively face business cannot be separated from risks as challenges faced in the production

and marketing process. These challenges come from market access, capital, technology and labor. The variations of these challenges are presented in the following picture.

Priority

The primary objective for business development centers on enhancing production quality and establishing distribution networks via market research. Other priorities pertain to the advancement of partnerships. Each MSMEs is detailed as follows.

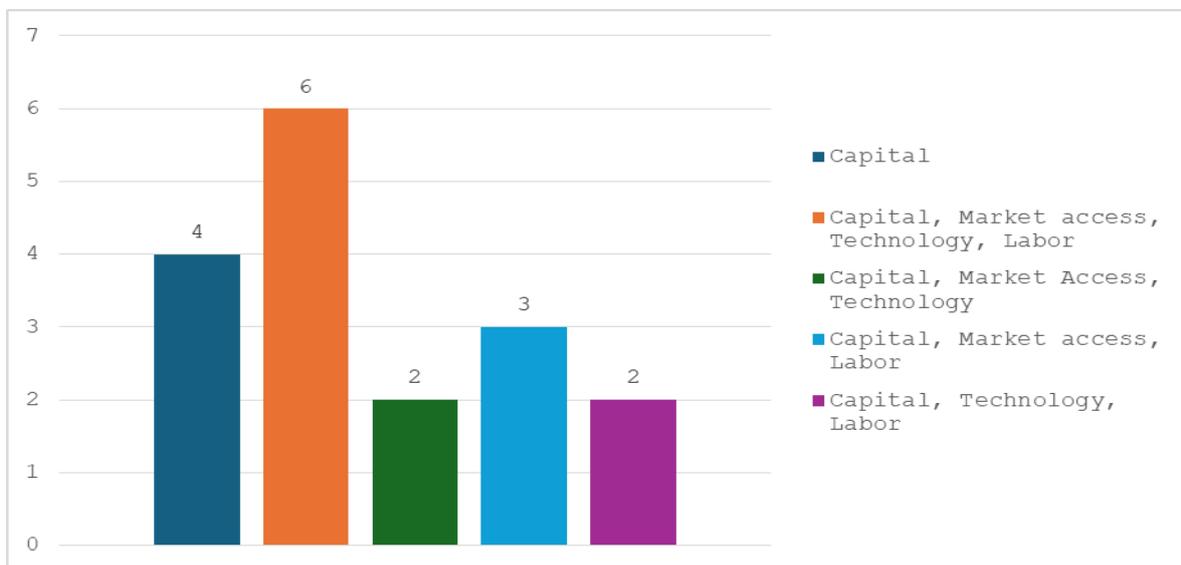


Figure 7. Main challenges

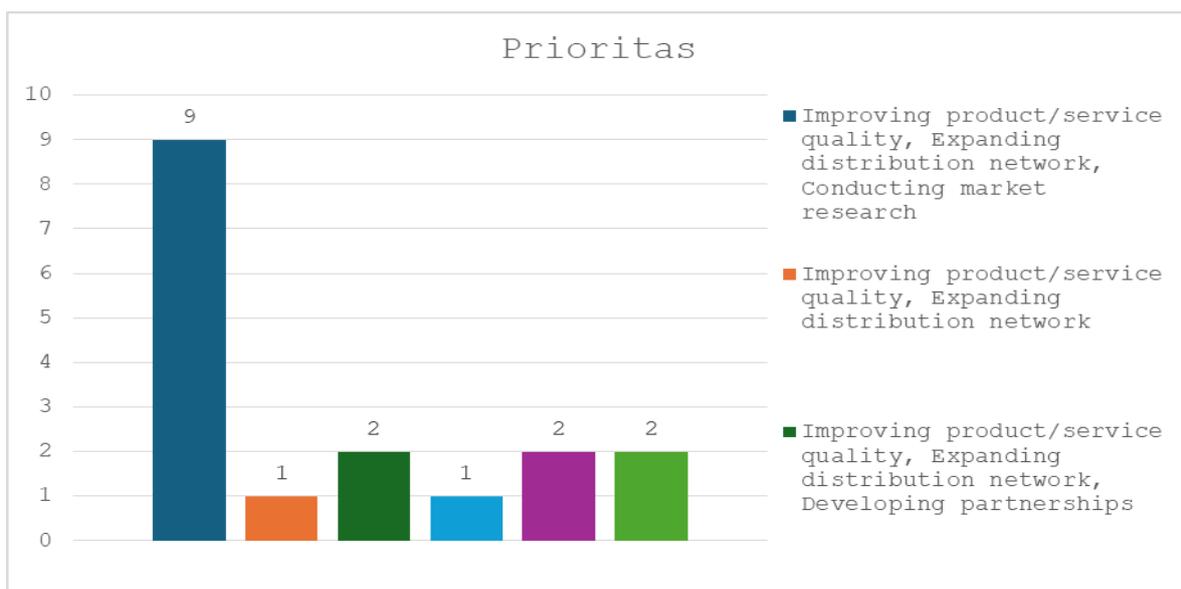


Figure 8. Priority

Training Topics

The incubator's contribution from University and government mentoring related to providing knowledge transfer and providing training has an impact on improving the skills of each MSMEs. The most urgent needs in business development are related to marketing management training, finance and digital technology. Presented in the following Figure.

Prospects for Collaboration with Stakeholders

A collaborative framework established and advanced by the government, corporate sector, and other institutions. MSMEs perceived this collaborative engagement with stakeholders in the following manner.

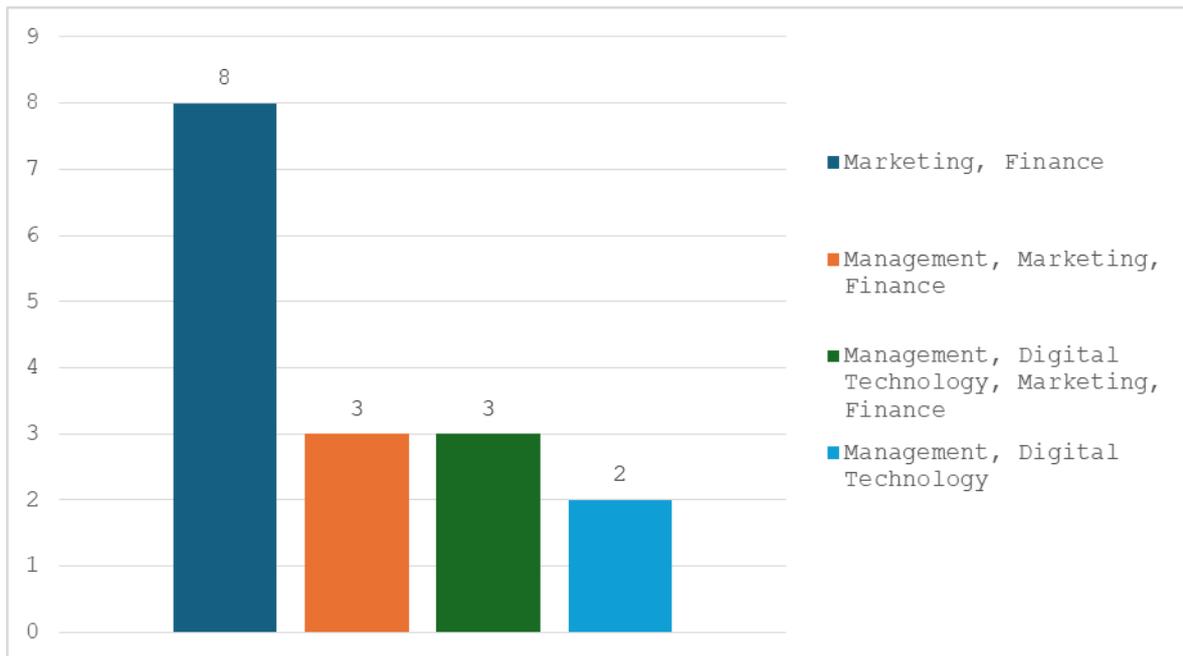
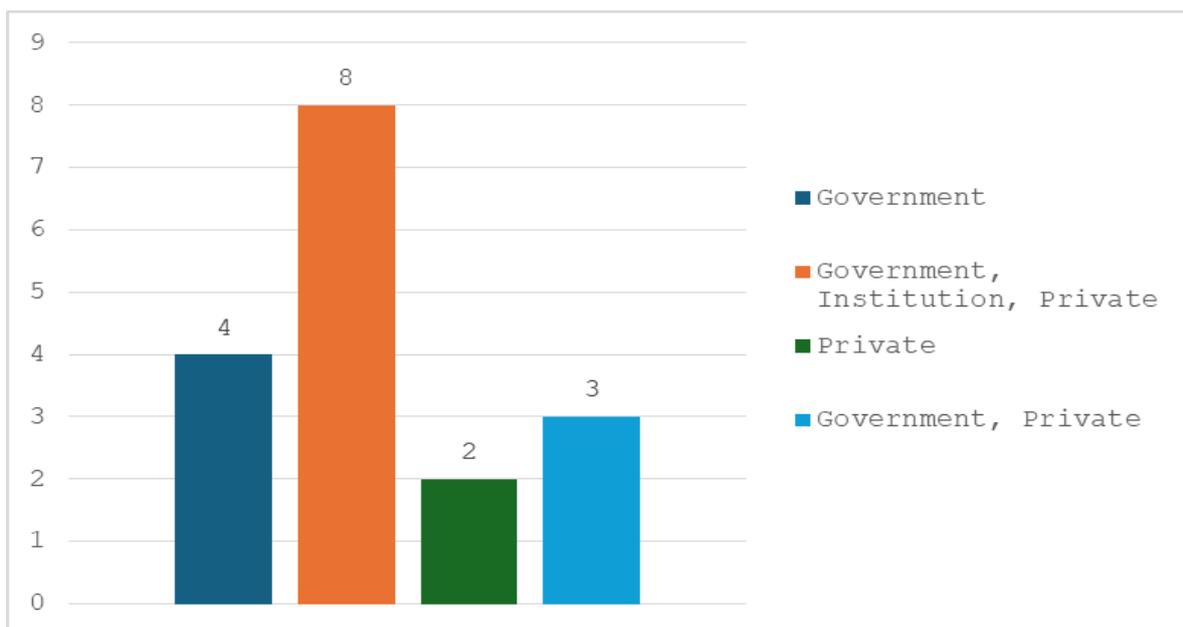


Figure 9. Training topics



Gambar 10. Form of Collaboration from Stakeholders

The established partnership themes are to capital/access to capital, market access, technical guidance, capacity-building training, and network development, as illustrated in the accompanying image.

Furthermore, the form of collaboration needed by existing MSME is related to special financing access, HR training and development, and joint marketing. Recommendations from each MSMEs are as follows.

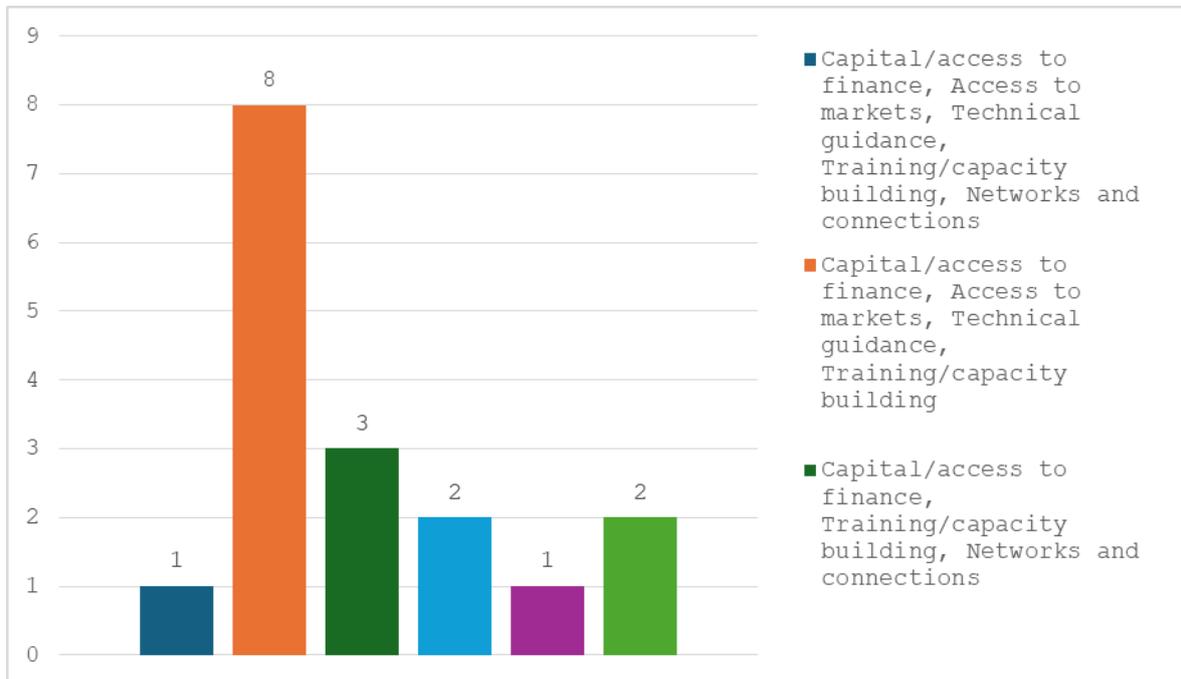


Figure 11. Collaboration Theme

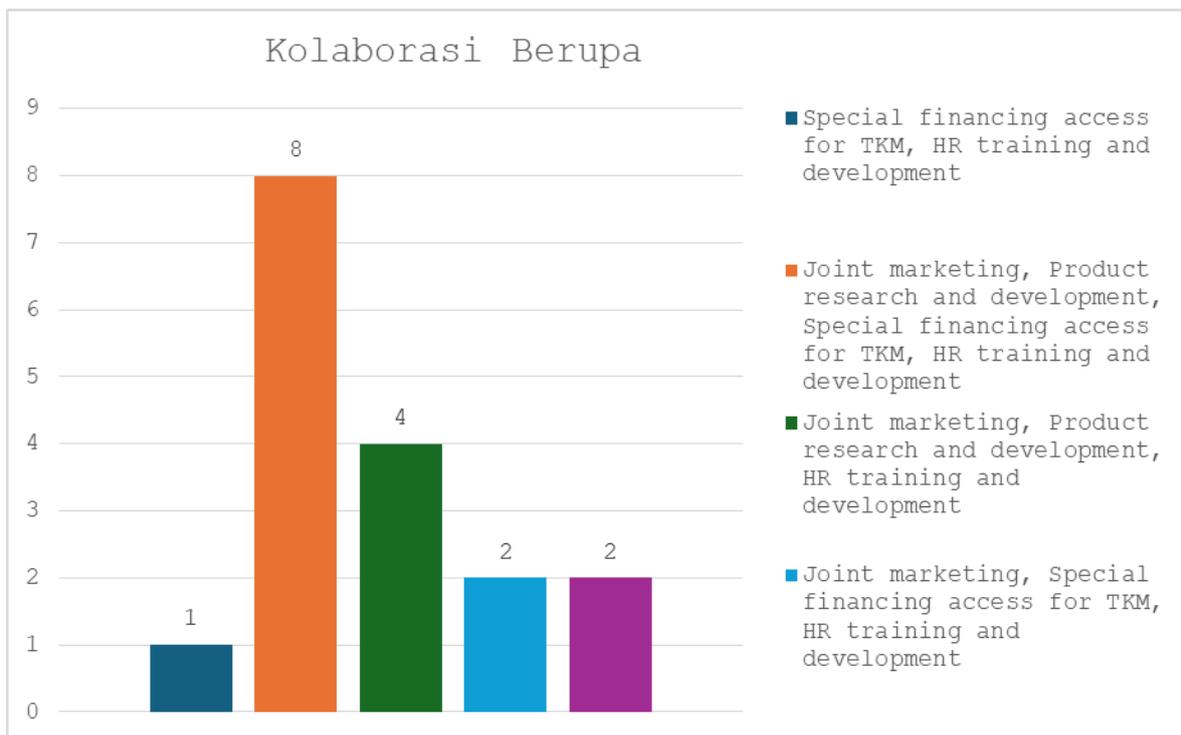


Figure 12. Collaboration Needs. TKM is MSMEs.

Gap Analysis: Existing Conditions Vs Ideal Conditions.

In an effort to develop a sustainable employment and entrepreneurship ecosystem in the Mimika area, a gap analysis was

conducted to compare existing conditions with the expected ideal conditions. This analysis aims to identify existing gaps and formulate recommendations for necessary improvements.

Table 1. Existing Conditions Vs Ideal Conditions of MSMEs Performance Achievement in the Mimika Area.

No.	Aspect	Existing	Ideal Conditions and Recommendations
1.	Business Legality	Only 1 MSME in Mimika has a NIB, namely Amuro, which produces instant coffee. Meanwhile, the other 16 active MSMEs do not have a NIB. NIB is an identity given to entrepreneurs, both individuals and business entities, who are registered in the business licensing system.	<p>In line with the government's policy to digitize the business licensing system (Ministry of Trade of the Republic of Indonesia, 2022), all MSMEs should have a NIB.</p> <p>Further efforts are needed to assist MSMEs in Mimika in obtaining a NIB. Training programs, counseling, and support from the government and related institutions can be a solution so that all MSMEs can take advantage of business legality facilities.</p>
2.	Entrepreneurship Ecosystem	<p>In 17 active MSMEs, they have financial power, Physical Infrastructure, Transportation Network, Communication Network, Social Network, Partnership Network and utilize Technology.</p> <p>Although they have aspects of the entrepreneurial ecosystem, they are not yet optimal, so that performance achievement is still very limited (for example, minimal sources of business capital, limited equipment, limited technology, limited cooperation networks.</p> <p>In addition, easier access to financing sources, both from traditional financial institutions and from investors, can provide the capital needed for business expansion (Wahyuni & Sari, 2021). Government and stakeholder involvement is needed to anticipate these obstacles.</p>	<p>Although it has aspects of an entrepreneurial ecosystem, it is not yet optimal, so that performance achievement is still very limited (for example, minimal sources of business capital, limited equipment, limited technology, limited cooperation networks. In addition, easier access to financing sources, both from traditional financial institutions and from investors, can provide the capital needed for business expansion (Wahyuni & Sari, 2021). Government and stakeholder involvement is needed to anticipate these obstacles.</p>

3.	Inkubator	Seventeen MSMEs have undergone education and training facilitated by university mediators and employment training institutions.	Mentoring is conducted consistently and sustainably. To ensure that industrial-scale company expansion satisfies the needs of private enterprises and the community in the Mimika region.
4.	Inovasi	Of the 17 active MSMEs, only 2 MSMEs implement the Eco-Friendly concept in their production process. Meanwhile, Policy Support from the Government is felt by all MSMEs, although the support is still low.	The cornerstone of this advancement is robust managerial competencies and a novel methodology in product creation. In this instance, ongoing product innovation enables MSMEs to maintain market relevance, adapt to evolving consumer demands, and compete with current rivals (Arifin et al., 2023). Effective management also maximizes, allocates resources, enhances operational efficiency, and fosters sustainable growth. A specific policy is required from the government to ensure the viability of the MSMEs program in the future.
5.	Keberlanjutan	<ul style="list-style-type: none"> • Job Creation • Skill and Educational Enhancement • Community Income Augmentation • Poverty Alleviation • Infrastructure Development Support • Local Economic Fortification 	Conditions that reflect the sustainability of the MSMEs program at the business sustainability level.

Discussion

The necessity of ecosystem support for social entrepreneurship is critical in the advancement of MSMEs. Numerous studies indicate that a conducive entrepreneurial ecosystem significantly aids social entrepreneurs in surmounting problems, particularly under conditions of resource scarcity. This support may manifest as "fuel" (resources and money), "hardware" (physical infrastructure), and "DNA" (social network strength), which constitute the foundation for the sustainability and growth of social companies (Gonzalez & Dentchev, 2021). The significance of ecosystem support for social entrepreneurship in MSMEs is emphasized by the resources and diverse networks that facilitate sustained growth. An enabling entrepreneurial ecosystem

furnishes critical components, including financial resources, physical infrastructure, and social networks, vital for addressing the issues encountered by social entrepreneurs. Access to money is crucial; venture capital and angel investors can greatly enhance entrepreneurial performance (Ermawati, 2023). An enabling entrepreneurial environment is crucial for social entrepreneurship, offering vital resources, financing, physical infrastructure, and robust social networks.

These factors collectively promote sustainability and growth, tackling the obstacles encountered by social entrepreneurs, particularly in resource-limited contexts like SENs. Small and Emerging Enterprises frequently encounter difficulties in securing funding because of

rigorous collateral demands imposed by banks (Malhotra et al., 2024).

An entrepreneurial ecosystem necessitates sufficient physical infrastructure, encompassing transportation and communication networks, to link isolated regions and enhance business operations (Malhotra et al., 2024). The participation of Incubation Centers established by universities and governmental bodies can offer essential assistance and training to prospective SENs (Malhotra et al., 2024). An entrepreneurial ecosystem bolstered by a robust social network can facilitate collaboration and resource sharing among entrepreneurs, which is essential for innovation and sustainability (Roundy, 2024) (Ermawati, 2023). Collaborations among institutions might enhance the efficacy of Social Enterprises Networks (SENs), unifying endeavors towards shared societal objectives (Wibisono, 2024).

The involvement of colleges in fostering social entrepreneurship is essential for the advancement of MSMEs. A study in Latin America emphasized that colleges can serve as crucial contributors in the entrepreneurial ecosystem by supplying the knowledge, resources, and networks essential for social entrepreneurs (Gonzalez & Dentchev, 2021). This study, albeit contextualized differently in Mimika, is pertinent to the potential function of colleges or educational institutions in the region in assisting local entrepreneurs. An effective entrepreneurship ecosystem comprises vital facilities and services that support entrepreneurial activities, including co-working spaces and technology hubs (Roundy, 2024). Utilizing local technological resources enables social entrepreneurs to provide significant solutions while maintaining financial sustainability (Roundy, 2024). Robust social networks inside the ecosystem offer support, mentorship, and collaborative opportunities, essential for overcoming problems (Alzamel, 2024). An interconnected ecosystem fosters inclusion, enabling varied perspectives to

engage in social entrepreneurship initiatives (Alzamel, 2024). Conversely, although a supportive ecosystem is crucial, obstacles such as economic inequalities and insufficient infrastructure can impede the efficacy of social entrepreneurship initiatives, underscoring the necessity for ongoing enhancement and policy interventions to rectify these deficiencies (Hara, 2024).

The connection between ecosystem support and job creation is essential for enhancing regional economies, as it depends on collaboration among various stakeholders in the entrepreneurial ecosystem, including funding agencies, governments, and communities. This collaboration can markedly expedite job creation and enhance the quality of entrepreneurship, cultivating a more robust economic landscape. Governments are pivotal in fostering startup ecosystems by providing funding initiatives, like grants and subsidies, which alleviate financial obstacles for entrepreneurs (Wasnik, 2023). Examples from countries like India illustrate how government-supported incubators and accelerators can foster innovation and collaboration among entrepreneurs (Wasnik, 2023). Policies that establish a business-friendly climate, such as tax incentives and regulatory assistance, are essential for promoting entrepreneurial growth (Ermawati, 2023). Community involvement and support networks are essential for the success of an entrepreneurial environment.

Community participation and support networks are essential for the development of an entrepreneurial ecosystem, since they furnish resources and mentorship to companies (d739aac6-0d7d-4ac0-84cf-f18c720e04bf et al., 2024). Educational institutions educate entrepreneurs with essential skills and cultivate a culture of innovation, which is vital for sustainable economic development (Ermawati, 2023). The establishment of an entrepreneurial ecosystem can rejuvenate disadvantaged

areas by generating new industrial avenues and enhancing economic circumstances through collaborative efforts among stakeholders (Huggins et al., 2024). Innovative ecosystems can draw investment and generate highly skilled employment, diminishing dependence on conventional industries and bolstering regional competitiveness (Lytvynskyi, 2023). Conversely, although support from diverse stakeholders is crucial, issues may arise in achieving equal resource allocation across areas, thus undermining the overall efficacy of an entrepreneurial ecosystem in fostering job creation and economic progress.

The significance of employment and business ecosystems in Timika

The employment and entrepreneurial ecosystems substantially enhance economic growth and community welfare by fostering innovation, collaboration, and resource sharing among stakeholders. These ecosystems foster a climate conducive to entrepreneurial endeavors, resulting in employment creation and enhanced quality of life. This section delineates the essential facets of this interaction.

1. **Function of Entrepreneurial Ecosystems:** Universities play a vital role in the entrepreneurial ecosystem, serving as centers for information dissemination and innovation. They foster regional economic development by promoting entrepreneurship via education and research (Roberts et al., 2024) (Polodashvili, 2023) and by cultivating cultural and social networks that facilitate interactions and enhance the entrepreneurial spirit, particularly in underserved regions, thereby contributing to community engagement and development (Roberts et al., 2024).
2. **Economic Growth and Development:** Infrastructure Support, Effective entrepreneurial infrastructure is crucial for regional

economic growth, as it promotes local business development and job creation (Vargas-Hernández et al., 2024); additionally, the influence of digitalization, through the advent of digital technologies, has revolutionized the entrepreneurship ecosystem, facilitating novel business models and enhancing efficiency, which is vital for sustainable economic development (Boichenko & Sierhieiev, 2024).

3. **Social Entrepreneurship:** The interplay between the entrepreneurship ecosystem and social entrepreneurship is mutually beneficial, with each affecting growth and performance, particularly in terms of job creation. Timika, notable for its substantial industrial sector, especially in mining, exemplifies this dynamic, particularly with PT Freeport Indonesia. Nonetheless, reliance on this sector must be counterbalanced with economic diversification; additionally, fostering local entrepreneurship can generate employment in both the informal and formal sectors, diminish unemployment rates, and offer opportunities for youth to engage in professions aligned with their interests and competencies; furthermore, it is essential to mitigate dependence on the mining industry, as Timika, renowned for its mineral resources, is significantly reliant on this sector.

Community participation and support networks are essential for the development of an entrepreneurial ecosystem, since they furnish resources and mentorship to companies (d739aac6-0d7d-4ac0-84cf-f18c720e04bf et al., 2024). Educational institutions educate entrepreneurs with essential skills and cultivate a culture of innovation, which is vital for sustainable economic development (Ermawati, 2023). The

establishment of an entrepreneurial ecosystem can rejuvenate disadvantaged areas by generating new industrial avenues and enhancing economic circumstances through collaborative efforts among stakeholders (Huggins et al., 2024). Innovative ecosystems can draw investment and generate highly skilled employment, diminishing dependence on conventional industries and bolstering regional competitiveness (Lytvynskyi, 2023). Conversely, although support from diverse stakeholders is crucial, issues may arise in achieving equal resource allocation across areas, thus undermining the overall efficacy of an entrepreneurial ecosystem in fostering job creation and economic progress.

The significance of employment and business ecosystems in Timika The employment and entrepreneurial ecosystems substantially enhance economic growth and community welfare by fostering innovation, collaboration, and resource sharing among stakeholders. These ecosystems foster a climate conducive to entrepreneurial endeavors, resulting in employment creation and enhanced quality of life. This section delineates the essential facets of this interaction.

1. Function of Entrepreneurial Ecosystems: Universities play a vital role in the entrepreneurial ecosystem, serving as centers for information dissemination and innovation. They foster regional economic development by promoting entrepreneurship via education and research (Roberts et al., 2024) (Polodashvili, 2023) and by cultivating cultural and social networks that facilitate interactions and enhance the entrepreneurial spirit, particularly in underserved regions, thereby contributing to community engagement and development (Roberts et al., 2024).
2. Economic Growth and Development: Infrastructure Support, Effective entrepreneurial infrastructure is crucial for regional economic growth,

as it promotes local business development and job creation (Vargas-Hernández et al., 2024); additionally, the influence of digitalization, through the advent of digital technologies, has revolutionized the entrepreneurship ecosystem, facilitating novel business models and enhancing efficiency, which is vital for sustainable economic development (Boichenko & Sierhieiev, 2024).

3. Social Entrepreneurship: The interplay between the entrepreneurship ecosystem and social entrepreneurship is mutually beneficial, with each affecting growth and performance, particularly in terms of job creation. Timika, notable for its substantial industrial sector, especially in mining, exemplifies this dynamic, particularly with PT Freeport Indonesia. Nonetheless, reliance on this sector must be counterbalanced with economic diversification; additionally, fostering local entrepreneurship can generate employment in both the informal and formal sectors, diminish unemployment rates, and offer opportunities for youth to engage in professions aligned with their interests and competencies; furthermore, it is essential to mitigate dependence on the mining industry, as Timika, renowned for its mineral resources, is significantly reliant on this sector.

The significance of employment in enhancing community wellbeing in Timika is substantial, particularly given the region's considerable economic potential. The following are key characteristics of employment's involvement in enhancing communal welfare in Timika:

1. Job Creation
 - a. The mining sector, exemplified by PT Freeport Indonesia, offers numerous employment opportunities for local individuals in both formal and informal capacities.
 - b. The services and trade sector: Economic activities related to

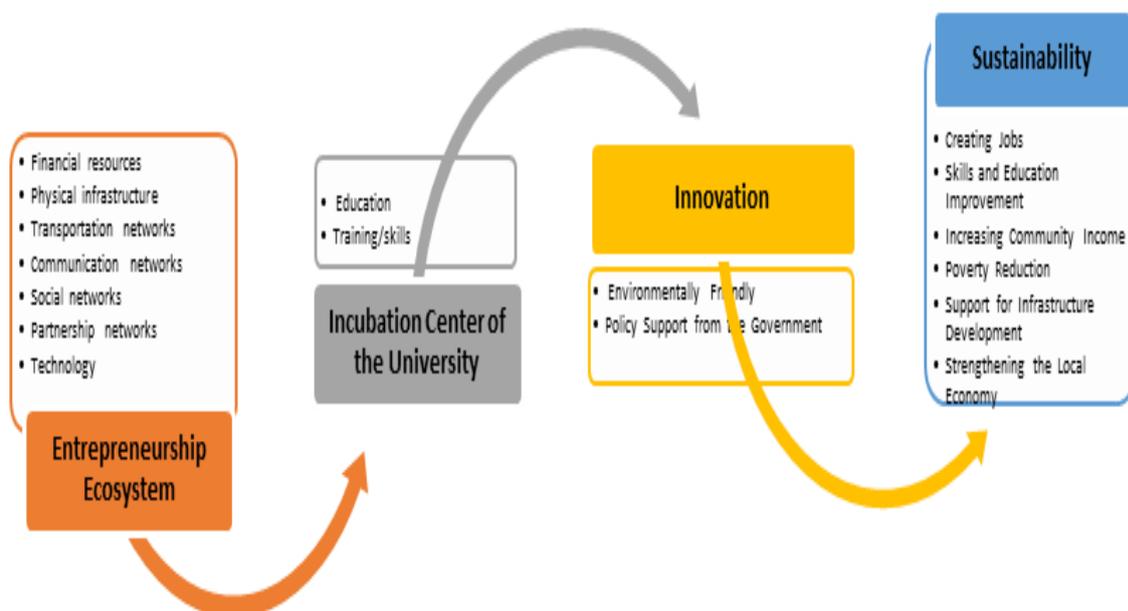
- mining stimulate the development of small and medium enterprises, resulting in the creation of additional employment opportunities.
 - c. Agriculture and Fisheries industry: While this industry is smaller than mining, numerous local individuals rely on agriculture and fisheries for their livelihoods.
2. Enhancement of Skills and Education
 - a. Major corporations like PT Freeport frequently offer training and educational programs for local employees, thereby augmenting their skills and market competitiveness
 - b. Local educational and vocational training institutions contribute to equipping workers for entry into both formal and informal employment sectors.
 3. Augmenting Community Income
 - a. The presence of employment opportunities with fair remuneration, particularly within the formal sector, enhances community income.
 - b. The rise in income directly influences welfare, including enhanced access to education, healthcare, and other fundamental necessities.

4. Poverty Alleviation
 - a. An increase in employment opportunities can lead to a decrease in unemployment and poverty rates.
 - b. A reliable income stream enables families to fulfill essential requirements and enhance their quality of life.
5. Support for Infrastructure Development.

The establishment of significant companies frequently catalyzes the enhancement of infrastructure, including roads, housing, and various public amenities, which confer immediate advantages to the adjacent community.
6. Fortifying the Local Economy.

A robust workforce stimulates regional economic development. The expansion of micro, small, and medium companies (MSMEs) enhances consumer spending power and generates a beneficial ripple effect across all industries.

Based on the explanation above, the "Entrepreneurship Ecosystem-Based Sustainability Management Model for MSMEs in the Timika Area in Central Papua Province" is as follows :



CONCLUSION AND RECOMMENDATIONS

The employment and entrepreneurial ecosystem is crucial for enhancing community welfare and fostering sustainable economic development, particularly in regions like Timika. Several salient conclusions can be drawn:

1. **Impact of the Entrepreneurship Ecosystem.**
This ecosystem fosters innovation, collaboration, and resource sharing among stakeholders, cultivating an atmosphere conducive to job creation and enhanced quality of life. Critical elements including the function of universities, cultural networks, and digitalization expedite this progression.
2. **Social Assistance and Inclusiveness.**
Social support encompassing emotional, material, and informational dimensions is crucial in fostering an inclusive and sustainable ecosystem. This mitigates social injustice, empowers local communities, and preserves cultural uniqueness.
3. **The Function of the Employment Sector in Timika.**
Employment, particularly in the mining, services, and small and medium-sized enterprise sectors, has a crucial role in alleviating poverty, generating revenue, and bolstering the local economy. Issues like disparities in access to work and education necessitate additional attention.
4. **The Significance of Economic Diversification**
Reliance on the mining sector must be equilibrated with the advancement of alternative industries, including agriculture, fisheries, ecotourism, and the creative sector. This seeks to establish enduring economic stability.
5. **Cooperation Among Stakeholders.**
The collaboration of government, private sector, community, and educational institutions is crucial for

facilitating infrastructure development, training, and capital access to foster local entrepreneurship.

6. **Ecological Sustainability**
Eco-conscious entrepreneurial ventures contribute to the preservation of natural ecosystems, promote resource sustainability, and enhance regional competitiveness.
The establishment of an entrepreneurial ecosystem and job assistance in Timika can serve as the primary catalyst for fostering inclusive, sustainable local economic growth rooted in community potential and indigenous knowledge.

Recommendation

1. **Enhancing Legality and Certification:** Streamlining the management of NIB and halal certification for MSMEs lacking these credentials to augment market access and product competitiveness.
2. **Enhancing Capacity and Innovation:** Implementing continuous training to elevate managerial competencies and product innovation, alongside fortifying digital marketing methods.
3. **Market Access and Capital:** Enhancing access to financial resources and broadening
4. **Non-Mining Sector Development:** Promoting economic diversification via locally-sourced agriculture, fisheries, and tourism.
5. **Enhancing Education and Training:** Offering vocational training and improved access to education for local communities to enable their competitiveness in the labor market.
6. **Inclusive Policy:** The government and major corporations, including PT Freeport, must enhance local community empowerment initiatives.
7. **Infrastructure Development:** Enhancing transportation access, healthcare services, and educational institutions in isolated regions.

ACKNOWLEDGMENTS

The authors extend their heartfelt appreciation to the Center for the

Expansion of Employment Opportunities in West Bandung (Balai Besar Perluasan Kesempatan Kerja Bandung Barat), Ministry of Manpower of the Republic of Indonesia, for their financial support of this research. Their involvement has been important in advancing the study and ensuring the effective completion of this task.

REFERENCES

- Aditya, Imam, Wibisono. (2024). Social Entrepreneurship sebagai Alternatif dalam Mengatasi Masalah Sosial yang Bernilai SDGs. *Jurnal Penelitian Rumpun Ilmu Teknik*, doi: 10.55606/juprit.v3i3.4203.
- Ana, Polodashvili. (2023). Entrepreneurial ecosystem – from concept to policy (a brief literature review). *Ekonomikuri Prop'ili*, doi: 10.52244/ep.2023.25.01
- A., Wasnik. (2023). Government Support for Startups: A Comprehensive Analysis of Funding Initiatives and the Role of the Indian Government in Nurturing the Startup Ecosystem. *Journal of Economics and Business*, doi: 10.31014/aior.1992.06.03.52
- Bhatti, S. H., Iqbal, K., Santoro, G., & Rizzato, F. (2022). The impact of corporate social responsibility directed toward employees on contextual performance in the banking sector: A serial model of perceived organizational support and affective *organizational commitment*. *Corporate Social Responsibility and Environmental Management*, 29(6), 1980–1994. <https://doi.org/10.1002/csr.2295>
- Chandana, H., S., S., Prabakaran., Sanchita, Banerji., T., Kumaresan., S., Anandakumar., Sampath, Boopathi. (2024). Small Business Entrepreneurial Ecosystems in Regional Development. *Advances in business information systems and analytics book series*, doi: 10.4018/979-8-3693-2643-5.ch009
- Cherrafi, A., Garza-Reyes, J. A., Kumar, V., Mishra, N., Ghobadian, A., & Elfezazi, S. (2018). Lean, green practices and process innovation: A model for green supply chain performance. *International Journal of Production Economics*, 206, 79–92. <https://doi.org/10.1016/j.ijpe.2018.09.031>
- Cynthia, Roberts., Jokima, Hiller., Jana, Szostek. (2024). Cultivating an entrepreneurial ecosystem in an underserved area: The story of one university's engagement. *Industry and higher education*, doi:10.1177/09504222241293920
- Fistiawirzani, Sakinah., Rizal, Fahlevi., Rafika, Rahmawati. (2024). Pengembangan ekonomi lokal melalui kewirausahaan kreatif. *An-Nizam*, doi: 10.33558/an-nizam.v3i1.9678
- Gema, Wibawa, Mukti., Rani, Andriani, Budi, Kusumo., Iwan, Setiawan. (2023). 3. Ekosistem kewirausahaan dan kewirausahaan sosial : sebuah penelusuran literatur untuk memahami perbedaan dan persamaan konsep. *Mimbar agribisnis*, doi: 10.25157/ma.v9i1.9278
- José, G., Vargas-Hernández., Elsa, Patricia, Orozco-Quijano., Francisco, González., Omar, C., Vargas-González. (2024). Economic Development Through the Entrepreneurship Infrastructure in Ecosystems. *Advances in public policy and administration (APPA) book series*, doi: 10.4018/979-8-3693-2917-7.ch009

- Kateryna, Boichenko., Mykola, Sierhieiev. (2024). Entrepreneurial ecosystems in the context of digitalisation. *Economic scope*, doi: 10.32782/2224-6282/191-61
- Ken, Addley., Zoe, V., Healey. (2024). 2. Spl06 health inequality and work: advocating for occupational health in ireland. *Occupational Medicine*, doi:10.1093/occmed/kqae023.0017
- N., P, M., K, A, Zakkariya., Anju, Varghese, Philip. (2022). Enhancing employee wellbeing – an employability perspective. *Benchmarking*, doi: 10.1108/bij-03-2021-0116.
- Margot, Leger. (2024). Enabling Entrepreneurship: Support Intermediaries and Social Enterprises in Sub-Saharan Africa. doi: 10.33540/2597
- Masatoshi, Hara. (2024). Unlocking Startup Ecosystems: Conceptual Basis for Escaping Low-and-Lower-Middle-Income Trap through Poverty Reduction. *Evolutionary studies in imaginative culture*, doi: 10.70082/esiculture.vi.705
- Philip, T., Roundy. (2024). Entrepreneurial Ecosystems and Societal Impact: Opportunities at the Intersection of Place, Sustainable Development, and Technology Management. *Revista CEA*, doi: 10.22430/24223182.3267
- Qiu, L., Jie, X., Wang, Y., & Zhao, M. (2020). Green product innovation, green dynamic capability, and competitive advantage: Evidence from Chinese manufacturing enterprises. *Corporate Social Responsibility and Environmental Management*, 27(1), 146-165. doi:https://doi.org/10.1002/csr.1780
- Robert, Huggins., Max, Munday., Piers, Thompson. (2024). Entrepreneurial ecosystems, agency and regional development: Emergence and new path creation in the Cardiff city region. *Local Economy*, doi: 10.1177/02690942241237779
- R.V., Lytvynskyi. (2023). Enhancing Regional Development with Startup Ecosystems. *Ekonomičnij vïsnik Donbasu*, doi: 10.12958/1817-3772-2023-4(74)-101-113
- Samar, Alzamel. (2024). Building a Resilient Digital Entrepreneurship Landscape: The Importance of Ecosystems, Decent Work, and Socioeconomic Dynamics. *Sustainability*, doi: 10.3390/su16177605.
- Shashank, Mittal., Shivani, Dhand., Xuan-Hoa, Nghiem. (2024). Social Support Networks and Their Role in Entrepreneurial Well-Being. *Advances in psychology, mental health, and behavioral studies (APMHBS) book series*, doi: 10.4018/979-8-3693-3673-1.ch017
- Shilpy, Malhotra., Kanwal, Anil., Amrita, Kaur. (2024). Impact of Entrepreneurial Ecosystem on Sustainable Social Enterprises – A Mixed-Methods Research. *International journal of experimental research and review*, doi:10.52756/ijerr.2024.v41spl.017
- Yana, Ermawati. (2023). Ecosystems for Entrepreneurship: A Study of Supportive Environments and Their Impact. doi: 10.37531/amar.v3i2.1512