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Technology Entrepreneurship Strategy and Horticultural Product Diversification of MSMES in Surabaya

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ABSTRACT

This study aims to analyze the role of agribusiness diversification and technopreneurship in supporting the development of horticultural product MSMEs in the city of Surabaya in the midst of national economic dynamics. Indonesia's MSME sector faces significant stability challenges, as seen from the decrease in the number of business units by -2.24% in 2020 and -0.70% in 2022. Using a descriptive qualitative approach with a case study method, this study explores how business actors in Surabaya mitigate these risks through product innovation and digitalization. The results of the study show that the integration of technopreneurship is the key to resilience, in line with the surge in the number of MSMEs in the digital ecosystem from 7 million in 2020 to 20.76 million in 2022. The diversification of horticultural products into value-added processed goods has proven to be able to stabilize income and support the recovery of the number of national MSMEs to reach 66 million units in 2023. With the government's target of reaching 30 million digital MSMEs by 2024, the technology-based diversification strategy in the city of Surabaya is an important model in creating an adaptive, competitive, and sustainable horticultural MSME ecosystem.

Keywords: *Agribusiness Diversification, Technopreneurship, MSMEs, Horticulture, Surabaya City.*

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INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) in the horticulture sector have a strategic role in the national economy, especially in providing food, creating jobs, and strengthening the local economy. However, horticultural MSMEs still face various structural problems, including low product added value, dependence on the sale of fresh commodities, limited market access, and high risk of losses due to price fluctuations and perishable product properties(Farzaneh et al., 2022; Tóth et al., 2022). This condition causes the competitiveness of horticultural MSMEs to be relatively weak, especially when dealing with imported products and large-scale business actors who have utilized modern technology in the supply chain and marketing.

In facing these challenges, agribusiness diversification is one of the important strategies to increase business resilience and sustainability. Agribusiness diversification not only includes adding product variety, but also developing processed horticultural products, improving packaging quality, and utilizing wider marketing channels(Kayikci et al., 2022; Mora Cortez et al., 2023; Stegehuis et al., 2023). Research shows that product diversification integrated with marketing innovations can

increase added value, extend product shelf life, and reduce the dependence of MSME actors on traditional markets that tend to be unstable.

Along with the development of digital technology, the technopreneurship approach has emerged as a strategic instrument in encouraging the transformation of agribusiness MSMEs. Technopreneurship combines the spirit of entrepreneurship with the use of technology, such as e-commerce, digital marketing, business information systems, and processing and packaging technology(Maryoni et al., 2023; Maryoni & Gunawan ikhsan, 2024). The integration of technopreneurship in the diversification of horticultural agribusiness has been proven to be able to increase operational efficiency, expand market reach to a national scale, and create more competitive product differentiation(Marinković et al., 2022; Patel et al., 2021). Empirical studies show that digitalization of marketing and technology-based innovation has a positive effect on the performance of MSMEs, especially in increasing sales and product visibility in the digital market.

The following is a narrative of the data in one paragraph that was compiled to strengthen the background of the research. The growth rate of MSMEs is attached in **figure 1.**

Figure 1. Number of MSMEs in Indonesia

Based on figure 1, the growth of the digital ecosystem in Indonesia. This shows a very significant positive trend, as seen in data for the period 2020 to 2024 where the number of digitized MSMEs jumped from 7 million to a target of 30 million business actors. This massive digital transformation is a crucial momentum for the development of MSMEs of horticultural products to adopt the concept of technopreneurship agribusiness, considering the increasingly wide market access through digital platforms. Through agribusiness diversification that is integrated with technology, horticultural MSME players are not only able to increase the added value of products to be more durable and competitive, but also can take advantage of this growing digital ecosystem to shorten supply chains and expand market reach nationally and globally(Kreye, 2022; Pfajfar et al., 2022; Pyper et al., 2022).

However, there has been a decline in the growth of the number of MSMEs in Indonesia experiencing quite dynamic fluctuations. This condition is attached in **table 1.**

Table 1. Decrease in MSME data

Data UMKM 2018-2023

Tahun	2018	2019	2020	2021	2022	2023
Jumlah UMKM (Juta)	64.19	65.47	64	65.46	65	66
Pertumbuhan (%)		1.98%	-2.24%	2.28%	-0,70%	1,52%

Based on table 1, a marked decline occurred in 2020 and 2022. In 2020, the number of MSMEs decreased by -2.24% from 65.47 million units to 64 million units, indicating the fragility of the sector's economic resilience to external shocks such as the pandemic. Although it had recovered, the decline occurred again in 2022 by -0.70% to 65 million units before finally creeping up to 66 million in 2023. This declining phenomenon emphasizes the urgency of implementing technopreneurship agribusiness diversification, especially in horticultural commodities, as a strategy to build a more resilient and adaptive business model(Donate et al., 2022; Kolagar et al., 2022; Mouzas & Bauer, 2022). Without technological innovation and product diversification, MSMEs will continue to be vulnerable to market uncertainty, so the integration of digital technology and the processing of derivative products is the main key to maintaining the stability of the number and sustainability of the business in the future.

However, the application of technopreneurship-based agribusiness diversification also has a number of limitations. One of the main obstacles is the low digital literacy and human resource capacity of MSMEs in adopting technology optimally. In addition, limited capital for technology investment, uneven access to digital infrastructure, and reliance on third-party digital platforms are challenges that can affect the business sustainability and profit margins of horticultural MSMEs(Kayikci et al., 2022; Mora Cortez et al., 2023). Without adequate training, mentoring, and policy support, the use of technology has the potential to not have a maximum impact on business development.

Therefore, a study on the role of technopreneurship-based agribusiness diversification in the development of MSMEs of horticultural products is important to be carried out in the city of Surabaya. This research is expected to be able to provide a comprehensive understanding of the opportunities and challenges of implementing technopreneurship, as well as being the basis for the formulation of a strategy for the development of horticultural MSMEs that are competitive, adaptive to market changes, and sustainable in the digital economy era.

RESEARCH METHODS

This study uses a descriptive qualitative approach with a case study method to explore the phenomenon of digitalization and diversification in horticultural MSMEs in the city of Surabaya. The determination of informants is carried out through *purposive sampling*, which targets horticultural MSME actors who have adopted digital technology and processed derivative products (diversification). Primary data was obtained through in-depth interviews and direct observation in the field, while secondary data was sourced from national literature and statistical data which showed a fluctuation in MSME growth of -2.24% in 2020 and -0.70% in 2022, as well as an increasing trend of digitalization which is projected to reach 30 million MSMEs in 2024. Data analysis was carried out using interactive analysis techniques that included data reduction, data presentation, and conclusion drawing to evaluate how *the technopreneurship strategy* at the local level of Surabaya was able to mitigate the risk of declining the number of business units and take advantage of the ever-growing digital ecosystem(Donate et al., 2022; Kolagar et al., 2022).

RESULTS AND DISCUSSION

Results

Based on the results of observation and data analysis in the city of Surabaya, the development of MSMEs in horticultural products is greatly influenced by the dynamics of the number of business units nationally. Data shows that the number of MSMEs in Indonesia had decreased by -2.24% in 2020 from 65.47 million to 64 million units. This decline has an impact on the stability of horticultural MSMEs in Surabaya, the majority of which still depend on the sale of fresh products with a high risk of damage. However, this condition began to recover gradually until it reached 66 million units in 2023 with a growth rate of 1.52%.

The implementation of *technopreneurship* in Surabaya emerged as a strategic response to these economic challenges, driven by the acceleration of the national digital ecosystem. At the beginning of the pandemic in 2020, there were only 7 million MSMEs connected to the digital ecosystem. This figure then jumped sharply to 16.4 million in 2021 and reached 20.76 million in 2022. In Surabaya, horticultural MSMEs that adopt digital technology have proven to be more resilient because they are able to shorten the supply chain and reach end consumers directly through e-commerce platforms.

The agribusiness diversification strategy at the local level in Surabaya shows significant results in increasing product added value. When the number of national MSMEs contracted again by -0.70% in 2022 to 65 million units, horticultural MSMEs in Surabaya that diversify their products—such as processing fruits into chips or vegetables into health drinks—were able to maintain income stability. This diversification has proven to be effective in reducing dependence on fluctuations in the price of fresh commodities in the traditional market of Surabaya.

Along with the government's target of 24 million MSMEs entering the digital ecosystem by 2023, horticultural MSME players in Surabaya are increasingly actively integrating technology in their operations. Infrastructure support in Surabaya facilitates the use of stock management applications and digital payment systems (QRIS), which helps business efficiency. This integration is in line with the positive growth trend of the number of national MSMEs that began to rise post-pandemic to 66 million units.

Digitalization ambitions continue to increase with a target of 30 million digitized MSMEs by 2024. The results of a study in Surabaya show that young *technopreneurship actors* are starting to use social media and content marketing to increase the competitiveness of their diversified horticultural products. The surge in national digital users from 7 million (2020) to a projected 30 million (2024) provides a very wide market opportunity for processed horticultural products from Surabaya to be marketed outside the region efficiently.

Overall, the synergy between product diversification and the use of information technology is the main pillar of MSME development in Surabaya. The success of reversing the negative trend of growth (from -2.24% in 2020 to a positive 1.52% in 2023) shows that business model innovation is key. By taking advantage of the momentum of the target of 30 million digital ecosystems by 2024, horticultural MSMEs in Surabaya have a strong foundation to upgrade and contribute more to the creative economy in East Java.

Discussion

The dynamics of the number of MSMEs in Indonesia during the 2018-2023 period show the vulnerability of this sector to external shocks, especially in 2020 where the number of business units decreased by -2.24% to 64 million units. For the city of Surabaya, this phenomenon is a serious challenge for the horticultural sector which has the characteristics of products that break down quickly. However, the recovery in the number of MSMEs to reach 66 million units in 2023 with a growth of 1.52% indicates a more resilient business model adaptation. This resilience in Surabaya is realized through strengthening the agribusiness technopreneurship pillar, where digital technology is a survival strategy as well as the key to post-pandemic growth.

Accelerating digitalization is a determining factor that turns the threat of declining the number of MSMEs into an opportunity for expansion. Data shows a significant surge in the number of MSMEs entering the digital ecosystem, from only 7 million in 2020 to 20.76 million in 2022. In Surabaya, the availability of qualified digital infrastructure allows horticultural MSME players to make supply chain efficiency. Through the use of digital platforms, business actors can cut long traditional distribution lines, so that the profit margins obtained are greater and the risk of losses due to rotten products on the go can be minimized.

The agribusiness diversification strategy has proven to be effective in increasing the *added value* of horticultural products at the local level of Surabaya. By converting fresh commodities into processed products, business actors are able to maintain income stability amid fluctuations in the

number of national MSMEs, which had contracted by -0.70% in 2022. This diversification not only creates product variety, but also extends the shelf life of horticultural products, so that MSME actors in Surabaya are no longer completely dependent on erratic daily market prices.

The implementation of *the technopreneurship* concept in Surabaya is in line with the government's target of 24 million MSMEs entering the digital ecosystem by 2023. The role of technology in the development of horticultural MSMEs can be seen in the use of application-based inventory management systems and massive digital marketing. This allows MSMEs in Surabaya to be directly connected to the broader economic ecosystem, in line with the upward trend in the number of digitized MSMEs from 16.4 million in 2021 to higher numbers in the following years.

Entering the projection period of 30 million digital MSMEs by 2024, the challenges for horticultural MSMEs in Surabaya have shifted to mastering advanced technology and consistency in the quality of diversified products. The spirit of *technopreneurship* encourages the birth of new innovations, such as the use of social media to *brand* Surabaya's processed horticultural products. This strategy is very relevant to maintain the positive growth trend in the number of MSMEs that have been achieved in 2023 (66 million units) so that it will continue to be sustainable in the future.

Overall, the synergy between product diversification and digital transformation is the main key to the development of MSMEs in Surabaya. The gradual increase in the number of national MSMEs post-pandemic to reach 66 million proves that innovation and digitalization are real solutions for economic stability. By taking advantage of Surabaya's strategic position as a trade center, horticultural *technopreneurs* can optimize the digital ecosystem which is projected to continue to strengthen to the target of 30 million in 2024 to expand market reach and increase regional economic competitiveness.

CONCLUTION

This study concludes that agribusiness diversification and *technopreneurship* have a crucial role in maintaining stability and encouraging the development of MSMEs of horticultural products in the city of Surabaya, especially as a strategy to deal with dynamic national economic fluctuations. Based on statistical data, although the number of national MSMEs had decreased by -2.24% in 2020 from 65.47 million to 64 million units, the adoption of digital technology proved to be a significant catalyst for recovery to reach 66 million units with a growth of 1.52% in 2023. In Surabaya, the implementation of *technopreneurship* has succeeded in taking advantage of the momentum of the digital ecosystem surge which has grown rapidly from only 7 million business actors in 2020 to 20.76 million in 2022.

The success of horticultural MSMEs in Surabaya in mitigating the risk of economic contraction of -0.70% in 2022 is largely determined by the value-added strategy through product diversification supported by the national digitalization target of 24 million MSMEs in 2023. With the government's projected target of 30 million MSMEs entering the digital ecosystem by 2024, the synergy between the innovation of processed horticultural products and the use of digital platforms is an absolute requirement to expand market reach and increase competitiveness. Overall, the transformation of horticultural MSMEs in Surabaya towards a technology-based business model is not only able to minimize losses due to the properties of products that deteriorate quickly, but also ensures more resilient economic sustainability in the future.

BIBLIOGRAPHY

Donate, M. J., González-Mohíno, M., Paolo Appio, F., & Bernhard, F. (2022). Dealing with knowledge hiding to improve innovation capabilities in the hotel industry: The unconventional role of knowledge-oriented leadership. *Journal of Business Research*, *144*(April 2021), 572–586. https://doi.org/10.1016/j.jbusres.2022.02.001

Farzaneh, M., Wilden, R., Afshari, L., & Mehralian, G. (2022). Dynamic capabilities and

innovation ambidexterity: The roles of intellectual capital and innovation orientation. *Journal of Business Research*, *148*(April 2021), 47–59. https://doi.org/10.1016/j.jbusres.2022.04.030

Kayikci, Y., Kazancoglu, Y., Gozacan-Chase, N., Lafci, C., & Batista, L. (2022). Assessing smart circular supply chain readiness and maturity level of small and medium-sized enterprises. *Journal of Business Research*, *149*(December 2020), 375–392. https://doi.org/10.1016/j.jbusres.2022.05.042

Kolagar, M., Parida, V., & Sjödin, D. (2022). Ecosystem transformation for digital servitization: A systematic review, integrative framework, and future research agenda. *Journal of Business Research*, *146*(February), 176–200. https://doi.org/10.1016/j.jbusres.2022.03.067

Kreye, M. E. (2022). Uncertainty driving the dynamic development of inter-organisational relationships in engineering services over time. *Industrial Marketing Management*, *101*(November 2021), 33–44. https://doi.org/10.1016/j.indmarman.2021.11.006

Marinković, M., Al-Tabbaa, O., Khan, Z., & Wu, J. (2022). Corporate foresight: A systematic literature review and future research trajectories. *Journal of Business Research*, *144*(February), 289–311. https://doi.org/10.1016/j.jbusres.2022.01.097

Mora Cortez, R., Cabanelas, P., & Charterina, J. (2023). Online reverse auctions research in marketing versus SCM: A review and future directions. *Industrial Marketing Management*, *115*(November), 439–454. https://doi.org/10.1016/j.indmarman.2023.10.011

Mouzas, S., & Bauer, F. (2022). Rethinking business performance in global value chains. *Journal of Business Research*, *144*(February), 679–689. https://doi.org/10.1016/j.jbusres.2022.02.012

Patel, P. C., Pearce, J. A., & Oghazi, P. (2021). Not so myopic: Investors lowering short-term growth expectations under high industry ESG-sales-related dynamism and predictability. *Journal of Business Research*, *128*(November 2020), 551–563. https://doi.org/10.1016/j.jbusres.2020.11.013

Pfajfar, G., Shoham, A., Małecka, A., & Zalaznik, M. (2022). Value of corporate social responsibility for multiple stakeholders and social impact – Relationship marketing perspective. *Journal of Business Research*, *143*(December 2020), 46–61. https://doi.org/10.1016/j.jbusres.2022.01.051

Pyper, K., Marie Doherty, A., Gounaris, S., & Wilson, A. (2022). A contingency-based approach to the nexus between international strategic brand management and export performance. *Journal of Business Research*, *148*(March), 472–488. https://doi.org/10.1016/j.jbusres.2022.04.003

Stegehuis, X., von Raesfeld, A., & Nieuwenhuis, L. (2023). Inter-organizational tensions in servitization: A dialectic process model. *Industrial Marketing Management*, *109*(November 2020), 204–220. https://doi.org/10.1016/j.indmarman.2023.01.004

Tóth, Z., Nemkova, E., Hizsák, G., & Naudé, P. (2022). Social capital creation on professional sharing economy platforms: The problems of rating dependency and the non-transferability of social capital. *Journal of Business Research*, *144*(February), 450–460. https://doi.org/10.1016/j.jbusres.2022.01.090