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Innovation for Scaling Up Micro and Small Enterprises (MSEs)

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Executive Summary

Micro, small, and medium enterprises (MSMEs) hold significant economic potential, for a potential contribution of over 55% to GDP, and employ more than 90% of the workforce (WTO, 2016). Recognizing their role in economic growth, poverty reduction, export, and job creation, the Indonesian government has prioritized MSMEs in its National Development Plan. However, a disproportionate number of MSMEs remain micro and small, hindering broader economic benefits. Innovation is proposed as a critical driver for the growth and scaling up of Micro and Small Enterprises (MSEs). This paper explores the relationship between innovation and business growth, identifies significant challenges and drivers of innovation, and draws on international best practices. We delve into several vital obstacles, such as financial constraints, inadequate copyright protection, and limited access to skilled talent that impede MSEs' innovation and R&D capabilities. Also, we reviewed some strategies to overcome these challenges, including fostering research collaborations, implementing innovation programs, supportive government policies, and providing intellectual property rights (IPR) to MSEs.

JEL Classification: F35; H81; O19

Keywords

MSMEs — innovation — scale-up

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1. Introduction

The role of micro, small, and medium-sized enterprises (MSMEs) has had a discernible impact on economic contribution, especially in developing countries. The economic potential of SMEs can reach more than 55% contribution to GDP, with a total of more than 90% of the workforce working in this sector (WTO, 2016). With a target workforce that must be absorbed, around 600 million people by 2030, MSMEs are expected to become a productive sector to absorb this need (World Bank, 2023). Given their capacity to expand economic potential, reduce poverty, and generate employment opportunities, it is necessary to prioritize support for MSMEs.

As an emerging country, Indonesia posits a considerable discourse for MSMEs as one of the vital components of the economy. Through the Medium-Term National Development Plan (RPJMN) 2020–2024, the Indonesian government has expressed its commitment to improving welfare and accelerating economic growth and competitiveness, which MSMEs are considered an essential part of achieving those goals. The attention that emerges to the potential of MSMEs given their formidable position, representing 99% of business units and employing 96.9% of the workforce. The MSMEs' contribution to export and investment is relatively high, with approximately 60.0% of total investment and 15.6% of total exports in 2019 (Kementerian Koperasi dan UKM, 2023).

Despite MSMEs' significant role in absorbing labor, this does not always translate into optimal productivity levels. While it is crucial for these enterprises to maintain a workforce for business continuity, an excessive focus on labor absorption can sometimes hinder productivity. MSMEs need more resources and bargaining power to ensure these businesses access talented individuals with proficient knowledge

of technology, finance, and managerial practices (Albaz et al., 2020). Thus, MSMEs are more likely to attract those with lower skills and productivity.

As depicted in Table 1, the MSME sector in Indonesia is predominantly composed of micro-enterprises, comprising approximately 98% of all MSME units. Despite their significant presence in total business units and labor absorption, the productivity of Micro and Small Enterprises (MSEs) is relatively lower than other business classifications, as shown by comparing business units and contribution to GDP. The low productivity among MSEs and scarcity of medium and large enterprises might indicate the existence of obstacles, friction, or policy distortion in the market that limits MSEs' activities and thus hinders them from scaling up to medium and large enterprises.

In contrast to neighboring countries such as Thailand and the Philippines, the business scale distribution in Indonesia stands more concerning. There were approximately 3.13 million SMEs in Thailand in 2020, which reflects 99.6% of all enterprises (OECD, 2022). 2.6 million are micro enterprises (85.3%), 415,673 are small enterprises (13.3%), and 44,847 are medium enterprises (1.4%). In the Philippines in 2018, the firm distribution was also better, with 88.5% micro-enterprises, 10.6% small enterprises, and 0.5% medium enterprises (Schaper, 2020). The number of medium enterprises in these countries is indeed low, but the proportion is far higher than in Indonesia. Thus, there is a growing concern about the need to redefine our focus to scale up and fully harness the potential of **the micro and small enterprises (MSEs)** as an answer to the disproportionate business distribution issue.

Moving along with the recent issues, the COVID-19 pandemic has significantly impacted supply and demand within society. Disruption in the production system has prompted MSEs to transform their businesses through digi-

Table 1. The Average Revenue and Share of Micro, Small, Medium, and Large Enterprises

Business Category	Number of Business Unit	% Business Units	% Contribution to GDP	% Contribution to Employment
Micro	65,465,497	98.67%	37.4%	89.03%
Small	64,601,352	1.22%	9.5%	4.83%
Medium	798,679	0.10%	13.6%	3.13%
Large	65,465	0.01%	39.5%	3.00%

Table 2. Comparison of Business Scale Distribution

Business Category	Percentage of Business Units		
	Indonesia (2019)	Thailand (2020)	Philippines (2018)
Micro	98.67%	85.3%	88.5%
Small	1.22%	13.3%	10.6%
Medium	0.10%	1.4%	0.5%
Large	0.01%	0.4%	0.4%

Source: Kemenkop UKM (2019), OECD (2022), Schaper (2020)

talization and operational efficiency (Ditjen Aplikasi Informatika, 2023). This transformation signifies the urgency for MSEs to innovate both in production and operations to grow and scale up. Therefore, this study will delve deeper into the role of innovation as an accelerator for scaling up MSEs. The subsequent discussion will explore the characteristics of SMEs in Indonesia, the challenges and opportunities of innovation, and potential solutions implemented in other countries.

2. Deeper Look at MSEs in Indonesia

Figure 1 gives a big picture of distribution across sectors according to Government Regulation 7 of 2021 using VIMK data. We observe the types of goods produced by small and medium-sized industries classified as MSEs, and we also recognize that the distinction lies in the specific criteria used for classification. While the macro and small industries in the data are categorized based on the number of employees, the classification of micro and small enterprises in government regulation is based on gross income and assets. Thus, we only included micro and small industries that also meet the criteria for being classified as MSEs using government regulation classification. We break down each group into several types of products they produce using the Indonesian Standard Business Field Classification (*Klasifikasi Baku Lapangan Usaha Indonesia*/KBLI). For most enterprises over the years, food and apparel have dominated the market, while the number of business actors involved in each sector in the last ten years shows quite significant fluctuations. This phenomenon proved that MSEs' entry and exit barriers are relatively low and naturally highly competitive.

As such, economic theory introduces some types of markets in which producers operate: perfect competition, oligopolistic competition, oligopoly, and monopoly (Carlton & Perloff, 2015). These markets have different characteristics regarding the number of firms and consumers, scale of operations, and types of products. In a perfect competition market, many firms offer homogeneous products to many buyers. There are no barriers to entry and exit in the market, leading to tight competition among firms. Market mechanisms determine product prices, resulting in zero economic profit in the long run. Hence, companies in perfect competition markets remain small.

The business and market conditions of MSEs reflect

characteristics similar to those of businesses operating in a perfect competition market. First, studies in various locations in Indonesia suggest that it is typical for small and micro businesses that are operating in the same industry or area to have similar products (Abdillah et al., 2023; Anggraeni et al., 2013; Adnyani et al., 2020; Sudarwati & Satya, 2013). MSMEs focus their production on a limited range of products or services that can be handled traditionally and sold to particular markets. Therefore, there needs to be more motivation for diversification in product or service offerings, whether in design, form, or function. This product similarity and lack of diversification can also be explained using the *new institutionalism* theory. In a lens of *new institutionalism* theory, organizations operating within the same industry tend to adopt similar practices, structures, cultures, and outcomes, leading to a resemblance among them (DiMaggio & Powell, 1983). As a result, competing firms often possess similar production cores, leading to the widespread adoption of standard improvement initiatives. Additionally, external factors such as suppliers and customers further promote uniformity, limiting opportunities for gaining competitive advantages (John et al., 2001). Despite the potential for diversity in organizational choices, Löfving (2016) highlighted that SMEs within closely competing industries tend to maintain similar manufacturing processes.

In addition to businesses that produce their products, most MSEs implement a reseller system to sell products from other businesses (Karyati, 2019). Given the similarity of products offered, MSEs that sell similar products in the same market area have low bargaining power, thus leading them to become price takers. When products are identical, consumers have little reason to prefer one seller, leading to minimum bargaining power among businesses in negotiating prices with buyers. They have to accept the market price for their goods since they do not have a unique selling point to command higher prices. This lack of bargaining power is a characteristic of perfect competition markets, where individual firms do not influence market prices.

Furthermore, MSEs are numerous, with nearly all these enterprises operating at small or micro scales. This large number of businesses, combined with their small sizes, results in a situation where only some firms have a substantial market share. In a perfect competition market, few small firms can dominate the market. It is likened to a perfectly competitive market, where firms operate under intense com-

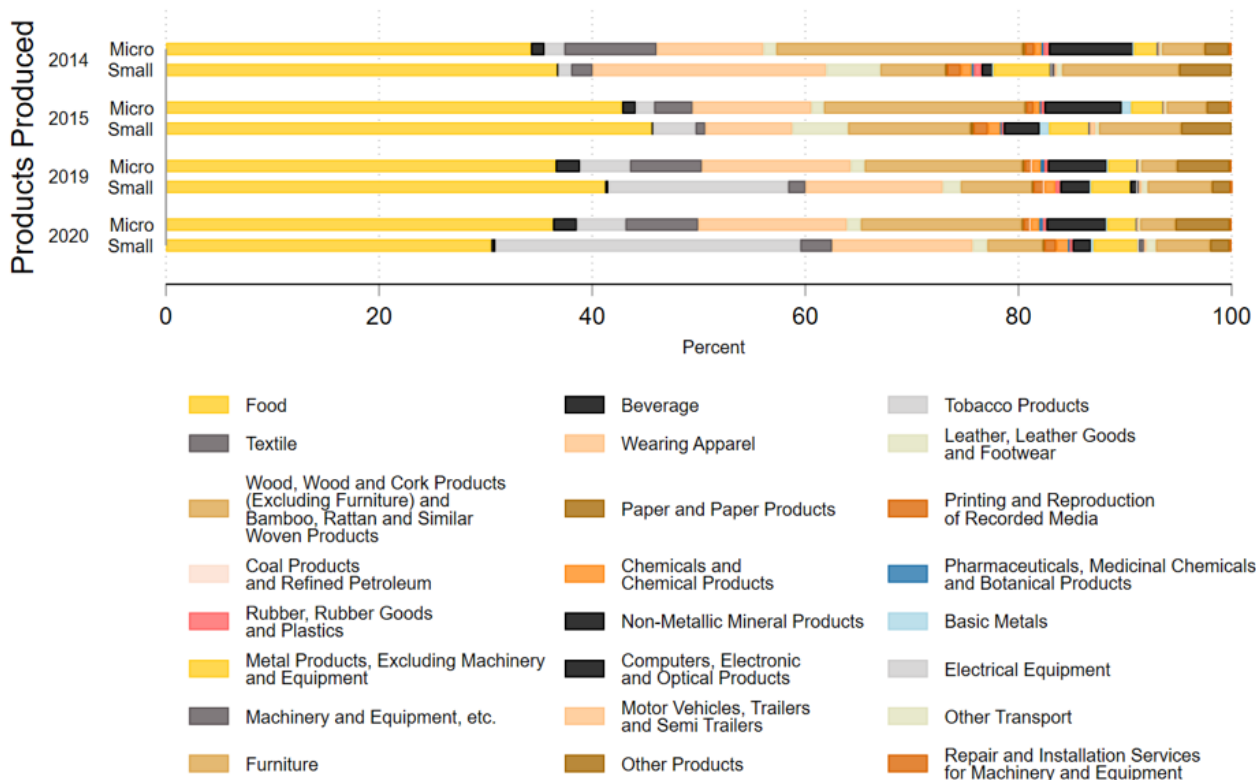


Figure 1. Types of Products Produced by Micro and Small Industries that are Classified as MSEs According to Government Regulation Number 7 of 2021

Source: Author’s illustration by 2020 VIMK data

petition and minimal market power.

For these enterprises to scale up, they need to shift from perfect competition to another market system in which the firms involved have a larger scale. In this context, MSEs need to move towards a monopolistic market. In the monopolistic market, firms offer differentiated products or distinctive features among similar products from other producers in the market. Considering the concentration of MSEs in specific sectors, a homogenous market suggests that product differentiation is a crucial challenge that needs emphasis to compete in a monopolistic market (Zott et al., 2011).

3. Innovation Drivers and Challenges for MSEs Scaling Up

The discourse of MSEs scaling up has long been advocated by the government and other stakeholders since the development of MSEs holds immense potential to catalyze improvement in the Indonesian economy. However, MSMEs still have to face struggles within their scope of production (Yoshino & Taghizadeh-Hesary, 2016). Randhawa et al. (2021) suggest two common approaches for a business to face changes in the market: passive adaptation to the market and active influence on the market. Passive adaptation within the market, characterized by limited long-term innovation, which refers to a situation where a firm faces challenges sustaining innovation efforts over an extended period, can push SMEs out of the market due to intense competition from competitors (Tambunan, 2011). Differentiation through innovation is critical for SMEs to upscale, as

competitive capabilities may improve business productivity (Rumelt, 1984; Liao et al., 2009; Price et al., 2013).

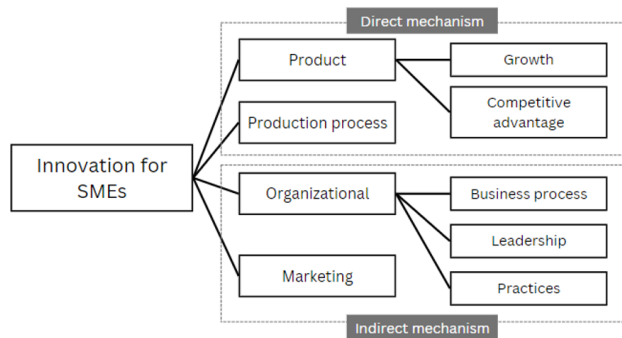


Figure 2. Type of Innovation for SMEs

Source: Author’s illustration

Previous studies have revealed a positive impact of innovation activities on firm growth (Audretsch et al., 2014), especially on fastest-growing firms (Coad & Rao, 2008) and those who continuously innovate their product (Deschryvere, 2014). Saunila (2020) elucidates three types of innovation: product, process, and organizational. Product innovation refers to the process of creating or developing new products. On the other hand, process innovation is developing a new method or application of new technology to improve the production process. Lastly, organizational innovation includes changing an entity’s business process, leadership, and practices. A firm’s innovation capability in

these areas will affect product, brand, and overall performance (Zhang & Hartley, 2018; Odoom & Mensah, 2018; Dadfar et al., 2013; Keskin, 2006). Different types of innovation will result in different firm performance results. For instance, product innovation is correlated to growth and competitive advantage (O’Cass & Sok, 2014; Landoni et al., 2016). Combination innovation capability in multiple aspects, such as product, processes, organization, and marketing innovation or product-oriented and production-oriented innovation will result in a positive effect on operational performance and business return (Kafetzopoulos & Psomas, 2015; Zhang, 2022).

To innovate, MSEs may need to conduct research and development (R&D) activities. R&D activities can influence the innovativeness of an entity through two types of mechanisms (Ortega-Argilés et al., 2009). First is the direct mechanism by which R&D activities lead to the development of new products or processes within the company. The direct mechanism is a predominant activity where the company invests in research and development to generate new ideas, technologies, or products. Second, R&D can also affect innovation through indirect mechanisms. Rather than directly leading to new products or processes, R&D activities may enhance the knowledge base and absorptive capacity -the ability to recognize the value of new information and apply it for commercial purposes- of entrepreneurs and their employees. As a result, the company becomes better equipped to identify, adopt, and adapt external innovations and generate future internal innovations.

Kassa & Getnet Mirete (2022) explain several factors that affect innovation behavior among micro and small enterprises. External factors such as government support and access to infrastructure play an essential role by providing MSEs with the necessary resources and incentives to innovate. Internal factors, including entrepreneurial capacity, skill, attitude, and leadership, are also crucial. Good entrepreneurial capacity helps entrepreneurs gain a competitive advantage by improving their capabilities using available resources. It also implies that entrepreneurial skills may not be sufficient to foster innovation if there is a lack of resources. Adequate resources and a skilled workforce are necessary for implementing innovative ideas effectively. Good leadership is essential to organize these resources and human capital. Organizational leadership positively affects the workers’ creativity and helps to change the workers’ attitude to innovate (Cai et al., 2019).

Furthermore, innovation in small and medium enterprises is also determined by in-house private R&D conducted by the firms, non-R&D innovation activities, and SMEs’ collaboration with external sources of knowledge (Hervás-Oliver et al., 2021). Unfortunately, despite its importance in driving innovation, R&D is a costly activity that requires substantial financial resources and time and has various risks. There is the inherent risk of failure, where invested time and money may end up being in vain. The threat of imitation and different external factors can serve as disincentives for MSEs to innovate. Figure 3 shows that most micro and small industries classified as MSEs still need to innovate.

The limited innovation activity among MSEs also indicates a more fundamental matter. We must underpin three

predominant factors: financing, Intellectual Property Rights protection, and the need for skilled labor.

3.1 Lack of Financing

The lack of financial capacity remains a stumbling block, especially for MSEs. Capital is a primary part of determining the output quality, but the innovation process is an activity with a high uncertainty risk. Therefore, a loss in the middle of a trial-and-error process is undeniable. Meanwhile, this seems contradictory to the profile of the MSEs with relatively small assets and revenues. An alternative way to rely on external funding has emerged as a prominent solution. However, the investment costs used for R&D often fall under investments in intangible and non-deployable assets, making it challenging to secure formal external funding to balance operational expenses (Bellucci et al., 2023a,b).

However, as expressed in the National Medium-Term Development Plan (RPJMN), the Indonesian government has paid particular attention to MSEs to facilitate their development by expanding the People’s Business Credit (*Kredit Usaha Rakyat/KUR*). Additional funding from KUR will drive MSEs to create innovation or at least broaden their capacity to trial-and-error. After the COVID-19 pandemic and economic shocks, the government modified the KUR scheme by providing additional interest subsidies, deferring principal repayments, and implementing relaxation policies for KUR debtors.

3.2 Lack of Skilled Talent

In addition to capital factors, Vargas (2015) found that the managerial system and leadership determine the direction of business strategy. The capability of business managers to manage resources also becomes crucial. Personality traits, such as creativity-related skills, proactive personality, intrinsic motivation, and creative self-efficacy, are essential in influencing innovativeness or entrepreneurship (Zastempowski, 2022). Through creative abilities and a willingness to evolve, SMEs that learn from failures will likely be more successful in their performance (Shaik et al., 2023).

However, MSE owners in Indonesia are predominantly individuals with low formal education levels, as depicted in Figure 4. It highlights a potential challenge in enhancing managerial and leadership capabilities, as formal education often contributes to developing critical managerial and entrepreneurial skills. Therefore, addressing this educational gap becomes essential in promoting effective leadership and organizational practices within MSEs.

3.3 The Importance of Intellectual Property Rights

The policy regarding Intellectual Property Rights has been in Indonesia since the colonial era in the 18th century. A significant turning point occurred in 1986 when the Patent Law was successfully enacted, and in 1992, Indonesia signed the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) (Kementerian Hukum dan HAM, n.d.). Intellectual Property Rights can be obtained through a first-to-file system protected by law, protecting intellectual creations and innovations from irresponsible claims.

Even if SMEs can innovate, their return of innovation would be forgone without Intellectual Property Rights

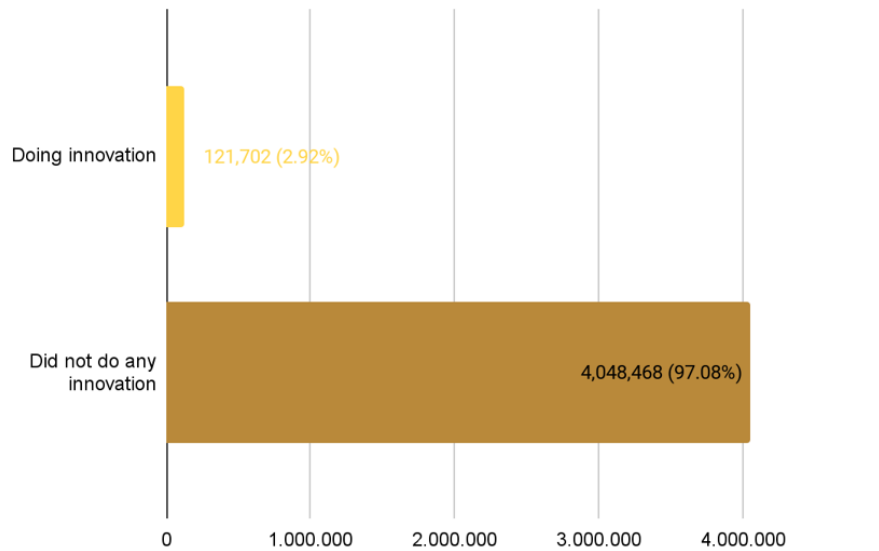


Figure 3. Innovation Activity among Micro and Small Industries that are Classified as MSEs (N=4,170,170)
Source: VIMK (2020)

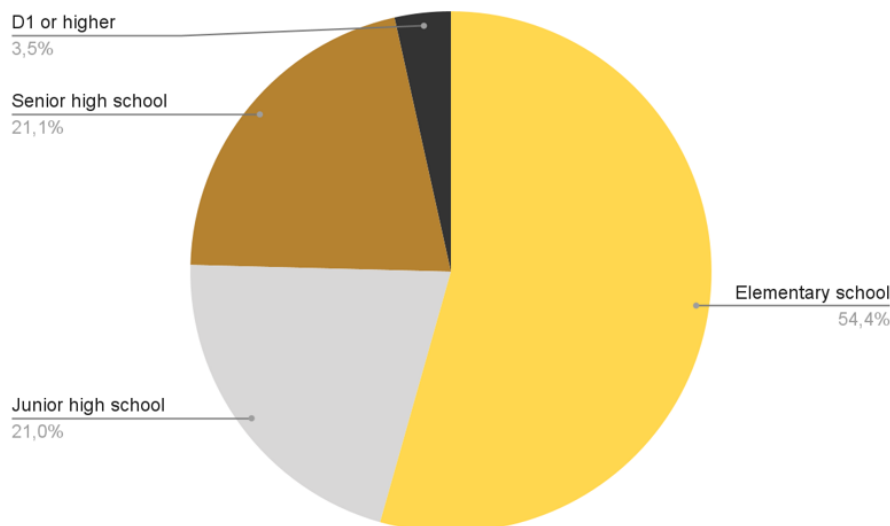


Figure 4. Owner Education Level of Micro and Small Industries that are Classified as MSEs (N=4,170,170)
Source: VIMK (2020)

(IPR). As we mentioned, there are three types of SME innovations: product, process, and organizational/marketing. MSEs that compete in a monopolistic market tend to replicate each other. The innovation SMEs produce tends to be less complex and thus easy to replicate due to various factors. Limited resources, such as constrained budgets and smaller teams, can lead SMEs to focus on more incremental and practical innovations rather than highly complex ones (Rosenbusch et al., 2011). Generating new knowledge and transforming it into innovation is also considered complex and capital-intensive, which may influence the ability and the level of complexity in SME innovation (Edeh & Vinces, 2024). The competitors who replicate would undoubtedly get a more significant marginal profit because they do not have to spend on R&D costs. Without IPR, the whole industry would use the newly introduced product or technology that makes no return for the innovator.

Then, IPR plays a vital role in innovation by protecting the copyright of works and preventing plagiarism (Hudson & Minea, 2013). The presence of copyright protection incentivizes producers to develop new products or new technologies and create new market opportunities (Glass & Wu, 2007). Therefore, MSEs’ innovation can be guaranteed and have exclusive rights.

4. Potential Solutions and Lessons Learned from Other Countries

With various problems hindering MSEs from growing and conducting innovation activities, scaling up MSEs becomes challenging. To succeed, the government must take several measures and start initiatives to support MSEs. In this section, we have collected some good practices from various countries in scaling up MSEs and incentivizing innovation

among these enterprises.

4.1 Programs to Boost Innovation

EU's Horizon has launched an innovation support program called The SMEs Instrument. This initiative aims to provide funding and support for innovation projects conducted by SMEs. The program begins with a proposal submission. SMEs must explain their overall innovation idea and an initial business plan and describe the activities to be undertaken under phase 1, the concept and feasibility assessment phase. In phase 1, enterprises will explore and assess an innovation's technical feasibility and commercial potential. They include but are not limited to risk assessment, market study, or intellectual property management. Innovation projects underpinned by a strategic business plan and feasibility assessment will be executed in Phase 2. The SMEs Instrument targets for-profit SMEs with fewer than 250 employees and an annual turnover not exceeding €50 million.

Indonesia may adopt some aspects of the EU's Horizon SMEs Instrument program. As previously mentioned, the lack of financial resources often restrains MSEs from conducting R&D and innovation activities. Providing programs to support innovation could tackle those resource limitations and create a more supportive environment for innovation and growth. This program, indeed, does not come without risk. Instead, there is a possibility of targeting the wrong MSEs with low potential. The SMEs Instrument program gives an excellent example by requiring proposal submission for SMEs interested in applying. Selecting the participating MSEs with specific criteria and standards, such as size and turnover, could help maximize the program's impact and reduce the risk.

4.2 Assistance and Capacity Development Program

Providing assistance and capability development programs to MSEs may ensure they can operate their businesses efficiently with effective strategies. As the sustainability and growth of MSEs heavily rely on employees' and entrepreneurs' skills and capabilities, entrepreneurial training, for instance, is a crucial strategy in small business development (Nduta, 2016; Namusonge, 2006).

The Growth Driver Program introduced by the Business Development Bank of Canada (BDC) in 2016 is an excellent example of such a program. This program aims to assist businesses in overcoming growth-inhibiting challenges. Businesses must provide information about their financial performance, team capabilities, and main growth challenges. Selected businesses are offered the opportunity to invest in the program to demonstrate their commitment. Successful applicants will receive professional assistance and support from the BDC team and consultants assigned to them for two or three years. This program allows knowledge transfer from BDCs, who have been exposed to various industry practices, to SMEs, allowing SMEs to address and avoid typical challenges that potentially limit SMEs' growth.

In Morocco, comprehensive training has proven effective in improving the productivity of the SMEs. The Moroccan Micro-Enterprise Support Institution (INMAA) launched the model factory in 2011 to help SMEs adopt the latest manufacturing principles through experimental training. At

the beginning of the program, participants will evaluate their current operational processes. Participants and experts collaborate to design plans and define a vision before they jump into the implementation phase. INMAA has successfully increased the average productivity of 40% of participants. The program's success lies in its structured approach, starting with a diagnosis to understand existing processes, followed by collaborative planning and vision-setting, and finally, the hands-on implementation phase with the integration of lightweight manufacturing tools.

4.3 Partnership with Larger Entities: Business Aggregator and Research Cooperation

Due to resource limitations, small enterprises may not have sufficient equipment, infrastructure, and personnel to conduct their R&D activities. They generally have less tendency to conduct R&D without external support and often rely more on R&D performed by the government or other entities (Hervás-Oliver et al., 2021; Czarnitzki & Hussinger, 2018). MSEs that struggle to do their own innovation and R&D process can foster growth through an aggregator or consolidator mechanism, where large companies act as aggregators for them. The aggregator or consolidator mechanism, where large companies collect products and services from MSEs, creates a collaborative framework to promote growth. Large enterprises can provide better resources by involving MSEs in their production chain while transferring knowledge and expertise.

The mechanism can be implemented in two approaches to promote innovation among MSEs. First, it acts only as an intermediary by allowing MSEs to access larger markets. MSEs that have conducted innovation can market their products to a broader audience, thus maximizing the returns on MSEs' existing innovations. For MSEs that have yet to innovate, aggregators can catalyze innovation. Large businesses may act as a mentor, guiding their MSE partners in improving product quality and enhancing competitiveness. The product standard required by the large company may also push MSEs to conduct innovation in the production and business process. One example of this mechanism is commonly seen in the fashion industry, where medium or large businesses act as aggregators for small-scale fashion producers. These larger businesses (retailers) provide a platform for these small businesses to showcase their products to a broader audience. While the producers focus on the innovation and production process of the apparel, the larger business handles other supporting tasks, including marketing and customer relations. As they tend to have more resources and expertise, the larger business could also conduct market research and provide information regarding the current trends and market demand to support small business innovation. While this may serve as a strategy to optimize the production process among large businesses, MSEs, in turn, will gain access to a more extensive customer base and resources they previously had not had access to. The second approach involves large corporations conducting research and product innovation and outsourcing production implementation to MSEs. This method will help MSEs that are unable to do their innovation. Larger companies leverage their resources and expertise to develop new products through R&D processes. Once these ideas are ready for

production, they contract MSEs to carry out the manufacturing process instead of handling the production themselves. With government support in protecting intellectual property rights, this mechanism can create sustainable synergy between large companies and MSEs, opening opportunities for broader market access and empowering MSEs' growth.

4.4 Supporting Regulation

Supportive regulations, such as tax incentives for R&D expenditures, grants, or subsidies for innovation projects, and streamlined regulatory processes, can be implemented to alleviate some barriers and stimulate innovation among MSEs.

In the United Kingdom, the R&D Tax Relief for SMEs was introduced in the early 2000s to incentivize R&D expenditures among businesses. This scheme reduces the Corporate Tax liability, allowing cash payments if the company incurs losses. Businesses conducting R&D activities under this scheme are more likely to generate a majority of their revenue from new products, services, or processes compared to 'non-claimants' engaging in R&D. Those participating in this program show an increase in innovative behavior along with a rise in the number of patent applications filed in the first year of the claim under this scheme, and the average number of patents filed per applicant continues to increase in subsequent years (Devnani et al., 2019).

In Asia, the Korean government has implemented various financial policies to promote R&D activities, including low-interest R&D loans, R&D subsidies, and tax credits, primarily emphasizing expanding corporate R&D investment, particularly among SMEs. The government has allocated subsidies for specific activities such as technology and product development, innovation projects, technology transfer, and cooperative R&D projects. Most resources have been directed towards technology development, innovation, and initiatives fostering collaboration between universities and industries, reflecting a concerted effort to advance technology and facilitate knowledge transfer across various sectors. A study by Cin et al. (2017) found that these R&D subsidies positively affect R&D expenditure and value-added productivity among small and medium businesses.

However, giving incentives and benefits to MSEs must be approached cautiously to avoid potential moral hazards. Such programs may lead to paradoxical situations where owners may become less motivated to scale up. Tsuruta (2020) argues that firms are unlikely to increase capital stock if their capital stock is near the cap of the requirement of SMEs. Firms have a disincentive to increase capital stock to keep their SME status and benefit from such policies. This argument aligns with the OECD (2016), which suggests that government support for SMEs may reduce their incentive to grow, which contradicts the intended objective. This risk could be mitigated by carefully selecting the SMEs that receive the benefit. For instance, combining tax reduction with enrollment in the assistance programs mentioned earlier ensures that MSEs receiving the benefit are only those with high motivation and potential.

5. Conclusion and Recommendation

According to economic theories, product differentiation offers a solution for MSEs to escape from the perfect competition in the market and scale up. Scaling up MSEs can be achieved through investments in R&D and innovation, enabling product differentiation among MSEs. In line with the theory, previous research suggests that innovation can trigger the growth of business size, thereby facilitating MSEs to scale up.

Unfortunately, various obstacles hinder innovation and R&D efforts among MSEs, including financial constraints, copyright protection, and limited skill. Measures such as research cooperation, tax exemptions for innovative MSEs, and granting IPR to MSEs are essential to overcome these hurdles. Governments in various countries have implemented programs to promote the growth and innovation of MSEs. This included business incubation, an Innovation support program, supportive regulations, and mentoring. Through these measures, the government strives to address various challenges related to workforce and entrepreneurial capabilities and resource limitations.

The Indonesian government may take note of these good practices to promote growth among MSEs, especially micro-enterprises, which hold nearly 100% of all enterprise units. Our study suggests some critical things to consider when developing programs to scale up MSEs. First, not all MSEs can scale up. Therefore, the government must implement a selection process to select MSEs with the highest growth potential. Second, MSEs need more financial resources to innovate and managerial capacity to ensure sustainable growth. Third, the involvement of private parties might be required to catalyze MSEs' growth through a collaborative framework. A triple helix collaboration, for instance, may be adopted in collaborative research or business aggregator mechanisms.

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