"Cultivating Growth Empowering Coastal" Communities: Examining Capitals, Empowerment Strategies, and Digitalization among Indonesian Micro, Small, and Medium Enterprises

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Abstract—In this systematic mapping study from 1986 to 2022, the research delves into the pivotal role of Micro-Small-Medium Enterprises (MSMEs) in Indonesia's economic landscape. With a staggering 53.95% of Indonesia's GDP attributed to household consumption, MSMEs emerge as the backbone of the nation's economy, displaying agility in the face of unforeseen challenges. Amidst the backdrop of the COVID-19 pandemic, MSMEs, while most impacted, have been prioritized in Indonesia's economic recovery policies, signifying their strategic importance. The study meticulously categorizes 2048 articles into seven themes, ranging from policies and capital management to digitalization and MSMEs' empowerment, shedding light on the multifaceted aspects of MSMEs. Through rigorous analysis, the research discerns vital indicators such as publication years, citations, and age-weighted indices, revealing the evolution and impact of MSME-related literature. Unearthing crucial insights, the study underscores the vast potential for further research in the dynamic realm of MSMEs, emphasizing their interconnectedness with empowerment strategies, capital management, intellectual and human capital, and the transformative influence of digital technology on firm performance and productivity.

Keywords—*Micro-Small-Medium Enterprises (MSMEs), Indonesia; Capitals, Empowerment, and Digitalization.*

I. INTRODUCTION

Broken by the expenditure component of its GDP, household consumption and investment are the largest contributors to Indonesia GDP. Based on Badan Pusat Statistik (BPS) Indonesia, 53.95% of Indonesia GDP is coming from household consumption [1]. The large portion is also associated with Micro-Small-Medium Enterprises (MSMEs) across all regions in Indonesia. This fact has made MSMEs becoming the Indonesia's economy backbone. Less reliant on formal markets and credit, MSMEs can react more quickly and flexibly than their larger counterparts to unexpected shocks. Albert Berry et al [2] argues that, instead of directly supporting small businesses, the government ought to concentrate on establishing a business-friendly atmosphere that fosters the expansion of small and medium-sized enterprises.

Additionally, it should encourage private sector-driven business development services. Unfortunately, in the era of MSMEs huge potential, Covid-19 has been tackling the global economy including Indonesia. MSMEs are the most affected sector economically by Covid-19 along with its derivative problems such as unemployment, work termination, and salary cuttings. Entering year of 2022, Indonesia was facing the new normal era. Indonesia government has formulated numbers of economic recovery policy wherein MSMEs became one of the most prioritized sectors to recover.

Regarding academic work, in the realm of development economics, small and medium-sized enterprises (MSMEs) have long been recognized as pivotal elements in a nation's economic and developmental strategy. Extensive literature on this topic has been produced since the 1980s. I conducted a systematic mapping study, analyzing a total of 2048 pieces of literature focused on MSME themes from 1986 to 2022.: (1) characterized the state of the art research on MSMES, (2) understand the context that characterizes MSMEs, (3) determine the potential further research on MSMEs, and (4) explore the current research trends and areas of MSMEs.

The pivotal role of Micro-Small-Medium Enterprises (MSMEs) in Indonesia's economy, highlighted by their significant contribution to GDP through household consumption, underscores their importance in shaping the economic landscape. As MSMEs constitute a substantial portion of the economic backbone, their resilience and adaptability are critical, especially in the face of unexpected challenges like the Covid-19 pandemic. The pandemic-induced economic downturn, including rising unemployment, work terminations, and salary cuts, further emphasizes the vulnerability of MSMEs and their essential role in employment generation and livelihood sustenance.

In parallel, the coastal communities in Indonesia are intricately connected to the MSME sector, particularly in areas where marine-based economic activities are prevalent. Coastal regions often rely on traditional industries, such as fisheries and aquaculture, which significantly contribute to the country's MSME sector. The challenges these coastal communities face echo the struggles of MSMEs, given their reliance on local economies and small-scale enterprises. Therefore, addressing the economic recovery and sustainable development of both MSMEs and coastal communities becomes imperative.

Strategies aimed at fostering the growth of MSMEs, such as creating conducive business environments and providing tailored business development services, bolster the national economy and uplift the coastal communities dependent on these enterprises. Additionally, initiatives promoting sustainable practices within the MSME sector, especially those related to coastal activities, can enhance the livelihoods of coastal communities while preserving marine ecosystems.

By recognizing the interconnectedness of MSMEs and coastal communities, policymakers can formulate holistic and inclusive policies, ensuring the economic well-being of both sectors and fostering balanced and sustainable development across Indonesia's diverse regions.

II. METHODS

I identified the primary studies using a search string on scientific databases (1509 from Scopus and 575 from Google Scholar). Table 1 shows all themes collected in the Systematic Mapping Studies on MSMEs. The themes consist of (1) Policy [3], [4], (2) Capital and Financing [5], [6], (3) 4.0 Digitalization [7], [8], (4) MSMEs Empowerment [9], [10], (5) MSMEs Potencies [11], [12], (6) MSMEs in Indonesia, and (7) Studies on MSMEs during and post Covid-19 [8], [13], [14]. I used 'Publish or Perish' and 'VOS Viewer' software to collect data and conduct the analysis.

TABLE 1. BRIEF DESCRIPTIONS OF MSMEs MAPPING STUDIES

Themes	Published	Papers	Citations	Years	AW Index	Cites per Year
Policy	1986	126	1884	36	13.03	52.33
Capital and Financing	1988	1043	10452	34	25.13	154.53
4.0 Digitalization	1994	480	2650	28	12.51	28.70
Empowerment	1998	195	1083	24	5.36	12.44
Potencies	1999	45	281	23	7.34	12.22
Indonesia	2001	162	797	21	5.34	13.71
Covid-19	2020	33	80	2	3.86	20.00

Source: Author's Analysis

III. RESULTS AND DISCUSSION

I used six main indicators for the analysis on MSMEs systematic mapping studies. First, 'Published' indicator is used to inform the first year of article publication according to its theme. The oldest articles that have been published is the studies on 'Policy' aspects related to MSMEs in 1986 and 'Covid-19' theme is the latest theme or topic that has been discussed in the academic's realms since 2020. Second, 'Papers' is the number of articles/papers published in the bibliometrics data. Third, 'Citations' is the sum of the citation counts across all currently selected results. Fourth, 'Years' is the number of years from the earliest year found in the currently selected results to the year of the search (usually the current year). Fifth, the 'AW Index' is calculated based on 'AWCR' (Age-weighted Citation Rate). The AWCR evaluates citations for a collection of work, adjusting for the age of each paper. It calculates the number of citations a paper receives divided by its age, forming an age-weighted citation rate. The AR-index is the square root of the total age-weighted citation counts across all papers contributing to the h-index. The AW-index, derived from the square root of AWCR, enables comparison with the h-index, especially if the citation rate remains relatively stable over the years.
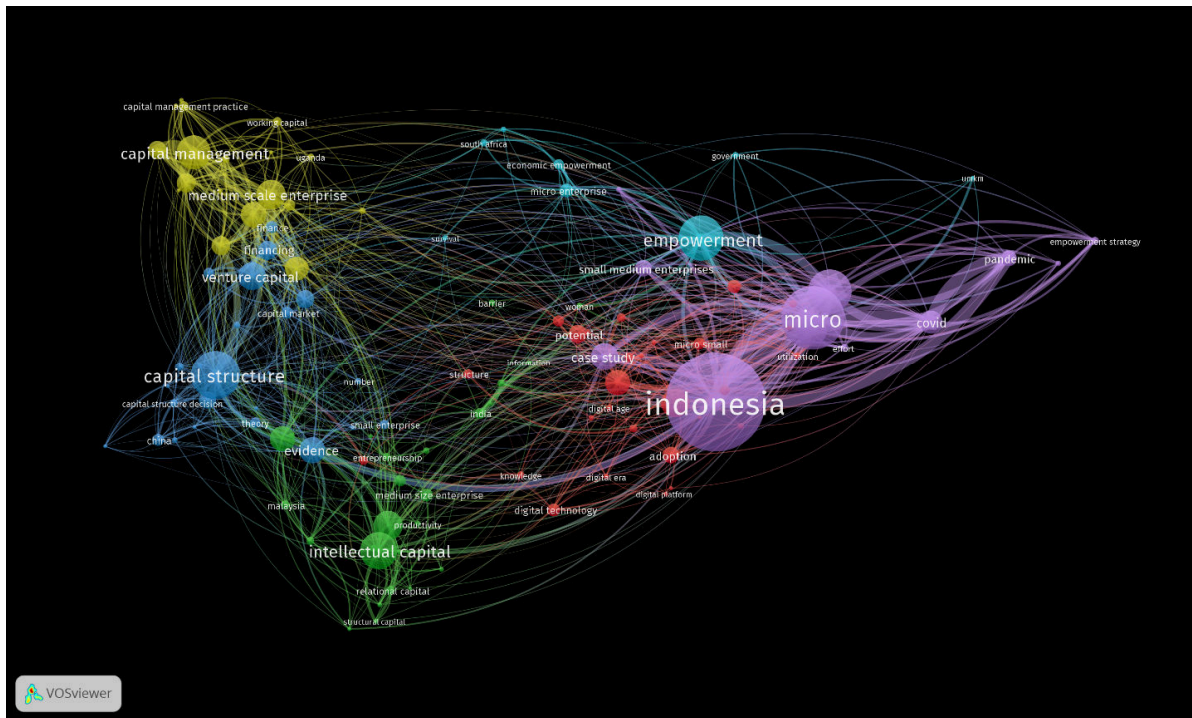
The rigorous methodology employed in this study, utilizing six key indicators, showcases a meticulous approach towards understanding the landscape of Micro-Small-Medium Enterprises (MSMEs) literature. The use of the 'Published' indicator, which tracks the earliest articles published on specific MSME themes, provides valuable historical context, illuminating the evolution of scholarly discourse over time. This historical perspective not only enriches the study's findings but also enables a nuanced understanding of how academic focus within the MSME sector has transformed, particularly regarding pivotal topics such as 'Policy,' which emerged as early as 1986, and the more recent emphasis on 'Covid-19' since 2020. This temporal analysis offers a comprehensive view, capturing the shifting paradigms within MSME research and highlighting the sector's responsiveness to contemporary challenges.

The inclusion of 'Papers' and 'Citations' indicators significantly enriches the quantitative aspect of the study, providing insights into the volume of academic output and the impact of these publications. The 'Years' indicator, spanning from the earliest research findings to the present, adds a temporal dimension, enabling a comprehensive analysis of the longevity and enduring relevance of various MSME topics. Moreover, the application of the 'AW Index,' rooted in age-weighted citation rates, signifies a sophisticated approach to evaluating the impact of MSME literature over time. By considering the age of individual papers, this index provides a nuanced perspective, acknowledging the enduring influence of seminal works while recognizing the significance of more recent contributions.

This meticulous utilization of diverse indicators ensures a comprehensive analysis of MSME literature and establishes a robust foundation for understanding the trajectory and impact of scholarly research. The study's meticulous approach illuminates the dynamic interplay of MSME themes, historical context, and scholarly impact, paving the way for informed discussions, evidence-based policies, and future research directions within the field.

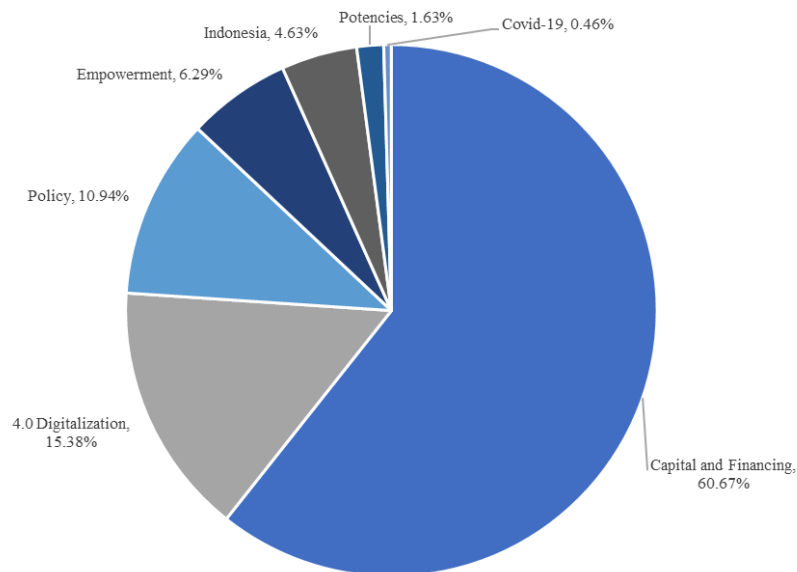GRAPH 1. NETWORKS VISUALIZATION OF MSMEs ISSUES AND TRENDS

Source: Author's own Analysis by Using VOS Viewer Software. Accessed from Van Eck N, Waltman L. *Software Survey: VOSviewer a Computer Program for Bibliometric Mapping*. Scientometrics. [15]; 84(2): 523–38.

As can be seen in Graph 1, there are at least six topics which were most discussed in the literatures of MSMEs in Indonesia which are: (1) Empowerment, (2) Intellectual Capital, (3) Capital Structure, (4) Venture Capital, (5) Digital Marketing and (6) Capital Management. Discussions on the topic which is related to 'Capital' are becoming the most cited works in the studies. In my database, 60.67% of the collected literatures are explaining about MSMEs Capital and Financing. The second most covered topic is 'Digitalization and 4.0 Industrial Revolution'.

CHART 1. CITATION ANALYSIS ON MSMEs STUDIES

Source: Author's own Analysis by using Publish or Perish Software. Accessed from Harzing A-W. *The Publish or Perish Book*. Tarma Software Research Pty Limited Melbourne, Australia; [16].

In term of its publication qualities and impact factor, I conducted citation analysis using the AW Index Score, Citations per Year, and Total of Citations. Integration of these three indicators help me to generate four quadrants of

MSMEs mapping studies as described in Chart 2. Q1 indicates the topics that have not been discussed yet but have the potential to be explored further. Q2 indicates the topics that have high impact but low citations per year on average, so they were only often discussed in specific year or particular times. Take a look at Chart 4, where 'Policy' met its peak in 1997 and '4.0 Digitalization' in 2020. They are not like 'Capital and Financing', which almost always becomes the most discussed topic from time to time as described in Q3. Q4 indicates the topics that are constantly discussed every year with high citation rate but low impact factor as a whole academic work which none of the topics was in Q4.

The integration of the AW Index Score, Citations per Year, and Total Citations for citation analysis provides a nuanced understanding of the publication qualities and impact factors of MSMEs mapping studies. The division of these studies into four quadrants, as described in Chart 2, offers valuable insights into the dynamics of scholarly attention and impact within the field.

Quadrant 1, representing topics that have not been extensively explored but show potential, highlights areas where further research could yield significant contributions. These uncharted territories present opportunities for scholars to delve into novel aspects of MSMEs, potentially uncovering valuable insights that can inform both academia and industry.

Quadrant 2, characterized by high impact but low average citations per year, suggests topics that were intensely discussed during specific periods. The examples provided, such as the peak of 'Policy' discussions in 1997 and '4.0 Digitalization' in 2020, indicate concentrated bursts of academic interest. These topics might be indicative of pivotal moments in the evolution of MSMEs, possibly linked to significant policy changes or technological advancements.

Quadrant 3, illustrated by topics like 'Capital and Financing,' signifies consistent discussion and high impact across different periods. These enduring themes indicate the perennial importance of certain aspects within the realm of MSMEs. 'Capital and Financing,', emerges as a topic of sustained scholarly interest, reflecting its fundamental role in the success and growth of micro, small, and medium enterprises.

Interestingly, there is no topic identified in **Quadrant 4**, suggesting that while some subjects are consistently discussed, they do not necessarily contribute significantly to the overall academic impact. This observation underscores the need for a balance between frequency of discussion and substantive, enduring impact. Topics falling into this quadrant may benefit from deeper analysis or innovative approaches to ensure their contributions resonate more profoundly within the academic community.

In essence, this nuanced analysis not only aids scholars in identifying underexplored areas but also emphasizes the importance of sustained engagement and impactful contributions in the continuously evolving field of MSMEs research. It underscores the dynamic nature of scholarly discourse, encouraging researchers to investigate emerging trends and deepen their work's impact for a more enduring academic legacy.

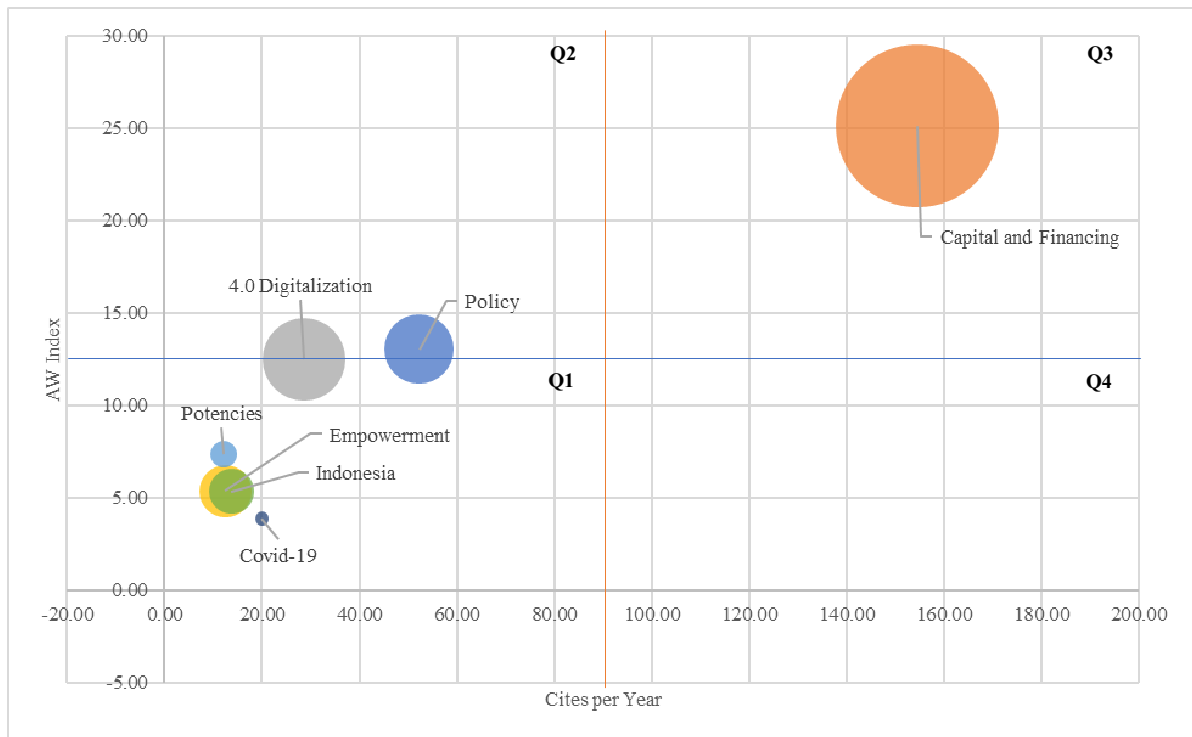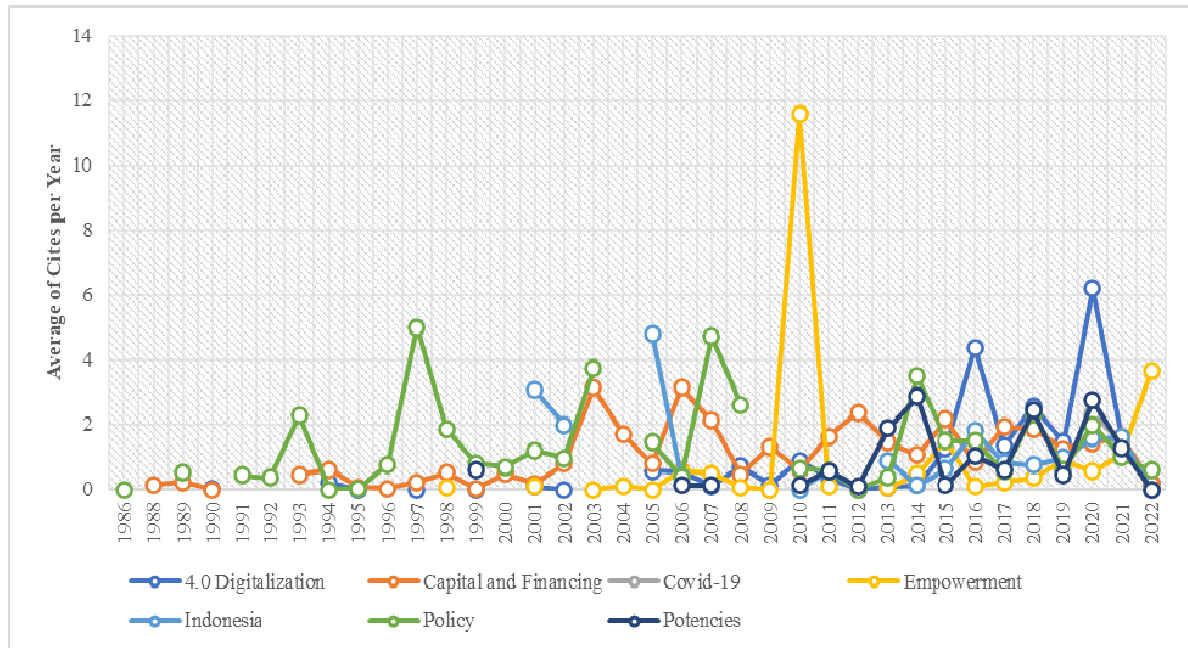CHART 2. CITATIONS AND AW INDEX ANALYSIS ON MSMEs CATEGORIZED BY THEMES

CHART 3. ANALYSIS ON MSMEs STUDIES DEVELOPMENT

Source: Source: Author's own Analysis

Lastly, Chart 3 shows us the trajectory of the literatures on MSMEs. Research on MSMEs 'Empowerment' reached its citation average peak in 2010. Discussion on the 'Empowerment' topic decreased in 2011 and slowly increased until 2022 reached its peak of citations per year average. '4.0 Industrial Revolution and Digitalization' peaked in 2020 by its citations per year average. Based on these findings, discussion on 'Empowerment' and 'Digitalization' issues were becoming the hot topic in relation to the studies of MSMEs.

The trajectory of research on MSMEs, as depicted in Chart 3, offers valuable insights into the evolving landscape of academic interest. The peak in citations on MSMEs 'Empowerment' in 2010 followed by a decline in 2011 and subsequent resurgence until 2022 suggests a cyclical pattern of scholarly attention. This pattern might indicate shifting societal, economic, or policy contexts, influencing the prioritization of specific research themes over time.

Similarly, the spike in citations related to the '4.0 Industrial Revolution and Digitalization' in 2020 signifies the growing importance of digital technology in the context of MSMEs. The year 2020 was marked by the onset of the COVID-19 pandemic, which accelerated the adoption of digital tools and strategies across various sectors. This context likely fueled an increased scholarly focus on how MSMEs could leverage digitalization, aligning with the broader global digital transformation trend in response to the pandemic's challenges.

The concurrent prominence of 'Empowerment' and 'Digitalization' issues in MSME studies highlights the multifaceted challenges faced by these enterprises. Empowerment strategies are crucial for fostering entrepreneurship and economic inclusivity, ensuring that MSMEs have the necessary resources and support to thrive. Simultaneously, digitalization plays a pivotal role in enhancing MSMEs' competitiveness, market reach, and operational efficiency, especially in an increasingly digital world.

These trends underscore the dynamic nature of the MSME research landscape, reflecting the sector's adaptability to changing economic paradigms. Scholars and policymakers must continue to monitor these shifts closely, adapting their approaches to support MSMEs effectively in an environment where empowerment and digitalization are key determinants of success.

IV. CONCLUSION

This study underscores the vast landscape of Micro-Small-Medium Enterprises (MSMEs) research, indicating substantial avenues for future inquiry. Focusing on Indonesia, the research emphasizes the intricate interplay of factors shaping the MSME sector, including the critical roles played by empowerment strategies, efficient capital management, intellectual and human capital, and the integration of digital technology. Notably, the study illuminates a compelling link between digital technology optimization and prevalent themes in existing literature, particularly concerning firm performance and productivity. These insights highlight the complexity of the MSME ecosystem and emphasize the transformative potential of strategic interventions, underscoring the need for holistic approaches to foster sustainable growth and resilience within this vital sector.

In light of these findings, it is recommended that policymakers and stakeholders in Indonesia prioritize investments in digital technology infrastructure and literacy programs for MSMEs. Empowering entrepreneurs with digital skills and resources can enhance their market presence, streamline operations, and boost productivity. Additionally, fostering collaborations between the public and private sectors to provide comprehensive business development services tailored to MSMEs' needs can

significantly contribute to their growth. Furthermore, initiatives to strengthen intellectual and human capital, such as training programs and knowledge-sharing platforms, should be encouraged. By embracing these recommendations, Indonesia can foster a thriving MSME ecosystem that is agile, competitive, and resilient in the face of evolving economic challenges.

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