

INDONESIAN SMES AND GLOBAL MARKET PENETRATION: THE EFFECTS OF HUMAN CAPITAL INVESTMENT, GOVERNMENT ROLE, AND TECHNOLOGICAL PROGRESS

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Abstract: MSMEs play a significant role in supporting the country's economy as they account for 60.5% of GDP. MSMEs confront a number of difficulties related to financing, supply, and market demand that need to be given more consideration in order to support their entry into the global market. The purpose of this study is to examine how government involvement, technology advancement, human capital investment, and entrepreneurial orientation affect MSMEs (micro, small, and medium-sized firms) in Indonesia and their internationalization strategies. This study uses a quantitative approach with data collection techniques using a Likert scale questionnaire. Then descriptive analysis and Partial Least Squares (PLS) are used to analyze the data. The study's findings show that technical change significantly affects MSMEs' internationalization strategies; in contrast, entrepreneurial orientation, investments in human capital, and the role of the government are not as significant in this regard. However, this research offers stakeholders improved guidance for bolstering MSMEs' success and expansion in global markets, as well as for widening the gap in the global MSME market to promote Indonesia's sustainable economic growth.

Keywords: Indonesian SMEs, Human Capital Investment, Government Role, Technological Progress

Abstrak: UMKM berperan penting dalam mendukung perekonomian negara karena dengan kontribusi hingga 60,5% PDB. UMKM menghadapi sejumlah kendala terkait pembiayaan, pasokan, dan permintaan pasar yang perlu mendapat perhatian lebih untuk mendukung masuknya mereka ke pasar global. Tujuan penelitian ini adalah untuk mengkaji bagaimana keterlibatan pemerintah, kemajuan teknologi, investasi sumber daya manusia, dan orientasi kewirausahaan memengaruhi UMKM (usaha mikro, kecil, dan menengah) di Indonesia dan strategi internasionalisasi mereka. Penelitian ini menggunakan pendekatan

kuantitatif dengan teknik pengumpulan data menggunakan kuesioner skala Likert. Kemudian analisis deskriptif dan *Partial Least Squares* (PLS) digunakan untuk menganalisis data. Hasil penelitian menunjukkan bahwa transformasi teknologi berdampak signifikan terhadap strategi internasionalisasi UMKM, sedangkan orientasi kewirausahaan, investasi modal manusia, dan peran pemerintah tidak memiliki Pengaruh yang cukup kuat dalam konteks ini. Meskipun demikian, penelitian ini memberikan Arah yang lebih baik untuk pemangku kepentingan dalam mendukung pertumbuhan dan keberhasilan UMKM di pasar internasional serta memperluas pangsa pasar UMKM internasional untuk mendukung pertumbuhan ekonomi berkelanjutan di Indonesia.

Kata Kunci: UKM Indonesia, Investasi Sumber Daya Manusia, Peran Pemerintah, Kemajuan Teknologi

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a vital role in the Indonesian economy, contributing 52.28% of national income in 2019 and employing 123,300 workers (Lubis, 2021). However, only 14.5% of MSMEs have penetrated the export market, while most have not received adequate support (Fatimah et al., 2021). MSMEs contribute 60.5% to the GDP, making them a crucial pillar of the national economy. The challenges MSMEs face include supply, capital, and market demand aspects, which require more attention to encourage their participation in the international market (Suhaili & Sugiharsono, 2019).

To support MSME internationalization, entrepreneurial orientation, human capital investment, technological innovation, and government roles are essential (Kunday & Şengüler, 2015). Entrepreneurial orientation reflects the ability of MSMEs to identify and exploit global market opportunities (Yoon et al., 2018). Investment in human capital enhances employee skills and operational efficiency, while technological innovation helps MSMEs understand global consumer preferences and improve operational efficiency through e-commerce and AI (Mukhtar, 2009). The government's role in creating supportive regulations is also crucial for ensuring the success of MSMEs in the international market (Stawiarska, 2021).

The main issues that hinder the internationalization of MSMEs in Indonesia include capital constraints, product offerings, and limited access to global market demand. In addition, limited technological innovation and low investment in human capital are also challenges that slow down the internationalization process (Kunday & Şengüler, 2015; Mukhtar, 2009). In fact, entrepreneurial orientation, investment in human capital, and technological innovation are very important in helping MSMEs compete in the global market

and adapt to technological developments such as e-commerce and artificial intelligence (Yoon et al., 2018). On the other hand, government support through appropriate regulations and policies is also a crucial element in ensuring the success of MSMEs in the international market (Stawiarska, 2021). This role is very important in creating a supportive ecosystem for MSMEs in expanding market reach and increasing competitiveness in the global arena.

In the context of Indonesia Emas 2045 (Bianchi et al., 2016; Entrepreneurship, 2008; Keen, 2013; Knight, 2001), the export potential of MSMEs becomes a key element in achieving the vision of sustainable economic development. This study also highlights the importance of collaboration between the younger generation and MSME actors in developing superior products to compete in global markets (Amir, 2013). A mindset transformation and social capital development are necessary for MSMEs to compete internationally, making them key players in realizing Indonesia as a global economic leader by 2045 (Falahat et al., 2020; Masood & Rizwan, 2021; Muhammad et al., 2009; Su et al., 2020; Tangkittipaporn & Socio-Economic, 2009; Zhang et al., 2012)

Based on these issues, the study intends to examine the impact of the government (Alfian & Maulana, 2022; Handayani et al., 2021) as well as entrepreneurial orientation (Smallbone & Do, 2020), human resource investment (Taylor, 2004), technological innovation (Wilkinson & Brouthers, 2006), and technological innovation on the internationalization strategy of MSMEs in Indonesia. This study delves deeply into the ways that government involvement, technical advancement, entrepreneurial orientation, and human resource investment affect MSMEs' internationalization strategies. MSMEs may develop successful internationalization strategies, take advantage of opportunities in the global market, and aid in Indonesia's sustainable economic growth by knowing how these variables relate to one another. This study is expected to provide deeper insights to help MSMEs overcome global challenges and expand their international market share. In addition, this study can fill the gaps in previous studies by examining the four variables comprehensively in one study. It is expected to provide better direction for stakeholders to support the growth and success of MSMEs in the international market.

METHOD

This study employs a quantitative research method with descriptive-verification statistical analysis (Maulidasari & Setyana, 2020; Sudirjo et al., 2023). This method has strong historical roots in the development of statistics, with key figures such as Ronald A. Fisher, Karl Pearson, George W. Snedecor, Jerzy Neyman, and Egon Pearson playing pivotal roles in forming the concepts and techniques of quantitative descriptive analysis. Descriptive analysis is used to detail and summarize collected data, while verification is conducted to test the truth or validity of existing hypotheses (Bartlett & F.R.S, 1981; Bilder & Loughin, 2007; Magnello, 2009; Norton, 1978; A. E. S. Pearson & Wilks, 1933; E. S. Pearson, 1932, 1963; Stouffer, 2012). The descriptive-verification approach is adopted to provide deep understanding and test the applicability of theories in the observed practical context (Morse et al., 2002; Sousa, 2014).

This study's variables include independent, dependent, and mediating variables. The researcher controls or manipulates the independent variables, while the dependent variables are those that are impacted by the independent variables. Mediating variables act as intermediates between independent and dependent variables, presenting a clearer picture of the observed phenomena (VAssist Research - Poster Paper Bio-Statistics Plagiarism, Thesis Writing Articles Publication, 2020) (Validity in Quantitative Research Designs, 2022) (Mediation and Moderation Analysis Homework Solution, 2023). These variables are operationalized into dimensions and indicators relevant to the research concepts.

The research population consists of Micro, Small, and Medium Enterprises (MSMEs) engaged in export activities in Indonesia. The sample is selected using the cluster sampling method, where the population is divided into separate groups, and several groups are randomly chosen as the sample. The sample size is determined by multiplying the number of research indicators (Abdullah et al., 2022; Pusediktasari et al., 2021) by 6, resulting in a sample size of 180 respondents.

Data is collected through the distribution of questionnaires using a Likert scale of 1-7 (Collins et al., 2006), which is used to measure the research variables. Primary data is obtained through questionnaires distributed to respondents (Andrade, 2020), while secondary data is sourced from existing resources (Li, 2013). Data analysis is conducted using descriptive statistical methods to detail and summarize data (Simpson, 2015), and Partial

Least Squares (PLS) to test the significance of the variables and their relationships within the model.

The results of data analysis will provide in-depth information about the relationships between variables, the significance of findings, and the strength of existing evidence. The study's findings will contribute to a better knowledge of Indonesian government roles, technology change, human capital investment, entrepreneurial orientation, and MSME internationalization initiatives. As a result, this study makes both scholarly and practical contributions to the field of MSME development and Indonesian economic policy.

RESULTS AND DISCUSSION

Micro, Small, and Medium Enterprises (MSMEs) are defined as the three primary economic sector groups by Law No. 20 of 2008 (Barid et al., 2017; Fathurrahman et al., 2022; Simon et al., n.d.). Micro enterprises are profitable companies that are owned by lone people or single companies. The law specifies the requirements for being labeled as a micro enterprise. Small businesses are autonomous, profit-generating enterprises run by people or groups of people; they do not include branches or subsidiaries that are owned, managed, or a portion of medium- or large-sized businesses. The legislation also provides a precise definition for what constitutes a small enterprise. In contrast, medium-sized enterprises are autonomous, profit-generating businesses run by people or organizations; they do not include branches or subsidiaries that are a part of, owned by, or controlled by small or large enterprises. According to legal regulations, a company's yearly revenues or net assets determine whether it qualifies as a Medium Enterprise.

The notable annual growth in MSMEs' numbers is indicative of their significance to the Indonesian economy (Kesa & Pranita, 2021; Lubis, 2021). There has been a favorable growth trend between 2015 and 2019, according to data from the Republic of Indonesia's Ministry of Cooperatives and Small and Medium Enterprises. As evidenced by the government's and industry players' efforts and support in building and bolstering the MSME sector in Indonesia (Mustika et al., 2020; Utami et al., 2020), the number of MSMEs has been steadily rising annually. The stable growth during this period demonstrates the crucial role of MSMEs in contributing to the national economy and the resilience and adaptability of MSMEs amidst the ever-changing economic dynamics.

Table 1. Distribution of Respondents

Row Labels	Count of Gender:
Man	79
Woman	101
Grand Total	180
Row Labels	Count of Age:
17 - 23 years old	20
24 - 39 years old	46
40 - 55 years old	67
56 -64 years old	47
Grand Total	180
Row Labels	Count of MSME Locations
Bali Island	28
Java Island	53
Kalimantan island	33
Sulawesi island	24
Sumatera island	42
Grand Total	180
Row Labels	Count of Types of MSMEs:
Agribusiness MSMEs	37
MSMEs in the Fashion Sector	29
MSMEs in the Culinary Sector	34
Cosmetics and Medicine MSMEs	38
UMKM Craft Products (Hand Crafts)	42
Grand Total	180
Row Labels	Count of Years of Business:
>10 Years	57
15 years	42
5 - 10 Years	81
Grand Total	180

Source : Processed by Researchers, 2024

The distribution of respondents in this study provides a fairly representative overview of the characteristics of participants involved in the analysis of Micro, Small, and Medium Enterprises (MSMEs). In terms of gender, there is a balanced participation between males (43.89%) and females (56.11%), allowing for an inclusive analysis of various gender perspectives related to MSMEs. Meanwhile, the distribution based on the location of MSMEs shows significant involvement from various regions in Indonesia, with the majority of respondents coming from Java, followed by Sumatra, though MSMEs from other regions are also represented. The types of MSMEs involved cover diverse sectors, dominated by those in Craft Production, followed by Cosmetics and Pharmaceuticals. Variation in the duration of

business operations was also observed, with the majority of respondents having been in operation for 5 to 10 years, though there are still some newly established businesses as well as those that have been running for more than 10 years. Overall, this distribution of respondents provides a solid foundation for in-depth analysis of various aspects of MSMEs in Indonesia, from gender to geography and type of business.

The majority of respondents in this study gave positive ratings on several key aspects related to Micro, Small, and Medium Enterprises (MSMEs). Firstly, in terms of Entrepreneurial Orientation, the majority of respondents gave an average score of 5.71, indicating that they recognize the importance of entrepreneurial attitudes and practices in managing their businesses. This also indicates that many respondents feel that having a strong entrepreneurial orientation is key to business success. Next, Human Capital Investment also received high ratings with an average score of 5.71, reflecting the recognition of the importance of investing in human capital development. This score shows that respondents consider dedicating time and resources to developing the skills and knowledge of employees as a crucial step in improving business performance. With an average score of 5.76, technological transformation was also highly scored by most respondents, showing that they understand how important it is to accept new technologies and use them effectively to boost business growth and competitiveness. However, regarding the Role of Government, the average score was 5.56, indicating some hesitation or uncertainty in respondents' perceptions of the effectiveness and contribution of the government in supporting MSMEs. Finally, MSME Internationalization Strategy received the highest score with an average of 5.83, indicating that the majority of respondents believe that international expansion can open up new opportunities and increase business competitiveness in the global market.

Table 2. Measurement Model (Outer Loading)

Variable	Human Capital Investment	Entrepreneurial Orientation	Role of Government	MSME Internationalization Strategy	Technological Transformation
X1_1		0.944			
X1_2		0.919			
X1_3		0.928			
X1_4		0.924			
X1_5		0.909			
X2_1	0.919				
X2_2	0.929				
X2_3	0.925				
X2_4	0.913				
X3_1					0.904
X3_2					0.849
X3_3					0.918
X3_4					0.911
X3_5					0.885
X4_1			0.889		
X4_2			0.905		
X4_3			0.908		
X4_4			0.859		
X4_5			0.927		
X4_6			0.903		
X4_7			0.905		
X4_8			0.885		
X4_9			0.866		
Y_1				0.852	
Y_2				0.887	
Y_3				0.892	
Y_4				0.930	
Y_5				0.863	
Y_6				0.895	
Y_7				0.851	

Source: Processed by Researchers, 2024

The outer loading results illustrate the strength of the relationship between each latent variable and the measured indicators in the study. A high outer loading value, approaching 1, indicates that the indicator has a strong relationship with the respective latent variable (Lei et al., 2015; Weston, 2006). In this context, the variables Human Capital Investment, Entrepreneurial Orientation, Role of Government, MSME Internationalization Strategy, and Technological Transformation all have significant outer loading values with the measured indicators. This indicates that all these latent variables are validly reflected in the indicators used in the study (Baral, 2013), strengthening the validity of the analysis and interpretation of the study results regarding the factors influencing MSMEs.

Table 3. Construct Reliability and Validity

Construct Reliability and Validity	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Human Capital Investment	0.941	0.942	0.958	0.850
Entrepreneurship Orientation	0.958	0.958	0.967	0.855
The Role of the Government MSME	0.969	0.972	0.973	0.800
Internationalization Strategy	0.952	0.953	0.961	0.778
Transformasi Teknologi	0.937	0.939	0.952	0.799

Source: Processed by Researchers, 2024

The results of the Construct Reliability and Validity analysis show a high level of reliability and validity for all latent variables measured in the research (Adisasmito, 2007; Bano, 2018; Khusairi & Haryadi, 2016). The results of the Construct Reliability and Validity analysis indicate a high level of reliability and validity for all latent variables measured in the study. Cronbach's Alpha, rho_A, Composite Reliability, and Average Variance Extracted (AVE) values that approach or exceed generally accepted thresholds indicate that the constructs measured are reliable and valid (Kennedy et al., 2021). With high reliability (Cronbach's Alpha and rho_A > 0.9) and sufficiently high validity (AVE > 0.7), it can be concluded that the research instruments are capable of measuring the latent variables consistently and accurately (Alfianika & Sitohang, 2022). This reinforces the confidence in the analysis results and the conclusions drawn from the study on factors influencing MSMEs.

Table 4. R-Square

	R Square	R Square Adjusted
MSME Internationalization Strategy	0.693	0.686

Source: Processed by Researchers, 2024

The results of the Construct Reliability and Validity analysis indicate a high level of reliability and validity for all latent variables measured in the study (Adisasmito, 2007; Bano, 2018; Khusairi & Haryadi, 2016). Cronbach's Alpha, rho_A, Composite Reliability, and Average Variance Extracted (AVE) values that approach or exceed generally accepted thresholds indicate that the constructs measured are reliable and valid (Krueger et al., 2012; Tavakol & Dennick, 2011). With high reliability (Cronbach's Alpha and rho_A > 0.9) and sufficiently high validity (AVE > 0.7), it can be concluded that the research instruments are

capable of measuring the latent variables consistently and accurately (Alfianika, N., & Sitohang, 2022). This reinforces the confidence in the analysis results and the conclusions drawn from the study on factors influencing MSMEs.

Table 5. Path Coefficient

Path Coefficients	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Human Capital Investment -> MSME Internationalization Strategy	0.094	0.093	0.143	0.657	0.256
Entrepreneurship Orientation -> MSME Internationalization Strategy	0.126	0.134	0.133	0.952	0.171
The Role of the Government -> the Internationalization Strategy of MSMEs	0.031	0.032	0.105	0.300	0.382
Technological Transformation -> MSME Internationalization Strategy	0.612	0.606	0.104	5.880	0.000

Source: *Processed by Researchers, 2024*

The path coefficients analysis reveals the relationship between the independent variables (Human Capital Investment, Entrepreneurial Orientation, Government Role, Technological Transformation) and the dependent variable (MSME Internationalization Strategy). From the results, it is evident that investment in human capital has a path coefficient of 0.094 towards MSME Internationalization Strategy (Crick & Jones, 2000; Ruzzier et al., 2006), indicating a positive albeit relatively weak relationship. Meanwhile, Entrepreneurial Orientation shows a slightly stronger influence with a path coefficient of 0.126 towards MSME Internationalization Strategy (Karami & Tang, 2019; Kunday & Şengüler, 2015; Ngoma et al., 2017; Peschken et al., 2016). However, Government Role exhibits a relatively small effect with a path coefficient of 0.031 towards the strategy (Yoon et al., 2018; Peschken et al., 2016). The most notable is Technological Transformation with a significant path coefficient of 0.612 and a high t-statistics value (5.880), indicating a very strong and positive influence on the MSME Internationalization Strategy. These results affirm the importance of technological transformation in supporting MSME internationalization strategies, while other variables contribute less in this analysis.

Based on the testing of hypotheses H1 to H4, several significant findings have been revealed. Firstly, regarding H1, which posits that Entrepreneurial Orientation has a positive influence on the MSME Internationalization Strategy, the findings indicate that there is not enough empirical support to assert this relationship. Although some previous studies suggest

a positive correlation between entrepreneurial orientation and MSME internationalization, this research does not support it. Furthermore, concerning H2, which suggests that Investment in Human Capital has a positive influence on the MSME Internationalization Strategy, this hypothesis is rejected due to insufficient empirical support. However, an interesting finding emerges regarding H3, which states that Technological Transformation has a positive influence on the MSME Internationalization Strategy. The research results indicate that Technological Transformation indeed has a significant impact, highlighting the importance of technology in the context of MSME internationalization. Lastly, regarding H4, which claims that the Government's Role in providing regulations has a positive influence on the MSME Internationalization Strategy, the research results reject this hypothesis. It means there is not enough empirical evidence to support the government's role in providing regulations for the MSME internationalization strategy. Thus, the main conclusion of this study is the importance of Technological Transformation in supporting the MSME Internationalization Strategy, while other factors such as Entrepreneurial Orientation, Investment in Human Capital, and Government's Role still require further research or different approaches to comprehensively understand their impact.

There are important conclusions about the relationship between specific factors and MSMEs' internationalization approach based on the research's findings. Particularly. Investing in human resources did not appear to have a substantial impact on MSMEs' internationalization strategies. This result contradicts earlier research that demonstrated the critical role that human resources play in MSMEs' internationalization efforts. According to Darmayanti et al., (2021) research findings, human capital plays a major role in the export MSMEs in Bali Province's internationalization process. In order for MSMEs to successfully carry out the internationalization process, they need to possess a high level of human capital, which includes ability, expertise, experience, and knowledge. Additionally, they need to be able to take calculated risks and proactively conduct business development explorations, as well as the ability to recognize various opportunities and threats. The same was said by Fakhri Rabialdy, (2021) the cooperative's performance in Pekanbaru City is directly correlated with the management team's competency. The more skilled the management team is, the better the cooperative performs. Additionally, Almahdali et al., (2022) reported that the performance of micro, small, and medium-sized firms (MSMEs) in Palu City is positively

and significantly impacted by human capital, which includes both employee and owner human capital. This study, however, is consistent with the findings of Purnamasari & Wijaya, (2020), who found that while entrepreneurial orientation affects MSMEs' ability to compete in the market, it has no appreciable impact on business performance.

On the other hand, the findings support the hypothesis that technological transformation has a significant influence on the internationalization strategy of MSMEs. This is in line with several previous studies showing that technological transformation can help MSMEs overcome challenges and expand international markets, as found in the research of Dwi Robiul Rochmawati et al., (2023) Dwi Robiul Rochmawati et al. (2023), organizations can obtain a competitive edge and differentiate themselves from competitors by implementing new digital business strategies that are based on advanced IT solutions and aligned with the Sustainable Development Goals (SDGs). The same conclusion was drawn from the findings of the Reim et al., (2022) study: a framework is created to connect digitalization efforts with the difficulties presented by the business model. This study aligns particular digitization efforts with business model issues that SMEs encounter when trying to function in international markets because there is no "one size fits all" solution. These results are significant because they break down digitization into simple, practical tasks for small and medium-sized businesses. Information technology plays an important role in various aspects of MSME internationalization, including digital marketing, supply chain management, and international payments (Dayat et al., 2024)

However, in the context of the role of government, the results of the study indicate that there is not enough empirical support to state that the role of government in providing regulations has a significant positive influence on the internationalization strategy of MSMEs. This runs counter to a number of other studies that demonstrate the government is crucial in helping MSMEs expand internationally, even though experts have differing opinions about how successful this support is. This result runs counter to that of the Hartanti & Setiawati, (2017) study, which indicates that the government is crucial to the growth of MSMEs, particularly their internationalization. MSMEs also anticipate that in order for them to benefit from the INSW policy, the government will take a more aggressive stance toward it by engaging in socialization activities with current business owners.

Overall, our research findings provide valuable insights into the factors influencing MSME internationalization strategies. Although some findings are not consistent with previous research, these differences are due to factors such as research methodology, context, or different research scales. However, the findings highlight the importance of considering technological transformation as an effective strategy in supporting MSME internationalization, while also indicating that investment in human capital and government roles require further attention to support MSME growth in global markets.

CONCLUSION

Based on the results of the analysis conducted, it was found that technological transformation has a significant influence on the internationalization strategy of MSMEs. The use of technology can help MSMEs overcome challenges and expand their markets. However, other factors such as human capital investment, entrepreneurial orientation and the role of government did not show a significant influence in supporting the internationalization strategy of MSMEs. This is different from several previous studies which indicated that human capital and government support play an important role in the internationalization process. This study emphasizes the need for further study on the role of government and human capital investment in encouraging MSMEs to be able to compete in the global market. Overall, our research findings provide valuable insights into the factors that influence the internationalization strategy of MSMEs. Although some findings are inconsistent with previous studies, these differences are due to factors such as different research methodologies, contexts, or research scales. However, the findings highlight the importance of considering technological transformation as an effective strategy in supporting the internationalization of MSMEs, while also indicating that investment in human resources and the role of government require further attention to support the growth of MSMEs in the global market.

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