

Determinants of MSME Income: The Role of Capital, Education Level, and Financial Literacy in Manufacturing MSMEs

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Article History:

Received: March 30th, 2026

Revised: April 6th, 2026

Accepted: April 7th, 2026

How to cite this article:

Determinants of MSME
Income: The Role of Capital,
Education Level, and
Financial Literacy in
Manufacturing MSMEs

Journal Homepage:

<https://jurnal.unnur.ac.id/index.php/accrual>

Email:

accrual@unnur.ac.id

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Accrual: Accounting
Research Journal
Department of
Accounting
Universitas Nurtanio
Bandung

**Abstract**

This study aims to examine the effects of capital, education level, and financial literacy on the income of Micro, Small, and Medium Enterprises (MSMEs) in Bengkalis Regency. A quantitative approach was employed using a survey method involving 390 MSME actors selected through purposive sampling. Data were collected through structured questionnaires and analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS). The results indicate that capital, education level, and financial literacy have positive and significant effects on MSME income, with financial literacy emerging as the most dominant factor. These findings suggest that, beyond traditional production factors, the ability to effectively manage financial resources plays a critical role in enhancing business performance. This study contributes to the literature by integrating production theory and human capital theory in explaining MSME income, while also highlighting the importance of financial literacy in the context of small businesses in regional economies. Practically, the findings underscore the need to strengthen financial literacy and human resource capacity as strategic approaches to improving MSME income.

Keywords: *Capital, Education Level, Financial Literacy, MSME Income*

INTRODUCTION

Indonesia's economic growth is closely linked to the significant contribution of Micro, Small, and Medium Enterprises (MSMEs). Within the framework of national economic development, as mandated by Article 33 paragraph (4) of the 1945 Constitution, MSMEs are positioned as a key pillar of an economy grounded in independence and equity. Empirically, MSMEs contribute 61.97% to the national Gross Domestic Product (GDP) and account for 96.9% of total employment in Indonesia, highlighting their strategic role in promoting societal welfare and maintaining economic stability (Badan Pusat Statistik, 2021).

The resilience of MSMEs has been demonstrated across various economic crises, including the 1997–1998 financial crisis, during which MSMEs were able to survive more effectively than large-scale enterprises (Gilbert Johan Martin Sinaga, 2025; Sinaga et al., 2025). This resilience is largely

attributed to their flexibility, reliance on local resources, and orientation toward domestic market needs (Kolanus et al., 2020). However, recent global economic dynamics and the impact of the COVID-19 pandemic reveal that such resilience is not always accompanied by income stability (Zutshi et al., 2021). A survey conducted by UNDP and LPEM UI indicates that more than 77% of MSMEs experienced a decline in income during the pandemic, suggesting the presence of structural vulnerabilities in business management.

At the regional level, MSME development in Bengkalis Regency has shown a notable upward trend, with enterprises distributed across 11 districts and predominantly concentrated in the manufacturing sector (BPS Bengkalis, 2021). Nevertheless, the increase in the number of MSMEs has not necessarily been accompanied by a corresponding increase in business income. This indicates that internal factors play a critical role in determining MSME economic performance, particularly in generating optimal income (Salim et al., 2022).

From a theoretical perspective, MSME income is influenced by several key factors, including capital, education level, and financial literacy (Purnomo et al., 2022). Capital is a primary production factor that determines a firm's capacity to generate output and expand its business scale (Safrianti, 2020). However, in practice, limited access to capital and ineffective capital management remain major constraints faced by MSME actors (Ma'rifah & Aisyah, 2023).

In addition, education level contributes to enhancing the quality of human resources, which in turn affects productivity and business competitiveness (Syafi'i et al., 2021). Nevertheless, empirical evidence shows that a large proportion of MSME actors still possess relatively low levels of education, which limits their ability to make strategic business decisions (Anggraeni et al., 2022).

Furthermore, financial literacy has become increasingly relevant in the modern economic landscape, where the ability to manage finances, understand financial products, and make informed investment decisions is crucial for improving business performance (Is et al., 2025). Despite its importance, the level of financial literacy in Indonesia remains relatively low, leading to suboptimal financial management among MSMEs (Shanshabilla, 2023).

Although numerous studies have examined the effects of capital, education level, and financial literacy on MSME income, prior findings remain inconsistent. For instance, studies by Kolanus et al. (2020) demonstrate that capital significantly improves MSME income, particularly when combined with other supporting factors such as business location, training, and product promotion, indicating that income is influenced by a multidimensional set of production-related variables. Similarly, Septiani & Wuryani (2020) highlight the importance

of financial literacy in enhancing MSME performance, emphasizing its role in improving financial decision-making and business sustainability. In contrast, other studies report different findings. Noviono & Pelitawati (2019) found that capital and education level do not significantly affect MSME income when analyzed partially, suggesting that these variables may not directly translate into income improvement without the support of other factors such as technology. Likewise, Kusumadewi (2017) indicates that financial literacy does not always have a direct impact on MSME performance, as behavioral and psychological factors may also play a role.

These inconsistencies suggest that previous studies have not fully captured the integrated relationship between economic resources, human capital, and financial capability in determining MSME income. Most prior research tends to examine these variables separately or relies on conventional analytical approaches such as multiple regression, which may limit the ability to capture complex interrelationships among variables. Therefore, further research is needed to provide a more comprehensive understanding of MSME income determinants, particularly within specific regional and sectoral contexts.

Based on the identified research gaps, this study aims to examine the effects of capital, education level, and financial literacy on the income of manufacturing MSMEs in Bengkalis Regency. This study contributes to the literature by adopting an integrated analytical approach and employing Structural Equation Modeling–Partial Least Squares (SEM-PLS) to better capture the complex relationships among variables. In addition, the focus on manufacturing MSMEs at the regional level provides empirical insights that remain limited in the Indonesian context. Accordingly, the findings are expected to offer both theoretical and practical implications for improving MSME performance and income.

LITERATURE REVIEW

Production Theory

Production theory is a fundamental concept in economics that explains how firms combine various production factors to generate output. According to Fuss and McFadden (2014), production theory describes the relationship between inputs and outputs within a production process constrained by technological and economic conditions. In this context, the level of output produced ultimately determines the income earned by business actors.

In general, the production process involves multiple factors, including capital, labor, natural resources, and technology (Laurencia, 2022). Among these, capital plays a crucial role in determining a firm's production capacity. The availability of capital enables business actors to acquire raw materials, enhance production capacity, and expand operational scale (Suriyanti

et al., 2024). Consequently, the more efficiently production factors are utilized, the greater the output generated, which in turn leads to increased income (Olusegun & Festus, 2023).

In the context of MSMEs, limited capital often represents a major constraint in the production process. In addition, the inability to manage capital effectively can hinder output expansion (Aditya & Ekawaty, 2025). Therefore, production theory provides an essential framework for understanding the relationship between capital and MSME income.

Human Capital Theory

Human Capital Theory emphasizes that the quality of human resources is a key determinant of productivity and economic performance. Developed by Becker and Schultz, this theory posits that education, training, and skills constitute forms of investment that enhance an individual's productive capacity (Calub, 2026).

In the context of MSMEs, the education level of business owners plays a significant role in shaping managerial capabilities, decision-making processes, and overall business management. Individuals with higher levels of education tend to possess better knowledge and skills, enabling them to manage their businesses more efficiently and productively (Kaur & Singh, 2025).

Furthermore, education enhances the ability of business actors to process information, adopt innovations, and adapt to changes in the business environment. As such, higher education levels increase the likelihood of improved MSME income through better business management practices (Ovami et al., 2025).

Capital and MSME Income

From the perspective of production theory, capital is a primary determinant of a firm's production capacity. It enables business actors to acquire production inputs, expand operational scale, and enhance production capabilities, thereby increasing output levels (Widjiansih et al., 2023). This increase in output directly contributes to higher income generation (Kusumah et al., 2025).

Empirical studies have consistently shown that capital has a significant effect on MSME income (Dona & Pardi, 2021; Hasanah et al., 2020; Laurencia, 2022; Oktaviana et al., 2021). These findings suggest that greater capital availability increases the likelihood of higher business income. Based on this reasoning, the following hypothesis is proposed:

H1: Capital has an effect on MSME income.

Education Level and MSME Income

Based on Human Capital Theory, education represents an investment in human resources that enhances productivity and individuals' ability to perform economic activities (Suminah et

al., 2022). In the context of MSMEs, the education level of business owners plays a critical role in improving managerial capabilities, decision-making, and effective business management (Sutrisno et al., 2023).

MSME actors with higher levels of education are generally better equipped to understand market information, adopt innovations, and manage resources efficiently (Wulandari et al., 2024). These capabilities contribute to improved business performance, which ultimately leads to increased income. Conversely, lower levels of education may hinder business development due to limited knowledge and skills (Hidayat & Akbar, 2024).

Previous studies have demonstrated that education level significantly influences MSME income (Laili & Setiawan, 2020; Sidik & Ilmiah, 2021; Syafi'i et al., 2021). Therefore, higher education levels are associated with greater potential for income improvement. Based on this argument, the following hypothesis is proposed:

H2: Education level has an effect on MSME income.

Financial Literacy and MSME Income

Financial literacy refers to an individual's ability to understand and effectively manage financial matters, including financial planning, record-keeping, and decision-making (Septiani & Wuryani, 2020). In the context of MSMEs, financial literacy plays a vital role in ensuring business sustainability through effective cash flow management and optimal use of financial resources (Fitriana & Takarini, 2025).

MSME actors with higher levels of financial literacy are more capable of separating personal and business finances, maintaining systematic financial records, and making rational financial decisions (Suryawan et al., 2024). These capabilities enhance operational efficiency and business performance, ultimately leading to higher income. Conversely, low financial literacy may result in poor financial management and hinder business growth (Ambarwati & Sasongko, 2024).

Previous studies have found that financial literacy significantly affects MSME income (Alamsyah, 2020; Ida Ayu Agung Idawati & I Gede Surya Pratama, 2023; Ismail, 2024; Septiani & Wuryani, 2020). Therefore, financial literacy is a key factor in improving MSME income. Based on this reasoning, the following hypothesis is proposed:

H3: Financial literacy has an effect on MSME income.

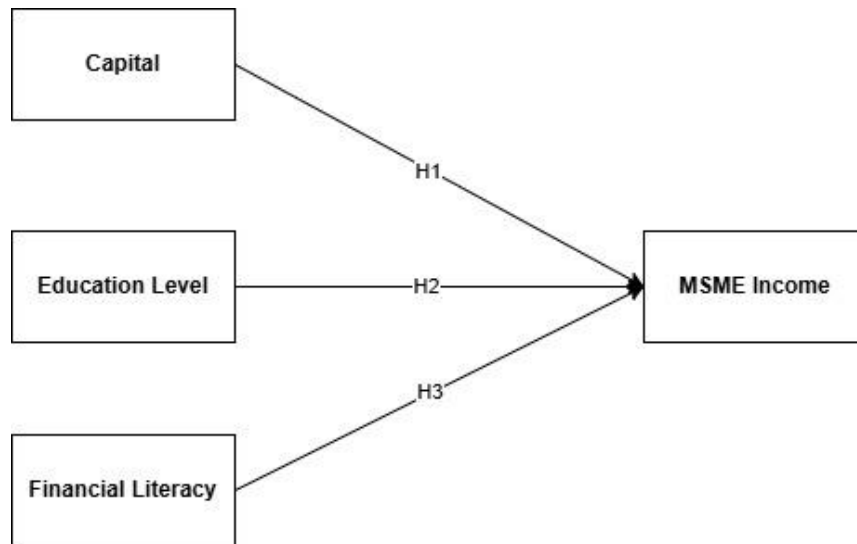


Figure 1. Research Model

RESEARCH METHODS

This study employs a quantitative approach to examine the effects of capital, education level, and financial literacy on MSME income. The unit of analysis in this study is MSMEs as business entities, while the unit of observation is the MSME owners or managers, who are considered key informants with comprehensive knowledge of business operations and financial conditions. This approach is commonly adopted in MSME research, as owners or managers are directly involved in decision-making processes and are therefore able to provide reliable information representing firm-level conditions.

The population consists of all MSMEs in Bengkalis Regency, totaling 15,409 units based on data from the Department of Cooperatives and MSMEs of Bengkalis Regency in 2021. The sampling technique used is purposive sampling, with the following criteria: (1) MSMEs that have been operating for more than one year, and (2) MSMEs that are still actively conducting business activities. The sample size was determined using the Slovin formula with a 5% margin of error, resulting in a total of 390 MSME.

This study utilizes quantitative data derived from primary sources. Data were collected through structured questionnaires distributed to MSME owners or managers who met the specified criteria. The research instrument employed a Likert scale to measure respondents' perceptions of each variable. Although some variables, such as education level and financial literacy, are measured at the individual level, they are conceptually linked to firm-level outcomes, as the characteristics of MSME owners or managers play a crucial role in shaping business performance and income.

Prior to the main survey, a pilot test was conducted involving a small group of respondents to assess the clarity, validity, and reliability of the measurement items. The results

indicated that all constructs met acceptable reliability standards, allowing the instrument to be used for full data collection.

The dependent variable in this study is MSME income, measured using indicators such as profit, satisfaction, income derived from operational activities, and the ability to generate economic value (Hermawan et al., 2024). The independent variables include capital, measured through indicators of capital size, capital utilization, and capital as a prerequisite for business operations (Sembiring, 2024); education level, measured based on formal and non-formal education (Syafi'i et al., 2021); and financial literacy, measured through financial knowledge, financial behavior, and financial attitudes (Rumain et al., 2021). Data analysis was conducted using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with the assistance of SmartPLS software.

RESULTS AND DISCUSSION

The characteristics of respondents provide an overview of the profile of MSME actors involved in this study. Based on gender, the majority of respondents were female (55%), while male respondents accounted for 45%. This finding indicates that MSME activities in Bengkalis Regency are predominantly driven by women, highlighting their significant role in micro- and small-scale economic activities.

In terms of age, respondents were primarily concentrated in the 37–46 age group (43.1%), followed by those aged above 47 years (29.2%). This suggests that most MSME actors are within a productive and experienced age range, which is likely to support business sustainability. Regarding educational background, the majority of respondents had completed senior high school (47.7%), followed by those holding a bachelor's degree (28.7%). This indicates that most MSME actors possess a moderate to relatively high level of education, which may influence their managerial capabilities.

Based on business experience, most respondents had been operating their businesses for more than seven years (36.2%), followed by those with 4–6 years of experience (34.9%). This finding suggests that the majority of MSMEs in this study have substantial business experience, contributing to relatively stable business operations.

Table 1. Respondent Demographics

Respondent Characteristics	Number of Respondents	Percentage (%)
Gender		
Male	177	45%
Female	213	55%
Total	390	100%
Ages		
<25 years	35	9,0%
26–36 years	73	18,7%
37–46 years	168	43,1%
>47 years	114	29,2%
Total	390	100%
Education Level		
Primary/Junior High School	51	13,07%
Senior High School	186	47,7%
Higher Education	153	39,23%
Total	390	100%
Business Age		
1–3 years	113	29,0%
4–6 years	136	34,9%
>7 years	141	36,2%
Total	350	100%

Source: Authors' own work.

Descriptive statistical analysis was conducted to provide a general overview of respondents' perceptions of the research variables. The results indicate that all indicators have mean values above 3.7 on a 5-point Likert scale, suggesting that respondents generally hold positive perceptions regarding capital, education level, financial literacy, and MSME income. Additionally, the relatively low standard deviation values (below 1) indicate that respondents' answers are fairly homogeneous and do not exhibit extreme variation.

More specifically, the capital variable shows mean values ranging from 3.813 to 4.133, indicating that MSME actors perceive capital availability and utilization as relatively adequate. The education level variable also demonstrates relatively high mean values (above 4.0), reflecting the perceived importance of education in supporting business activities. Meanwhile, financial literacy exhibits mean values ranging from 3.818 to 4.128, suggesting that MSME actors have a reasonably good level of financial understanding, although some variation exists across indicators. Finally, MSME income shows mean values between 3.733 and 3.910, indicating that income levels are generally perceived to be at a moderately good level.

Table 2. Descriptive Statistics of Research Variables

Indicator	Mean	Median	Scale Min	Scale Max	Standard Deviation
X1.1	4.133	4.000	1.000	5.000	0.696
X1.2	3.813	4.000	1.000	5.000	0.843
X1.3	3.967	4.000	1.000	5.000	0.785
X1.4	3.882	4.000	1.000	5.000	0.851
X1.5	4.051	4.000	1.000	5.000	0.770
X2.1	4.056	4.000	1.000	5.000	0.808
X2.2	4.169	4.000	1.000	5.000	0.696
X2.3	4.067	4.000	1.000	5.000	0.785
X2.4	4.082	4.000	1.000	5.000	0.767
X3.1	4.018	4.000	1.000	5.000	0.815
X3.2	3.818	4.000	1.000	5.000	0.832
X3.3	3.890	4.000	1.000	5.000	0.817
X3.4	3.826	4.000	1.000	5.000	0.823
X3.5	4.128	4.000	1.000	5.000	0.902
X3.6	4.010	4.000	2.000	5.000	0.801
Y.1	3.841	4.000	1.000	5.000	0.953
Y.2	3.838	4.000	1.000	5.000	0.948
Y.3	3.813	4.000	1.000	5.000	0.919
Y.4	3.733	4.000	1.000	5.000	0.998
Y.5	3.910	4.000	1.000	5.000	0.979

Source: Authors' own work.

Outer Model Analysis

The evaluation of the measurement model (outer model) was conducted to assess the validity and reliability of the constructs. Referring to Hair et al. (2019), an indicator is considered to have adequate convergent validity when its outer loading exceeds 0.70. However, loading values between 0.60 and 0.70 are still acceptable, provided that the construct meets other reliability and validity criteria.

The results indicate that all indicators for the variables of capital, education level, financial literacy, and MSME income have outer loading values above 0.70. This finding confirms that all indicators meet the criteria for convergent validity and are able to adequately reflect their respective constructs.

Furthermore, construct reliability was evaluated using Cronbach's Alpha, Composite Reliability, and Average Variance Extracted (AVE). According to Hair et al. (2019), a construct is considered reliable if it has Cronbach's Alpha and Composite Reliability values above 0.70, and an AVE value above 0.50. The results show that all variables in this study have Cronbach's Alpha values ranging from 0.764 to 0.888, Composite Reliability values from 0.840 to 0.914, and AVE values from 0.511 to 0.710. These results indicate that all constructs are reliable and demonstrate satisfactory convergent validity.

Table 3. Convergent validity and composite reliability

Variable	Code	Outer Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Capital	X1.1	0,722	0,764	0,840	0,511
	X1.2	0,709			
	X1.3	0,707			
	X1.4	0,733			
	X1.5	0,704			
Education Level	X2.1	0,775	0,863	0,907	0,710
	X2.2	0,864			
	X2.3	0,878			
	X2.4	0,849			
Financial Literacy	X3.1	0,788	0,888	0,914	0,640
	X3.2	0,824			
	X3.3	0,821			
	X3.4	0,765			
	X3.5	0,828			
	X3.6	0,773			
MSME Income	Y.1	0,754	0,846	0,890	0,619
	Y.2	0,802			
	Y.3	0,817			
	Y.4	0,781			
	Y.5	0,779			

Source: Authors' own work.

In addition, discriminant validity was assessed using the Heterotrait-Monotrait Ratio (HTMT). Based on Hair et al. (2019), HTMT values should be below 0.90 to confirm adequate discriminant validity. The findings reveal that all HTMT values are below this threshold, indicating that each construct is distinct and does not overlap with other constructs within the model.

Table 4. Discriminant validity

Variable	Financial Literacy	Capital	MSME Income	Education Level
Financial Literacy				
Capital	0,572			
MSME Income	0,828	0,640		
Education Level	0,296	0,420	0,366	

Source: Authors owns work.

Inner Model Analysis

The evaluation of the structural model (inner model) was conducted to examine the relationships among latent variables in the study. An initial assessment involved testing for multicollinearity using the Variance Inflation Factor (VIF). According to Hair et al. (2019), VIF values should be below 5 to indicate the absence of multicollinearity issues within the model. The results show that all independent variables have VIF values ranging from 1.146 to 1.396, which are well below the recommended threshold. This indicates that multicollinearity is not a

concern, and the model is suitable for further analysis.

Table 5. Collinearity Assessment (Inner VIF)

Variable	VIF
Financial Literacy → MSME Income	1,328
Capital → MSME Income	1,396
Education Level → MSME Income	1,146

Source: Authors' own work.

Subsequently, the structural model was evaluated using the coefficient of determination (R-square), which measures the explanatory power of the independent variables on the dependent variable. The analysis reveals that the R-square value for MSME income is 0.569. Referring to Hair et al. (2019), R-square values of 0.75, 0.50, and 0.25 are categorized as substantial, moderate, and weak, respectively. Therefore, an R-square value of 0.569 indicates that the model has a moderate level of explanatory power.

This finding implies that capital, education level, and financial literacy collectively explain 56.9% of the variance in MSME income, while the remaining 43.1% is influenced by other variables not included in the model. Overall, these results suggest that the proposed model has a reasonably strong capability to explain variations in MSME income.

Table 6. R-square

Variable	R-square	R-square Adjusted
MSME Income	0,569	0,566

Source: Authors' own work.

Hypothesis Testing

Hypothesis testing was conducted using the bootstrapping technique to evaluate the path coefficients, T-statistics, and P-values. Referring to Hair et al. (2019), a hypothesis is considered significant when the T-statistic exceeds 1.96 and the P-value is below 0.05.

Table 7. Hypothesis Testing Results

Hypothesis	Original Sample (O)	Standard Deviation (STDEV)	T Statistics ((O/STDEV)	P Values	Result
Capital → MSME Income	0,213	0,052	4,119	0,000	Supported
Education Level → MSME Income	0,085	0,043	1,985	0,047	Supported
Financial Literacy → MSME Income	0,596	0,051	11,612	0,000	Supported

Source: Authors' own work.

The results indicate that capital has a positive and significant effect on MSME income, with a path coefficient of 0.213, a T-statistic of 4.119, and a P-value of 0.000. This finding suggests that an increase in capital enhances production capacity, which ultimately leads to higher business income. Therefore, the first hypothesis is supported.

Furthermore, education level also demonstrates a positive and significant effect on MSME

income, with a path coefficient of 0.085, a T-statistic of 1.985, and a P-value of 0.047. Although the magnitude of the effect is relatively smaller compared to other variables, this result indicates that education contributes to improved business management capabilities, which in turn affect income. Thus, the second hypothesis is supported.

Meanwhile, financial literacy shows a positive and significant effect on MSME income, with a path coefficient of 0.596, a T-statistic of 11.612, and a P-value of 0.000. This finding highlights that higher levels of financial literacy among MSME actors are associated with higher income levels. Therefore, the third hypothesis is supported.

Discussion

The findings of this study reveal that capital, education level, and financial literacy significantly influence MSME income, albeit with varying magnitudes of effect. These results suggest that improvements in MSME income are not solely determined by economic factors, but also by the quality of human resources and financial management capabilities. This is further supported by the respondent profile, which shows that the majority of MSME actors are within the productive age range and possess relatively moderate to high levels of education, enabling them to actively engage in business development and decision-making processes.

The effect of capital on MSME income highlights its critical role in enhancing production capacity. From the perspective of production theory, capital enables business actors to access production inputs, expand operational scale, and increase output volume. This implies that MSMEs with greater capital availability tend to have higher production capacity, which subsequently leads to increased income. Moreover, capital contributes to operational efficiency through the adoption of more advanced technology and equipment. Considering that most respondents have been operating their businesses for more than four years, the availability of capital becomes increasingly important in sustaining and scaling business operations. These findings reinforce the view that limited capital remains a major constraint in MSME development, particularly in improving competitiveness and production capacity. This result is consistent with prior studies by Dona & Pardi (2021), Hasanah et al. (2020), and Oktaviana et al. (2021), which emphasize the significant role of capital in enhancing MSME income.

Furthermore, the influence of education level on MSME income underscores the importance of human resource quality in improving business performance. According to Human Capital Theory, education represents an investment that enhances individuals' skills, capabilities, and productivity. In the context of MSMEs, higher levels of education enable business actors to develop better managerial competencies, understand market dynamics, and make more rational business decisions. This finding is particularly relevant given that a

substantial proportion of respondents have at least a secondary level of education, which may contribute to their ability to manage business activities more effectively. However, the relatively smaller effect size of education in this study suggests that education alone may not be sufficient without the support of other factors such as experience and access to resources. This finding is consistent with previous studies by Laili & Setiawan (2020), Sidik & Ilmiah (2021), and Syafi'i et al. (2021).

On the other hand, financial literacy emerges as the most dominant variable influencing MSME income. This finding indicates that the ability to manage financial resources effectively is a crucial determinant of business success. MSME actors with higher levels of financial literacy are more capable of managing cash flow, maintaining systematic financial records, and making informed financial decisions. Given that many respondents have been engaged in business for several years, financial literacy becomes increasingly relevant in ensuring business sustainability and growth. These capabilities enable business actors to optimize resource allocation, minimize financial risks, and improve operational efficiency. In this context, financial literacy functions not only as a managerial tool but also as a strategic capability that enhances business performance and income. This finding supports prior research indicating that financial literacy significantly affects MSME performance and income (Alamsyah, 2020; Septiani & Wuryani, 2020).

Overall, the results of this study emphasize that improvements in MSME income are driven by the interaction between production factors and human resource quality. Capital enhances production capacity, education improves decision-making quality, and financial literacy optimizes resource management. The respondent characteristics further support this relationship, indicating that MSMEs with more experienced and relatively educated owners are better positioned to utilize capital and financial knowledge effectively. The combination of these factors plays a crucial role in improving MSME performance and ensuring business sustainability.

CONCLUSIONS AND SUGGESTIONS

This study aims to examine the effects of capital, education level, and financial literacy on MSME income in Bengkalis Regency. The findings indicate that all independent variables have a positive influence on MSME income. Capital plays a crucial role in enhancing production capacity and operational efficiency, education level contributes to improving human capital quality and decision-making capabilities, and financial literacy emerges as the most dominant factor in improving business performance through more effective financial management.

Despite these findings, this study has several limitations. First, the research is

geographically limited to MSMEs in Bengkalis Regency, which may restrict the generalizability of the results. Second, the study only incorporates three independent variables, which may not fully capture all determinants of MSME income. Third, the use of self-reported questionnaire data introduces the possibility of subjective bias among respondents.

From a theoretical perspective, this study contributes to the literature by integrating production theory and human capital theory in explaining MSME income determinants, while also highlighting the critical role of financial literacy in the context of small businesses in emerging economies. From a practical perspective, the findings suggest that MSME actors should prioritize improving financial literacy, strengthening capital capacity, and enhancing human resource capabilities. For policymakers, the results emphasize the importance of designing programs that not only focus on access to financing but also on improving financial management skills and the overall competencies of MSME actors.

Future research is recommended to expand the geographical scope and incorporate additional variables, such as innovation, digitalization, and access to financing, in order to provide a more comprehensive understanding of the factors influencing MSME income.

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