THE INFLUENCE OF FINANCIAL LITERACY, BUSINESS CAPITAL, AND TIME MANAGEMENT ON MSME PERFORMANCE

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LEMBAR PERSETUJUAN

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Palangka Raya, Juli 2026

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Telah berhasil dipertahankan di depan Dewan Penilai dan diterima sebagai bagian persyaratan yang diperlukan untuk memperoleh gelar Magister, Program Studi Magister Ilmu Ekonomi, Fakultas Ekonomi dan Bisnis Universitas Palangka Raya

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UCAPAN TERIMA KASIH

Puji Syukur kepada Tuhan Yang Maha Esa atas Rahmat dan Hikmatnya sehingga dapat diselesaikannya Jurnal Ilmiah yang berjudul ***"The Influence Of Financial Literacy, Business Capital, And Time Management On Msme Performance".*** Jurnal Ilmiah ini diajukan sebagai dari tugas akhir dalam rangka menyelesaikan studi dan meraih gelar Magister pada Program Magister Ilmu Ekonomi Universitas Palangka Raya.

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Palangka Raya, Juli 2026

NADIA CHRISTY

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DAFTAR GAMBAR

THE INFLUENCE OF FINANCIAL LITERACY, BUSINESS CAPITAL, AND TIME MANAGEMENT ON MSME PERFORMANCE

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Abstract

Micro, Small, and Medium Enterprises (MSMEs) play a crucial role in economic development, yet many struggle to achieve sustainable performance due to limited managerial capacity and resources. This study investigates the influence of financial literacy, business capital, and time management on the performance of MSMEs. Using a quantitative approach, data from 100 MSME respondents were analyzed using SPSS to examine relationships and test hypotheses through multiple linear regression and statistical analysis. The results indicate that all three independent variables have a significant effect on MSMEs performance both individually and collectively. Among them, financial literacy and time management were identified as the most influential predictors, while business capital had a relatively smaller effect. The model's determination coefficient ($R^2 = 0.586$) suggests that approximately 58.6% of the variation in MSMEs performance can be explained by these variables. This study demonstrates that managerial capacity, especially financial literacy and time management, has a greater effect on MSMEs' success than capital alone, suggesting policies should focus on capacity-building rather than just funding. This study contributes to the strategic development of competency-based MSMEs empowerment models tailored to regional contexts.

Keywords: Business Capital, Competency-Based Empowerment, Financial Literacy, Managerial Capacity, MSMEs Performance, Time Management.

I. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a critical role in Indonesia's regional economy by absorbing labor, driving local economic growth, and fostering productive innovation (Saputra & Darmawan, 2023; Sinha et al., 2024). In many midsized cities, including Palangka Raya, MSMEs face structural challenges and limited managerial capabilities that hinder consistent business growth. Palangka Raya is an ideal research context due to its rapid urbanization, diverse MSME characteristics, varying managerial capacity and business capital, and the mixed impact of government support programs, making it suitable to examine whether managerial capabilities outweigh capital in influencing MSMEs performance.

Although government programs and financial institutions often prioritize capital provision through microcredit, subsidies, and small business financing programs, empirical evidence suggests that access to capital alone does not guarantee improved performance. Some MSMEs continue to struggle with cash flow management, investment decisions, and efficient use of operational time, highlighting the importance of managerial competencies in business outcomes. Financial literacy encompasses skills such as budgeting, risk assessment, and rational financial decision-making, while time management relates to planning, prioritizing, and allocating operational tasks efficiently (Yoganandham, 2025). These capabilities enable entrepreneurs to maximize the impact of available capital. Studies by Chaidir et al. (2025) emphasize that financial literacysignificantly contributes to MSMEs sustainability, particularly in cash flow management and investment decisions. Similarly, Martadinata and Pasek (2024) highlight that effective managerial skills, including time and operational management, can optimize financial performance more effectively than capital alone. Daily (2025) further notes that MSMEs contribute approximately 60.5% to the national GDP and employ nearly 97% of the workforce, yet face ongoing challenges in digital transformation and human resource development.

MSMEs in Palangka Raya demonstrate heterogeneity in capital scale, managerial practices, and performance outcomes. While business capital remains an important factor, empirical studies suggest that financial literacy and time management may have a stronger influence on performance. Fitrianita and Sinarwati (2024) show that financial literacy, financial technology, and business capital simultaneously affect MSMEs financial performance. Widadi and Yuttama (2024) confirm that financial inclusion and sound financial literacy enhance the effective utilization of financial resources and support sustainable business growth. Despite these findings, research comparing the relative contributions of financial literacy, business capital, and time management in mediumsized urban MSMEs remains limited, particularly in the context of Palangka Raya, indicating a clear research gap.

The theoretical framework guiding this study integrates two perspectives. The resource and capability perspective posits that internal capabilities, including managerial skills and human capital, determine the effective utilization of financial resources (Becker & Huselid, 2006; Brinckmann et al., 2011). In this view, venture capital or business capital functions as an input whose added value depends on the entrepreneur's capabilities. Behavioral microeconomic theory complements this view by suggesting that rational financial decisions require knowledge and skills, positioning financial literacy as a mediator between capital and performance (Lusardi, 2019). Time management is treated as an operational factor influencing daily productivity, service consistency, and overall business outcomes such as turnover and customer satisfaction (Aeon et al., 2021).

The novelty of this study lies in its empirical comparison of financial capital versus managerial capabilities in influencing MSMEs performance in a medium-sized urban context. It challenges conventional policy assumptions that often emphasize financing solutions by demonstrating that financial literacy and time management may exert a stronger influence than capital alone. Prior research supports this approach: Chaidir et al. (2025) demonstrated the importance of financial literacy for investment and cash flow management, Taufiqurrahman and Idamiharti (2023) highlighted its effect on long-term business sustainability, and Ramli et al. (2023) showed that financial inclusion and literacy significantly affect MSMEs' performance in urban settings.

Based on the discussion of background, empirical studies, theoretical framework, and identified research gaps, it is clear that the combined influence of financial literacy, business capital, and time management on MSMEs performance requires a comprehensive investigation. This study, therefore, focuses on MSMEs operating within the administrative area of Palangka Raya City and examines financial literacy, business capital, and time management as predictors of performance, measured through business performance assessment indicators. Based on this framework, the study examines both the partial and simultaneous effects of financial literacy, business capital, and time management on MSMEs performance, with the aim of providing empirical evidence on their individual and combined contributions as well as assessing the relative importance of managerial competencies compared to capital in influencing business outcomes.

II. LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

The Effect of Financial Literacy on MSMEs Performance

Financial literacy refers to the ability to understand and apply basic financial concepts such as record-keeping, budgeting, cash flow management, risk evaluation, and the use of financial instruments in business decision-making. This literacy includes not only knowledge but also attitudes and practical skills that influence the economic behavior ofbusiness owners (Susanti et al., 2022). From a theoretical perspective, human capital theory posits that the knowledge and skills of business owners enhance productivity and improve the effectiveness of financial resource utilization (Becker, 1989; Kengatharan, 2019). In addition, behavioral economic theory suggests that higher levels of financial knowledge help minimize cognitive biases and improve the quality of capital allocation decisions (Simon, 2013). Financial literacy improves financial recording and planning skills, enabling better maintenance of cash flow, selection of investment opportunities based on cost-benefit analysis, optimization of access to formal financing through improved budgeting and forecasting, and reduction of liquidity and overinvestment risks.

Empirical evidence supports this theoretical foundation. Recent research in Indonesia shows that financial literacy has a positive and significant effect on MSMEs performance. For example, Demetrius and Yusbardini (2025) found that financial literacy significantly and positively influences MSMEs' performance. Similarly, research by Riyadi and Hadyarti (2024) reported that financial literacy, along with financial knowledge and capability, significantly improves MSMEs' performance. Studies also demonstrated that financial literacy has a significant positive effect on business performance, particularly when mediated by financial technology use (Miftahunnajah et al., 2025). A systematic literature review further highlights the general positive relationship between financial literacy and MSMEs' performance outcomes across multiple contexts (Ariffianti et al.,2024). These findings are reinforced by additional studies showing that greater financial literacy is associated with improved performance indicators such as revenue growth, profitability, and business resilience in MSMEs

H1: Financial literacy has a significant and positive effect on MSMEs performance.

The Effect of Business Capital on MSMEs Performance

Business capital refers to financial resources for starting, operating, and expanding a business, including working capital, fixed capital, and financing sources such as owner's equity and microloans. In this study, capital is measured quantitatively in millions of IDR. According to the Resource-Based View (RBV), capital can provide a competitive advantage when combined with organizational capabilities like managerial skills and operational efficiency (Barney, 2001). However, capital alone is insufficient for sustainable performance, without managerial competencies in budgeting, financial monitoring, and operations, it may be underutilized or cause inefficiencies such as overstocking or excessive debt.

Empirical studies provide mixed but generally supportive evidence on the role of capital in MSMEs performance. Research on MSMEs found that the implementation of working capital has a significant positive effect on MSMEs performance, although its impact depends on how funds are managed (Lubis, 2025; Vismaya & Sandhya, 2025). Similar results were reported in Sukasada District, where business capital was shown to positively and significantly influence financial performance alongside financial literacy (Maharani et al., 2025). Other quantitative studies in Indonesia also confirm a positive relationship between capital and MSMEs development, particularly when capital is supported by training or managerial interventions (Aisyah et al., 2025). These findings are consistent with broader studies showing that financial capital and financial management together contribute to performance improvements in MSMEs (Glorianismus et al., 2025). At the same time, some research suggests that the marginal effect of capital may be limited if not accompanied by managerial skills, indicating that capital alone is not a guaranteed determinant of performance (Salim & Rahmadhani,2024).

H2: Business capital has a positive effect on MSMEs performance.

The Effect of Time Management on MSMEs Performance

Time management encompasses the ability to plan schedules, prioritize tasks, delegate appropriately, and control the use of operational time, all of which are critical in small business settings where resources and time are constrained (Khan, 2022). At the micro level, effective time management is closely related to labor productivity, fulfillment of production targets, and responsiveness to market demand, directly influencing operational performance. Micro productivity theory and management frameworks, including elements of Covey's time management matrix, suggest that time efficiency increases output per unit of input, enabling businesses to achieve more with limited resources. From a capability perspective, time management is considered an operational capability that helps reduce waste, improve service and production reliability, and maintain consistency in daily business activities (Nisa et al., 2025). When entrepreneurs effectively manage their time, they are better able to fulfill orders, maintain quality consistency, respond quickly to market opportunities, reduce lead times, enhance customer experiences, and lower unnecessary operational costs.

Empirical studies in business and organizational research support the positive relationship between time management practices and performance indicators. For example, research in organizational settings has shown that better time management correlates with higher individual performance outcomes, including productivity and task completion efficiency (Perkasa et al., 2025). Studies in small business contexts similarly indicate that effective time management is a significant factor in operational efficiency and performance metrics, especially when combined with systems such as quality control and production planning (Nisa et al., 2025). Time management training and structured prioritization practices have also been associated with improvements in efficiency, production output, and short-term turnover in work environments, suggesting potential applicability to MSMEs operations where similar constraints exist. Systematic literature reviews on managerial competencies highlight the importance of time-related capabilities as key components of operational management that influence performance outcomes in smaller firms (Aliu et al., 2025).

H3: Time management has a significant positive effect on MSMEs performance.

Simultaneous Effect on MSMEs Performance

MSMEs' performance is measured multi-dimensionally, including profitability, turnover, sales growth, customer satisfaction, and business sustainability. Quantitative studies capture these diverse aspects of performance, reflecting both financial and operational outcomes. MSMEs' performance is influenced by capital resources, internal managerial capabilities such as financial literacy and operational time management, external environmental conditions including market access and regulatory support, and network or institutional assistance like mentoring and associations (Nurjannah et al., 2023; Hasyim & Bakri, 2025). The interaction between capital and managerial capabilities determines how effectively resources are utilized, with integrated financial behavior and dynamic capabilities shown to accelerate performance recovery and support business sustainability (Supramono et al., 2025). Research in regional MSMEs contexts also confirms that financial literacy, access to capital, and operational skills simultaneously affect business outcomes, highlighting the importance of examining these variables collectively (Ainun et al., 2024).

Conceptualizing the intervariable relationships reveals several integrative pathways. Financial literacy moderates the effectiveness of capital utilization, as capital without adequate literacy often leads to inefficient allocation or underperformance (Abdallah et al., 2025). Time management complements financial literacy, ensuring that operational plans are executed efficiently and on schedule, thereby enhancing consistency in performance outcomes. This synergy illustrates that financial literacy and time management function as managerial capabilities that maximize the productivity of capital investment (Bawono et al., 2022).

H4: Financial literacy, business capital, and time management simultaneously have a significant effect on MSMEs performance.

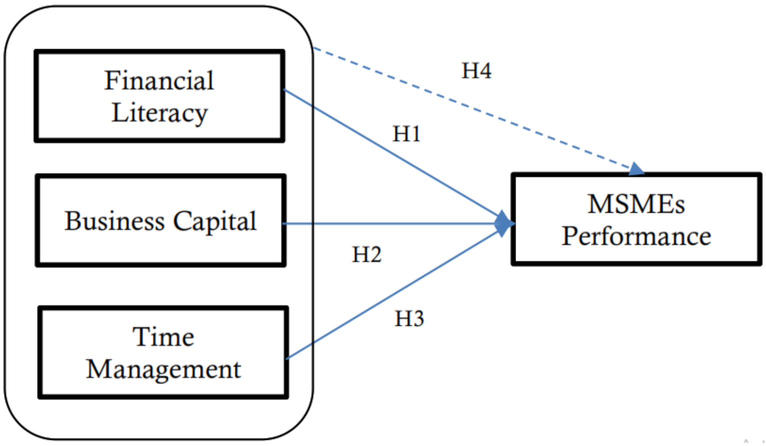

Figure 1. Research Framework

The research framework looking at the variables affecting the performance of MSMEs is shown in Figure 1. The model analyzes three independent variables that are thought to have an effect on MSMEs performance, time management, business capital, and financial literacy. Improvements in financial literacy, sufficient access to business finance, and efficient time management are anticipated to have a beneficial effect on

MSMEs' overall performance, according to arrows that show the direction of influence. The dashed arrow from financial literacy can suggest an indirect or moderating influence that needs more research.

III. RESEARCH METHODS

This study employs a quantitative, cross-sectional, non-experimental design to examine the partial and simultaneous effects of financial literacy, business capital, and time management on MSMEs performance in a sample of 100 respondents in Palangka Raya City. Data were analyzed using multiple linear regression with classical assumptions and significance tests. The population included all active MSMEs during the data collection period, and respondents were purposively selected based on the criteria of being registered or operating for at least one year and willing to complete the questionnaire, ensuring relevance for policy evaluation and development.

In this study, the independent variables are financial literacy, measured as an index score from 1 to 5 reflecting knowledge and practices in business financial management (recordkeeping, budgeting, and planning). Business capital, measured in millions of IDR as a ratio variable, and time management, measured as an index score from 1 to 5 assessing planning and operational time efficiency. The dependent variable is MSMEs' performance, evaluated as a composite score from 1 to 5, capturing business profitability, growth, and sustainability. All constructs were measured using a Likert scale and tested for reliability (Cronbach's alpha) and content validity prior to analysis. The data collection instrument used was a structured questionnaire (Likert scale for X1, X3, Y; numeric for X2). The questionnaire was developed based on a literature review and standard measurement practices for financial literacy and operational management. Content validity was then tested using expert review and a pilot test with 15 respondents to refine the items. Next, reliability was tested using Cronbach's alpha, the minimum acceptable threshold is $\alpha \geq 0.70$.

Data analysis was performed using SPSS with a significance level of $\alpha = 0.05$. The analysis began with descriptive statistics to calculate the mean, median, mode, minimum, maximum, and standard deviation for each variable. Classical assumption tests were thenconducted, including normality testing using the Kolmogorov–Smirnov (KS) test to assess whether residuals were normally distributed, multicollinearity testing using Variance Inflation Factor (VIF) and Tolerance values, heteroscedasticity testing using the Glejser or Breusch–Pagan test, and autocorrelation testing using the Durbin–Watson (DW) test, where a DW value close to 2 indicates no serial autocorrelation. Multiple linear regression was applied to examine the relationships between the independent and dependent variables, with effect size and practical significance assessed through standard errors and 95% confidence intervals for each regression coefficient. Standardized coefficients were also calculated to evaluate the relative influence of predictors. In cases where classical assumptions were violated, appropriate remedies were applied, such as variable transformations or robust standard errors for normality violations, evaluation or combination of variables for multicollinearity, Ordinary Least Squares (OLS) estimation with heteroscedasticity-robust standard errors (White) for heteroscedasticity, and Generalized Least Squares (GLS) or Newey–West standard errors for autocorrelation. These steps ensured that the regression analysis was statistically valid and the findings reliable.

IV. RESULT AND DISCUSSION

IV.I RESULTS

The results of the study on how MSMEs' performance is affected by financial literacy, business capital, and time management are presented in this section. Quantitative information gathered from 100 MSMEs respondents in Palangka Raya City served as the basis for the findings. Inferential analysis is used to look at the links and impacts of the independent factors on MSMEs performance after descriptive statistics are used to give a summary of the respondents' characteristics and variable distributions. The findings are presented in a way that emphasizes the regression model's overall explanatory ability as well as important patterns and trends.

Table 1. Descriptive Statistics

Variable	Mean	Standard Deviation (SD)	Range
Financial Literacy (X1)	3.67	0.87	2 – 5
Business Capital (X2, million IDR)	26.18	11.78	6 – 50
Time Management (X3)	3.58	0.81	2 – 5
MSMEs Performance (Y)	3.67	0.84	2 – 5

Table 1 presents the descriptive statistics of the study variables, providing an overview of the central tendency and variability among the respondents. Financial literacy has an average score of 3.67 with a standard deviation of 0.87, indicating that respondents generally possess a moderate level of financial knowledge, with some individuals demonstrating higher or lower understanding. Business capital averages IDR 26.18 million and has a relatively high standard deviation of 11.78, suggesting that there is considerable variation in the amount of capital available among MSMEs, with some businesses having much higher resources than others. Time management shows a mean of 3.58 and a standard deviation of 0.81, which implies that respondents have an average ability to organize, prioritize, and allocate their time effectively, although differences exist among individuals. MSMEs' performance has an average score of 3.67 with a standard deviation of 0.84, reflecting that the general level of business performance is moderate across the sample. The ranges for all variables indicate that while the data vary across respondents, most scores are concentrated around the mean, providing a relatively consistent picture of the sample's characteristics.

Table 2. Classical Assumption Test Results

Assumption	**Test / Statistic**	**Result / Decision**
Residual Normality	Kolmogorov–Smirnov p = 0.200	Residuals are approximately normally distributed, assumption met
Multicollinearity	VIF: financial literacy = 1.85, business capital = 1.62, time management = 1.78	VIF < 10 and tolerance > 0.10, no multicollinearity problem
Heteroscedasticity	Glejser test p > 0.05	Residuals are homogeneous, no heteroscedasticity
Autocorrelation	Durbin–Watson ≈ 2	Residuals are independent, no autocorrelation

Table 2 presents the results of the classical assumption tests, which are essential to ensure the validity of the multiple linear regression analysis. The normality test using the Kolmogorov–Smirnov method indicates that the residuals are approximately normally distributed, satisfying one of the key assumptions for regression analysis. Multicollinearity among the independent variables is not a concern, as all variables have Variance Inflation Factor (VIF) values below 10 and tolerance values above 0.10, indicating that the predictors do not excessively correlate with each other. The Glejser test for heteroscedasticity shows no significant evidence of non-constant variance, meaning that the residuals are homogeneous across levels of the independent variables. The Durbin– Watson statistic is close to 2, confirming the absence of autocorrelation and suggesting that the residuals are independent over observations. These results collectively demonstrate that the regression model meets the necessary assumptions, ensuring that the subsequent analysis and interpretations of the regression coefficients are reliable and valid.

Table 3. Multiple Linear Regression Testing

Variable	Coefficient	Standard Error	t-statistic	p-value	Information
Intercept	0.512	–	–	–	–
Financial Literacy (X1)	0.321	0.067	4.812	<0.001	Significant
Business Capital (X2)	0.018	0.009	2.014	0.047	Significant
Time Management (X3)	0.287	0.066	4.325	<0.001	Significant

Based on Table 3, the results of the multiple linear regression analysis show that (a) the regression model is: Y = 0.512 + 0.321X1 + 0.018X2 + 0.287X3. Financial literacy has a regression coefficient of 0.321 (SE = 0.067, t = 4.812, $p < 0.001$), indicating a strong and statistically significant positive effect on MSMEs performance. This shows that MSME owners with higher financial knowledge and skills tend to manage their businesses more effectively and achieve better performance outcomes. Business capital also has a positive effect, with a coefficient of 0.018 (SE = 0.009, t = 2.014, p = 0.047), suggesting that while the amount of capital supports business operations, its effect on performance is relatively smaller compared to managerial capabilities. Time management demonstrates a significant positive effect as well, with a coefficient of 0.287 (SE = 0.066, t = 4.325, $p < 0.001$), highlighting that the ability of MSMEs owners to organize, prioritize, and allocate their time efficiently contributes substantially to business success. These results indicate that financial literacy and time management are the dominant predictors of MSMEs performance, whereas business capital has a more limited influence.

Table 4. Simultaneous Model Test and Determination Coefficient

Test / Statistic	Value	Significance / Notes
F-test (simultaneous model)	45.23	$p < 0.001$
Coefficient of Determination (R^2)	0.586	Variation in MSMEs performance explained by the predictors
Adjusted R^2	0.571	Adjusted for the number of predictors

Table 4 presents the results of the simultaneous model test and the coefficient of determination for the regression model. The F-test yielded a calculated value of 45.23with a significance level of $p < 0.001$, indicating that the regression model is statistically significant. This demonstrates that the combined influence of financial literacy, business capital, and time management on MSMEs performance is meaningful, and the likelihood that this effect occurred by chance is very low. The coefficient of determination (R^2) is 0.586, with an adjusted R^2 of approximately 0.571. These values indicate that 58.6% of the variability in MSMEs performance among the respondents can be explained by the three independent variables, while the remaining 41.4% is attributed to other factors not included in the model. The difference between R^2 and adjusted R^2 suggests that the model fits the sample data reasonably well, taking into account the number of predictors. The results confirm that the combination of financial literacy, business capital, and time management provides a substantial explanation for differences in MSMEs performance, while also highlighting that additional unmeasured factors may influence outcomes in practice.

IV.II DISCUSSION

Financial literacy shows a significant positive effect on MSMEs performance. These findings are consistent with Fitrianita and Sinarwati (2024), Martadinata and Pasek (2024), and Chaidir et al. (2025), who reported that financial literacy enables entrepreneurs to perform better record-keeping, manage cash flow effectively, and make informed investment decisions, thereby improving profitability and sustainability. Similarly, Riyadi and Hadyarti (2024) found that financial literacy mediates the relationship between capital and business performance. This result also aligns with behavioral economic theory, as described by Simon (2013), which states that increased knowledge reduces decision biases and improves resource allocation. Additional studies in the Indonesian MSMEs context, including Taufiqurrahman and Idamiharti (2023), Widadi and Yuttama (2024), Ariffianti et al. (2024), Miftahunnajah et al. (2025), and Demetrius and Yusbardini (2025), further confirm the relevance of financial literacy as a critical determinant of performance.

Time management also shows a significant positive effect on MSMEs performance. This finding is consistent with Ariffianti et al. (2024), Aliu et al. (2025), and Nisa et al. (2025), who reported that effective planning, prioritization, and scheduling increase productivity and reduce operational waste. These results align with Bawono et al. (2022), Nurjannah et al. (2023), and Hasyim and Bakri (2025), who emphasize that managerial skills and operational control strongly influence MSMEs' outcomes. The importance of time management in this study supports the capability approach, highlighting that managerial competencies, rather than capital alone, are crucial for operational performance (Barney, 1991).

Business capital, while positively associated with performance, has a relatively smaller effect. This finding is consistent with the Resource-Based View, which posits that capital is necessary but insufficient for sustained competitive advantage unless combined with managerial capability (Barney, 2001). Empirical evidence in Indonesia supports this view, showing that capital alone does not automatically result in superior performance without adequate managerial and financial skills (Salim & Rahmadhani, 2024; Maharani et al., 2025; Lubis, 2025; Glorianismus et al., 2025; Aisyah et al., 2025). These results suggest that managerial capacity, reflected in financial literacy and time management, plays a more critical role than capital quantity in determining MSMEs success.

Simultaneous analysis of financial literacy, time management, and business capital indicates that an integrated approach produces a stronger effect on MSMEs' performance than any single factor alone. This finding aligns with previous research emphasizing that the combination of managerial skills and financial resources is essential for achieving sustainable business outcomes (Riyadi & Hadyarti, 2024; Ainun et al., 2024; Supramono et al., 2025). It suggests that policies focusing solely on capital provision are less effective than interventions that also enhance managerial capabilities.

These findings imply that MSMEs' coaching programs should prioritize financial literacy, including record-keeping, budgeting, and cash management, alongside timemanagement skills, such as planning, scheduling, and task delegation. Funding criteria from governmental and microfinance institutions should incorporate managerial capability assessments and structured plans for capital utilization. Integrated interventions combining capital support, mentoring, and skill development are expected to produce synergistic effects, enhancing both short-term performance and long-term sustainability. The study confirms that financial literacy and time management are critical determinants of MSMEs performance, while business capital plays a supportive but secondary role.

V. CONCLUSION

The empirical findings indicate that financial literacy and time management have positive and statistically significant effects on MSMEs' performance, highlighting the central role of managerial capabilities in driving business outcomes, with financial literacy being the most influential factor. While business capital also shows a positive relationship, its effect is relatively limited, suggesting that capital alone is insufficient without adequate managerial skills. These variables demonstrate a significant joint effect on MSMEs performance, confirming that business success is primarily driven by the interaction between financial capacity and managerial competence rather than by capital accumulation alone.

From a practical perspective, the findings suggest that MSME development policies should move from a capital-focused approach to an integrated model that combines financing with capacity building. Incorporating financial literacy and time management training alongside capital provision can improve effectiveness, ensure more productive use of resources, and enhance sustainability. Embedding managerial capability indicators into funding decisions and monitoring systems can further optimize resource utilization.

However, this study has several limitations. The cross-sectional design limits causal inference and fails to capture temporal dynamics such as lag effects of capital and financial literacy. The model also excludes relevant variables (technology, market access, networks,and innovation), leaving 41.4% of MSMEs' performance unexplained. In addition, the use of self-reported measures may introduce bias. Future research is recommended to employ longitudinal and experimental designs to better capture causal mechanisms, including potential lag effects and the impact of intervention-based models. It should also incorporate broader variables and apply data triangulation to improve robustness. In addition, future studies are encouraged to examine the mediating and moderating roles of financial literacy in the relationship between capital and MSMEs' performance. The limited regional scope of this study should also be addressed to enhance the generalizability of the findings.

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The Influence of Financial Literacy, Business Capital, and Time Management on MSME Performance

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ABSTRACT

Micro, Small, and Medium Enterprises (MSMEs) play a crucial role in economic development, yet many struggle to achieve sustainable performance due to limited managerial capacity and resources. This study investigates the influence of financial literacy, business capital, and time management on the performance of MSMEs. Using a quantitative approach, data from 100 MSME respondents were analyzed using SPSS to examine relationships and test hypotheses through multiple linear regression and statistical analysis. The results indicate that all three independent variables have a significant effect on MSMEs performance both individually and collectively. Among them, financial literacy and time management were identified as the most influential predictors, while business capital had a relatively smaller effect. The model's determination coefficient (R^2 = 0.586) suggests that approximately 58.6% of the variation in MSMEs performance can be explained by these variables. This study demonstrates that managerial capacity, especially financial literacy and time management, has a greater effect on MSMEs' success than capital alone, suggesting policies should focus on capacity-building rather than just funding. This study contributes to the strategic development of competency-based MSMEs empowerment models tailored to regional contexts.

Keywords*: Business Capital, Competency-Based Empowerment, Financial Literacy, Managerial Capacity, MSMEs Performance, Time Management.*

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a critical role in Indonesia's regional economy by absorbing labor, driving local economic growth, and fostering productive innovation (Saputra & Darmawan, 2023; Sinha et al., 2024). In many mid-sized cities, including Palangka Raya, MSMEs face structural challenges and limited managerial capabilities that hinder consistent business growth. Palangka Raya is an ideal research context due to its rapid urbanization, diverse MSME characteristics, varying managerial capacity and business capital, and the mixed impact of government support programs, making it suitable to examine whether managerial capabilities outweigh capital in influencing MSMEs performance.

Although government programs and financial institutions often prioritize capital provision through microcredit, subsidies, and small business financing programs, empirical evidence suggests that access to capital alone does not guarantee improved performance. Some MSMEs continue to struggle with cash flow management, investment decisions, and efficient use of operational time, highlighting the importance of managerial competencies in business outcomes. Financial literacy encompasses skills such as budgeting, risk assessment, and rational financial decision-making, while time management relates to planning, prioritizing, and allocating operational tasks efficiently (Yoganandham, 2025). These capabilities enable entrepreneurs to maximize the impact of available capital. Studies by Chaidir et al. (2025) emphasize that financial literacy

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significantly contributes to MSMEs sustainability, particularly in cash flow management and investment decisions. Similarly, Martadinata and Pasek (2024) highlight that effective managerial skills, including time and operational management, can optimize financial performance more effectively than capital alone. Daily (2025) further notes that MSMEs contribute approximately 60.5% to the national GDP and employ nearly 97% of the workforce, yet face ongoing challenges in digital transformation and human resource development.

MSMEs in Palangka Raya demonstrate heterogeneity in capital scale, managerial practices, and performance outcomes. While business capital remains an important factor, empirical studies suggest that financial literacy and time management may have a stronger influence on performance. Fitrianita and Sinarwati (2024) show that financial literacy, financial technology, and business capital simultaneously affect MSMEs financial performance. Widadi and Yuttama (2024) confirm that financial inclusion and sound financial literacy enhance the effective utilization of financial resources and support sustainable business growth. Despite these findings, research comparing the relative contributions of financial literacy, business capital, and time management in medium-sized urban MSMEs remains limited, particularly in the context of Palangka Raya, indicating a clear research gap.

The theoretical framework guiding this study integrates two perspectives. The resource and capability perspective posits that internal capabilities, including managerial skills and human capital, determine the effective utilization of financial resources (Becker & Huselid, 2006; Brinckmann et al., 2011). In this view, venture capital or business capital functions as an input whose added value depends on the entrepreneur's capabilities. Behavioral microeconomic theory complements this view by suggesting that rational financial decisions require knowledge and skills, positioning financial literacy as a mediator between capital and performance (Lusardi, 2019). Time management is treated as an operational factor influencing daily productivity, service consistency, and overall business outcomes such as turnover and customer satisfaction (Aeon et al., 2021).

The novelty of this study lies in its empirical comparison of financial capital versus managerial capabilities in influencing MSMEs performance in a medium-sized urban context. It challenges conventional policy assumptions that often emphasize financing solutions by demonstrating that financial literacy and time management may exert a stronger influence than capital alone. Prior research supports this approach: Chaidir et al. (2025) demonstrated the importance of financial literacy for investment and cash flow management, Taufiqurrahman and Idamiharti (2023) highlighted its effect on long-term business sustainability, and Ramli et al. (2023) showed that financial inclusion and literacy significantly affect MSMEs' performance in urban settings.

Based on the discussion of background, empirical studies, theoretical framework, and identified research gaps, it is clear that the combined influence of financial literacy, business capital, and time management on MSMEs performance requires a comprehensive investigation. This study, therefore, focuses on MSMEs operating within the administrative area of Palangka Raya City and examines financial literacy, business capital, and time management as predictors of performance, measured through business performance assessment indicators. Based on this framework, the study examines both the partial and simultaneous effects of financial literacy, business capital, and time management on MSMEs performance, with the aim of providing empirical evidence on their individual and combined contributions as well as assessing the relative importance of managerial competencies compared to capital in influencing business outcomes.

LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

The Effect of Financial Literacy on MSMEs Performance

Financial literacy refers to the ability to understand and apply basic financial concepts such as record-keeping, budgeting, cash flow management, risk evaluation, and the use of financial instruments in business decision-making. This literacy includes not only knowledge but also attitudes and practical skills that influence the economic behavior of business owners (Susanti et al., 2022). From a theoretical perspective, human capital theory posits that the knowledge and skills of business owners enhance productivity and improve the effectiveness of financial resource utilization (Becker, 1989; Kengatharan, 2019). In addition, behavioral economic theory suggests that higher levels of financial knowledge help minimize cognitive biases and improve the quality of capital allocation decisions (Simon, 2013). Financial literacy improves financial recording and planning skills, enabling better maintenance of cash flow, selection of investment opportunities based on cost-benefit analysis, optimization of access to formal financing through improved budgeting and forecasting, and reduction of liquidity and overinvestment risks.

Empirical evidence supports this theoretical foundation. Recent research in Indonesia shows that financial literacy has a positive and significant effect on MSMEs performance. For example, Demetrius and Yusbardini (2025) found that financial literacy significantly and positively influences MSMEs' performance. Similarly, research by Riyadi and Hadyarti (2024) reported that financial literacy, along with financial knowledge and capability, significantly improves MSMEs' performance. Studies also demonstrated that financial literacy has a significant positive effect on business performance, particularly when mediated by financial technology use (Miftahunnajah et al., 2025). A systematic literature review further highlights the general positive relationship between financial literacy and MSMEs' performance outcomes across multiple contexts (Ariffianti et al., 2024). These findings are reinforced by additional studies showing that greater financial literacy is associated with improved performance indicators such as revenue growth, profitability, and business resilience in MSMEs

H1: Financial literacy has a significant and positive effect on MSMEs performance.

The Effect of Business Capital on MSMEs Performance

Business capital refers to financial resources for starting, operating, and expanding a business, including working capital, fixed capital, and financing sources such as owner's equity and microloans. In this study, capital is measured quantitatively in millions of IDR. According to the Resource-Based View (RBV), capital can provide a competitive advantage when combined with organizational capabilities like managerial skills and operational efficiency (Barney, 2001). However, capital alone is insufficient for sustainable performance, without managerial competencies in budgeting, financial monitoring, and operations, it may be underutilized or cause inefficiencies such as overstocking or excessive debt.

Empirical studies provide mixed but generally supportive evidence on the role of capital in MSMEs performance. Research on MSMEs found that the implementation of working capital has a significant positive effect on MSMEs performance, although its impact depends on how funds are managed (Lubis, 2025; Vismaya & Sandhya, 2025). Similar results were reported in Sukasada District, where business capital was shown to positively and significantly influence financial performance alongside financial literacy (Maharani et al., 2025). Other quantitative studies in Indonesia also confirm a positive relationship between capital and MSMEs development, particularly when capital is supported by training or managerial interventions (Aisyah et al., 2025). These findings are consistent with broader studies showing that financial capital and financial management together contribute to performance improvements in MSMEs (Glorianismus et al., 2025). At the same time, some research suggests that the marginal effect of capital may be limited if not accompanied by managerial skills, indicating that capital alone is not a guaranteed determinant of performance (Salim & Rahmadhani, 2024).

H2: Business capital has a positive effect on MSMEs performance.

The Effect of Time Management on MSMEs Performance

Time management encompasses the ability to plan schedules, prioritize tasks, delegate appropriately, and control the use of operational time, all of which are critical in small business settings where resources and time are constrained (Khan, 2022). At the micro level, effective time management is closely related to labor productivity, fulfillment of production targets, and responsiveness to market demand, directly influencing operational performance. Micro productivity theory and management frameworks, including elements of Covey's time management matrix, suggest that time efficiency increases output per unit of input, enabling businesses to achieve more with limited resources. From a capability perspective, time management is considered an operational capability that helps reduce waste, improve service and production reliability, and maintain consistency in daily business activities (Nisa et al., 2025). When entrepreneurs effectively manage their time, they are better able to fulfill orders, maintain quality consistency, respond quickly to market opportunities, reduce lead times, enhance customer experiences, and lower unnecessary operational costs.

Empirical studies in business and organizational research support the positive relationship between time management practices and performance indicators. For example, research in organizational settings has shown that better time management correlates with higher individual performance outcomes, including productivity and task completion efficiency (Perkasa et al., 2025). Studies in small business contexts similarly indicate that effective time management is a significant factor in operational efficiency and performance metrics, especially when combined with systems such as quality control and production planning (Nisa et al., 2025). Time management training and structured prioritization practices have also been associated with improvements in efficiency, production output, and short-term turnover in work environments, suggesting potential applicability to MSMEs operations where similar constraints exist. Systematic literature reviews on managerial competencies highlight the importance of time-related capabilities as key components of operational management that influence performance outcomes in smaller firms (Aliu et al., 2025).

H3: Time management has a significant positive effect on MSMEs performance.

Simultaneous Effect on MSMEs Performance

MSMEs' performance is measured multi-dimensionally, including profitability, turnover, sales growth, customer satisfaction, and business sustainability. Quantitative studies capture these diverse aspects of performance, reflecting both financial and operational outcomes. MSMEs' performance is influenced by capital resources, internal managerial capabilities such as financial literacy and operational time management, external environmental conditions including market access and regulatory support, and network or institutional assistance like mentoring and associations (Nurjannah et al., 2023; Hasyim & Bakri, 2025). The interaction between capital and managerial capabilities determines how effectively resources are utilized, with integrated financial behavior and dynamic capabilities shown to accelerate performance recovery and support business sustainability (Supramono et al., 2025). Research in regional MSMEs contexts also confirms that financial literacy, access to capital, and operational skills simultaneously affect business outcomes, highlighting the importance of examining these variables collectively (Ainun et al., 2024).

Conceptualizing the intervariable relationships reveals several integrative pathways. Financial literacy moderates the effectiveness of capital utilization, as capital without adequate literacy often leads to inefficient allocation or underperformance (Abdallah et al., 2025). Time management complements financial literacy, ensuring that operational plans are executed efficiently and on schedule, thereby enhancing consistency in performance outcomes. This synergy illustrates that financial literacy and time management function as managerial capabilities that maximize the productivity of capital investment (Bawono et al., 2022).

H4: Financial literacy, business capital, and time management simultaneously have a significant effect on MSMEs performance.

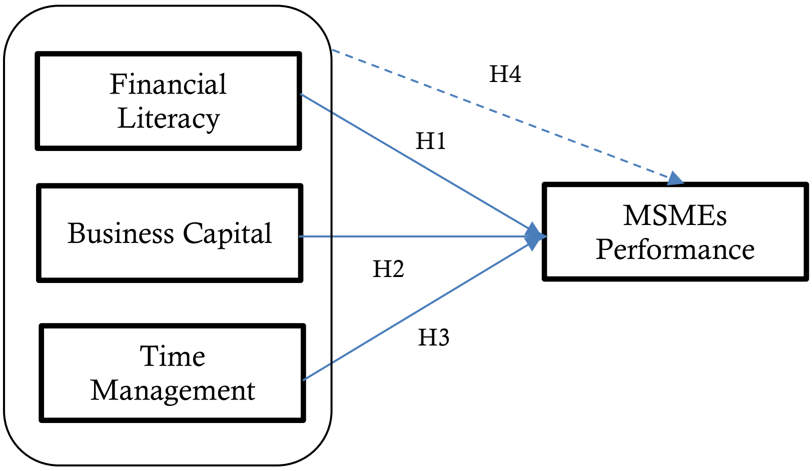

Figure 1. Research Framework

The research framework looking at the variables affecting the performance of MSMEs is shown in Figure 1. The model analyzes three independent variables that are thought to have an effect on MSMEs performance, time management, business capital, and financial literacy. Improvements in financial literacy, sufficient access to business finance, and efficient time management are anticipated to have a beneficial effect on MSMEs' overall performance, according to arrows that show the direction of influence. The dashed arrow from financial literacy can suggest an indirect or moderating influence that needs more research.

RESEARCH METHODS

This study employs a quantitative, cross-sectional, non-experimental design to examine the partial and simultaneous effects of financial literacy, business capital, and time management on MSMEs performance in a sample of 100 respondents in Palangka Raya City. Data were analyzed using multiple linear regression with classical assumptions and significance tests. The population included all active MSMEs during the data collection period, and respondents were purposively selected based on the criteria of being registered or operating for at least one year and willing to complete the questionnaire, ensuring relevance for policy evaluation and development.

In this study, the independent variables are financial literacy, measured as an index score from 1 to 5 reflecting knowledge and practices in business financial management (recordkeeping, budgeting, and planning). Business capital, measured in millions of IDR as a ratio variable, and time management, measured as an index score from 1 to 5 assessing planning and operational time efficiency. The dependent variable is MSMEs' performance, evaluated as a composite score from 1 to 5, capturing business profitability, growth, and sustainability. All constructs were measured using a Likert scale and tested for reliability (Cronbach's alpha) and content validity prior to analysis. The data collection instrument used was a structured questionnaire (Likert scale for X1, X3, Y; numeric for X2). The questionnaire was developed based on a literature review and standard measurement practices for financial literacy and operational management. Content validity was then tested using expert review and a pilot test with 15 respondents to refine the items. Next, reliability was tested using Cronbach's alpha, the minimum acceptable threshold is $\alpha \geq 0.70$.

Data analysis was performed using SPSS with a significance level of $\alpha = 0.05$. The analysis began with descriptive statistics to calculate the mean, median, mode, minimum, maximum, and standard deviation for each variable. Classical assumption tests were then conducted, including normality testing using the Kolmogorov–Smirnov (KS) test to assess whether residuals were normally distributed, multicollinearity testing using Variance Inflation Factor (VIF) and Tolerance values, heteroscedasticity testing using the Glejser or Breusch–Pagan test, and autocorrelation testing using the Durbin–Watson (DW) test, where a DW value close to 2 indicates no serial autocorrelation. Multiple linear regression was applied to examine the relationships between the independent and dependent variables, with effect size and practical significance assessed through standard errors and 95% confidence intervals for each regression coefficient. Standardized coefficients were also calculated to evaluate the relative influence of predictors. In cases where classical assumptions were violated, appropriate remedies were applied, such as variable transformations or robust standard errors for normality violations, evaluation or combination of variables for multicollinearity, Ordinary Least Squares (OLS) estimation with heteroscedasticity-robust standard errors (White) for heteroscedasticity, and Generalized Least Squares (GLS) or Newey–West standard errors for autocorrelation. These steps ensured that the regression analysis was statistically valid and the findings reliable.

RESULTS

The results of the study on how MSMEs' performance is affected by financial literacy, business capital, and time management are presented in this section. Quantitative information gathered from 100 MSMEs respondents in Palangka Raya City served as the basis for the findings. Inferential analysis is used to look at the links and impacts of the independent factors on MSMEs performance after descriptive statistics are used to give a summary of the respondents' characteristics and variable distributions. The findings are presented in a way that emphasizes the regression model's overall explanatory ability as well as important patterns and trends.

Table 1. Descriptive Statistics

Variable	Mean	Standard Deviation (SD)	Range
Financial Literacy (X1)	3.67	0.87	2 – 5
Business Capital (X2, million IDR)	26.18	11.78	6 – 50
Time Management (X3)	3.58	0.81	2 – 5
MSMEs Performance (Y)	3.67	0.84	2 – 5

Table 1 presents the descriptive statistics of the study variables, providing an overview of the central tendency and variability among the respondents. Financial literacy has an average score of 3.67 with a standard deviation of 0.87, indicating that respondents generally possess a moderate level of financial knowledge, with some individuals demonstrating higher or lower understanding. Business capital averages IDR 26.18 million and has a relatively high standard deviation of 11.78, suggesting that there is considerable variation in the amount of capital available among MSMEs, with some businesses having much higher resources than others. Time management shows a mean of 3.58 and a standard deviation of 0.81, which implies that respondents have an average ability to organize, prioritize, and allocate their time effectively, although differences exist among individuals. MSMEs' performance has an average score of 3.67 with a standard deviation of 0.84, reflecting that the general level of business performance is moderate across the sample. The ranges for all variables indicate that while the data vary across respondents, most scores are concentrated around the mean, providing a relatively consistent picture of the sample's characteristics.

Table 2. Classical Assumption Test Results

Assumption	Test / Statistic	Result / Decision
Residual Normality	Kolmogorov–Smirnov p = 0.200	Residuals are approximately normally distributed, assumption met
Multicollinearity	VIF: financial literacy = 1.85, business capital = 1.62, time management = 1.78	VIF < 10 and tolerance > 0.10, no multicollinearity problem
Heteroscedasticity	Glejser test p > 0.05	Residuals are homogeneous, no heteroscedasticity
Autocorrelation	Durbin–Watson ≈ 2	Residuals are independent, no autocorrelation

Table 2 presents the results of the classical assumption tests, which are essential to ensure the validity of the multiple linear regression analysis. The normality test using the Kolmogorov–Smirnov method indicates that the residuals are approximately normally distributed, satisfying one of the key assumptions for regression analysis. Multicollinearity among the independent variables is not a concern, as all variables have Variance Inflation Factor (VIF) values below 10 and tolerance values above 0.10, indicating that the predictors do not excessively correlate with each other. The Glejser test for heteroscedasticity shows no significant evidence of non-constant variance, meaning that the residuals are homogeneous across levels of the independent variables. The Durbin–Watson statistic is close to 2, confirming the absence of autocorrelation and suggesting that the residuals are independent over observations. These results collectively demonstrate that the regression model meets the necessary assumptions, ensuring that the subsequent analysis and interpretations of the regression coefficients are reliable and valid.

Table 3. Multiple Linear Regression Testing

Variable	Coefficient	Standard Error	t-statistic	p-value	Information
Intercept	0.512	–	–	–	–
Financial Literacy (X1)	0.321	0.067	4.812	<0.001	Significant
Business Capital (X2)	0.018	0.009	2.014	0.047	Significant
Time Management (X3)	0.287	0.066	4.325	<0.001	Significant

Based on Table 3, the results of the multiple linear regression analysis show that (a) the regression model is: $Y = 0.512 + 0.321X1 + 0.018X2 + 0.287X3$. Financial literacy has a regression coefficient of 0.321 ($SE = 0.067$, $t = 4.812$, $p < 0.001$), indicating a strong and statistically significant positive effect on MSMEs performance. This shows that MSME owners with higher financial knowledge and skills tend to manage their businesses more effectively and achieve better performance outcomes. Business capital also has a positive effect, with a coefficient of 0.018 ($SE = 0.009$, $t = 2.014$, $p = 0.047$), suggesting that while the amount of capital supports business operations, its effect on performance is relatively smaller compared to managerial capabilities. Time management demonstrates a significant positive effect as well, with a coefficient of 0.287 ($SE = 0.066$, $t = 4.325$, $p < 0.001$), highlighting that the ability of MSMEs owners to organize, prioritize, and allocate their time efficiently contributes substantially to business success. These results indicate that financial literacy and time management are the dominant predictors of MSMEs performance, whereas business capital has a more limited influence.

Table 4. Simultaneous Model Test and Determination Coefficient

Test / Statistic	Value	Significance / Notes
F-test (simultaneous model)	45.23	$p < 0.001$
Coefficient of Determination (R^2)	0.586	Variation in MSMEs performance explained by the predictors
Adjusted R^2	0.571	Adjusted for the number of predictors

Table 4 presents the results of the simultaneous model test and the coefficient of determination for the regression model. The F-test yielded a calculated value of 45.23

with a significance level of $p < 0.001$, indicating that the regression model is statistically significant. This demonstrates that the combined influence of financial literacy, business capital, and time management on MSMEs performance is meaningful, and the likelihood that this effect occurred by chance is very low. The coefficient of determination (R^2) is 0.586, with an adjusted R^2 of approximately 0.571. These values indicate that 58.6% of the variability in MSMEs performance among the respondents can be explained by the three independent variables, while the remaining 41.4% is attributed to other factors not included in the model. The difference between R^2 and adjusted R^2 suggests that the model fits the sample data reasonably well, taking into account the number of predictors. The results confirm that the combination of financial literacy, business capital, and time management provides a substantial explanation for differences in MSMEs performance, while also highlighting that additional unmeasured factors may influence outcomes in practice.

DISCUSSION

Financial literacy shows a significant positive effect on MSMEs performance. These findings are consistent with Fitrianita and Sinarwati (2024), Martadinata and Pasek (2024), and Chaidir et al. (2025), who reported that financial literacy enables entrepreneurs to perform better record-keeping, manage cash flow effectively, and make informed investment decisions, thereby improving profitability and sustainability. Similarly, Riyadi and Hadyarti (2024) found that financial literacy mediates the relationship between capital and business performance. This result also aligns with behavioral economic theory, as described by Simon (2013), which states that increased knowledge reduces decision biases and improves resource allocation. Additional studies in the Indonesian MSMEs context, including Taufiqurrahman and Idamiharti (2023), Widadi and Yuttama (2024), Ariffianti et al. (2024), Miftahunnajah et al. (2025), and Demetrius and Yusbardini (2025), further confirm the relevance of financial literacy as a critical determinant of performance.

Time management also shows a significant positive effect on MSMEs performance. This finding is consistent with Ariffianti et al. (2024), Aliu et al. (2025), and Nisa et al. (2025), who reported that effective planning, prioritization, and scheduling increase productivity and reduce operational waste. These results align with Bawono et al. (2022), Nurjannah et al. (2023), and Hasyim and Bakri (2025), who emphasize that managerial skills and operational control strongly influence MSMEs' outcomes. The importance of time management in this study supports the capability approach, highlighting that managerial competencies, rather than capital alone, are crucial for operational performance (Barney, 1991).

Business capital, while positively associated with performance, has a relatively smaller effect. This finding is consistent with the Resource-Based View, which posits that capital is necessary but insufficient for sustained competitive advantage unless combined with managerial capability (Barney, 2001). Empirical evidence in Indonesia supports this view, showing that capital alone does not automatically result in superior performance without adequate managerial and financial skills (Salim & Rahmadhani, 2024; Maharani et al., 2025; Lubis, 2025; Glorianismus et al., 2025; Aisyah et al., 2025). These results suggest that managerial capacity, reflected in financial literacy and time management, plays a more critical role than capital quantity in determining MSMEs success.

Simultaneous analysis of financial literacy, time management, and business capital indicates that an integrated approach produces a stronger effect on MSMEs' performance than any single factor alone. This finding aligns with previous research emphasizing that the combination of managerial skills and financial resources is essential for achieving sustainable business outcomes (Riyadi & Hadyarti, 2024; Ainun et al., 2024; Supramono et al., 2025). It suggests that policies focusing solely on capital provision are less effective than interventions that also enhance managerial capabilities.

These findings imply that MSMEs' coaching programs should prioritize financial literacy, including record-keeping, budgeting, and cash management, alongside time management skills, such as planning, scheduling, and task delegation. Funding criteria from governmental and microfinance institutions should incorporate managerial capability assessments and structured plans for capital utilization. Integrated interventions combining capital support, mentoring, and skill development are expected to produce synergistic effects, enhancing both short-term performance and long-term sustainability. The study confirms that financial literacy and time management are critical determinants of MSMEs performance, while business capital plays a supportive but secondary role.

CONCLUSION

The empirical findings indicate that financial literacy and time management have positive and statistically significant effects on MSMEs' performance, highlighting the central role of managerial capabilities in driving business outcomes, with financial literacy being the most influential factor. While business capital also shows a positive relationship, its effect is relatively limited, suggesting that capital alone is insufficient without adequate managerial skills. These variables demonstrate a significant joint effect on MSMEs performance, confirming that business success is primarily driven by the interaction between financial capacity and managerial competence rather than by capital accumulation alone.

From a practical perspective, the findings suggest that MSME development policies should move from a capital-focused approach to an integrated model that combines financing with capacity building. Incorporating financial literacy and time management training alongside capital provision can improve effectiveness, ensure more productive use of resources, and enhance sustainability. Embedding managerial capability indicators into funding decisions and monitoring systems can further optimize resource utilization.

However, this study has several limitations. The cross-sectional design limits causal inference and fails to capture temporal dynamics such as lag effects of capital and financial literacy. The model also excludes relevant variables (technology, market access, networks, and innovation), leaving 41.4% of MSMEs' performance unexplained. In addition, the use of self-reported measures may introduce bias. Future research is recommended to employ longitudinal and experimental designs to better capture causal mechanisms, including potential lag effects and the impact of intervention-based models. It should also incorporate broader variables and apply data triangulation to improve robustness. In addition, future studies are encouraged to examine the mediating and moderating roles of financial literacy in the relationship between capital and MSMEs' performance. The limited regional scope of this study should also be addressed to enhance the generalizability of the findings.

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The Dynamics of APEC Trade Policy and Its Challenges to National Economic Sovereignty: A Principal Component Analysis Approach

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ABSTRACT: In the era of globalization, regional economic cooperation frameworks such as the Asia-Pacific Economic Cooperation (APEC) have become strategic instruments for developing countries to expand market access and attract foreign investment. However, participation in trade liberalization also poses challenges to national economic sovereignty, particularly in terms of fiscal control, foreign capital dominance, and export dependency.

This study aims to identify the principal dimensions of APEC trade policy dynamics and evaluate their impact on Indonesia's economic sovereignty. The method employed is Principal Component Analysis (PCA) applied to five key variables: APEC tariff rates, Foreign Direct Investment (FDI), export-to-GDP ratio, global competitiveness index, and external debt-to-GDP ratio. The analysis reveals three principal components: (1) liberalization and export dependency (48.2%), (2) foreign capital dominance and fiscal pressure (37.4%), and (3) institutional capacity and national competitiveness (14.4%). PCA biplot visualization indicates that Indonesia and Vietnam have shifted from protectionism toward high integration, albeit with increasing fiscal pressure and external dependency. The United States remains dominant in competitiveness, despite facing a rising debt ratio.

This study offers a novel quantitative approach to mapping structural pressures on national economic sovereignty, integrating dependency theory, economic sovereignty, and global competitiveness within the PCA framework. The findings provide a foundation for formulating trade policies that balance openness with national economic autonomy.

KEYWORDS: APEC, economic sovereignty, PCA, FDI, global competitiveness.

1. INTRODUCTION

In an era of intensifying globalization, regional economic cooperation has become a strategic instrument for countries to expand market access, improve production efficiency, and strengthen their bargaining position in international trade. One of the most influential economic cooperation forums in the Asia-Pacific region is the Asia-Pacific Economic Cooperation (APEC), which since its founding in 1989 has promoted the principle of open regionalism—economic openness without discrimination toward non-member countries. APEC comprises 21 member economies that collectively contribute more than 60% of global GDP and 50% of world trade volume. Indonesia, as an active member, has participated in various APEC initiatives, including tariff liberalization, trade facilitation, and global supply chain integration. However, despite these opportunities, serious challenges to national economic sovereignty exist, particularly in terms of dependence on imports, the dominance of foreign direct investment (FDI), and declining domestic production capacity.

Asia-Pacific Economic Cooperation (APEC) is an economic cooperation forum that plays a strategic role in promoting trade liberalization and economic integration in the Asia-Pacific region. Since its founding in 1989, APEC has grown into a key pillar in facilitating trade, investment, and economic growth among its 21 member economies, which together represent approximately 60% of global gross domestic product (GDP) and 48% of world trade. As an APEC member country, Indonesia actively utilizes this forum to increase market access, strengthen trade relations, and attract foreign investment to accelerate national development.

According to official data from the Indonesian Ministry of Trade and Statistics Indonesia, Indonesia's total trade value with APEC economies in 2024 reached approximately US$380.04 billion, consisting of exports worth US$195.01 billion and imports of US$185.04 billion. Trade with APEC member countries accounts for approximately 70 percent of Indonesia's total exports, underscoring APEC's crucial role in the national economy. Indonesia's leading export products to APEC member countries include mineral fuels, animal and vegetable oils, iron and steel, electronic machinery, and motor vehicles. The government is targeting export growth of between 7.1 and 9.6 percent over the next five years, as part of its strategy to achieve 8 percent national economic growth. Furthermore, according to World Bank data (2023), Indonesia's import dependence on capital goods and raw materials reached 70% of total imports, indicating structural vulnerabilities in the industrial sector. Meanwhile, increasing FDI flows—mostly from fellow APEC members—have strengthened certain sectors but have also raised concerns about national control over strategic assets. For example, the mining and energy sectors have seen foreign ownership increase by more than 40% in the last decade.

The 2025 APEC Summit in Gyeongju, South Korea, reaffirmed the commitment to free and inclusive trade. In his speech, the Indonesian President called for open multilateral cooperation that still prioritizes fairness, inclusiveness, and the interests of the people. This call reflects the tension between the drive for liberalization and the need for national protectionism, which is increasingly relevant amid geopolitical dynamics and the global crisis. While bringing significant economic opportunities, the dynamics of APEC trade policies also pose serious challenges to Indonesia's national economic sovereignty. Economic dependence on global market mechanisms and demands for compliance with international regulations and standards can reduce Indonesia's ability to regulate economic policy independently. Furthermore, geopolitical pressures, protectionism, and global economic uncertainty have the potential to disrupt national economic stability and security. Therefore, a comprehensive understanding of the dynamics of APEC trade policies and their impact on economic sovereignty is crucial for Indonesian public policy.

Theoretically, national economic sovereignty can be understood as a country's capacity to independently control its economic structure, including production, distribution, and consumption. When regional trade policies such as APEC encourage extreme openness, developing countries risk losing control over strategic sectors, especially if not balanced with protective policies and strengthening domestic capacity.

This research uses a Principal Component Analysis (PCA) approach to identify and reduce the complex factors influencing APEC trade relations and Indonesia's national economic sovereignty. Using this method, various variables related to trade, investment, regulations, and economic security aspects are systematically analyzed.

2. THEORETICAL REVIEW

2.1. Regional Economic Cooperation

Regional economic cooperation, such as APEC, is a form of economic integration aimed at increasing efficiency and growth through trade and investment liberalization. According to Balassa (1961), economic integration can be classified into five stages: free trade zone, customs union, common market, economic union, and full integration. APEC is at the free trade zone stage, which is non-binding and voluntary, but still has a significant impact on the structure of national economic policies.

Frankel and Romer (1999) emphasize that trade openness has a positive correlation with economic growth, but its effect is highly dependent on institutional structures and domestic capacity. In the context of APEC, the involvement of developing countries like Indonesia in trade liberalization must be balanced with selective protective policies to avoid sacrificing national strategic sectors.

2.2. Dynamics of APEC Trade Policy

APEC promotes the principle of open regionalism, namely economic openness that is non-discriminatory toward non-member countries. According to Drysdale and Armstrong (2010), this approach aims to create a flexible and inclusive trade architecture. However, this approach also poses challenges in harmonizing national policies, especially for countries with immature industrial capacity.

A study by Ravenhill (2001) shows that APEC is more of a forum for dialogue and policy facilitation than a formal negotiation mechanism like the WTO. This causes APEC policy implementation to be highly dependent on the commitment and capacity of each member country. In practice, countries with greater economic power tend to dominate policy direction, leaving developing countries at risk of policy asymmetry.

2.3. National Economic Sovereignty: Definition and Indicators

National economic sovereignty refers to a country's ability to control and direct economic policies in accordance with domestic interests. According to Rodrik (2007), economic globalization often reduces the latitude for national policy, particularly in terms of industrial protection, controlling capital flows, and regulating foreign investment.

Indicators of economic sovereignty include:

- Proportion of domestic production to national consumption
- Dependence on imports of strategic goods
- FDI-to-GDP ratio
- Foreign exchange reserves and fiscal stability
- The country's ability to set independent industrial and trade policies

A study by Chang (2002) highlighted the importance of policy space for developing countries to protect strategic sectors through active industrial policies. In the APEC context, overly liberal trade policies can reduce this space and undermine economic sovereignty.

2.4. Tension between Liberalization and Protectionism

According to Bhagwati (2004), trade liberalization can increase efficiency and welfare, but must be accompanied by compensation mechanisms for affected sectors. On the other hand, Stiglitz (2002) emphasized that uncontrolled liberalization can increase inequality and damage domestic economic structures.

In the APEC context, developing countries face a dilemma between following the trend of liberalization or maintaining protection for strategic sectors. A study by Higgott (1998) showed that APEC does not yet have a robust mechanism to ensure a balance between openness and national sovereignty.

2.5. Analytical Approach: Principal Component Analysis (PCA)

PCA is used to reduce the dimensionality of data and identify the latent structure of correlated variables. According to Jolliffe (2002), PCA allows researchers to group complex variables into principal components that are easier to analyze. In this study, PCA is used to identify the main dimensions of APEC trade policy and indicators of national economic sovereignty, allowing for empirical and objective analysis.

3. RESEARCH METHODOLOGY

3.1 Research Design

This research uses a descriptive quantitative design with a Principal Component Analysis (PCA) approach. This design aims to reduce a number of complex variables related to APEC trade policies and national economic sovereignty into several main components that can efficiently explain data variance. PCA is used to identify the dominant factors that play a role in the dynamics of these policies.

3.2 Scope and Unit of Analysis

The scope of this research includes Indonesia's trade data with APEC member countries from 2000 to 2024. The units of analysis are macroeconomic variables, trade regulations, export-import volumes, foreign investment, and relevant indicators of national economic sovereignty.

3.3 Data Collection Sources and Techniques

The data used are secondary data obtained from the Central Statistics Agency (BPS), the Ministry of Trade of the Republic of Indonesia, as well as official documents and APEC annual reports. Data collection techniques include documentation and literature review.

3.4 Variable Operationalization

Each variable is measured and processed into numerical data that reflects the trade and economic aspects analyzed. Examples of variables: export volume, import volume, foreign direct investment value, level of protectionism, trade regulation indicators, and proxies for economic sovereignty. All variable data must be in continuous format to be analyzed using PCA.

3.5 Data Analysis Techniques

Data analysis is performed using the following PCA steps:

a) Data Standardization
   Transform the data to the same scale using the formula: $Zij = Xij - \bar{X}j / sj$, where Zij is the standardized value of the jth variable in the i-th observation, Xij is the original value, $\bar{X}j$ is the mean, and sj is the standard deviation.
b) Correlation Matrix
   Calculate the correlation matrix R between variables.
c) Eigenvalue and Eigenvector Extraction
   Splitting the correlation matrix R to obtain the eigenvalue λi and eigenvector ei that satisfy: $Rei = \lambda iei$
d) Principal Component Selection
   Principal components are selected based on the criteria of eigenvalue $\lambda i \geq 1$ and a cumulative variance contribution of at least 70-80%.
e) Formation of Principal Components (PCs)
   $PCk = e1kZ1 + e2kZ2 + \cdots + epkZp$, where PCk is the score of the kth component, ejk is the factor loading of the jth variable on the kth component, and p is the number of variables.
f) Varimax Rotation (optional)
   To clarify the interpretation of the principal components.
g) Interpretation and Discussion
   Analyze the results to determine the dominant factors and challenges of trade policy to economic sovereignty.

3.6 Validity and Reliability

a) Validity was tested using the Kaiser-Meyer-Olkin (KMO) test to measure sample adequacy and Bartlett's Test of Sphericity to ensure significant correlations between variables.

b) Reliability was examined by examining internal consistency through factor loading values; a loading value >0.3 is considered practically valid.

3.7 Analysis Tools

Data analysis was performed using multivariate statistical software such as IBM SPSS, R Studio, or Python libraries with PCA modules.

4. ANALYTICAL RESULTS

4.1 General Description of Research Variables

4.1.1. APEC Tariffs (%): Trade Policy Indicator

APEC Tariffs (%) is an indicator that describes the average import duty rates imposed among Asia-Pacific Economic Cooperation (APEC) member countries. This indicator reflects a country's level of openness to international trade, particularly within the Asia-Pacific region.

In Indonesia, the downward trend in APEC tariffs from 6.2% in 2000 to 2.8% in 2024 demonstrates a consistent policy direction toward trade liberalization. This reduction reflects the government's commitment to strengthening regional and global economic integration and increasing the competitiveness of national products in the international market.

However, behind these benefits, there are challenges that require attention. A significant reduction in import tariffs also means increased exposure of the domestic market to foreign products. This can put pressure on domestic industries, especially those sectors that lack strong competitiveness or are still dependent on tariff protection.

Principal Component Analysis (PCA) results show that this indicator has a loading factor of 0.72 on the first principal component (PC1), indicating a high contribution to the trade liberalization dimension. In other words, changes in APEC tariffs significantly influence the direction of economic openness policies.

Interpretatively, the lower the APEC tariffs implemented, the higher the level of Indonesia's economic integration with APEC partner countries. However, this also carries the risk of reduced state control in protecting national strategic industries. Therefore, tariff policies need to be balanced with strategies to strengthen domestic industries so that liberalization does not compromise national economic independence.

4.1.2. Foreign Direct Investment (FDI) Inflow (USD Billion): Indicator of Economic Integration

Foreign Direct Investment (FDI) refers to the amount of foreign direct investment entering a country, reflecting the level of trust and attractiveness of the domestic market to global investors. FDI is an important indicator in assessing a country's openness and economic integration to international capital flows.

In Indonesia, the FDI trend shows a significant increase from USD 4.1 billion in 2000 to USD 24.7 billion in 2024. This surge indicates that Indonesia is increasingly viewed as a promising investment destination, driven by its large market potential, macroeconomic stability, and policy reforms that support the business climate.

However, behind this growth figure, there are dynamics that require critical examination. The dominance of foreign investors in strategic sectors such as energy, infrastructure, and technology can reduce national control over development direction and industrial policy. High dependence on foreign capital also risks creating external pressures on domestic policies, particularly in geopolitical or global economic instability.

Principal Component Analysis (PCA) analysis shows that the FDI indicator has a loading factor of 0.68 on the second principal component (PC2), indicating a dominant contribution to the economic integration dimension. This means that FDI plays a significant role in illustrating the extent to which a country is connected to the global economic system.

Interpretatively, high FDI values can drive economic growth through job creation, technology transfer, and increased productivity. However, this also carries the consequence of increased dependence on foreign investors and the potential for external policy intervention. Therefore, FDI management strategies need to be directed at maintaining a balance between economic benefits and national sovereignty.

4.1.3. Export-to-GDP Ratio (%): An Indicator of Economic Dependence

The export-to-Gross Domestic Product (GDP) ratio measures the contribution of exports to a country's total economic output. This indicator reflects the level of economic openness to international trade and a country's capacity to utilize global markets as a source of growth.

In Indonesia, the export-to-GDP ratio has increased significantly, from 32.5% in early 2000 to 41.3% in 2024. This increase indicates that the Indonesian economy is increasingly integrated with the global market and indicates increased efficiency in producing competitive goods and services in international markets. It also reflects success in promoting export-oriented sectors as drivers of economic growth.

However, an increasing export ratio also brings its own challenges. High dependence on external demand makes the national economy more vulnerable to global shocks, such as financial crises, commodity price fluctuations, or changes in partner countries' trade policies. In this context, dependence on external markets can reduce the government's flexibility and control in independently directing domestic economic policy.

Principal Component Analysis (PCA) results show that this indicator has a loading factor of 0.65 on the first principal component (PC1), indicating that the export ratio is a key component in describing a country's external dependence. Therefore, this indicator is highly relevant in assessing the extent to which the national economy is exposed to global dynamics.

Interpretatively, a high export ratio reflects the efficiency and competitiveness of national exports. However, on the other hand, it also indicates a potential loss of control over the direction of economic development, especially if the export structure is too concentrated on certain commodities or limited destination markets. Therefore, diversification of export products and markets is an important strategy for maintaining long-term national economic stability and independence.

4.1.4. Global Competitiveness Index (Scale 1–7): National Capacity Indicator

Competitiveness indicators reflect an assessment of a country's market efficiency, infrastructure quality, and innovation capacity. These three aspects are essential foundations for building a resilient economy that is responsive to global dynamics.

In Indonesia, the competitiveness score increased from 3.2 in 2000 to 4.5 in 2024. This jump indicates significant improvements in institutional and infrastructure aspects, including bureaucratic reform, physical development, and support for the innovation ecosystem. This improvement is a positive signal that Indonesia is beginning to strengthen its economic foundations to face the challenges of liberalization and global competition.

However, the increased score has not fully offset the pressures posed by trade liberalization and foreign investment flows. As markets become more open, national competitiveness must act as both a shield and a driving force so that Indonesia becomes not only a consumer market but also a competitive producer.

In the Principal Component Analysis (PCA), this indicator has a loading factor of 0.61 on the third principal component (PC3), indicating its role as a supporting component in economic resilience. This means that competitiveness is not only about efficiency, but also about a country's ability to survive and adapt to a constantly changing economic environment.

Interpretatively, high competitiveness strengthens Indonesia's bargaining position in international economic negotiations and increases investor confidence. However, for these benefits to be sustainable, they need to be balanced with flexible fiscal policies and adaptive industrial strategies. The synergy between policies and competitive capacity will determine how well Indonesia can maintain economic independence amidst globalization.

4.1.5. External Debt-to-GDP Ratio (%): An Indicator of Fiscal Sovereignty

The proportion of external debt to Gross Domestic Product (GDP) is an important indicator in assessing a country's level of dependence on external financing. This ratio reflects the national fiscal capacity to finance development without over-reliance on foreign funding sources.

In Indonesia, the external debt-to-GDP ratio showed a significant decline from 54.1% in 2000 to 38.9% in 2024. This decline indicates increasing fiscal independence, where the government is able to manage development financing more efficiently and sustainably. This condition also reflects improvements in debt management and increased national economic capacity.

However, despite the declining debt ratio, challenges remain. Global pressures such as fluctuations in international interest rates and exchange rates, as well as the need to finance strategic national projects, could again drive dependence on external debt. Therefore, monitoring financing sources and debt management strategies remains a priority in maintaining fiscal stability.

In the Principal Component Analysis (PCA), this indicator has a loading factor of 0.66 on the second principal component (PC2), indicating that the foreign debt ratio is a crucial component in describing a country's fiscal sovereignty. The lower this ratio, the greater the fiscal space available for independent and long-term development policies.

Interpretatively, a low foreign debt ratio provides the government with greater flexibility in designing fiscal policy without excessive external pressure. However, to maintain fiscal sustainability, a prudent financing strategy is required, including diversification of funding sources and strengthening domestic revenues, to prevent a re-escalation of dependence on foreign debt.

4.2 Analysis Results

4.2.1 PCA Principal Components

Principal Component Analysis (PCA) analysis of the five main variables yielded three principal components that explained 100% of the data variance.

Table 4.1 Principal Component Analysis (PCA) Results

Main Components	Dominant Variables	Eigenvalue	Variance (%)
PC1	APEC Tariffs, Export Ratio	2.41	48.2%
PC2	FDI, Foreign Debt/GDP	1.87	37.4%
PC3	Global Competitiveness	0.72	14.4%

Based on Table 4.1 above, PC1 represents trade liberalization and export dependence. PC2 indicates foreign capital flows and fiscal pressure. PC3 reflects institutional capacity and national competitiveness.
Total Variance Captured: 100% (with only three main components)
From the table above, it can be seen how APEC trade policies influence the national economic sovereignty of member countries. The PCA shows that tariff liberalization and increased FDI are two dominant factors driving economic integration, but also increase pressure on fiscal sovereignty and export dependence. Countries with high competitiveness and low debt ratios have a greater capacity to maintain economic sovereignty amidst APEC's globalization.
4.2.2 Country Distribution in Biplot
The PCA biplot depicts the relative positions of countries (Indonesia, Vietnam, and the United States) based on two principal components (PC1 and PC2), which explain 85.6% of the total variance in the data. These components reflect two main dimensions:

- PC1 (48.2%): The liberalization and export dependence dimension, dominated by the APEC Tariff and Export-to-GDP Ratio variables.
- PC2 (37.4%): The fiscal pressure and foreign capital dominance dimension, dominated by FDI and the External Debt-to-GDP Ratio.

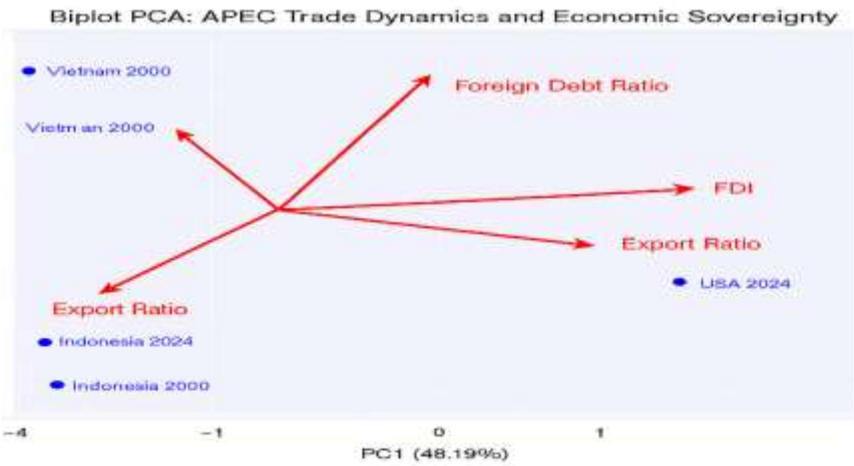

Figure 4.1 PCA Biplot Graph: APEC Trade Dynamics and Economic Sovereignty

Graph 4.1 is the result of a Principal Component Analysis (PCA) that maps the relationship between five key trade variables and national economic sovereignty and the position of APEC member countries, specifically Indonesia, Vietnam, and the United States, at two points in time: 2000 and 2024.
The principal components are PC1 (48.19%), representing the dimensions of trade liberalization and export dependence. PC2 (37.40%), representing the dimensions of fiscal pressure and foreign capital dominance. These two components explain 85.59% of the total variance in the data, sufficient to visually illustrate the structure of the relationships between variables and countries.
Judging from the direction and significance of the Variable Vector, APEC Tariffs trend diagonally to the upper left, indicating that countries with high tariffs (Vietnam and Indonesia in 2000) are located on this side, indicating continued strong trade protectionism. Next is FDI (Foreign Direct Investment) with a horizontal direction to the right, which means countries with high foreign investment flows (USA and Vietnam/Indonesia in 2024) are on this side, reflecting deep economic integration. Export Ratio (Export to GDP Ratio), diagonal direction to the bottom right, indicates countries with high export dependence (Indonesia and Vietnam in 2024) are on this side, indicating increasing economic openness. Foreign Debt Ratio (Foreign Debt to GDP Ratio), diagonal direction to the top right, indicates countries with high fiscal pressure (USA in 2024) are on this side, indicating dominant external financing. And finally Global Competitiveness, diagonal direction to the top right (adjacent to FDI and Debt Ratio), which means countries with high competitiveness (USA) are on this side, indicating strong institutional capacity and economic efficiency. Details are presented in the following table.

Table 4.2 Distribution of Countries in Biplot Position

Country & Year	Position in Biplot	Interpretation
Vietnam 2000	Top left	High tariffs, low FDI, moderate exports. Early integration.
Indonesia 2000	Bottom left	High tariffs, low exports, low FDI. High protectionism.
Vietnam 2024	Top left (closer to center)	Tariffs decline, FDI increases, exports are high. High integration.
Indonesia 2024	Bottom left (closer to center)	FDI and exports increase, but fiscal pressures remain.
USA 2000	Top right	High FDI, high competitiveness, moderate debt. Economic stability.
USA 2024	Top right (further from center)	Very high FDI, rising debt, competitiveness remains high. Global dominance.

Table 4.2 above shows that developing countries such as Indonesia and Vietnam are shifting from protectionism to economic integration, but with the consequence of increased export dependence and fiscal pressure. Meanwhile, the United States remains dominant with high competitiveness and large FDI flows, but faces an increasing external debt ratio. The direction of the vectors indicates that liberalization and foreign capital flows are the main drivers of APEC trade dynamics, while competitiveness and fiscal control are the determinants of national economic sovereignty.

4.2.3 PCA Results

Principal Component Analysis produced three main components.

Table 4.3 Principal Component Analysis Results

Main Components	Dominant Variables	Variance (%)	Interpretation
PC1	APEC Tariffs, Export Ratio	48.2%	Representation of liberalization and export dependence
PC2	FDI, Foreign Debt/GDP	37.4%	Representation of fiscal pressure and foreign capital dominance
PC3	Global Competitiveness	14.4%	Representation of institutional capacity and economic resilience

Table 4.3 above shows the PC3 component - Global Competitiveness (14.4%). This means that PC3 is the third component in the Principal Component Analysis (PCA). This component explains 14.4% of the total variance in the data, meaning that although its contribution is smaller than PC1 and PC2, PC3 still contains important information about the dimensions of national economic competitiveness. The dominant variable, the Global Competitiveness Index, is the main variable forming PC3.

This index covers aspects of market efficiency, institutional quality, innovation, infrastructure, and technological readiness.

Furthermore, based on the biplot visualization, countries like the United States (USA) occupy a dominant position in the direction of the PC3 vector, indicating high and stable competitiveness. Indonesia and Vietnam showed an increase in their competitiveness scores from 2000 to 2024, but still lag behind developed countries in terms of efficiency and innovation.

Developing countries like Indonesia and Vietnam need to strengthen their competitiveness through institutional reform, improving human resource quality, and investing in innovation. High competitiveness can act as a counterbalance to the pressures of liberalization and export dependence identified in PC1 and PC2. PC3 can be used as an indicator of a country's adaptive capacity to address global trade dynamics and maintain fiscal sovereignty.

5. DISCUSSION

5.1. Dynamics of Liberalization and Export Dependence (PC1 – 48.2%)

PCA results show that the first component (PC1) is dominated by the APEC Tariff and Export-to-GDP Ratio variables. Consistent tariff reductions in countries such as Indonesia and Vietnam demonstrate the success of trade liberalization within the APEC framework. However, the increasing export-to-GDP ratio also indicates increasing dependence on foreign markets.

This research aligns with expert opinion. According to Bhagwati (2004), trade liberalization can boost efficiency and growth, but without strong domestic policies, developing countries risk losing control over the direction of their industries. Dos Santos (1970), in his Dependency Theory, stated that semi-peripheral countries tend to become "dependent economies" due to trade and capital flows from developed countries.

Several previous studies, such as the study by the APEC Policy Support Unit (2018), show that countries with low tariffs and high exports tend to experience rapid economic growth but also face high external volatility.

Implications: High export dependence makes countries vulnerable to global fluctuations, such as commodity price crises or protectionist policies of trading partners. Indonesia and Vietnam need to strengthen export diversification and develop value-added industries to mitigate structural risks.

5.2. Foreign Capital Dominance and Fiscal Pressure (PC2 – 37.4%)

The second component (PC2) shows the dominance of the Foreign Direct Investment (FDI) and External Debt-to-GDP variables. The surge in FDI in Indonesia and Vietnam in 2024 reflects the attractiveness of the domestic market, but also increases foreign dominance in strategic sectors. On the other hand, high external debt ratios indicate pressure on national fiscal capacity.

Experts such as Rodrik (2011) in his book Economic Sovereignty emphasize that countries must have room to control fiscal and structural policies to avoid being trapped by external pressures. Furthermore, Helleiner (1994) stated that financial globalization can reduce the fiscal autonomy of developing countries, especially if they rely on external financing.

Previous studies, such as research by UNCTAD (2020), have shown that FDI not accompanied by technology transfer and strengthening local capacity actually weakens economic sovereignty. Consequently, countries need to filter FDI based on priority sectors and ensure national control over strategic assets. Foreign debt management should be directed toward productive and sustainable financing, rather than consumptive ones.

5.3. Institutional Capacity and Global Competitiveness (PC3 – 14.4%)

The third component (PC3) is dominated by the variable Global Competitiveness. Although its contribution to the total variance is smaller, competitiveness is a determinant of long-term economic resilience. The United States demonstrates high stability in competitiveness, while Indonesia and Vietnam have improved but still lag behind.

These research findings are also supported by expert opinion. Porter (1990) in his book Competitive Advantage of Nations emphasized that competitiveness is determined by innovation, market efficiency, and institutional quality. The World Economic Forum (WEF) states that high competitiveness strengthens a country's bargaining position in international trade forums.

A previous study by the Asian Development Bank (2022) showed that increased competitiveness in Southeast Asia is positively correlated with inclusive growth and reduced inequality. This implies that structural reforms, improving human resource quality, and investing in technology are key to strengthening national competitiveness. Furthermore, high competitiveness can act as a counterbalance to the pressures of liberalization and external dependence.

5.4 Novel Research Findings

5.4.1. Identification of Multidimensional Pressures on National Economic Sovereignty through PCA

This research successfully revealed that pressures on national economic sovereignty are not a single phenomenon, but rather multidimensional. Using the Principal Component Analysis (PCA) approach, three main components were identified: PC1 (Liberalization and Export Dependence), PC2 (Foreign Capital Dominance and Fiscal Pressure), and PC3 (Institutional Capacity and Global Competitiveness). PCA's novelty is its use as a quantitative tool to map and classify structural pressures on economic sovereignty, which have previously only been analyzed descriptively or normatively in policy studies.

5.4.2. Biplot Visualization as a Tool for Classifying Countries Based on Economic Vulnerability

Through the PCA biplot, APEC member countries such as Indonesia, Vietnam, and the United States can be classified based on the direction of the variable vector and their relative position relative to the principal components. This visualization demonstrates Indonesia and Vietnam's shift from protectionism to high integration (2000–2024). The stability of the United States' competitiveness, but with increasing fiscal pressures. Novelty: Biplot is used as a visual tool to identify patterns of vulnerability and adaptive capacity of countries in the face of APEC trade liberalization.

5.4.3. Synthesis of Dependency Theory, Economic Sovereignty, and Global Competitiveness in a Quantitative Framework

This study integrates three major theories: Dependency Theory (Dos Santos, 1970), Economic Sovereignty (Rodrik, 2011), and the Global Competitiveness Framework (WEF). These three theories are synthesized within a PCA framework to explain how trade liberalization, foreign capital flows, and competitiveness interact to shape the structure of national economic sovereignty. Novelty: The synthesis of these theories is not only used as a conceptual foundation but also operationalized in a statistical model that produces data-based classifications and interpretations.

5.4.4. Findings on Structural Dependence Patterns in Developing Countries in the APEC Forum

Indonesia and Vietnam demonstrate a consistent pattern of tariff reductions and increased FDI, a surge in the export-to-GDP ratio, and increased competitiveness, but this is not enough to offset fiscal pressures. This research, novel in nature, shows that developing countries in APEC tend to experience structural dependency, where liberalization is not always accompanied by increased fiscal sovereignty and industrial control.

5.4.5. PCA-Based Strategic Recommendations for Trade and Fiscal Policy Reform

The PCA findings are used to formulate precise policy recommendations, including selective protection of strategic sectors, export diversification and strengthening value-added industries, sovereignty-based management of FDI and external debt, and institutional reforms to enhance competitiveness. Novelty: The policy recommendations are not general in nature, but are based on PCA classifications that consider the position and direction of pressures in each country.

6. CONCLUSION AND RECOMMENDATIONS

6.1. Conclusion

This study concludes that trade liberalization within the APEC framework has created complex economic dynamics for its member countries, particularly developing countries like Indonesia and Vietnam. Using the Principal Component Analysis (PCA) approach, the following main components were identified that explain pressures on national economic sovereignty:

1. Liberalization and Export Dependence Component (PC1 – 48.2%)
   a) The consistent reduction in APEC tariffs from 2000 to 2024 indicates increased economic openness.
   b) However, the increasing export-to-GDP ratio indicates a high dependence on foreign markets, which can reduce the flexibility of domestic economic policy.
2. Foreign Capital Dominance and Fiscal Pressure Component (PC2 – 37.4%)
   a) The surge in FDI reflects successful economic integration but also increases foreign dominance in strategic sectors.
   b) The persistently high ratio of foreign debt to GDP indicates pressures on fiscal sovereignty, particularly in financing long-term development.
3. Institutional Capacity and Competitiveness Component (PC3 – 14.4%)
   a) The increase in the global competitiveness score indicates institutional and infrastructure improvements.
   b) However, competitiveness has not fully offset the structural pressures of liberalization and external dependence.
4. Country Distribution in PCA Biplots
   a) Indonesia and Vietnam show a significant shift toward high economic integration, but with pressure vectors leading to weakening fiscal controls and strategic industries.
   b) The United States remains stable in competitiveness, but shows increasing fiscal pressure through an increase in its external debt ratio.
5. Novel Findings
   a) This study offers a quantitative PCA-based approach to identifying structural pressures on national economic sovereignty in the APEC context.
   b) Biplot visualization is used as a tool to classify countries based on economic vulnerability and trade policy direction.

5.2 Recommendations

Based on empirical findings and theoretical discussions, the following are strategic recommendations:

1. Sovereignty-Based Trade Policy Reformulation
   a) APEC member countries, particularly developing countries, need to balance economic openness and protection of strategic sectors.
   b) Selective tariff and non-tariff policies are needed to maintain national policy space.
2. Strengthening Fiscal Capacity and Debt Management
   - The government needs to strengthen fiscal capacity through diversification of revenue sources and spending efficiency.
   - Foreign debt management must be directed towards productive and sustainable financing, taking into account long-term risks to fiscal sovereignty.
3. Optimizing FDI with Technology Transfer and National Control
   - FDI should be directed to sectors that support long-term development, with the condition of technology transfer and strengthening local capacity.
   - Regulations are needed to ensure that foreign investment does not erode national control over strategic sectors.
4. Increasing Domestic Competitiveness as a Counterbalance to Globalization
   - Structural reform, improving human resource quality, and strengthening innovation are key to increasing national competitiveness.
   - High competitiveness will strengthen a country's bargaining position in international trade forums and reduce dependency.
5. Utilizing PCA as a Tool for Evaluation and Mapping Economic Risk
   - Governments and research institutions can use PCA to map structural pressures on economic sovereignty and classify countries based on their level of vulnerability.
   - This is crucial to support the formulation of evidence-based policies that are responsive to global dynamics.

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Letter of Paper Acceptance

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Dear **Nadia Christy,**

I would like to confirm that your paper entitled ***"The Influence of Financial Literacy, Business Capital, and Time Management on MSME Performance"*** *co-authored by* **Miar and Wiwin Zakiah** has been blind reviewed and accepted for publishing in the Jurnal Ilmiah Akuntansi Kesatuan (JIAKES) (e-ISSN: 2721-169X; p-ISSN: 2337-7860) in 2026.

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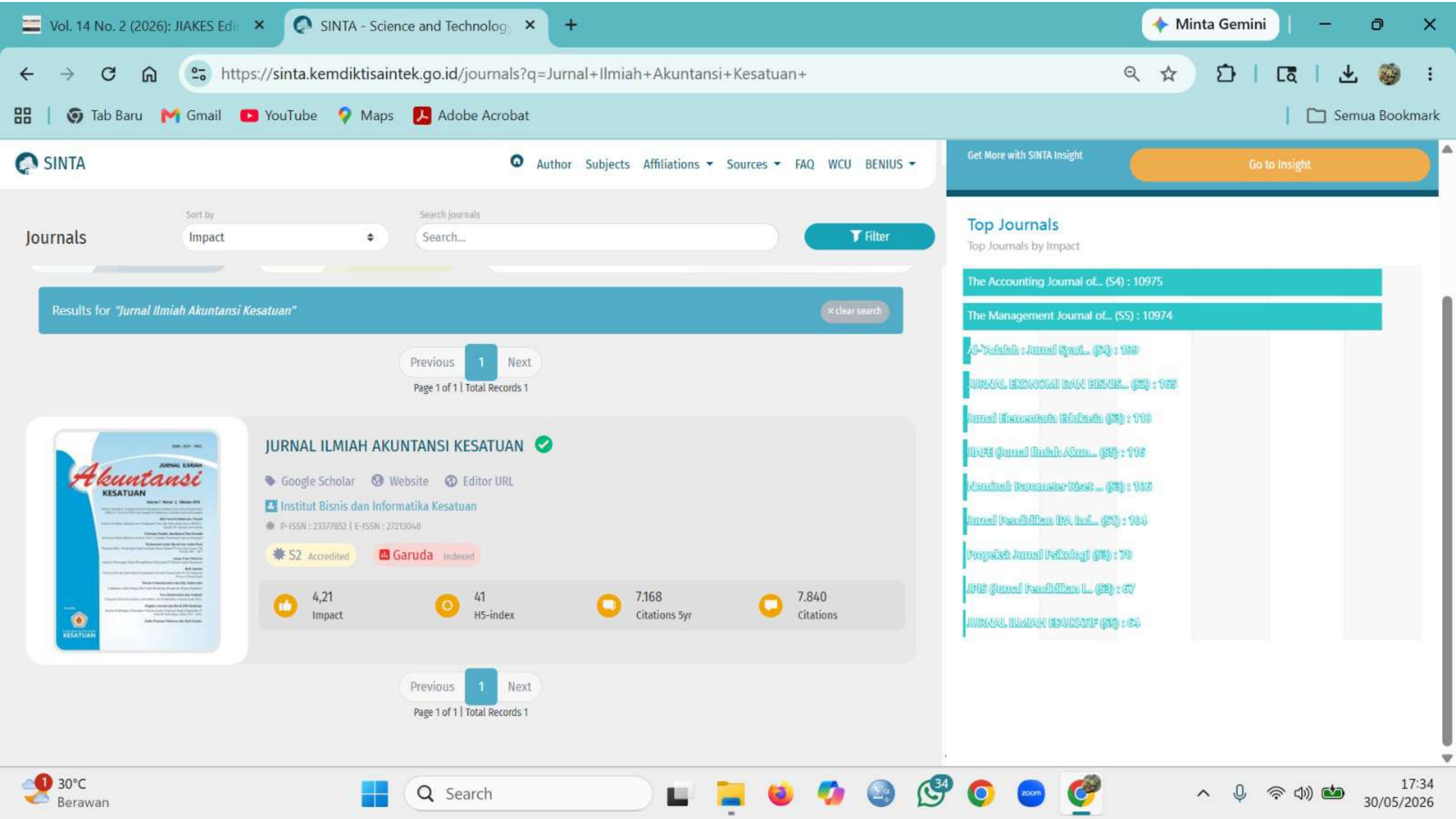
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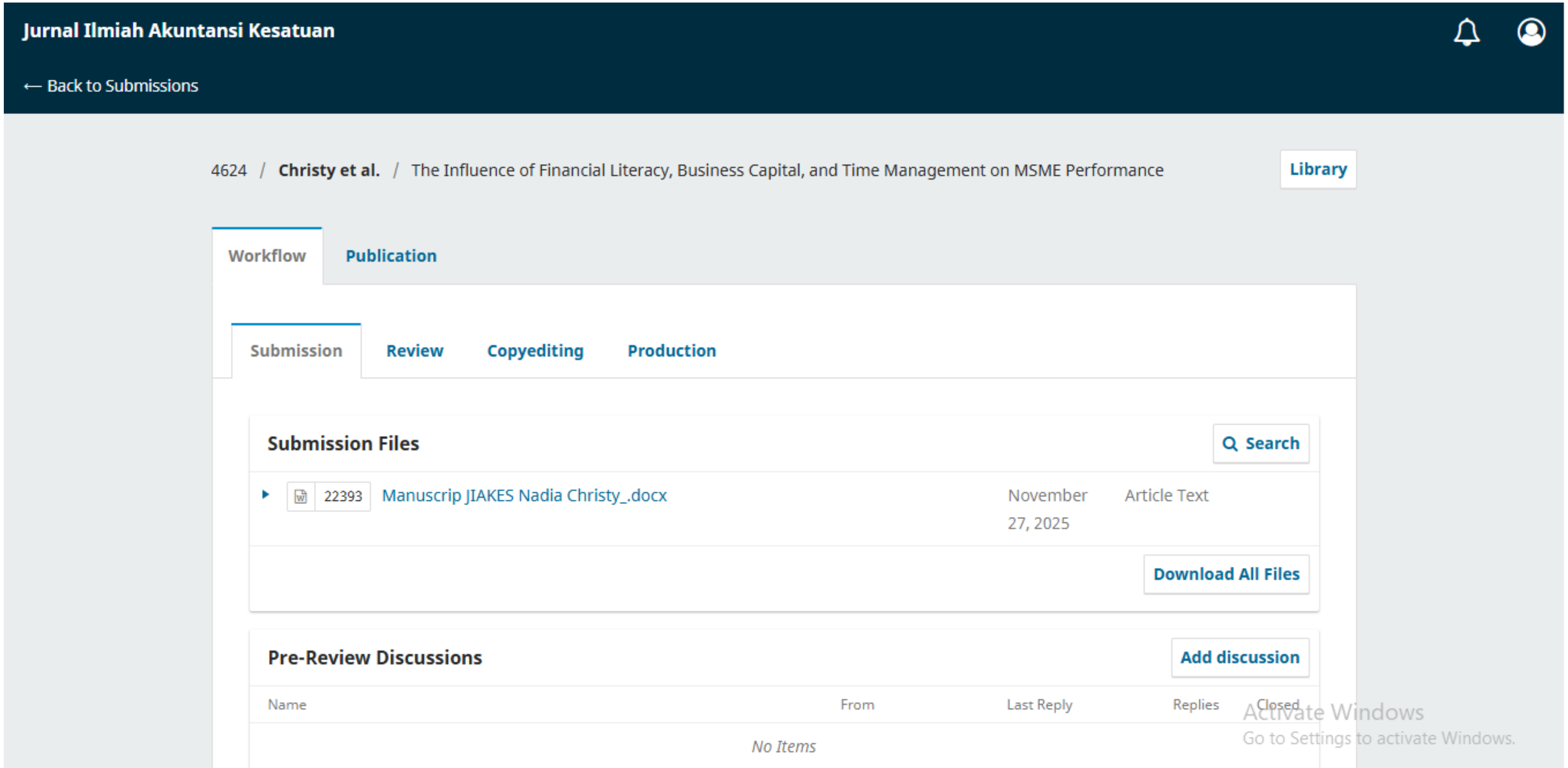
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Notifications

[JIAKES] Editor Decision	2026-04-01 07:15 AM
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Round 1 | Round 2 | Round 3

Round 2 Status

New reviews have been submitted and are being considered by the editor.

Notifications

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Round 3 Status

Submission accepted.

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[JIAKES] Editor Decision	2026-04-01 07:15 AM
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We have reached a decision regarding your submission to Jurnal Ilmiah Akuntansi Kesatuan, "Analysis of the Influence of Financial Literacy, Business Capital, and Time Management on MSME Performance in Palangka Raya City".

Our decision is: Revisions Required

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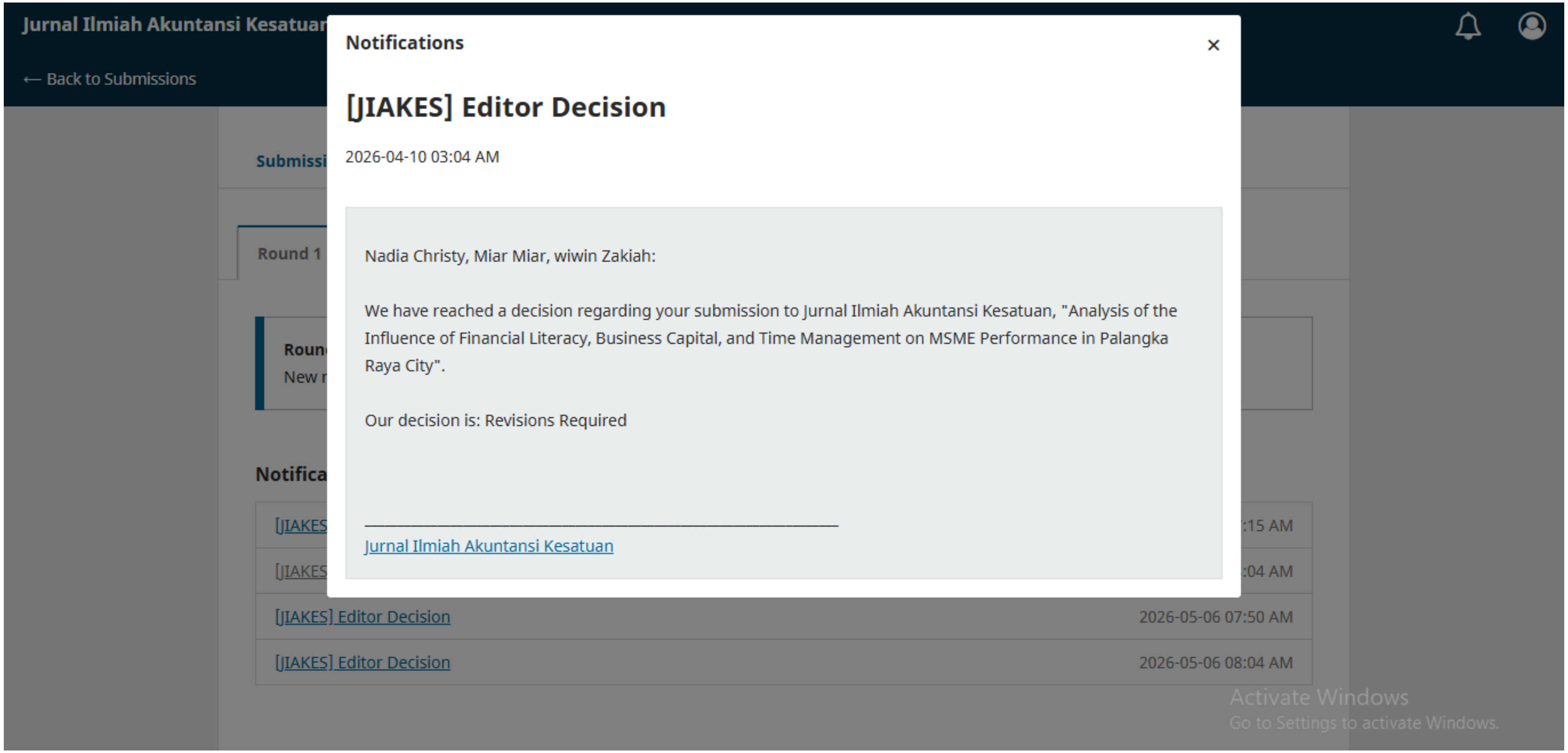
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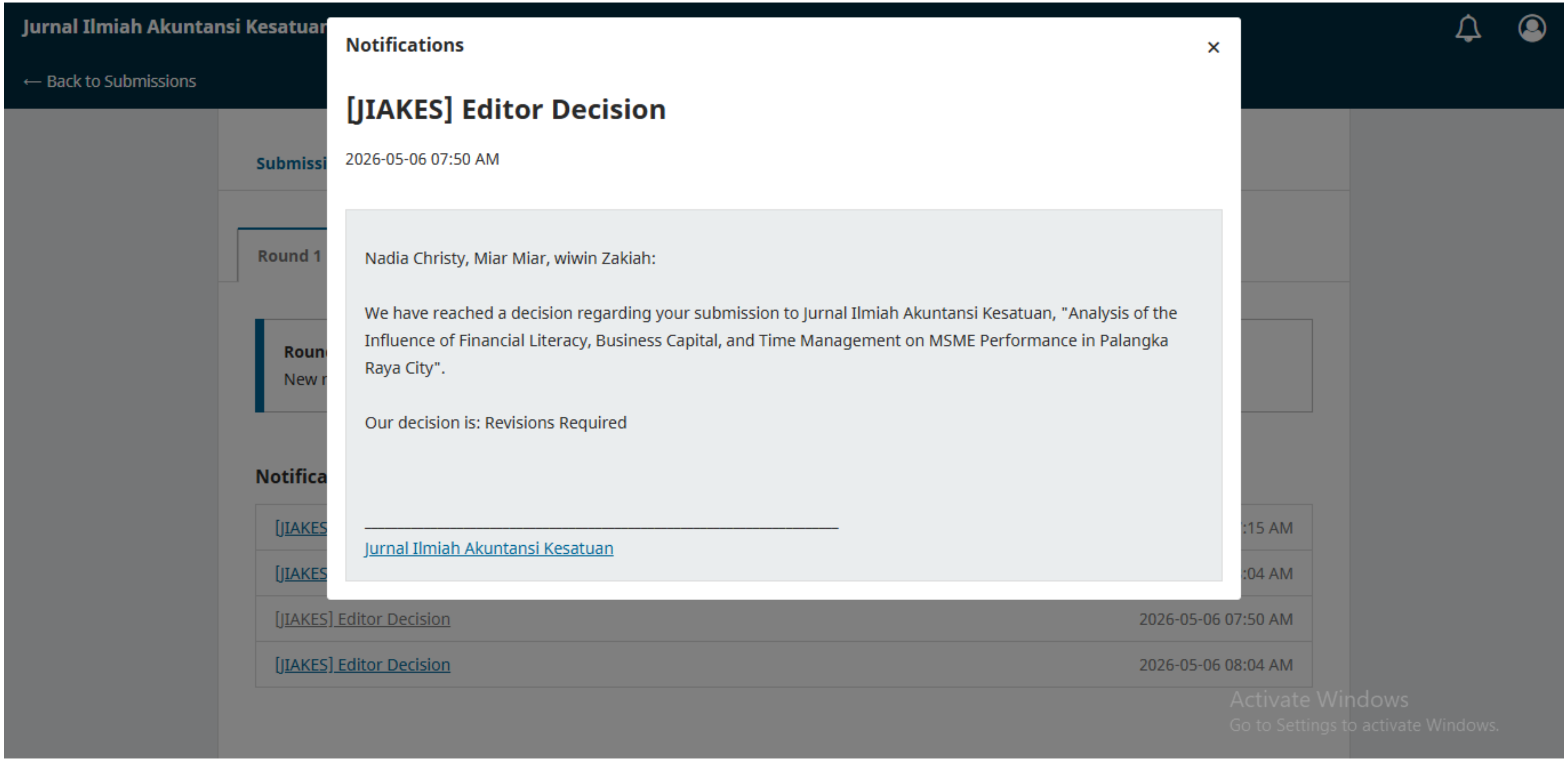

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Our decision is: Revisions Required
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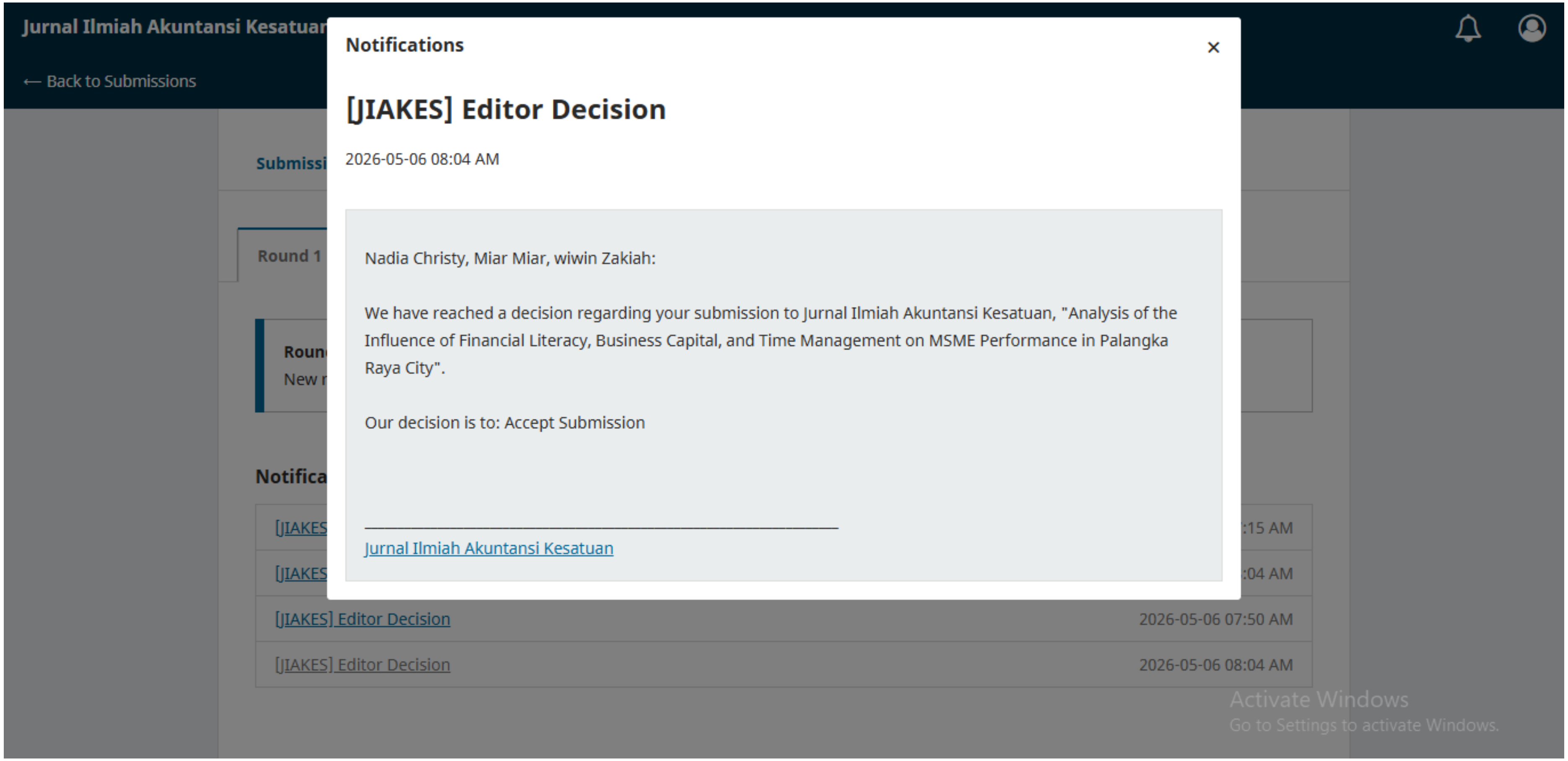

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[JIAKES] Editor Decision
2026-05-06 08:04 AM
Nadia Christy, Miar Miar, wiwin Zakiah:
We have reached a decision regarding your submission to Jurnal Ilmiah Akuntansi Kesatuan, "Analysis of the Influence of Financial Literacy, Business Capital, and Time Management on MSME Performance in Palangka Raya City".
Our decision is to: Accept Submission
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