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The Effect of Budget Management Efficiency and Tax Administration Digitalization on Tax Potential Mobilization Performance: The Mediating Role of Cost of Tax Collection

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Abstract: Tax revenue plays a vital role in supporting sustainable national development, making tax administration performance a strategic priority. This study examines the effects of Budget Management Efficiency and Tax Administration Digitalization on Tax Potential Mobilization Performance through the mediating role of Cost of Tax Collection. A quantitative approach was employed using secondary time-series data from the Directorate General of Taxes covering the period 2015–2025. Data were analyzed using multiple regression analysis, path analysis, and Sobel Test with EViews 13. The results indicate that Budget Management Efficiency and Tax Administration Digitalization do not directly affect Tax Potential Mobilization Performance. Cost of Tax Collection has a negative and significant effect on Tax Potential Mobilization Performance. Budget Management Efficiency significantly reduces Cost of Tax Collection, whereas Tax Administration Digitalization does not significantly affect it. Furthermore, Cost of Tax Collection significantly mediates the relationship between Budget Management Efficiency and Tax Potential Mobilization Performance but does not mediate the relationship between Tax Administration Digitalization and Tax Potential Mobilization Performance. The study concludes that Cost of Tax Collection serves as the primary mechanism linking organizational efficiency and tax revenue mobilization performance.

Keyword: Budget Management Efficiency, Tax Administration Digitalization, Cost of Tax Collection, Tax Potential Mobilization Performance, Tax Administration.

INTRODUCTION

Tax revenue constitutes the largest source of government revenue in Indonesia and serves as a fundamental instrument for financing public expenditure, economic development, and fiscal sustainability. Consequently, improving tax administration performance remains a strategic priority for the Directorate General of Taxes (DGT).

To enhance institutional performance, the DGT has implemented a series of reforms focused on organizational efficiency and digital transformation. These initiatives include budget optimization programs, modernization of administrative procedures, information technology development, and implementation of the Core Tax Administration System

(Coretax). Such reforms are expected to improve operational effectiveness, reduce administrative inefficiencies, and strengthen tax revenue mobilization.

The growing emphasis on efficient resource utilization is consistent with Resource-Based Theory (Barney, 1991), which argues that organizations achieve superior performance through effective deployment of strategic resources. Similarly, Dynamic Capabilities Theory emphasizes the importance of transforming organizational resources into operational capabilities capable of generating sustainable organizational outcomes (Teece, 2018).

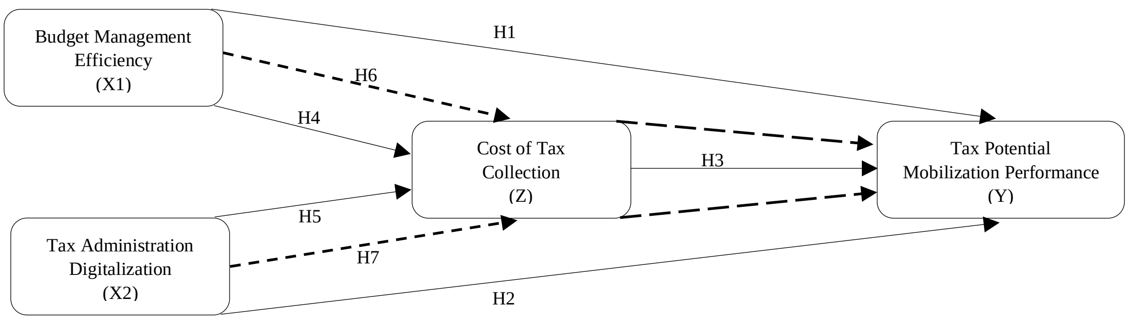
The ongoing implementation of Coretax represents one of the most comprehensive tax administration modernization initiatives in Indonesia and provides an important context for examining the effectiveness of organizational efficiency and digital transformation in supporting tax administration performance.

Despite substantial investment in budget efficiency and digitalization, empirical findings remain mixed. Some studies report significant positive effects of organizational efficiency and digital transformation on performance outcomes, whereas others report insignificant relationships. These inconsistencies indicate that organizational resources may influence performance through intermediate operational mechanisms rather than through direct effects alone.

Cost of Tax Collection represents one of the most important indicators of administrative efficiency because it reflects the resources required to mobilize tax revenue. Lower collection costs indicate greater efficiency in transforming organizational resources into revenue outcomes. Consequently, Cost of Tax Collection may serve as the operational pathway through which organizational resources influence Tax Potential Mobilization Performance.

Although previous studies have examined tax administration modernization, budget management, digitalization, and tax performance, limited empirical evidence explains the mediating role of Cost of Tax Collection, particularly within Indonesia's tax administration transformation context. Therefore, this study investigates whether Cost of Tax Collection functions as the key mechanism linking Budget Management Efficiency and Tax Administration Digitalization to Tax Potential Mobilization Performance.

The novelty of this study lies in demonstrating that Cost of Tax Collection functions not merely as an administrative efficiency indicator but also as the primary operational mechanism through which organizational resources are translated into tax revenue mobilization outcomes.



Source:Developed by the Author (2026).
Figure 1. Research Framework

H1: Budget Management Efficiency → Tax Potential Mobilization Performance
H2: Tax Administration Digitalization → Tax Potential Mobilization Performance
H3: Cost of Tax Collection → Tax Potential Mobilization Performance
H4: Budget Management Efficiency → Cost of Tax Collection
H5: Tax Administration Digitalization → Cost of Tax Collection

H6: Budget Management Efficiency → Cost of Tax Collection →Tax Potential Mobilization Performance (Mediation)
H7: Tax Administration Digitalization → Cost of Tax Collection →Tax Potential Mobilization Performance (Mediation).

METHOD

This study employed a quantitative explanatory research design using secondary time-series data covering the period 2015–2025. Data were obtained from official reports of the Directorate General of Taxes, government financial statements, and state budget publications.

The study consists of two independent variables, namely Budget Management Efficiency (X1) and Tax Administration Digitalization (X2), one mediating variable, namely Cost of Tax Collection (Z), and one dependent variable, namely Tax Potential Mobilization Performance (Y).

Table 1. Operational Definition of Variables

Variable	Symbol	Measurement
Budget Management Efficiency	X1	Budget Realization ÷ Budget Allocation
Tax Administration Digitalization	X2	IT Expenditure Realization ÷ Budgeted IT Expenditure
Cost of Tax Collection	Z	Collection Cost Ratio
Tax Potential Mobilization Performance	Y	Natural Logarithm of Tax Revenue Realization

Source: Developed by the Author (2026).

Tax Potential Mobilization Performance was proxied by the natural logarithm of tax revenue realization because realized tax revenue reflects the effectiveness of tax authorities in converting available tax potential into actual fiscal revenue.

Data were analyzed using descriptive statistics, multiple regression analysis, path analysis, and Sobel Test using EViews 13.

Model 1: $Z=\alpha+\beta 1X1+\beta 2X2+e$

Model 2: $Y=\alpha+\beta 1X1+\beta 2X2+\beta 3Z+e$

RESULTS AND DISCUSSION

Profile of Research Variables

Table 2. Descriptive Statistics

Variable	Mean	Std. Dev
Budget Management Efficiency	0.9197	0.0568
Tax Administration Digitalization	1.7320	0.8322
Cost of Tax Collection	0.0053	0.0008
Tax Potential Mobilization Performance	34.8709	0.2426

Source: Processed research data (2026).

Budget Management Efficiency and Cost of Tax Collection

The first structural model examines the effect of Budget Management Efficiency on Cost of Tax Collection.

$$Z=0.018557-0.014076X1-0.000350X2+e$$

The results indicate that Budget Management Efficiency negatively and significantly affects Cost of Tax Collection (β = -0.014076; p = 0.0296). This finding suggests that improved budget management contributes to lower collection costs and greater administrative efficiency. Efficient utilization of organizational resources allows tax authorities to perform revenue collection activities more effectively while minimizing administrative expenditures.

Tax Administration Digitalization and Cost of Tax Collection

Tax Administration Digitalization does not significantly affect Cost of Tax Collection (β = -0.000350; p = 0.1217). This finding suggests that investments in tax administration technology do not automatically generate efficiency gains in the short term. Digital transformation initiatives frequently require substantial implementation costs, organizational adaptation, business process redesign, and workforce readiness before measurable efficiency improvements can be realized.

The insignificant effect should not be interpreted as a failure of digital transformation initiatives. Instead, it may reflect the transitional phase of Coretax implementation, where many anticipated benefits have not yet been fully realized.

The coefficient of determination (R^2) for the first model is 0.2589, indicating that Budget Management Efficiency and Tax Administration Digitalization jointly explain approximately 25.89% of the variation in Cost of Tax Collection. The remaining 74.11% is explained by other factors outside the model.

Determinants of Tax Potential Mobilization Performance

The second structural model is estimated as follows:

$$Y=36.57625-0.810020X1-0.014320X2-188.2427Z+e$$

Table 3. Regression Results

Relationship	Coefficient	Sig.	Result
X1 → Z	-0.014076	0.0296	Significant
X2 → Z	-0.000350	0.1217	Not Significant
X1 → Y	-0.810020	0.2538	Not Significant
X2 → Y	-0.014320	0.6789	Not Significant
Z → Y	-188.2427	0.0001	Significant

Source: Processed research data (2026).

The results demonstrate that Cost of Tax Collection is the only variable that significantly influences Tax Potential Mobilization Performance. Budget Management Efficiency and Tax Administration Digitalization do not exhibit significant direct effects on Tax Potential Mobilization Performance.

The coefficient of determination (R^2) is 0.9182, indicating that Budget Management Efficiency, Tax Administration Digitalization, and Cost of Tax Collection jointly explain approximately 91.82% of the variation in Tax Potential Mobilization Performance. This result demonstrates a very high level of explanatory power.

Table 4. Hypothesis Testing Results

Hypothesis	Relationship	Decision
H1	X1 → Y	Rejected
H2	X2 → Y	Rejected
H3	Z → Y	Supported
H4	X1 → Z	Supported
H5	X2 → Z	Rejected
H6	X1 → Z → Y	Supported
H7	X2 → Z → Y	Rejected

Source: Processed research data (2026).

Cost of Tax Collection as the Key Mechanism

Table 5. Mediation Analysis Results

Indirect Relationship	Sobel Statistic	Result
X1 → Z → Y	2.51	Significant
X2 → Z → Y	1.69	Not Significant

Source: Processed research data (2026).

The mediation analysis represents the principal finding of this study. Cost of Tax Collection significantly mediates the relationship between Budget Management Efficiency and Tax Potential Mobilization Performance. Conversely, Cost of Tax Collection does not mediate the relationship between Tax Administration Digitalization and Tax Potential Mobilization Performance.

The findings suggest that organizational efficiency contributes to tax revenue mobilization primarily through collection efficiency improvements rather than through direct effects. This evidence supports Resource-Based Theory and Dynamic Capabilities Theory by demonstrating that organizational resources create value through transformation mechanisms represented by Cost of Tax Collection.

The insignificant effect of Tax Administration Digitalization should not be interpreted as a failure of modernization initiatives. Instead, the finding may reflect the transitional phase of Coretax implementation, where organizational adaptation, system integration, and workforce readiness require time before producing measurable performance improvements.

Theoretical Contribution

This study advances Resource-Based Theory and Dynamic Capabilities Theory by demonstrating that organizational resources do not directly improve Tax Potential Mobilization Performance. Instead, organizational resources generate performance improvements through operational efficiency mechanisms represented by Cost of Tax Collection.

Managerial Implications

The findings suggest that Cost of Tax Collection should be prioritized as a strategic performance indicator within the Directorate General of Taxes. Budget optimization initiatives should focus on reducing administrative collection costs, while digital transformation programs should be accompanied by organizational readiness, business process integration, and human resource development to maximize long-term benefits.

Limitations and Future Research

This study utilizes annual time-series data covering the period 2015–2025, resulting in a relatively limited number of observations. Future research may incorporate organizational digital maturity, taxpayer compliance, audit effectiveness, and Coretax implementation effectiveness to provide a broader explanation of tax administration performance.

CONCLUSION

This study demonstrates that Budget Management Efficiency and Tax Administration Digitalization do not directly influence Tax Potential Mobilization Performance. Nevertheless, Cost of Tax Collection emerges as the most influential factor in explaining tax administration performance.

The findings reveal that Budget Management Efficiency contributes to Tax Potential Mobilization Performance indirectly through Cost of Tax Collection, whereas Tax Administration Digitalization does not generate a significant indirect effect. Consequently, Cost of Tax Collection emerges as the primary mechanism linking organizational efficiency and tax revenue mobilization performance.

The findings indicate that organizational efficiency does not automatically generate superior tax administration performance. Instead, tax revenue mobilization improves when organizational resources are transformed into operational efficiency, as reflected by Cost of Tax Collection. Accordingly, Cost of Tax Collection should be viewed not merely as an efficiency indicator but also as a strategic mechanism through which organizational resources are converted into tax administration outcomes. These findings reinforce the importance of operational efficiency in supporting sustainable tax administration reform.

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