



# Budget Performance Analysis State Treasury Service Office In The Kalimantan Region: Data Envelopment Analysis Approach

Mohammad Arief Barata <sup>1</sup>; Roosemarina Anggraini Rambe <sup>2</sup>; M. Armelly <sup>3</sup>

<sup>1</sup>*Study Program of Master of Economics, Faculty of Economics and Business, University of Bengkulu, Indonesia*

<sup>2,3</sup>*Department of Economics, Faculty of Economics and Business, University of Bengkulu, Indonesia*  
Email: <sup>1</sup> [arief@gmail.com](mailto:arief@gmail.com)

## How to Cite :

Arief B, M., Anggaini R, R., Armelly, M. (2025). Budget Performance Analysis State Treasury Service Office In The Kalimantan Region: Data Envelopment Analysis Approach. EKOMBIS REVIEW: Jurnal Ilmiah Ekonomi Dan Bisnis, 13(4). DOI: <https://doi.org/10.37676/ekombis.v13i4>

## ARTICLE HISTORY

Received [13 September 2025]

Revised [25 October 2025]

Accepted [31 October 2025]

## KEYWORDS

Data Envelopment Analysis,  
Efficiency, KPPN.

*This is an open access article  
under the [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license*



## ABSTRACT

This study aims to analyze the budget performance efficiency of 21 State Treasury Service Offices (KPPN) in the Kalimantan Region for the 2023-2024 period using the Data Envelopment Analysis (DEA) method with the Variable Returns to Scale (VRS) approach. Input variables include operational expenditures, the number of technical employees, and supporting employees, while output variables include the percentage of SPM processed into SP2D, the IKPA value of BUN Authorization, the timeliness of TKD document submission, and the number of HAI-CSO services. The results show that not all KPPNs achieve full efficiency, with the input-oriented approach indicating potential resource savings, while the output-oriented approach emphasizes improving service quality. KPPNs in Pangkalan Bun, Pelaihari, Palangkaraya, and Tanjung Redep are consistently efficient across both approaches. These findings underscore the importance of proportional human resource redistribution, operational budget optimization, and strengthening performance-based monitoring systems to improve the efficiency of treasury services in Kalimantan.

## INTRODUCTION

The role of the State Treasury Service Office (KPPN) as a vertical agency of the Directorate General of Treasury (DJPb) has undergone a significant transformation in the era of bureaucratic reform and strengthening of state financial governance. The transformation of the KPPN's role from an administrative function to a Regional one. KPPN not only carries out the function of treasurer who carries out administrative tasks of disbursing APBN funds and distributing Transfer Funds to Regions (TKD) quickly, precisely and accurately but also as a Regional Chief Economist who is able to analyze state and regional finances, as well as a Financial Advisor who provides guidance and assistance to APBN and Regional Government management work units

so that they can manage finances effectively, efficiently and accountably. As the national capital is moved to the Indonesian capital city on the island of Kalimantan, as stipulated in Law Number 3 of 2022 concerning the National Capital, the management of state and regional finances requires greater attention. Kalimantan, a region with seemingly stable performance, is actually showing signs of stagnation. The hope is that Kalimantan will not only serve as the physical center of government but also become a concrete example of bureaucratic and national budget efficiency. Chief Economists and Financial Advisors are demanding more comprehensive and objective performance evaluations.

The Kalimantan region exhibits a paradoxical phenomenon: despite having high initial performance scores, this region has experienced stagnation and even a decline in performance compared to other regions. Data shows that the Budget Execution Performance Indicator (IKPA) for the Kalimantan Regional BUN Authority decreased from 95.03 in 2023 to 95.02 in 2024, while the other four regions experienced significant improvements, such as Java-Bali, which increased by 0.88 points, and Nusa Tenggara, Maluku, and Papua, which increased by 0.76 points. This decline, while seemingly small, raises early indications of inefficiency, program stagnation, or structural issues in budget execution that require further investigation. This situation has implications for performance differences among KPPNs in the Kalimantan region, both in terms of fund distribution efficiency, financial reporting, and budget implementation assistance. Furthermore, data from the Kalimantan Regional Budget (APBD) for the 2023-2025 period shows significant fluctuations in budget realization.

In 2023, regional revenue realization reached 110.8% of the target, but declined sharply in 2024 and fell short of the target in 2025, indicating variations in the effectiveness of budget execution between years that require systematic evaluation. This study aims to identify and analyze the efficiency level of State Treasury Service Offices (KPPN) in the Kalimantan Region in utilizing resources to produce optimal treasurer and financial advisor service outputs. Using the Data Envelopment Analysis (DEA) approach, this study measures the relative efficiency between KPPNs through two orientations: input-oriented, which focuses on minimizing resource use, and output-oriented, which emphasizes maximizing service results. Performance evaluation methods that have previously focused on quantitative aspects or administrative achievements have not been able to provide a comprehensive picture of the relative efficiency of budget use. The DEA approach was chosen because of its ability to measure relative efficiency by considering multiple inputs and multiple outputs simultaneously. In the context of this study, the inputs analyzed include the operational budget, the number of technical unit human resources, and the number of supporting unit human resources, while the outputs measured include the percentage of Payment Orders (SPM) approved to become Fund Disbursement Approval Letters (SP2D), the IKPA value, the accuracy value of the required documents for Physical DAK and Village Fund distribution, and the number of users of the HAI CSO online consultation service. This approach allows researchers to identify units that are efficient and inefficient in utilizing inputs to produce outputs, and provides information on the magnitude of inefficiency and potential for improvement.

This research provides a practical contribution by providing accurate and objective information for the Directorate General of Treasury in evaluating the efficiency of the implementation of treasurer and financial advisor functions. The research results serve as the basis for formulating policies for fostering and increasing institutional capacity for inefficient KPPNs through budget optimization, improving human resource quality, and replicating best practices from efficient KPPNs. For KPPN leaders, this research provides an overview of the performance position of their work units as a reference for improving sustainable services and strengthening a performance-based and data-driven work culture. Thus, this research is expected to encourage the strengthening of a performance-based and data-driven organizational work culture within the KPPN and the Directorate General of Taxes in general,

particularly in welcoming the strategic role of Kalimantan as the nation's capital city, which requires effective, efficient, and accountable management of state and regional finances.

## LITERATURE REVIEW

Budget performance is a description of how accurately the budget has been planned and used to achieve the specified results. Anthony and Govindarajan (2005) state that a budget is a detailed financial plan, usually in the short term (1 year), which is used as a guideline for implementing an organization's activities. Mardiasmo (2009) adds that a budget is a systematically prepared plan, covering all work unit activities, expressed in monetary units, and valid for a certain period in the future. Law Number 17 of 2003 concerning State Finance Article 15 paragraph (3) states that the work plan and budget of state ministries/institutions are prepared based on the work achievements to be achieved. The concept of performance-based budgeting emphasizes that budget allocation must be linked to the results (outputs and outcomes) achieved by government agencies. The Value for Money (VfM) principle according to the OECD (1995) covers three aspects: economy (producing inputs at the lowest cost), efficiency (optimizing the use of inputs to become outputs), and effectiveness (achieving the specified results or objectives).

Efficiency is understood as the optimal relationship between input (resources) and output (results), which aims to achieve maximum results with minimal resource use. Simon (1947) stated that efficiency in the context of public organizations means choosing alternatives that produce the greatest results with minimal resource use. Farrell (1957) stated that efficiency can be interpreted as the optimal ratio between input and output, where technical efficiency occurs when a unit cannot reduce input without reducing output. Mahmudi (2010) emphasized that efficiency is achieved when an organizational unit is able to produce a certain output with minimal input or maximize output from the same input. In the scope of state financial management, Mardiasmo (2009) defines budget efficiency as the comparison between input (resources or costs) and output (activity results) in the budgeting process. Vito Tanzi et al. (2007) stated that budget inefficiency in the context of the public sector will increase the costs required to obtain a public service. Institutional theory is an important approach that explains how rules, norms, and social values shape organizational behavior. Meyer and Rowan (1977) explained that public organizations often adopt formal structures not solely for efficiency reasons, but also to gain legitimacy from the external environment. Di Maggio and Powell (1983) introduced the concept of institutional isomorphism, namely the tendency of organizations to become similar due to environmental pressures that are regulative (rules and policies), normative (professional and ethical values), and mimetic (imitation of practices deemed successful). Scott (2001) refined this theory by emphasizing that institutions have three main pillars: the regulative pillar (formal rules and sanctions), the normative pillar (moral values and obligations), and the cognitive pillar (shared beliefs and ways of thinking within the organization). In the context of KPPN, efficiency is not only determined by compliance with formal procedures but is also influenced by the institutional strengths that support the organization, such as the consistency of regulatory application, the effectiveness of internal oversight, and the ability to adapt to treasury digitization. Previous studies using the DEA method generally focused on measuring the efficiency of local government spending. Andriani and Mahi (2015) measured the efficiency of local government spending from 2004 to 2013, finding an average efficiency value of 0.777 for regencies/cities in West Java and 0.828 for North Sumatra, categorized as relatively inefficient.

Saputra (2018) measured the efficiency of 21 Public Service Agency (BLU) universities, finding 10 efficient and 11 inefficient, with a range of 0.7862 to 1. Rambe (2020) found the average efficiency level of local governments in Indonesia was only 93.7% during 2015 to 2018, indicating an inefficiency of 6.3% in the use of four spending functions per capita. Wicaksana and Fatoni (2021) found that DKI Jakarta, West Java, Central Java, and Banten Provinces were

relatively efficient in optimizing tourism financing. Rambe et al. (2022) examined the efficiency of local government spending in Indonesia for the 2013-2018 period, finding that only Jakarta, Yogyakarta, and Banten were consistently efficient. Unlike these studies, which generally position local governments as the unit of analysis with input variables in the form of public budget allocations and output variables in the form of macro development achievements, this study selects KPPNs in the Kalimantan Region as the object of research with input variables of administrative and managerial nature (operational expenditures, technical labor, and supporting labor), as well as output variables representing treasury service performance indicators (percentage of SPM processed into SP2D, IKPA value of BUN Authorization, timeliness of TKD channel requirement documents, and number of HAI-CSO services), thus providing a new perspective on efficiency in terms of the quality of fiscal public services provided by KPPNs as an extension of the central government in the regions.

## METHODS

This research is a descriptive quantitative research using the Data Envelopment Analysis (DEA) method to analyze the relative efficiency of budget use by the State Treasury Service Office in the Kalimantan region in carrying out treasurer and financial advisor functions. This research uses input-oriented and output-oriented models with the Variable Returns to Scale (VRS) approach which states that proportional changes in input do not always result in proportional changes in output, assuming the efficient value is equal to 1. The research population includes all 21 KPPNs in the Kalimantan region consisting of Type A1 and Type A2 KPPNs spread across five provinces: West Kalimantan (6 KPPNs), Central Kalimantan (4 KPPNs), South Kalimantan (5 KPPNs), East Kalimantan (3 KPPNs), and North Kalimantan (3 KPPNs). The observation period of the research is the 2023 and 2024 fiscal years, with each KPPN analyzed as a DMU using three input variables, namely operational expenditure (in thousands of Rupiah), the number of technical unit employees (persons), and the number of supporting unit employees (persons). Meanwhile, the output measured includes four quantitative indicators, namely the percentage of SPM processed into SP2D, the IKPA value of BUN Authorization, the value of the timeliness of submission of documents required for distribution of Physical DAK and Village Funds, and the number of HAI-CSO services. Data collection was conducted through documentation study techniques utilizing secondary data from various official sources. Operational expenditure data was obtained from the Sintesa application of the Directorate of Budget Execution, personnel data of technical and supporting units from the Human Resources Section of the Secretary of the Directorate General of Treasury, data on the percentage of SPM processed into SP2D and the number of HAI-CSO services from the OMSPAN application of the Directorate of Treasury Information Systems and Technology, as well as data on the IKPA value of BUN Authorization and the value of the timeliness of submission of channeling requirement documents from the Official Note of the Director of Budget Execution. All data are quantitative numerical obtained by data retrieval from the DJPB integrated application and written data requests to the Head Office of the Directorate General of Treasury.

Data analysis was carried out systematically using the DEAP application with the following steps: compiling input and output data for 21 KPPNs in 2023 and 2024, calculating efficiency scores using input-oriented and output-oriented models, comparing and analyzing changes in scores for each DMU, analyzing peers of inefficient units, and compiling improvement recommendations based on four efficiency models. In the input-oriented model, DMUs are evaluated based on a score of  $\theta$  where  $\theta = 1$  indicates an efficient DMU and does not require input reduction, while  $\theta \neq 1$  indicates an inefficient DMU. Meanwhile, in the output-oriented model, DMUs are evaluated based on a score of  $\theta$  where  $\theta = 1$  indicates an efficient DMU and does not require additional output with the same input, while  $\theta \neq 1$  indicates an inefficient DMU.

## RESULTS

An efficiency analysis of 21 KPPNs in the Kalimantan region during the 2023-2024 period using the Data Envelopment Analysis (DEA) method revealed significant variations in efficiency levels across work units. Measurements were conducted using two approaches, input-oriented and output-oriented, to provide a comprehensive overview of each KPPN's budget performance.

**Table 1. Efficiency Score of Kalimantan Regional KPPN 2023-2024**

No	KPPN	Input Oriented			Output Oriented		
		2023	2024		2023	2024	
1	KPPN Pontianak	0.719	1	+0.281	0.995	1	+0.005
2	KPPN Singkawang	1	0.775	-0.225	1	0.998	-0.002
3	KPPN Sanggau	0.978	1	+0.022	1	1	-
4	KPPN Ketapang	1	1	-	1	1	-
5	KPPN Sintang	1	1	-	1	1	-
6	KPPN Putussibau	0.968	1	+0.032	0.998	1	+0.002
7	KPPN Palangkaraya	1	1	-	1	1	-
8	KPPN Buntok	0.799	0.81	+0.011	0.996	0.995	-0.001
9	KPPN Pangkalan Bun	0.954	1	+0.046	1	1	-
10	KPPN Sampit	1	1	-	1	1	-
11	KPPN Banjarmasin	0.424	0.679	+0.255	0.993	0.998	+0.005
12	KPPN Tanjung	1	0.869	-0.131	1	0.998	-0.002
13	KPPN Barabai	0.773	1	+0.227	0.997	1	+0.003
14	KPPN Pelayhari	1	1	-	1	1	-
15	KPPN Kotabaru	1	0.934	-0.066	1	0.994	-0.006
16	KPPN Samarinda	0.594	0.539	-0.055	0.998	0.995	-0.003
17	KPPN Balikpapan	1	0.522	-0.478	1	1	-
18	KPPN Tanjung redep	1	1	-	1	1	-
19	KPPN Tanjung Selor	0.585	0.928	+0.343	0.997	0.998	+0.001

20	KPPN Tarakan	1	1	-	1	1	-
21	KPPN Nunukan	1	1	-	1	1	-
	<b>Average</b>	<b>0.895</b>	<b>0.907</b>		<b>0.998</b>	<b>0.998</b>	

Source: Processed Data,

The analysis using an input-oriented approach shows that the average efficiency score increased from 0.895 in 2023 to 0.907 in 2024. This 1.2 percent increase indicates an improvement in resource utilization, although there is still significant optimization potential. In 2023, 12 KPPNs achieved full efficiency with a score of 1.000, and this number increased to 13 KPPNs in 2024. The KPPNs that have consistently been efficient for two consecutive years are Ketapang, Sintang, Palangkaraya, Sampit, Pelaihari, Tanjung Redep, Tarakan, and Nunukan. These units demonstrate good capabilities in managing inputs to produce optimal service outputs.

In contrast, four KPPNs (State Treasury Offices) consistently performed poorly throughout the study period: Buntok, Banjarmasin, Samarinda, and Tanjung Selor. The Banjarmasin KPPN recorded the lowest efficiency score in 2023, with a score of 0.424. Although this score improved to 0.679 in 2024, it still demonstrated significant inefficiency. Further analysis revealed that the Banjarmasin KPPN has the potential to save Rp 741.6 million in operational expenditures and can optimize the number of technical staff from 23 to 11 without reducing service output. Similar findings were also found at the Samarinda KPPN, which showed an opportunity to save Rp 1,261.8 million in operational expenditures by reducing its technical staff from 22 to approximately 12.

## DISCUSSION

The variation in efficiency levels among KPPNs in the Kalimantan Region revealed in this study provides empirical evidence that despite operating under identical regulatory frameworks and uniform standard operating procedures, the resulting budget performance varies. This phenomenon can be explained through the perspective of institutional theory, which emphasizes that organizational efficiency is determined not only by formal structures but also by normative and cognitive institutional factors that shape organizational behavior. From the regulatory pillar dimension, all KPPNs carry out their functions based on the same regulations established by the Directorate General of Treasury, including the implementation of the SPAN, OMSPAN, and SAKTI digital systems. However, the capacity to implement these regulations efficiently varies across units. The Palangkaraya and Pelaihari KPPNs, which consistently achieve full efficiency, demonstrate strong internal control structures and effective leadership in directing resource utilization. This is in line with the thinking of Meyer and Rowan (1977), who stated that organizations adopt formal structures not only for efficiency but also to gain legitimacy from the external environment. In contrast, the Samarinda and Tanjung Selor KPPNs showed significant slack movement in operational expenditure and employee allocation, indicating that although regulatory compliance was met, institutional capacity in managing resources was not optimal.

The normative pillar reveals differences in organizational culture and service values. The very high service volume of HAI-CSO KPPN Palangkaraya in 2023, reaching 5,493 services and increasing to 5,820 services in 2024, can be explained by a strong service culture that requires all financial advisory consultations to be channeled through a single official platform. This contrasts with several other KPPNs that still provide consultations through various informal channels such as WhatsApp, telephone, and in-person visits, reflecting differing interpretations

of service delivery norms. This finding supports DiMaggio and Powell's (1983) argument about institutional isomorphism, where organizations tend to adopt practices deemed legitimate by their environment, even if these practices do not always yield optimal efficiency.

From a cognitive perspective, adaptability to digital transformation varies significantly. Efficient KPPNs demonstrated better adaptation to systems such as SPAN, SAKTI, and OMSPAN, while inefficient units faced challenges in this transition. Geographical and social factors reinforced this cognitive dimension, as KPPNs in geographically challenging locations such as Buntok and Tanjung Selor faced structural and technological constraints that impacted performance. Limited network access, the distance between budget-using work units, and logistical factors slowed organizational responses to change, resulting in relatively lower efficiency despite the use of similar procedures.

The results of the input-oriented analysis reveal critical insights into the efficiency of resource allocation. The increase in the average efficiency score from 0.895 in 2023 to 0.907 in 2024 indicates gradual progress, but significant optimization potential remains. Four consistently inefficient KPPNs, namely Buntok, Banjarmasin, Samarinda, and Tanjung Selor, showed efficiency scores below 0.85, indicating an urgent need for structural and managerial improvements. The case of KPPN Banjarmasin, which recorded an efficiency score of 0.424 in 2023, is the most striking. Although it increased to 0.679 in 2024, or 25.5 percent, it remains well below the efficiency threshold. This finding aligns with Tanzi et al. (2007) who stated that budget inefficiency in the public sector context will increase the costs required to obtain public services.

A closer analysis of inefficient KPPNs reveals that inefficiency is not solely caused by excessive budget allocation, but also by an imbalance between input and output. The Samarinda KPPN, for example, has 22 technical staff but only achieved a BUN Authority IKPA score of 91.15 in 2024, far below the regional average of 95.02. This indicates that additional resources do not automatically result in proportional performance improvements but rather require proper management to ensure optimal productivity. A similar situation was also seen at the Balikpapan KPPN, which experienced a drastic decline from full efficiency to 0.522, primarily due to a significant increase in operational spending without a corresponding increase in output.

Benchmarking analysis provides valuable information on best practices that can be adopted by less efficient KPPNs. The Pelaihari, Palangkaraya, Pangkalan Bun, and Tanjung Redep KPPNs, which are consistently cited as benchmarks, share common characteristics such as a balance between resource allocation and workload, a robust performance-based monitoring system, and a results-oriented organizational culture. These units demonstrate that efficiency is not simply about minimizing input or maximizing output separately, but about achieving an optimal balance between the two. This finding supports Mahmudi's (2010) definition of efficiency, which states that efficiency is achieved when an organizational unit is able to produce a certain output with minimal input, or vice versa.

The output-oriented approach, which showed an average efficiency score of 0.998, indicates that most KPPNs have performed well in delivering services relative to their available resources. However, subtle variations revealed provide important insights into service quality. Although almost all KPPNs achieved a completion rate of SPM to SP2D above 98 percent, variations in the IKPA scores of BUN Authorizations and the timeliness of submission of TKD channeling requirement documents reveal differences in the quality of treasury and financial advisory functions. Significant slack movement in HAI-CSO service volume at several inefficient KPPNs, such as Singkawang, which requires an additional 247 services, and Buntok, which requires an additional 242 services, indicate that financial advisory capacity has not been optimally utilized.

These findings resonate with Schachter's (2007) broader conception of efficiency, which emphasizes that efficiency is not only about the input-output ratio, but also about incorporating accountability values into each output produced as a reflection of the quality of democratic

governance. Efficient KPPNs demonstrate not only resource optimization but also superior service responsiveness and better stakeholder engagement. This is evident in the consistently high IKPA Kuasa BUN score and the better timeliness of TKD document submission at efficient KPPNs compared to inefficient ones.

The Kalimantan regional context shows stagnant performance compared to the national average, with the BUN Authority's IKPA score of 95.03 in 2023 declining to 95.02 in 2024, making it the only region with negative growth, reflecting internal efficiency challenges that require strategic attention. While other regions show improvements ranging from 0.13 to 0.88 points, Kalimantan's decline, while minimal, still signals potential systemic issues requiring intervention. Geographic factors contribute to these challenges, with the vast territory, remote locations, and administrative fragmentation creating operational complexity that impacts consistency in service delivery. KPPNs serving large areas with limited infrastructure face higher coordination costs and communication barriers that impact efficiency despite optimal efforts.

The findings of this study have significant implications for the performance management policies of the Directorate General of the Treasury. First, identifying specific resource optimization opportunities with potential savings exceeding IDR 5 billion across inefficient Treasury Offices (KPPN) can serve as the basis for strategic reallocation to high-demand areas to improve overall regional efficiency. Second, inefficient KPPNs require capacity-building programs tailored to the specific needs of each unit, focusing on budget management, digital system utilization, and service delivery optimization. Peer learning programs that utilize best practices from efficient KPPNs can accelerate performance improvements. Third, this study validates DEA as an objective performance assessment tool that enables evidence-based policy formulation. Regular efficiency assessments can inform resource allocation decisions and more precisely identify intervention priorities. Fourth, strengthening digital infrastructure in remote areas and improving system integration can reduce operational inefficiencies, particularly for KPPNs facing geographical challenges.

This finding aligns with Reynilda and Renal's (2025) emphasis that increased efficiency in budget governance, particularly through the use of Activity-Based Costing and Performance-Based Budgeting, where a more systematic, data-driven budgeting framework for allocating resources aligns resources with organizational goals and helps ensure that each use of resources produces measurable outputs. This approach is particularly relevant to the context of KPPN (State Treasury Offices) in Kalimantan, which exhibit significant variations in efficiency.

## CONCLUSION

Based on the results of Data Envelopment Analysis (DEA) on the efficiency of 21 State Treasury Service Offices (KPPN) in the Kalimantan Region during the 2023-2024 period, this study found that the majority of KPPNs have achieved optimal efficiency levels in budget execution, although with variations between units and approaches. In 2023, 12 KPPNs achieved efficiency through an input-oriented approach and 14 KPPNs through an output-oriented approach, with 9 KPPNs being efficient in both approaches. Meanwhile, in 2024, there were 13 KPPNs efficient in an input-oriented manner and 14 KPPNs output-oriented, with 8 KPPNs achieving full efficiency in both orientations. KPPNs such as Palangkaraya, Pelaihari, Tanjung Redep, and Pangkalan Bun consistently demonstrated efficient performance and can be used as benchmarks for other units. However, several KPPNs, such as Buntok, Banjarmasin, Samarinda, and Tanjung Selor, show persistent inefficiencies, indicating the need to optimize resource utilization and strengthen the quality of treasury and financial advisory services through human resource redistribution, operational spending control, employee competency improvement, and digital service innovation.

This study has limitations in terms of variable selection, which does not include non-financial factors such as human resource competency, level of digitalization, organizational

culture, and the effectiveness of institutional coordination, which qualitatively influence performance efficiency but are difficult to quantify in the DEA model. Furthermore, the institutional aspects explained through the institutional theory approach are still interpretive because they are not measured numerically in the analysis. For future research, it is recommended to deepen the internal factors through a mixed-method approach that combines DEA with qualitative methods such as in-depth interviews and case studies to explore aspects of leadership, organizational culture, and governance. The DEA model should also be developed by adding variables such as the external environment, service complexity, and the level of digital technology adoption, as well as integrating advanced analysis such as Tobit Regression to identify efficiency determinants more comprehensively. Measuring service quality through internal and external user satisfaction surveys is also necessary so that efficiency analysis reflects not only quantitative productivity but also the quality of public services, which is the ultimate goal of state treasury reform.

## LIMITATION

Studythree input variables (operational expenditure, technical labor, and supporting labor) and four output variables (percentage of SPM processed into SP2D, IKPA value of BUN Authorization, timeliness of submission of TKD channel requirement documents, and number of HAI-CSO services). Although these variables represent the main aspects of budget execution performance, they do not include non-financial factors such as human resource competency, service quality, level of digitalization, or institutional coordination aspects that also influence the efficiency of KPPN performance. Although institutional theory is used, factors such as organizational culture, coordination effectiveness, and digital system adaptation have not been measured quantitatively in the DEA model, so the relationship between institutional aspects and efficiency is still interpretive.

## REFERENCES

- Andani, A. C., Prasetyo, A. S., & Nugroho, D. 2023. "Efficiency of Indonesia's Regional Development Banks: Evidence from a Non-Parametric Data Envelopment Analysis Method", *Jurnal Ekonomi Pembangunan*, Vol 21. No. 2. pp 135 -156.
- Andriani, Tety, Mahi, & Raksaka, B. 2015. "Efisiensi Belanja Pemerintah Daerah dan Dampaknya Terhadap Pertumbuhan Ekonomi Daerah Tahun 2004-2013", *Jurnal Kebijakan Ekonomi*, Vol 11. No. 1. pp 83 - 95.
- Anthony, R. N., & Govindarajan, V. 2005. *Management Control Systems*. New York: McGraw-Hill.
- Almitha, Scholastica Nadya dan Atmanti, Hastarini Dwi. 2022. "Analisis Efisiensi Teknis Penanganan Intervensi Stunting di Indonesia", *WELFARE*, Vol 3. No. 1. pp 39 - 50.
- Budiyanto, Irfan & Purnomo, Didit. 2025. "Efisiensi Kelembagaan BUMDES di Kabupaten Klaten dengan Pendekatan Data Envelopment Analysis (DEA)", *Costing: Journal of Economic, Business and Accounting*, Vol 8. No. 3. pp 2829 - 2848.
- Charnes, A., Cooper, W. W., & Rhodes, E. 1978. "Measuring the Efficiency of Decision Making Units", *European Journal of Operational Research*, Vol 2. No. 6. pp 429-444.
- DiMaggio, P. J., & Powell, W. W. 1983. "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields". *American Sociological Review*, Vol. 48 No.2. pp 147-160.
- Farrell, M. J. 1957. "The Measurement of Productive Efficiency", *Journal of the Royal Statistical Society*, Vol 120. No. 3. pp 253-281.

- Hartono, S., Rahman, A. F., & Tojibussabirin, M. 2023. "Determinants of Infrastructure Spending Efficiency in Indonesia: Data Envelopment Analysis (DEA) and Tobit Regression Approach", *Journal of World Science*, Vol 02. No. 08. pp 1248-1256.
- Israwan, F., Surarso, B., & Frikhin, F. 2016. "Implementasi Model CCR Data Envelopment Analysis (DEA) Pada Pengukuran Efisiensi Keuangan Daerah", *Jurnal Sistem Informasi Bisnis*, Vol 6. No. 01. pp 76-83.
- Kusumaningsih, R. P., Mulyadi, J., Sihite, M., & Djaddang, S. 2023. "Analisis Efisiensi Bank Pemerintah Indonesia Dengan Data Envelopment Analysis", *Jurnal Akunida*, Vol 9. No. 2. pp 137-150.
- Loupatty, L. G., Kriswantini, D., & Usmany, A. E. M. 2022. "Efektivitas Pemungutan Retribusi Pelayanan Persampahan/Kebersihan dan Kontribusinya Dalam Meningkatkan Pendapatan Asli Daerah Kota Ambon di Masa Pandemi Covid-19", *Jurnal Ilmiah Indonesia*, Vol 7. No. 5. pp 6705-6721.
- Mardiasmo. 2009. *Akuntansi Sektor Publik*. Yogyakarta: Andi Offset.
- Mahmudi. 2010. *Manajemen Kinerja Sektor Publik*. Yogyakarta: UPP STIM YKPN.
- Makhfudhah, Nurul Isnyni. 2025. "Efisiensi Pengeluaran Pemerintah Pada Sektor Pariwisata di Jawa Timur", *Jurnal Altasia*, Vol 7. No. 2. pp 199 – 212.
- Meyer, J. W., & Rowan, B. 1977. "Institutionalized Organizations: Formal Structure as Myth and Ceremony", *American Journal of Sociology*, Vol. 83 No.2. pp. 340–363.
- OECD. 1995. *Performance Budgeting for Government*. Paris: Organisation for Economic Co-operation and Development.
- Peraturan Direktur Jenderal Perbendaharaan Nomor Per-8/PB/2020 tentang Pedoman Penyelenggaraan Layanan Help, Answer, Improve Direktorat Jenderal Perbendaharaan. 2020. Jakarta: Direktorat Jenderal Perbendaharaan Negara.
- Peraturan Direktur Jenderal Perbendaharaan Nomor Per-5/PB/2024 tentang Petunjuk Teknis Penilaian Indikator Kinerja Pelaksanaan Anggaran Belanja Kementerian Negara/Lembaga. 2024. Jakarta: Direktorat Jenderal Perbendaharaan Negara.
- Peraturan Menteri Keuangan Republik Indonesia Nomor 262/PMK.01/2016 tentang Organisasi dan Tata Kerja Instansi Vertikal Direktorat Jenderal Perbendaharaan. 2016.
- Peraturan Menteri Keuangan Republik Indonesia Nomor 62 Tahun 2023 tentang Perencanaan Anggaran, Pelaksanaan Anggaran, serta Akuntansi dan Pelaporan Keuangan. 2023.
- Peraturan Menteri Pendayagunaan Aparatur Negara dan Reformasi Birokrasi Republik Indonesia Nomor 88 Tahun 2021 tentang Evaluasi Akuntabilitas Kinerja Instansi Pemerintah. 2021.
- Prasetyowati, Yohana Wahyu dan Haryanto, Tri. 2018. "Determinan Efisiensi Teknis Belanja Pemerintah Sektor Pendidikan dan Kesehatan Kabupaten/Kota di Provinsi Jawa Timur", *Assets: Jurnal Ilmiah Ilmu Akuntansi, Keuangan dan Pajak*, Vol 2. No. 2. pp 47-55.
- Putra, Z., Maulidasari, C. D., & Muzakir. 2019. "Analisis Kinerja Pemerintah Gampong Pasca Lahirnya Kebijakan Dana Desa : Pendekatan Dengan Data Envelopment Analysis (DEA)", *Jurnal Manajemen dan Keuangan*, Vol 8. No. 2. pp 151 – 162.
- Putri, Rahma D. P. dan Prasetyia, Ferry. 2023. "Efisiensi Relatif Belanja Sektor Publik Terhadap Kesejahteraan Masyarakat di Jawa Timur: Pendekatan Data Envelopment Analysis (DEA)", *Journal of Development Economic and Social Studies*, Vol 2. No. 2. pp 233 – 249.

- Putri, Y dan Kustiani, Nur Aisyah. 2016. "Analisis Efisiensi Belanja Daerah Urusan Kesehatan Dengan Metode Data Envelopment Analysis (Dea): Studi Pada Pemerintah Kabupaten/Kota Di Provinsi Banten", *Jurnal Informasi Keuangan dan Akuntansi*, Vol 4. Edisi Juli. pp 81 – 95.
- Putri, Sakinah Setyo dan Rambe, Roosemarina. 2023. "Efisiensi Belanja Pemerintah Daerah Dalam Menurunkan Tingkat Kemiskinan Saat Pandemi Covid-19 Di Provinsi Aceh", *Media Ekonomi*, Vol 31. No. 2. pp 207-218.
- Putra, Tomi Mandala dan Anitasari, Merri. 2019. "Efisiensi Pengeluaran Pemerintah Bidang Pendidikan di Indonesia (DEA)", *Convergence*, Vol 1. No.1. pp 1-8.
- Rahmawati, Ida dan Mushyaf, Saipul Arni. 2025. "Analisis Efisiensi Pengeluaran Anggaran Belanja Bidang Kesehatan dan Pendidikan Metode DEA 2021-2023", *Jurnal Ilmiah Global Education*, Vol 6. No. 2. pp 395 – 405.
- Rambe, Roosemarina A. 2020. "Inefisiensi Belanja Pemerintah Daerah di Indonesia: Pendekatan DEA dan Regresi Logit", *Indonesian Treasury Review*, Vol 5. No. 4. pp 311 – 324.
- Rambe, Roosemarina A., Alisjahbana, Armida S., Wibowo, K., & Muljarjadi, Bagdja. 2022. "Regional Split And Local Government Spending Efficiency in Indonesia", *Economics, Management and Sustainability*, Vol. 7 No. 2. pp 6 – 18.
- Reynilda, & Renal, M.. 2025. "Evaluation of Public Sector Financial Management and Costing System in Improving Performance Effectiveness", *Economics and Digital Business Review*, Vol. 6 No.1, pp 1015-1033.
- Rivai, Nur Ilmiah, Tahris, Jemi P., Muslim, B., & Fikri, Z. 2023. *Manajemen Pelayanan Publik: Efisiensi dan Responsivitas Birokrasi*. Jakarta: Literasi Nusantara Abadi Grup.
- Robin, C. Sickles & Valentin Zelenyuk. 2019. *Measurement of Productivity and Efficiency*. Australia: Cambridge University Press.
- Saputra, Rikki Okto. 2018. "Efisiensi Universitas Badan Layanan Umum dengan Metode DEA", *Indonesian Treasury Review*, Vol 3. No. 1. pp 35 – 42.
- Sari, Malinda & Ichsan. 2020. "Analysis Of General Allocation Fund Efficiency And Regional Original Income On The Financial Performance Of City Governments In Province Aceh", *Jurnal of Malikussaleh Public Unimal*, Vol 3. No. 1. pp 27 – 36.
- Schachter, H. L. 2007. "Does Frederick Taylor's ghost still haunt the halls of government? A look at the concept of government efficiency in our time", *Public Administration Review*, Vol 67. pp 800-810.
- Simon, H. A. 1947. *Administrative Behavior: A Study of Decision-Making Processes in Administrative Organization*. New York: Macmillan.
- Smith, Robert W., Sun, Jinping, & Lynch, Thomas D. 2017. *Public Budgeting in America (6<sup>th</sup>)*. New York : Melvin & Leigh.
- Subhash, C. Ray. 2004. *Data Envelopment Analysis : Theory and Techniques for Economics and Operations Research*. New York : Cambridge.
- Sujarweni, V. W. 2015. *Anggaran Publik*. Yogyakarta: Pustaka Baru Press.
- Syahriyal, S., & Abdullah, S. 2023. "Measuring the Level of Regional Government Financial Efficiency in Aceh", *International Journal of Current Science Research and Review*, Vol 6. No. 12. pp 7783 – 7790.
- Sylviana, Widya & Suyanto. 2024. "Efficiency of Local Government Expenditure in Health Sector", *Journal of Economics Research and Policy Studies*, Vol 4. No. 3. pp 418 - 445.

- Undang-Undang Republik Indonesia Nomor 1 Tahun 2022 tentang Hubungan Keuangan Antara Pemerintah Pusat dan Pemerintah Daerah. 2022.
- Vito, T., Antonio, A., Ludger, S., & Niels, V. 2007. "Public Sector Efficiency: An International Comparison", Fraser Alert.
- Wicaksana, Arif Kurnia dan Fatoni, Erma Ziamah. 2021. "Pengukuran Dan Benchmarking Efisiensi Pariwisata Di Pulau Jawa-Bali-Nusa Tenggara Menggunakan Data Envelopment Analysis Tahun 2023-2017", Jurnal Kepariwisata Indonesia, Vol 15. pp 86-102.
- Welsch, Hiltong, Glenn A., Gordon, Ronald W., & Purwatiningsih, Paul N. 2000. Anggaran:Perencanaan Dan Pengendalian Laba (Ed.1). Jakarta: Salemba Empat.
- Zalukhu, Arif Hardyman dan Widyawati, Diah. 2025. "Analisis Efisiensi Kantor Pajak Indonesia di Tingkat Provinsi", JMPIS:Jurnal Manajemen Pendidikan dan Ilmu Sosial, Vol 6. No. 3. pp 2474-2489.