

EFFECTIVE STRATEGIES FOR REGIONAL BUDGET OPTIMIZATION IN WEST NUSA TENGGARA

Rahmad Hidayat^{a,1,*}, **Moh. Khusaini**^{b,2}, **David Kaluge**^{c,3} **Nugroho Suryo Bintoro**^{d,4}

^aBrawijaya University, Malang, Indonesia and Muhammadiyah University, Malang, Indonesia

^{b,c,d}Brawijaya University, Malang, Indonesia

¹ rahmadhidayat@umm.ac.id*;

² khusaini@ub.ac.id;

³ davidk@ub.ac.id,

⁴ nugroho.s.@ub.ac.id

* corresponding author: rahmadhidayat@umm.ac.id

Abstract

This study aims to identify key challenges and develop effective strategies for optimizing regional budgeting in West Nusa Tenggara Province (NTB), Indonesia. The research is grounded in the importance of efficient and accountable public financial management in supporting sustainable development and enhancing community welfare. A mixed-methods approach was employed, utilizing primary data collected through questionnaires and interviews with 15 Regional Work Units (SKPD), as well as secondary data drawn from regional planning documents covering the 2018–2023 period. Analytical methods included Planning and Budgeting Consistency Matrix (MKPP), SWOT analysis, and the Quantitative Strategic Planning Matrix (QSPM).

Findings reveal that the overall quality of regional expenditure in NTB is rated as "good" across most indicators, except for timeliness, which remains a concern. Budget consistency across planning documents was high from 2018 to 2022 but declined significantly in 2023, possibly due to policy shifts or external factors. Persistent budget deficits and heavy reliance on central government transfers were identified as major challenges. The study recommends the adoption of information technology and data analytics to enhance transparency, accountability, and efficiency in regional financial management

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1. Introduction

Efficient and effective local budget management is one of the keys to success in achieving sustainable development and improved public welfare (Maharani et al., 2024). Success in local government budget management not only impacts on improving the quality of public services, but also contributes to the achievement of sustainable development goals (Anto & Yusran, 2023). However, in West Nusa Tenggara (NTB) Province, as in many other regions, there are often challenges in local budget management. These include a lack of transparency and accountability, mismatches between budget planning and realization, and limitations in monitoring and evaluating budget implementation (Charizah & Amrulloh, 2024)(Juliyanti and Winarna, 2021).

In recent years, the NTB Provincial Government has attempted to improve the quality of budget management through various initiatives and programs (Adiputra et al., 2018). Nevertheless, there are still a number of problems that need to be addressed so that local budgets can be better optimized. One approach is to implement effective strategies supported by technology and policy innovation, so that budget management can be more transparent, accountable, and efficient (Afryansyah, 2013).

According to 2022 budget realization data, there is a 15% mismatch between planned and realized budgets in NTB Province, which has an impact on delays in infrastructure development and public services (Ningsih, 2018). In addition, local budget management in NTB must refer to national regulations such as Law No. 23/2014 on Local Government and

Minister of Home Affairs Regulation No. 13/2020 on Local Financial Management Guidelines, which emphasize transparency and accountability as key principles (Wahyuni & Helmy, 2016).

This research offers novelty in the context of local budget management by promoting innovative strategies that have not been widely applied in NTB Province ((Z. Wang et al., 2023). The approach employed in this research utilizes information technology and data analytics to monitor and evaluate budget implementation in real-time (Mynenko & Lyulyov, 2022). In addition, this research will also explore best practices from other regions that have successfully optimized their local budgets, to be adapted according to the characteristics and needs of NTB Province (Z. Wang et al., 2023).

The objectives of this study are to 1.) Identify key challenges in local budget management in NTB Province. 2.) Develop recommendations for effective strategies that can be applied to optimize local budgets in NTB Province. 3.) Propose the use of information technology and data analytics as tools to improve transparency and accountability in local budget management.

2. Literature Review

2.1 Foundations of Budget Optimization in Emerging Economies

Performance-Based Budgeting (PBB) focuses on allocating public funds according to outputs (the immediate results of programs) and outcomes (their long-term effects), moving away from conventional methods that mainly depend on historical expenditures. PBB fosters improved efficiency, responsibility, and openness in managing public finances, as every expense is aimed at reaching clear performance goals (Mohd Gharib et al., 2024). In Indonesia, the application of standard costing within PBB has progressed; however, budgeting still mainly depends on input costs rather than output costs, suggesting a need for reform in these methods to improve both relevance and efficiency (Amalyah et al., 2025). Research within the Indonesian public sector has indicated that the adoption of PBB can enhance managerial oversight and accountability, although obstacles like inadequate human resources and technology infrastructure remain. An examination of the central government in Indonesia found that the quality of performance metrics improved after implementing PBB reforms, with a slow shift towards more result-focused measures, despite progress being hampered by institutional and capacity issues (Azam & Bouckaert, 2025). In summary, an analysis from 2018 to 2023 marks a notable trend in PBB practices and implementation, underscoring the significance of engaging policymakers and utilizing performance data in financial decision-making. Effective execution demands the combination of strategic plans, Medium-Term Expenditure Frameworks (MTEF), precise costing, and the enhancement of incentive and accountability frameworks as recommended by (Diamond, 2003)

Theory Agency

Agency Theory explains that in the relationship between the principal (society or local government) and the agent (public officials), there is a risk of conflicts of interest and imbalances in information, which can lead to inefficiencies and moral hazards if agents prioritize their interests over collective goals (Abrahamson & Park, 1994). In public budgeting, these conflicts may arise when officials handle budgets without sufficient oversight, leading to misuse of funds or discrepancies between budget usage and local development objectives. To mitigate these issues, (Joseph Ozigi Basiru et al., 2023) it is emphasize the necessity of implementing accountability mechanisms and fiscal transparency that include performance-based monitoring and clear incentive structures, which align the behaviors of agents with the goals of the principals, thereby reducing extraneous costs and enhancing the efficiency of public budget allocation. Thus, Agency Theory serves not only as a theoretical foundation but

also offers a practical framework for designing a responsive and accountable local budgeting system.

Fiscal Decentralization

The local government is generally better at providing public services that meet the needs of the community (Xu & Li, 2023). This is due to a better understanding of the conditions in their regions compared to the central government. Often, the central government applies the same policies across all regions without considering the differing needs of each area. According to (Zeraibi et al., 2023), when local governments are given financial authority, they can be more flexible in providing the public services that their citizens desire. This can enhance efficiency and responsiveness to local needs. However, the success of this strategy highly depends on the financial conditions of the region and how it is managed (D. Wang & Liang, 2024).

Factors such as the quality of management, accountability, and freedom in managing finances will affect how well local governments can fulfill their responsibilities. Therefore, financial decentralization will work well if the regions have adequate financial capacity and strong governance support. This aligns with the view of (Li et al., 2021) that the division of financial responsibilities should be balanced with the readiness of local institutions.

Soft Budget Constraint Theory

The concept of the Soft Budget Constraint suggests that when local governments operate under the assumption that any budget deficits or funding shortfalls will be covered by the central government, their incentive to manage budgets prudently diminishes. Under such conditions, local authorities may become less diligent in planning and monitoring expenditures, relying instead on anticipated bailouts. According to (Kornai et al., 2003), this dynamic is a major source of inefficiency and waste in public financial systems. Such dependence fosters irresponsible fiscal behavior and undermines the discipline of financial management. Therefore, in the context of West Nusa Tenggara (NTB), it is crucial to enforce strict fiscal rules that encourage local governments to manage their budgets independently and responsibly, without excessive reliance on central transfers. This approach not only enhances regional financial autonomy but also contributes to better and more sustainable governance outcomes (Canming & Bo, 2025).

3. Research Method

This study was conducted within the Regional Government of West Nusa Tenggara Province (NTB) during the period of March to May 2023, involving 15 Regional Work Units (SKPD) as the research objects. The data used in this study consisted of both primary and secondary sources (Gusman, 2024). Primary data were collected through the distribution of structured questionnaires and in-depth interviews with selected officials from the SKPDs. These instruments were designed to capture both measurable indicators of budget performance and qualitative insights into the challenges and practices of financial governance (Diptyana, 2018). Meanwhile, secondary data were obtained from literature reviews and official documents, particularly those related to the Rencana Pembangunan Jangka Menengah Daerah (RPJMD) for the 2018–2023 period.

The research employed a mixed-methods approach that integrated quantitative and qualitative analyses to provide a comprehensive evaluation of budget optimization efforts (Berman, 2017). Quantitative data analysis included descriptive statistics, mode analysis, ratio calculations, and trend analysis of regional income and expenditure (Lu et al., 2025). A specific emphasis was placed on evaluating planning consistency using the MKPP (Planning and

Budgeting Consistency Method), which assessed the alignment between various planning documents such as the RPJMD, RKPD, KUA-PPAS, and APBD over the six-year period.

For the qualitative component, the study applied content analysis to interview transcripts and planning documents to identify recurring themes, implementation barriers, and institutional practices related to budget management (Mattern et al., 2015). Furthermore, the research benchmarked best practices from other regions to inform the contextual strategy formulation for NTB.

To generate strategic recommendations, the study utilized SWOT analysis to identify internal strengths and weaknesses as well as external opportunities and threats facing the regional budgeting process (McLure et al., 2014). These factors were then evaluated using the Quantitative Strategic Planning Matrix (QSPM), allowing the prioritization of proposed strategies based on their relative attractiveness and feasibility. This combined methodological framework facilitated a robust understanding of NTB’s fiscal dynamics and informed the development of actionable strategies for improving transparency, accountability, and efficiency in regional budget management (Parham et al., 2016)

4. Results and Discussion

Development of the regional budget in West Nusa Tenggara

Figure 1 illustrates the trend of regional revenue and expenditure in West Nusa Tenggara Province from 2018 to 2023. During this period, both revenue and spending displayed a fluctuating pattern. In 2018–2019, regional revenue increased slightly by only 0.28%. A significant rise occurred in 2019–2020, reaching 8.13%. However, revenue declined consecutively in 2020–2021 and 2021–2022 by -3.48% and -1.37%, respectively. In 2022–2023, revenue sharply increased again by 10.48%, reaching IDR 5,964.98 billion.

A similar trend was observed in regional expenditure. After a decrease of -1.14% in 2018–2019, expenditure rose by 8.81% in 2019–2020, followed by another decline of -3.28% in 2020–2021. In the subsequent years, expenditure increased again by 7.83% in 2021–2022 and 0.51% in 2022–2023.

Throughout the five years, regional expenditure consistently exceeded revenue, resulting in an annual budget deficit. Although there was a significant increase in revenue in 2023, the relatively small rise in expenditure suggests potential for improving spending efficiency and optimizing local own-source revenue (PAD) to reduce pressure on the regional budget. The trend can be seen more clearly in Figure 1 below. (BPS Nusa Tenggara Barat, 2023).

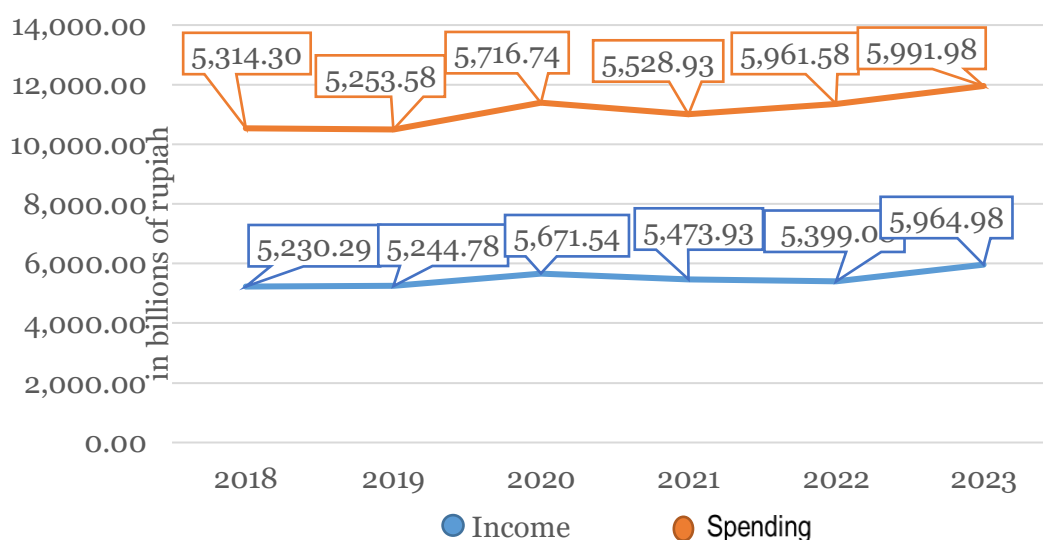


Figure 1. Realization of Revenue and Expenditure in West Nusa Tenggara Province 2018-2023

Based on Figure 1, regional expenditure realization demonstrates a pattern consistent with regional revenue trends, increasing from IDR 5,239.53 billion in 2018 to IDR 5,685.60 billion in 2023. The highest growth was recorded in 2022 with a 5.94% increase compared to the previous period, while contraction occurred in 2019 with a 1.74% decline.

Throughout the observation period, regional expenditure consistently exceeded regional revenue, indicating persistent annual budget deficits. This condition reflects the structural dependence of regional expenditure financing on external funding sources, such as fiscal transfers from the central government and other financing instruments, rather than on Local Own Revenue (PAD).

This phenomenon necessitates PAD optimization through policy innovation implementation and revenue diversification strategies, as well as enhanced budget allocation efficiency. Expenditure prioritization in strategic sectors, including infrastructure, education, and healthcare, can serve as instruments to maximize the budget's multiplier effect on public welfare. These initiatives are expected to create a sustainable fiscal structure and support comprehensive regional development.

These fluctuations indicate the necessity for fiscal governance optimization to ensure sustainable revenue stability in future periods. Figure 2 presents the revenue and expenditure realization data of West Nusa Tenggara Province as stipulated in the Regional Regulation of West Nusa Tenggara Province Number 4 of 2023 concerning Amendment to Regional Revenue and Expenditure Budget for Fiscal Year 2023.

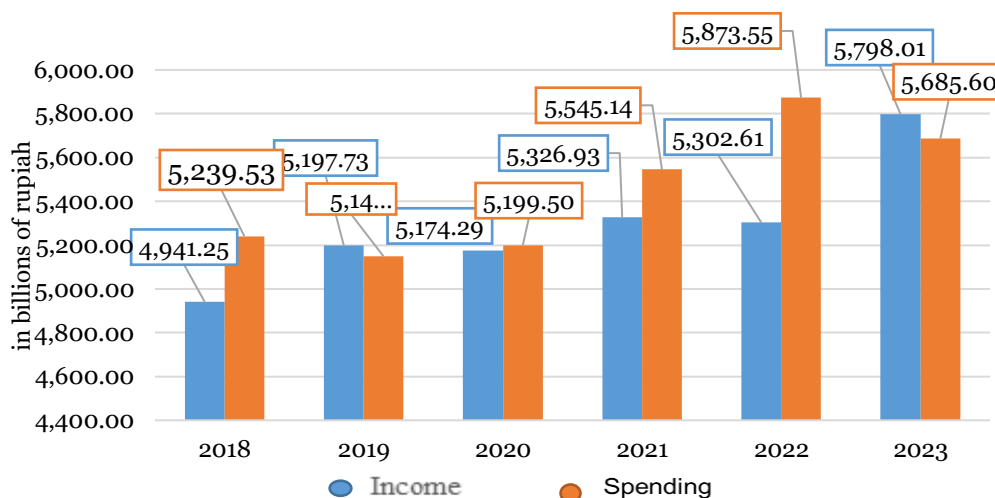


Figure 2. Realization of Revenue and Expenditure in West Nusa Tenggara Province 2018-2023

Based on Figure 2, regional expenditure realization demonstrates a pattern consistent with regional revenue trends, increasing from IDR 5,239.53 billion in 2018 to IDR 5,685.60 billion in 2023. The highest growth was recorded in 2022 with a 5.94% increase compared to the previous period, while contraction occurred in 2019 with a 1.74% decline.

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Quality of regional expenditure in West Nusa Tenggara

Based on the analysis of questionnaire data, the majority of respondents assessed the quality of regional expenditure in West Nusa Tenggara Province as being in performance category 3 (good/agree) for most of the measured indicators. Out of a total of 11 indicators evaluated, respondents largely agreed that the expenditures met key quality criteria such as alignment with priority programs, target accuracy, and efficiency (Östlund et al., 2011).

However, one indicator timeliness of regional expenditure implementation was rated less favorably. Most respondents evaluated this particular aspect in performance category 2 (fair/less satisfactory), indicating that while many components of expenditure management are functioning adequately, there remain notable challenges regarding the timely execution of budgeted spending (Eisman et al., 2023).

These assessments offer a valuable insight into specific areas requiring improvement, particularly the urgency to enhance budget disbursement schedules. Addressing such issues is essential for improving overall expenditure quality and ensuring that public funds are utilized effectively and impactfully.

Table 1. Respondents' assessment of regional expenditure quality in West Nusa Tenggara Province

Indicator Category	Performance				Total	Modus
	4	3	2	1		
Priority Program Alignment	3	9	0	0	12	3
Targeted Social Assistance Spending	3	9	2	0	14	3
Personnel Expenditure < 50%	4	5	3	0	12	3
Capital Expenditure > 30%	2	7	3	0	12	3
Timely Budget Approval (APBD)	3	8	2	0	13	3
Timely Revenue Realization	2	8	3	0	13	3
Timely Regional Expenditure	1	5	5	0	11	1
Effective Regional Expenditure	3	6	3	0	12	3
Efficient Regional Expenditure	1	8	3	0	12	3
Accountability of Expenditures	3	9	2	0	14	3
Transparency	3	9	1	0	13	3

Audit Opinion (Unqualified)	3	9	1	0	13	3
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Source: data processed (2025)

Table 1 presents an overview of respondents' evaluations regarding the quality of regional expenditure in West Nusa Tenggara Province based on multiple key indicators. The assessment utilized a categorical scale ranging from 1 (lowest) to 4 (highest), with the total responses and the mode values provided for each indicator. Overall, most indicators received favorable ratings, predominantly clustering around category 3, which corresponds to a "good" or "agree" performance level. Key indicators such as Priority Program Alignment, Targeted Social Assistance Spending, Personnel Expenditure below 50%, and Accountability of Expenditures consistently achieved a mode of 3, reflecting respondents' positive perceptions of these expenditure dimensions. Similarly, Timely Budget Approval (APBD) and Timely Revenue Realization also scored moderately well, with a mode of 3, indicating general satisfaction regarding the procedural and revenue aspects of budget execution.

However, a notable exception is the indicator Timely Regional Expenditure, which received the lowest mode value of 1, highlighting concerns about delays in expenditure implementation. This suggests that despite overall satisfactory perceptions of expenditure quality, the timeliness of spending remains a critical challenge, potentially undermining the effectiveness of budget allocations. Other indicators, including Capital Expenditure above 30%, showed a mode of 3 but had a wider distribution of responses, suggesting variability in opinions about the adequacy of capital spending levels.

Indicators related to Efficiency of Regional Expenditure and Transparency similarly received predominantly positive ratings, affirming stakeholders' views that expenditures are managed effectively and with sufficient openness. Lastly, the Audit Opinion indicator, predominantly rated as category 3, suggests that the financial reports of the region generally comply with required standards, receiving unqualified audit opinions, which further supports the credibility of the fiscal management practices.

Expenditure Discipline in Supporting Development Priority Programs

The alignment between planning and budgeting documents was analyzed using the Planning and Budgeting Consistency Matrix (MKPP), as proposed by (Suhartono et al., 2025). This analysis aims to assess the level of coherence in priority program implementation across various planning documents, from the Regional Medium-Term Development Plan (RPJMD) to the annual regional budget (APBD) (Guerrero & Castañeda, 2021).

During the 2018–2023 RPJMD period, the Provincial Government of West Nusa Tenggara established a total of 133 priority programs. The consistency of these programs was evaluated across key documents, including the RPJMD, RKPD, KUA-PPAS, and APBD. The results of this analysis are presented in Table 2

Table 2. Matrix of Planning and Budgeting Alignment (2018–2023)

Planning Documents	2018		2019		2020		2021		2022		2023	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
RPJMD-RKPD	133		133		133		133		133		128	5
RKPD-KUA	133		133		133		133		133		128	5
KUA-PPAS- Draft Regional Regulation (RAPERDA)	133		133		133		133		133		128	5
RAPERDA- APBD	133		133		133		133		133		128	5

Consistency (%)	100%	100%	100%	100%	100%	93,59%
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Source: data processed (2025)

The data presented in Table 2 shows consistency between planning and budgeting from 2018 to 2023. During this period, there was a strong alignment in program documents such as RPJMD-RKPD, RKPD-KUA PPAS, KUA-PPAS-RAPERDA, and RAPERDA-APBD. Each year from 2018 to 2022 showed a consistency level of 78, reflecting stability and adherence to the established planning. However, in 2023, there was a significant decline in consistency, with the value dropping to 5. This may indicate major changes in policies, priorities, or challenges faced in the planning and budgeting process that year. Additionally, the consistency matrix shows that despite the decline, the overall consistency level still reached 93.59% in 2022.

This significant decline needs to be analyzed further to understand the underlying causes. Is it due to regulatory changes, sudden budget adjustments, or other external factors? A deep understanding of the causes of this decline is crucial to take corrective measures and ensure that planning and budgeting remain consistent and aligned with the established goals (Prassoga & Soebagiyo, 2016). Overall, although there was a decline in the last year, the data show consistent efforts in maintaining a balance between planning and budgeting (Rizki et al., 2024).

Accuracy of Expenditure Allocation

The allocation of capital expenditure in West Nusa Tenggara Province (NTB) from 2018 to 2023 exhibited significant dynamics and is relevant to be analyzed within the framework of Presidential Regulation No. 54 of 2020 concerning the National Medium-Term Development Plan (RPJMN). Although the highest nominal value of capital expenditure was recorded in 2019 at IDR 4,098.16 billion, the percentage allocation decreased to 95.24%, indicating a misalignment between budget allocations and established development priorities.

This decline suggests inefficiencies in expenditure planning and the need for a comprehensive reassessment of the balance between operational and capital spending. The proper alignment of capital expenditure with strategic priorities is crucial to ensure that public investments yield long-term developmental benefits, particularly in key sectors such as infrastructure, education, and healthcare (Amalyah et al., 2025) Figure 3 presents the trend of capital expenditure allocation and realization in West Nusa Tenggara Province from 2018 to 2023, highlighting notable fluctuations and inconsistencies between planned allocations and actual expenditures.

Table 3. Capital expenditure allocation in West Nusa Tenggara Province (2018–2023).

Year	Capital Expenditure (IDR Billion)	Percentage Allocation (%)
2018	4.021,46	100.56
2019	4.098,16	95.24
2020	2.755,42	67.86
2021	2.797,22	86.19
2022	3.922,71	101.45
2023	3.140,24	107.00

Source: data processed (2025)

In 2020, capital expenditure experienced a significant decline, with realization reaching only IDR 2,755.42 billion or approximately 67.86% of the allocated budget. This sharp decrease reflects the impact of broader economic instability, most likely driven by the COVID-19 pandemic and its fiscal implications on regional finances. In the following year, 2021, capital expenditure showed signs of recovery, with realization amounting to IDR

2,797.22 billion or 86.19% of the allocation. This positive trend continued in 2022, with capital expenditure increasing significantly to IDR 3,922.71 billion, representing 101.45% of the total allocation. By 2023, capital expenditure reached IDR 3,140.24 billion, with a realization rate of 107.00%. These developments indicate the West Nusa Tenggara Provincial Government’s growing commitment to prioritizing infrastructure development and improving public service delivery as part of a broader strategy to strengthen sustainable regional development. These trends are further illustrated in Figure 2, which depicts the fluctuations in capital expenditure between 2020 and 2023, reflecting the fiscal recovery process and a strategic shift toward priority sectors following the pandemic.

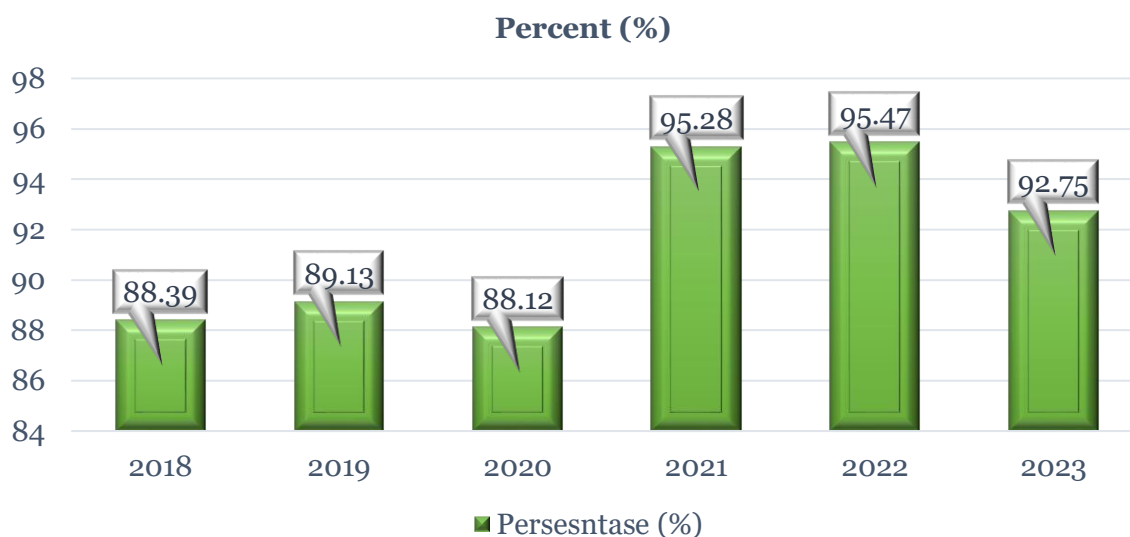


Figure 2. Employee Expenditure Allocation in NTB Province

In 2018, personnel expenditure in West Nusa Tenggara Province reached IDR 7,040.92 billion, accounting for 88.39% of the expected allocation, reflecting the local government’s commitment to human resource management. A slight increase was observed in 2019, with the allocation rising to IDR 7,348.49 billion (89.13%), indicating efforts to enhance employee welfare.

However, in 2020, personnel expenditure decreased slightly to IDR 7,182.41 billion (88.12%), which may have resulted from budget adjustments due to economic instability. The year 2021 recorded a significant rise to IDR 7,642.39 billion (95.28%), suggesting increased attention to staff-related spending. This upward trend continued in 2022, with personnel expenditure reaching IDR 7,898.30 billion (95.47%), and in 2023, further rising to IDR 8,273.12 billion (92.75%). Fig. 2 presents the allocation trends of employee expenditure in NTB Province.

Although the percentage allocation for personnel expenditure fluctuated over the years, it consistently remained under 50% of the total regional budget (APBD), which is considered ideal (Hendaris & Sastradipraja, 2014). This demonstrates alignment with sound and sustainable financial management practices. The overall increase in personnel expenditure is closely linked to regional policy initiatives focused on improving employee benefits and welfare, in support of enhancing the quality of public services across the province (Darmayanti, 2024).

Timeliness in The Preparation of the Regional Budget (APBD)

The timeliness of the preparation and approval of the Regional Budget (APBD) serves as a critical indicator in evaluating the effectiveness of regional financial management.

Throughout the 2018–2023 period, the Government of West Nusa Tenggara Province (NTB) demonstrated relatively consistent performance in ensuring timely budget approval. For fiscal years 2018, 2019, 2020, and 2021, the APBD was enacted according to the established schedule. This achievement reflects the local government’s strong commitment to improving the efficiency of planning and budgeting processes, contributing to the smooth implementation of development programs and enhancing financial predictability at the regional level.

Timely approval of the APBD not only facilitates effective program implementation but also supports the financial stability and operational certainty of regional government activities. Such predictability enables optimal execution of development programs from the onset of the fiscal year.

However, in 2022, delays occurred in the budget approval process due to institutional restructuring within regional government agencies (Regional Device Organization /OPD) as a consequence of newly enacted regulations, coupled with system adjustments in planning and budgeting applications. These administrative disruptions adversely affected the timely commencement of several priority programs scheduled for early implementation in the fiscal year.

In parallel with the dynamics of budget preparation, the performance of locally generated revenue (Regional Original Income /PAD) also exhibited significant fluctuations during the observed period. The revenue performance is detailed in Table 4 below.

Table 4. Performance of locally generated revenue (PAD) in West Nusa Tenggara Province, 2018–2023

Year	PAD	Percentage %
2018	3.286,78	92.19
2019	3.598,01	103.14
2020	3.626,70	93.54
2021	3.872,41	98.21
2022	4.301,46	89.69
2023	5.094,40	96.13

Source: data processed (2025)

As presented in Table 4, in 2018, the realized PAD of West Nusa Tenggara Province amounted to IDR 3,286.78 billion, representing 92.19% of the projected target. This performance reflects the local government’s efforts to optimize internal revenue sources. In 2019, a significant increase was recorded, with PAD reaching IDR 3,598.01 billion (103.14%), indicating success in regional tax administration and improved revenue collection mechanisms.

However, in 2020, PAD slightly declined to IDR 3,626.70 billion (93.54%), likely due to the economic contraction resulting from the global COVID-19 pandemic. The recovery process began in 2021, with PAD increasing to IDR 3,872.41 billion (98.21%), followed by further growth in 2022 with a nominal increase to IDR 4,301.46 billion, although the realization percentage declined to 89.69% due to more ambitious revenue targets. The upward trajectory continued in 2023, as PAD reached a new peak of IDR 5,094.40 billion, achieving 96.13% of the target.

Despite year-to-year fluctuations, the overall upward trend in PAD demonstrates the regional government's continuous efforts to strengthen fiscal capacity and reduce dependency on intergovernmental transfers. The expansion of locally generated revenues underscores the government’s commitment to enhancing financial self-reliance, fiscal resilience, and the sustainability of regional development financing. These efforts align with national fiscal

management policies emphasizing fiscal autonomy, transparency, accountability, and long-term fiscal sustainability at the subnational level.

Effective Strategies for Regional Budget Optimization in West Nusa Tenggara Province

To formulate effective strategies for optimizing regional budget quality in West Nusa Tenggara Province, a SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats) was conducted. This framework identifies key internal and external factors influencing fiscal performance and helps formulate appropriate strategic responses.

1. Internal and External Key Factors

- ❖ Strengths:
 - Consistent compliance with national budget standards (e.g., personnel expenditure < 50%).
 - Strong commitment to human resource development.
 - Improved local own-source revenue (PAD) in recent years.
- ❖ Weaknesses:
 - Expenditure timeliness issues affecting program implementation.
 - Volatility in capital expenditure allocation.
 - Limited fiscal buffer for crisis response.
- ❖ Opportunities:
 - Increasing regional investment potential and economic diversification.
 - Technological innovation in fiscal management and monitoring.
 - National government support for fiscal decentralization and transparency.
- ❖ Threats:
 - Vulnerability to external economic shocks (e.g., pandemic impact).
 - Dependence on central government transfers.
 - Political dynamics affecting budget consistency and discipline.

2. SWOT Strategy Matrix

In order to formulate strategic policy directions that strengthen regional fiscal management, a SWOT analysis was conducted to identify the internal and external factors influencing the financial performance of West Nusa Tenggara Province. The results of this analysis are summarized in Table 5.

Table 5. SWOT Strategy Matrix

Strategy Type	Strategic Direction	Examples of Recommended Actions
SO (Strength–Opportunity)	Leverage internal strengths to maximize external opportunities	- Implement digital fiscal monitoring using existing institutional capacity. - Use PAD growth to promote investment incentives and economic expansion.
ST (Strength–Threat)	Use strengths to mitigate external threats	- Strengthen planning discipline to buffer against political shifts. - Enhance internal auditing and

		compliance to reduce vulnerability to fiscal shocks.
WO (Weakness–Opportunity)	Overcome weaknesses by exploiting opportunities	- Use technology to improve budget execution timeliness. - Utilize central support programs to build fiscal reserves. - Reform budget planning process to enhance responsiveness and flexibility. - Develop contingency funds and responsive budget reallocation mechanisms.
WT (Weakness–Threat)	Minimize weaknesses and avoid threats	

As presented in Table 5, several strategic alternatives are identified based on the intersection of internal and external factors:

- **SO Strategies (Strength–Opportunity).** These strategies capitalize on existing strengths to exploit potential opportunities. For instance, the regional government is encouraged to utilize its existing institutional capacity to implement digital fiscal monitoring systems, thereby improving transparency and control over budget execution. In parallel, leveraging the growth of locally generated revenue (PAD) can support the development of investment incentives and stimulate broader economic expansion.
- **ST Strategies (Strength–Threat).** These strategies emphasize utilizing internal strengths to mitigate external threats. By strengthening discipline in fiscal planning and enhancing the consistency of the budgeting process, the government can build resilience against political changes and uncertainties. Additionally, improvements in internal audit mechanisms and compliance systems will help reduce vulnerabilities to sudden fiscal shocks or economic disruptions.
- **WO Strategies (Weakness–Opportunity).** These strategies aim to address existing weaknesses by capitalizing on available opportunities. Adoption of advanced technologies in budget execution can improve the timeliness of fiscal disbursements and program implementation. Furthermore, participation in national support programs can be optimized to build fiscal reserves, providing the region with greater financial stability.
- **WT Strategies (Weakness–Threat).** These defensive strategies seek to minimize weaknesses while avoiding potential threats. Reforms in the budget planning process are necessary to increase flexibility and responsiveness to changing fiscal environments. Establishing contingency funds and adopting responsive budget reallocation mechanisms will allow the government to adapt more effectively to unexpected economic shocks or emergencies.

3. Strategic Recommendations

Based on the SWOT matrix, several strategic recommendations emerge for West Nusa Tenggara:

- a. **Strengthen Fiscal Resilience.** Develop reserve funds and fiscal stabilization instruments to ensure continued investment in development priorities during economic downturns.
- b. **Enhance Budget Execution Timeliness.** Implement performance-based budgeting and integrate real-time monitoring systems to avoid delays in program implementation.
- c. **Promote Revenue Diversification.** Focus on expanding the tax base, enhancing collection mechanisms, and fostering investment-led PAD growth.
- d. **Institutional Capacity Building.** Regularly train regional budget managers and planners to improve analytical capability and budgeting accuracy.

- e. Improve Transparency and Accountability. Use e-government tools and publish budget realization reports regularly to build public trust and support.

Formulating Priority Strategies Through The Quantitative Strategic Planning Matrix (QSPM)

The determination of priority strategies for optimizing regional spending in West Nusa Tenggara Province is carried out using the Quantitative Strategic Planning Matrix (QSPM) approach. This method evaluates various strategic alternatives based on their relative attractiveness to internal and external factors previously identified through SWOT analysis.

Each strategy is assessed using an Attractiveness Score, which is measured on the following scale:

- 1). No attractiveness
2. Low attractiveness
- 3). Moderate attractiveness
- 4). High attractiveness

These scores are then aggregated to generate a Total Attractiveness Score (TAS), which reflects how viable and significant a strategy is for implementation. Based on the QSPM analysis, the top priority strategy to be implemented in West Nusa Tenggara Province is: "Strengthening the commitment of all stakeholders within the West Nusa Tenggara Provincial Government to improve the quality of regional spending jointly."

This strategy received a TAS score of 6.11, indicating that a collaborative and commitment-based approach is deemed the most relevant and effective in addressing challenges related to spending efficiency, accountability, and timeliness. The implementation of this strategy is expected to enhance inter-agency synergy, foster a performance-based culture, and strengthen fiscal resilience in the medium to long term.

5. Results and Discussion

Regional budget performance and fiscal sustainability

The analysis of West Nusa Tenggara Province's regional budget development from 2018-2023 reveals several critical insights regarding fiscal management and sustainability. The persistent budget deficit throughout the entire period, where regional expenditures consistently exceeded revenues, highlights a fundamental structural challenge that requires immediate attention. This deficit pattern indicates an over-reliance on central government transfers and other external financing sources, which undermines the province's fiscal autonomy and long-term sustainability (Kreuta et al., [2022](#)).

The fluctuating revenue trends, particularly the significant decline in 2020-2021 (-3.48%) followed by recovery in 2022-2023 (+10.48%), reflect the province's vulnerability to external economic shocks, including the COVID-19 pandemic impact. This volatility demonstrates the urgent need for diversified revenue sources and more resilient fiscal planning mechanisms. The sharp revenue increase in 2023, accompanied by minimal expenditure growth (0.51%), suggests potential for improved fiscal balance if sustained through strategic revenue optimization and expenditure efficiency measures (DJPb, 2024).

Expenditure Quality and Efficiency Challenges

The assessment of regional expenditure quality reveals a mixed performance profile. While most indicators received satisfactory ratings (category 3 - good/agree), the critical issue of expenditure timeliness emerged as a significant weakness, with most respondents rating it as category 2 (fair/less satisfactory). This timing challenge has cascading effects on program implementation effectiveness and public service delivery, potentially reducing the overall impact of budget allocations on community welfare (Gunawan & Arifin, 2023).

The timeliness issue is particularly concerning given its direct correlation with development program effectiveness. Delayed expenditure implementation can lead to incomplete projects, reduced service quality, and diminished public trust in government efficiency (Setiawan et al., 2022). This finding aligns with the observed delays in APBD approval for 2022, which were attributed to structural changes in Regional Working Units (SKPD) and system adjustments, indicating systemic challenges in budget management processes.

Planning and Budgeting Consistency

The Planning and Budgeting Consistency Matrix analysis reveals both strengths and vulnerabilities in NTB's fiscal planning framework. The perfect consistency (100%) maintained from 2018-2022 demonstrates strong institutional capacity for aligning planning documents across different levels. However, the dramatic decline to 93.59% consistency in 2023, with five programs showing misalignment, raises concerns about the stability of planning processes and potential policy shifts (Pane et al., 2023).

This consistency breakdown in 2023 requires deeper investigation to identify whether it resulted from justified policy adjustments responding to changing circumstances or from weakened planning discipline. The causes could include regulatory changes, budget constraints, political priorities shifts, or external pressures (Hidayat et al., 2024). Understanding these factors is crucial for maintaining future planning integrity and ensuring that budget allocations remain aligned with strategic development objectives.

Capital Expenditure Allocation Patterns

The capital expenditure analysis reveals concerning volatility that undermines long-term development planning. The dramatic decline from IDR 4,098.16 billion (95.24%) in 2019 to IDR 2,755.42 billion (67.86%) in 2020 represents a 33% reduction that significantly impacted infrastructure development and public investment programs. While recovery occurred in subsequent years, reaching 107% allocation in 2023, this volatility pattern suggests inadequate fiscal buffers and crisis response mechanisms (Ishak, 2022).

The capital expenditure fluctuations, particularly during 2020-2021, highlight the province's limited fiscal space for counter-cyclical policies during economic downturns (Wibowo et al., 2022). This vulnerability necessitates the development of fiscal stabilization mechanisms, including reserve funds and flexible budget frameworks that can maintain essential investments during crisis periods while avoiding excessive debt accumulation.

Personnel Expenditure Management

The personnel expenditure trends demonstrate responsible fiscal management, with allocations consistently remaining below the 50% threshold of total regional budget, aligning with sound financial management principles. The steady increase from IDR 7,040.92 billion (88.39%) in 2018 to IDR 8,273.12 billion (92.75%) in 2023 reflects the government's commitment to human resource development while maintaining fiscal discipline (Bank, 2020).

However, the increasing nominal values coupled with fluctuating percentage achievements suggest the need for more precise personnel cost forecasting and management. The declining percentage in 2023 (92.75%) compared to 2022 (95.47%) may indicate either improved efficiency in personnel cost management or potential issues in budget planning accuracy that require further investigation.

Locally Generated Revenue (PAD) Performance

The PAD performance shows encouraging growth momentum, increasing from IDR 3,286.78 billion in 2018 to IDR 5,094.40 billion in 2023, representing a 55% increase over the period. The achievement of 103.14% target realization in 2019 demonstrates the province's potential for revenue optimization. However, the decline to 89.69% in 2022 followed by a recovery to 96.13% in 2023 indicates ongoing challenges in revenue forecasting and collection efficiency (Ginting et al., 2024).

The PAD growth trajectory, while positive, remains insufficient to address the persistent budget deficit (Sabrina & Nugraheni, 2022). The province needs more aggressive revenue enhancement strategies, including tax base expansion, improved collection mechanisms, and development of new revenue sources through economic diversification and investment promotion (Ishak, 2022)

Strategic Implications and Recommendations

The comprehensive analysis reveals that while NTB has made progress in several areas of budget management, fundamental structural issues persist that require strategic intervention. The combination of persistent deficits, expenditure timing challenges, and revenue volatility creates a complex fiscal environment that demands integrated solutions rather than piecemeal improvements (Wulandari, 2025).

The province should prioritize developing fiscal resilience through diversified revenue strategies, improved expenditure efficiency, and strengthened planning consistency. The implementation of technology-driven monitoring systems, as suggested in the research objectives, could address many of the identified timing and transparency issues while enhancing overall fiscal management capacity (Sulaiman & Suroyo, 2025).

Furthermore, the observed patterns suggest that NTB's fiscal challenges are not unique but reflect broader issues in regional fiscal management across Indonesia. This presents opportunities for inter-regional learning and collaboration in developing innovative solutions for common fiscal challenges, potentially through best practice sharing and joint capacity building initiatives (Ouedraogo et al., 2021).

5. Conclusion

The comprehensive analysis of regional budget optimization in West Nusa Tenggara Province from 2018-2023 reveals a complex fiscal landscape characterized by both achievements and persistent challenges that require strategic intervention. The study demonstrates that while the province has maintained institutional capacity for budget management and shown commitment to fiscal discipline, fundamental structural issues continue to undermine optimal budget performance.

The most critical finding is the persistent budget deficit throughout the entire study period, where regional expenditures consistently exceeded revenues, indicating structural imbalances that threaten long-term fiscal sustainability. This deficit pattern, coupled with revenue volatility and over-reliance on central government transfers, highlights the urgent need for comprehensive fiscal reform strategies focused on revenue diversification and expenditure optimization.

The analysis identified three primary areas requiring immediate attention. First, the timeliness of expenditure implementation emerged as a significant weakness, with delayed budget execution undermining program effectiveness and public service delivery quality. Second, the dramatic decline in planning and budgeting consistency in 2023, dropping from perfect alignment to 93.59%, signals a potential weakening of institutional planning discipline

that could compromise future development coordination. Third, the high volatility in capital expenditure allocations, particularly the 33% decline during 2020-2021, demonstrates inadequate fiscal resilience mechanisms to maintain essential investments during economic downturns.

Despite these challenges, the study also reveals positive developments that provide a foundation for optimization efforts. The province has successfully maintained personnel expenditure below the 50% threshold, demonstrating responsible fiscal management practices. The significant growth in Locally Generated Revenue (PAD) from IDR 3,286.78 billion to IDR 5,094.40 billion represents a 55% increase that indicates potential for enhanced fiscal autonomy. Additionally, the strong planning consistency maintained from 2018-2022 reflects institutional capacity for integrated fiscal management when properly implemented.

The research findings support the implementation of technology-driven solutions and data analytics for real-time budget monitoring and evaluation, as proposed in the study objectives. The identified timing and transparency issues could be significantly addressed through digital transformation of budget management processes, while enhanced data analytics capabilities would improve forecasting accuracy and decision-making quality. Based on these findings, West Nusa Tenggara Province should prioritize developing a comprehensive fiscal reform strategy that addresses structural deficit issues through aggressive revenue enhancement initiatives, implements technology solutions for improved expenditure timing and monitoring, and strengthens institutional mechanisms for maintaining planning consistency. The province's demonstrated capacity for fiscal discipline and revenue growth provides a solid foundation for these optimization efforts, suggesting that with appropriate strategic interventions, significant improvements in budget performance and development impact are achievable.

The study contributes to the broader understanding of regional fiscal management challenges in Indonesia and provides a framework for similar optimization efforts in other provinces facing comparable fiscal constraints. The integrated approach combining institutional strengthening, technology adoption, and strategic fiscal reforms offers a replicable model for enhancing regional budget effectiveness and supporting sustainable development objectives.

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