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State Asset Management Strategy: Highest and Best Use Analysis to Increase Non-Tax Revenue

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Abstract: This study examines strategic approaches to state asset management aimed at enhancing Non-Tax State Revenue (PNBP) and strengthening fiscal sustainability in Indonesia. It develops an analytical framework for optimizing state asset utilization through the application of the Highest and Best Use (HBU) principle, while also exploring implementation strategies, success factors, coordination mechanisms, and the integration of digital technologies.

A qualitative methodology was employed, incorporating a Systematic Literature Review, Focus Group Discussions with government officials and asset managers, and NVivo-assisted thematic analysis. The data collection process identified operational challenges and strategic opportunities within Indonesia's state asset management ecosystem.

Findings reveal four critical dimensions for effective state asset management: (1) the implementation of good governance principles integrated with public finance management to generate both economic returns and social benefits; (2) the development of specialized expertise among State-Owned Asset (BMN) managers; (3) regulatory reform to simplify administrative procedures while enhancing transparency; and (4) the formulation of integrated management strategies aligned with national priorities through inter-agency synergy and collaboration with the private sector.

Recommendations include institutionalizing good governance within asset management frameworks, empowering the State Asset Management Agency (LMAN) as a central coordination mechanism, accelerating the digitalization of asset information systems, implementing comprehensive capacity development programs, and pursuing targeted regulatory reforms. Future research should explore opportunities for technological integration and conduct comparative analyses with international best practices.

This research contributes to the field by synthesizing the Highest and Best Use (HBU) methodology with governance principles in the management of state assets. The proposed framework offers evidence-based guidance for optimizing state asset utilization and enhancing non-tax revenue streams, thereby strengthening Indonesia's fiscal sustainability while supporting broader economic development goals.

Keywords*:* State Asset Management, Non-Tax State Revenue, Highest and Best Use Analysis, Public Policy, Good Governance.

Introduction

The 1945 Constitution Article 33 paragraph 3 mandates that land, water, and natural resources contained therein must be under state control and utilized for the maximum prosperity of the people. This constitutional mandate obligates the government to manage Indonesia's natural resources optimally for the welfare of the entire society. The implementation of this mandate is reflected in the management of State-Owned Assets (BMN) which has been carried out in accordance with Government Accounting Standards and adequate internal control systems, as evidenced by the achievement of an Unqualified Opinion (WTP) on the Central Government Financial Report (LKPP). This achievement affirms the importance of managing and utilizing state assets for public interest, where effective management has the potential to contribute significantly to increasing national income and strengthening the government's fiscal position.

The research results of Hanis et al. (2022) explain that around 43 percent of government assets experience decline mark consequence maintenance that is not adequate and 38 percent asset unemployed own potential significant economy if optimized. The audit results for the first semester of 2023, Indonesian Audit Board (BPK) (2023) revealed that 35 percent of state assets are still recorded with good, 28 percent state assets in condition idle or not utilized, and 42 percent of state assets yet own complete legal documents. Research conducted by the Asian Development Bank (2023) shows that Indonesia ranks 4th out of 10 countries in effective asset management, with an average asset utilization level of 63 percent. This suboptimal management results in a loss equivalent to 2.5 percent of Gross Domestic Product (GDP).

Optimization of state asset management also reduces the burden of maintenance costs, thereby strengthening fiscal stability and expanding fiscal space for more sustainable development (Directorate General of State Assets, Ministry of Finance of the Republic of Indonesia, 2020). The Indonesian Ministry of Finance (2022) stated that 32 percent of state assets have not been optimally utilized, with an estimated loss reaching Rp 175 trillion per year, while the budget allocation for maintenance only reached 8.5 percent of the total asset value.

Research conducted by Brodjonegoro (2017) shows that there is a potential loss of state revenue by 18–24 percent due to suboptimal asset management, especially in strategic assets. Furthermore, the World Bank (2022), in its report, explained that 47 percent of public assets in developing countries are underutilized, and only 40 percent of assets have a continuous monitoring system. These findings highlight a significant gap, where the implementation of state asset management strategies is not yet effective enough to support improvements in national income.

In actual field conditions, the current practice of managing existing state assets remains inefficient, suboptimal, and tends to be fragmented in its utilization. The Highest and Best Use (HBU) analysis is considered a promising method to maximize the value of state assets. However, challenges in implementation and the lack of follow-up actions on HBU recommendations in Indonesia highlight the existence of a theoretical gap. Reports from the Directorate General of State Assets, Ministry of Finance (2021 and 2022), reveal that around 60 percent of HBU recommendations have not been fully followed up by the relevant ministries or institutions.

Given the background outlined above, this research specifically focuses on:

1. To analyze the implementation of state asset management policies and strategies in Indonesia at present, and to identify the main obstacles and challenges in their implementation, in order to evaluate their effectiveness and explore opportunities for improvement;
2. To review the main factors influencing the effectiveness of state asset management in supporting the optimization of Non-Tax State Revenue (PNBP);
3. Evaluating state asset management strategies to improve state revenue in support of fiscal sustainability and the development of the Indonesian economy.

Theoretical Framework

This study is based on the integration of Public Policy Theory as the main foundation, and three meso-level theories: State Finance Theory, Good Governance Theory, and Highest and Best Use (HBU) Theory.

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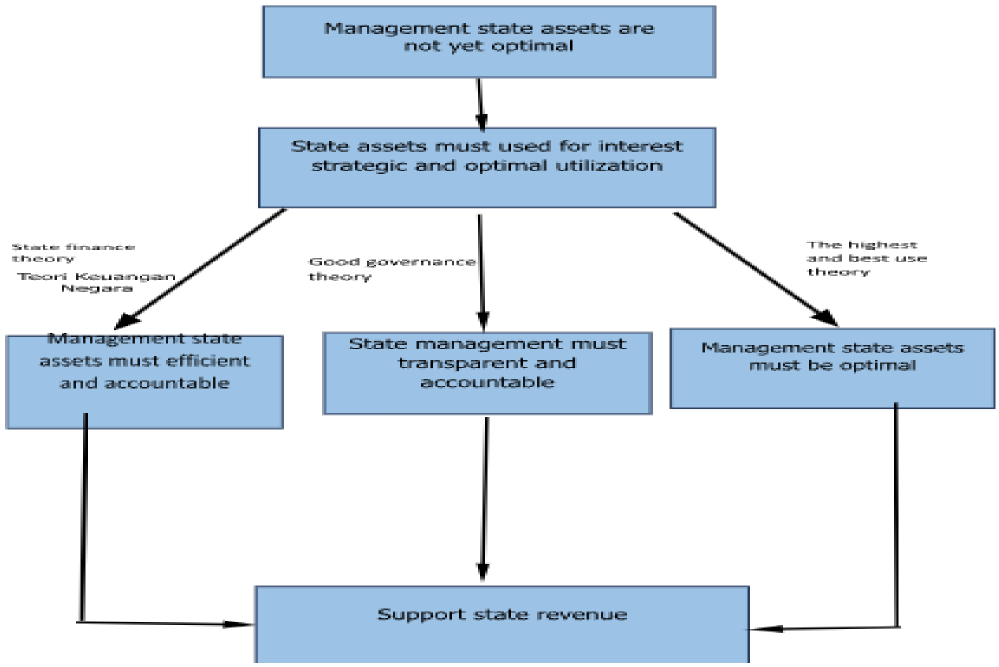
Figure 1: Conceptual Framework



Public policy serves as the primary foundation in state asset management, enabling the government to address emerging issues and regulate societal needs effectively. According to Dunn (2011), public policy is an applied social science that utilizes various methods to generate and apply relevant information in solving political and societal problems. Law Number 17 of 2003 defines state finances broadly, including fiscal and monetary policies and the management of separated state assets. The Theory of State Finance stresses efficiency and accountability in managing state finances, as reflected in Non-Tax State Revenue (PNBP) regulations. Together with public policy theory, these concepts form a framework for designing state asset management strategies aligned with Good Governance principles—emphasizing transparency, accountability, participation, effectiveness, and fairness to support state revenue and fiscal stability.

Riddell (2009) defines good governance as the government's ability to build efficient, effective, and accountable public management processes that are open to public participation, thereby strengthening the democratic system. According to Ngwira & Manase (2015), effective public asset management requires a structured and coordinated approach to ensure optimal value from owned assets in state asset management policy. Danilo & Lemer (1996) define asset management as a methodology for allocating resources for specific purposes efficiently and effectively.

The Theory of State Asset Management serves as a conceptual framework to evaluate strategies for managing state assets based on efficiency, accountability, and sustainability, aligned with regulations and national development goals. The Highest and Best Use (HBU) theory complements this by offering an analytical tool to determine the optimal use of assets, considering physical, legal, and financial feasibility to maximize economic and social benefits. According to the Appraisal Institute (2020), HBU refers to the most probable legal use of land or property that is physically possible, financially viable, and yields the highest value.

In the context of this research, the theory provides a framework to guide how state assets can be strategically utilized to achieve development objectives and increase state revenue. According to Handayani & Nur (2019), the public policy discusses the management of state assets using good governance principles, such as transparency and accountability, which are highly relevant in the context of State-Owned Asset (BMN). The Highest and Best Use (HBU) theory provides an analytical tool to determine the highest and best use of state assets. Within this framework, the Highest and Best Use (HBU) analysis helps determine the optimal scenario for asset utilization, such as through rental, operational cooperation, or functional transfer of underutilized productive assets. Grover (2018), in his research, explains a holistic evaluation framework for state assets with a focus on integrating economic and social value. Theories of State Finance, Good Governance, and Highest and Best Use (HBU) each offer a strategic approach—namely efficiency, transparency, and optimization. These three theories complement and reinforce one another to ensure that state assets are used for strategic purposes and optimally utilized. The results of World Bank research (2023) show that investment in the development of human resource management has a direct correlation with management efficiency. Berliandaldo and Hidayat (2017) identified a relationship between human resource competency and the effectiveness of asset management, as well as an increase in Non-Tax State Revenue (PNBP).

Data and Methodology

Data Sources

The data used in this study are sourced from primary data collected through Focus Group Discussions (FGDs) involving key informants directly responsible for managing state assets. Primary data collection focused on the subjective interpretation and social interactions among the informants. Secondary data were obtained from official reports, academic publications, government policies, and reports from international institutions. These documents were used to strengthen the understanding of the state asset management context and to enrich the analysis. According to Yin (2018), secondary data research methodologies often require additional information to ensure validity, relevance, and reliability.

Methodology

Primary data were collected through Focus Group Discussions (FGDs) involving a group of eight informants with direct experience in managing state assets. The informants were selected from diverse backgrounds, including officials from the Ministry of Finance (Directorate General of State Assets and Directorate General of Budget), the Ministry of Public Works and Public Housing, the Ministry of Transportation, PT State Asset Management Institute (PT LMAN), PT Kereta Api Indonesia (a state-owned enterprise), and academics, in order to obtain a wide range of perspectives. A qualitative approach was used to obtain secondary data through the analysis of literature using the Systematic Literature Review (SLR) method. The SLR was applied to analyze literature related to the management of government- or publicly-owned assets, with the objective of providing a comprehensive overview of previous research, identifying research gaps, and offering evidence-based recommendations for more effective state asset management.

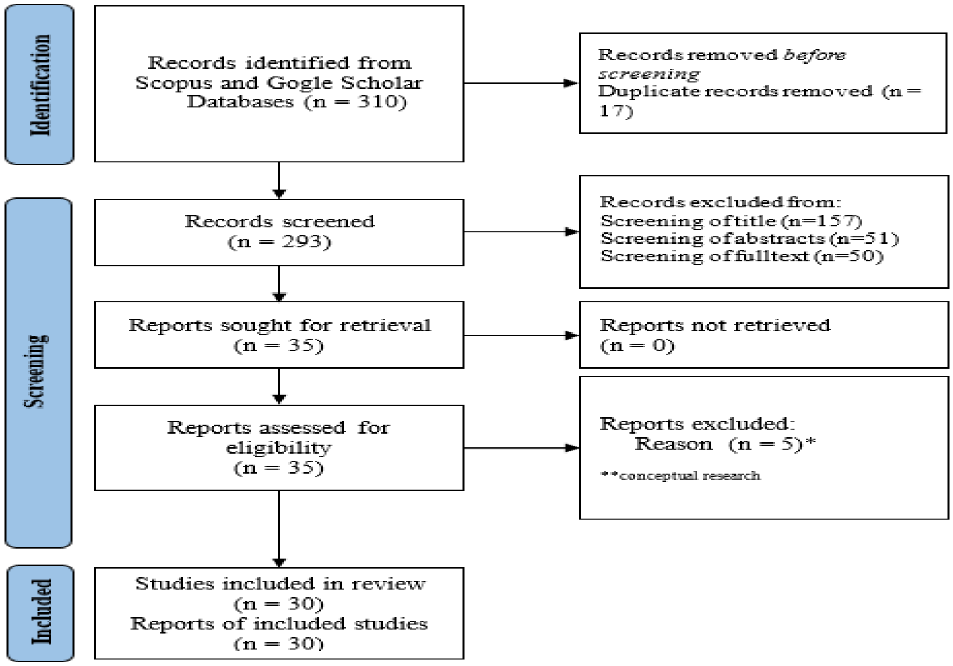
The research instruments included a discussion guide and a Focus Group Discussion (FGD) protocol. The discussion guide and protocol were designed to explore themes such as state asset governance, asset utilization efficiency, optimization strategies, and the challenges encountered: Secondary data collection using the Systematic Literature Review (SLR) protocol included the following steps: a) Keyword determination, where several main keywords were used, including: Asset Management, Public Asset Management, Optimization of Asset Utilization, State-Owned Asset Management (BMN), Non-Tax State Revenue (PNBP), Non-Tax Revenue, PNBP Management, Non-Tax State Revenue Optimization, Non-Tax Revenue Risks, Economic Growth and Government Spending, Fiscal Policy and Economic Development, Government Expenditure and Economic Impact, Infrastructure Spending and Growth. b) Article and data source retrieval, using the Harzing's Publish or Perish (PoP) software (version 8) to ensure that the selected articles met specific publication timeframes and were indexed in Google Scholar, Scopus, or relevant journals related to public asset management. c) Inclusion and exclusion criteria, applied through article screening and identification using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) flow diagram. d) Data analysis, conducted using VOSviewer to process the selected articles and perform bibliometric mapping in order to identify patterns in the literature and relationships among research variables.

Research Results and Discussion

Research Results

Article screening and data analysis resulted in a total of 310 articles, consisting of 207 articles from Google Scholar and 103 articles from Scopus, covering the period from 1981 to 2023. The search used the following main keywords: *Asset Management, Public Asset Management, Optimization of Asset Utilization, State-Owned Asset Management(BMN), Non-Tax State Revenue (PNBP), Non-Tax Revenue, PNBP Management, Non-Tax State Revenue Optimization, Non-Tax Revenue Risks, Economic Growth and Government Spending, Fiscal Policy and Economic Development, Government Expenditure and Economic Impact, and Infrastructure Spending and Growth*. The next step was filtering the articles to identify duplicates. A total of 17 duplicate articles were found and removed, leaving 293 articles for further analysis. The article selection and analysis procedures were conducted systematically using the PRISMA protocol, adapted from Moher et al. (2015). After applying the PRISMA flow diagram, 35 articles were selected for in-depth analysis. Of these, 5 articles were excluded due to their purely conceptual or theoretical nature, resulting in 30 scientific articles being included for final analysis.

Figure 2: PRISMA Flowchart



Study Variables

The variables were classified into Independent Variables (IV) and Dependent Variables (DV), which reflect the main themes of the analyzed studies and play a key role in understanding causal relationships and their implications for relevant practices.

Independent Variables : Asset management is the most frequently analyzed variable, appearing in 40 percent of the total studies. These studies primarily focus on optimizing Non-Tax State Revenue (PNBP) through asset inventory, revaluation, and utilization strategies. Government spending is identified as a key variable in 23 percent of the studies, specifically in evaluating the effectiveness of budgeting to support economic growth. Non-Tax State Revenue (PNBP) also receives significant attention, being analyzed in 20 percent of the studies that explore mechanisms to increase its contribution to national income.

Table 1: Distribution Independent Variables (IV)

Independent Variables	Frequency	Percentage (%)	Example Study
Asset Management	12	0.4	Management state assets for optimization of PNBP
Government Expenditure	7	0.23	Connection expenditure health / infrastructure with economy .
PNBP	6	0.20	Governance and optimization of PNBP as source income .
Regulatory and System Reform	3	0.10	Improvement system management assets and non- tax .
Not Tax	2	0.07	Influence reception No tax to growth economy .
Total	30		

Dependent Variables : Economic growth, at 33.3 percent, is the most frequently studied dependent variable, reflecting strong attention to the direct impact of state asset management policies and government expenditures. Asset optimization (30 percent) and the increase in Non-Tax State Revenue (PNBP) (23 percent) also hold significant positions in research that explores how state asset management can serve as a strategic instrument to enhance state revenue.

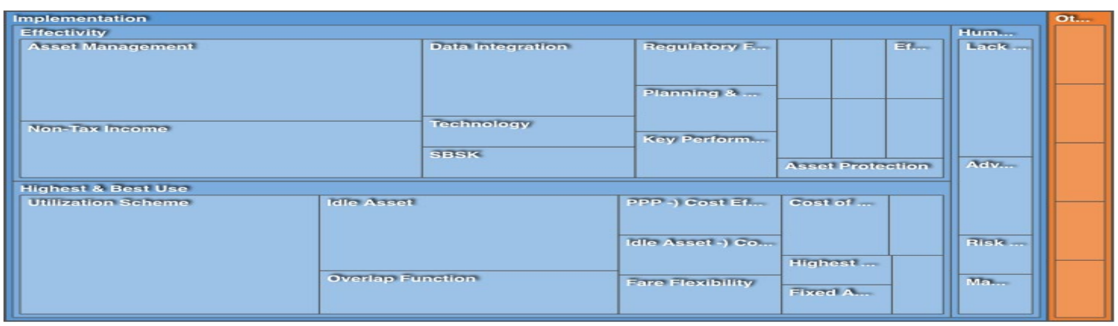
Table 2: Distribution Dependent Variables (DV)

Dependent Variables	Frequency	Percentage (%)	Example Study
Economic growth	10	0.33	Impact management assets and expenses government to growth economy .
Asset Optimization	9	0.3	Influence management asset to effectiveness and efficiency utilization of BMN.
Increase in PNBP	7	0.23	Contribution management state assets against state revenue is not tax .
Effectiveness Management	3	0.1	System evaluation management state assets in support state revenue is not tax
Fiscal Risk	1	0.03	Variability of PNBP as source risk fiscal that can influence stability state finances .
Total	30		

Qualitative Analysis

Data obtained from the Focus Group Discussions (FGDs) were analyzed using NVivo software. The analysis process involved data management, coding, and identification of key themes to provide deeper insights into state asset management strategies in supporting state revenue. Hierarchical coding was conducted in an aggregate manner to identify the most dominant nodes (i.e., those with the highest number of coding references) across all informants.

Figure 3: Hierarchy Aggregate



A comprehensive node system was designed to integrate various relevant elements related to the implementation of state asset management policies and to address three main questions: (i) policy implementation, (ii) factors influencing effectiveness, and (iii) optimal strategies to support state revenue. There are 17 top-level nodes, reflecting the highest level in the coding hierarchy, which indicate the number of references in an aggregate manner.

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Table 3: Seventeen nodes with the highest hierarchy

No.	*Nodes*	*Ref.*	*Coded Files*	*Max. Value*	*Share (%)*
1	*Non-Tax Income*	7	7	8	88
2	*Utilization Scheme*	6	6	8	75
3	*Public Private Partnership*	5	5	8	63
4	*Idle Asset*	5	5	8	63
5	*Data Integration*	4	4	8	50
6	*Overlap Function*	4	4	8	50
7	*Lack of Expertise*	3	3	8	38
8	*Asset Management*	2	2	8	25
9	*Key Performance Indicator*	2	2	8	25
10	*Regulatory Framework*	2	2	8	25
11	*SBSK*	2	2	8	25
12	*Technology*	2	2	8	25
13	*Public University*	2	2	8	25
14	*Fare Flexibility*	2	2	8	25
15	*Idle Asset > Cost*	2	2	8	25
16	*PPP > Cost Efficiency*	2	2	8	25
17	*Advisory > Expertise*	2	2	8	25

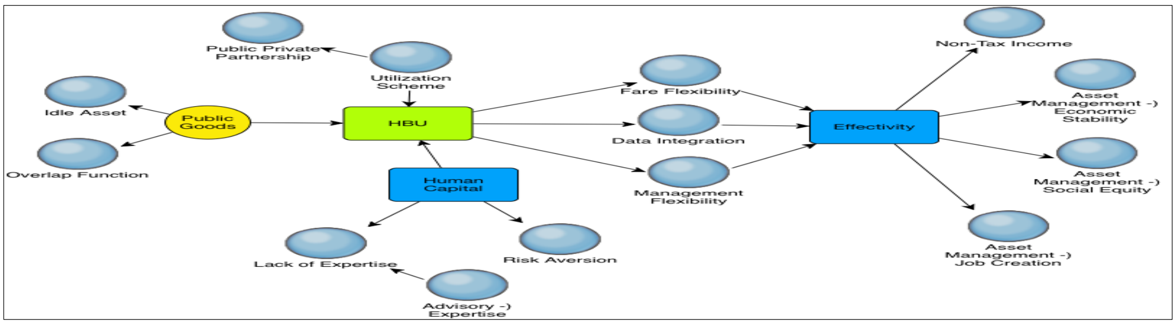
The analysis reveals that the 17 key nodes play the most significant role in the coding hierarchy, with consistent references across all four informant categories to the management of State-Owned Assets (BMN) in relation to Non-Tax State Revenue (PNBP). The PNBP node dominates with an 88% contribution, underscoring the vital role of asset management in state revenue. Utilization Scheme (75%), Public-Private Partnership (63%), and Idle Assets (63%) follow as major strategic themes. Data Integration and Overlap Function each contribute 50%, reflecting governance and operational considerations, while Lack of Expertise (38%) highlights gaps in technical capacity and leadership. Additionally, five thematic elements—Public Goods Performance, Company Profile, Social Equity, Job Creation, and Economic Stability—demonstrate that BMN management impacts not only revenue but also broader socio-economic outcomes. A comparative summary of findings is categorized into Manager, User, Academic, and Auditor groups.

Table 4: Summary Comparison

No.	Category	*Nodes* Similarity
1	*Manager vs User*	*Idle Asset, Overlap Function, Utilization Scheme, Non-Tax Income, Public Private Partnership*
2	*Manager vs Academic*	*Overlap Function, Utilization Scheme, Non-Tax Income, Lack of Expertise, Fare Flexibility, PPP, Cost of Investment*
3	*Manager vs Auditor*	*Idle Asset, Utilization Scheme, SBSK, Key Performance Indicator, Non-Tax Income, Public Private Partnership*
4	*User vs Academician*	*Overlap Function, Utilization Scheme, Data Integration, Non-Tax Income, Public Private Partnership, Asset Management*
5	*User vs Auditor*	*Idle Asset, Utilization Scheme, Data Integration, Non-Tax Income, Public Private Partnership*
6	*Academician vs Auditor*	*Utilization Scheme, Data Integration, Non-Tax Income, Public Private Partnership, Regulatory Framework*

The comparative diagram analysis reveals consistent thematic similarities across various categories of informants, including: (i) an orientation toward the efficient and integrated utilization of assets, with emphasis on productivity and oversight, (ii) the urgency of comprehensive data integration to enable transparency and evidence-based decision-making; (iii) the need for an adaptive and responsive regulatory framework in line with economic dynamics; and (iv) recognition of the potential contribution of state assets to non-tax revenue as a sustainable alternative income source. These thematic similarities represent a significant convergence in the views of users, managers, academics, and auditors regarding the need for more optimal State Owned Asset (BMN) management transformation strategies.

Figure 4: Connectivity Patterns



The causal connectivity patterns formed between the main elements of State Property (BMN) management—namely Public Goods, Highest and Best Use (HBU), Human Capital, and Effectiveness—along with their supporting subnodes, illustrate a complex yet structured interactive network. In this network, the optimization of Public Goods functions is influenced by the implementation of the HBU principle, the success of which is highly dependent on the capacity of Human Capital to operationalize the system. This, in turn, determines the overall effectiveness of state asset management. Such interrelationships create a comprehensive understanding of how strategic issues in BMN governance are interconnected and form a systemic relationship.

Discussion

Implementation of State Asset Management in Indonesia

The effective and efficient implementation of State Owned Asset (BMN) management can support government functions and deliver economic and social benefits. However, nine key challenges persist: (i) ensuring BMN remains focused on public service delivery rather than solely revenue generation; (ii) addressing the issue of idle assets that are underutilized and not optimized for revenue support; (iii) setting flexible tariffs for commercial assets to enhance market competitiveness; (iv) developing a comprehensive regulatory framework to govern all aspects of BMN management and prevent asset leakage; (v) overcoming limited skills among asset users through cross-agency coordination and technical support; (vi) enhancing LMAN's authority to optimize BMN utilization beyond infrastructure financing; (vii) pursuing institutional transformation to ensure adaptive governance aligned with dynamic asset management needs; (viii) resolving incomplete and inaccessible asset data through integrated systems to support informed policymaking; and (ix) strengthening governance, regulation, and asset classification to uphold transparency, accountability, and the application of the Highest and Best Use (HBU) principle.

Factors that Influence the Effectiveness Asset Management

There are six key factors affecting the effectiveness of State Owned Asset (BMN) management in Indonesia: (i) administrative obstacles that reduce procedural flexibility due to complex structures and overlapping regulations; (ii) limited expertise and human resources, which hinder the full realization of asset potential and highlight the need for continuous capacity development; (iii) regulatory risks and investment constraints that discourage asset utilization due to fear of sanctions and complex rules; (iv) misalignment between planning and procurement processes, leading to significant implementation discrepancies; (v) the complexity of management schemes, requiring integrative, multidisciplinary approaches in dynamic environments; and (vi) low Return on Assets (ROA), indicating ongoing inefficiencies and the urgent need for strategic reforms.

Optimization Strategy for State Asset Management to Support State Revenue

Several strategies have been proposed to enhance state revenue through more effective State Owned Asset (BMN) management. These include: (i) optimizing idle assets through comprehensive needs analysis and systemic evaluation to turn underutilized assets into productive resources without disrupting core government functions; (ii) applying flexible utilization schemes, such as Government Cooperation (KSP) and Public-Private Partnerships (KPBU), tailored to operational needs and economic value; (iii) strengthening the capacity of BMN managers through ongoing training, certification, and skills development to ensure accountable and performance-based asset management aligned with the Highest and Best Use (HBU) principle; (iv) implementing flexible tariff strategies to increase revenue without burdening users; (v) applying HBU principles to ensure assets are used for their highest economic and social value; (vi) establishing strategic partnerships with external stakeholders to utilize assets productively while maintaining public service functions; (vii) transforming state assets into business units through an integrated approach that supports economic efficiency, institutional accountability, and sustainable development; and (viii) adopting a multidimensional, HBU-oriented strategy that balances revenue generation with broader goals of economic stability and social welfare.

Conclusion, Implications and Policy Recommendations

Conclusion

State asset management in Indonesia faces significant structural complexity, marked by systemic inefficiencies and a misalignment between strategic planning and procurement. The widespread presence of idle assets and institutional disconnects leads to lost revenue potential and unproductive maintenance costs. A major factor is the limited human resource capacity across government agencies, indicating the urgent need for targeted mentoring and training to strengthen institutional competence—especially in applying the Highest and Best Use (HBU) principle. The integration of advanced and sustainable State Owned Asset (BMN) data systems enables evidence-based decision-making through comprehensive analysis of asset value and risk. A connected and accurate information system is essential for identifying assets and designing innovative, multi-stakeholder utilization models, particularly through Public-Private Partnership (PPP) schemes. An integrative, evidence-based, and multi-participant strategy is essential for optimizing BMN to support Non-Tax State Revenue (PNBP). Grounded in the HBU framework, this strategy promotes transformation through constructive dialogue, flexible tariff structures, and cost optimization via PPPs. It aims to enhance the value of state assets by incorporating economic efficiency, institutional accountability, and comprehensive asset valuation—contributing to sustainable development by transforming unproductive assets and creating a responsive dynamic asset management ecosystem aligned with national priorities.

Implications

These implications are structured based on their feasibility for implementation, beginning with the most achievable. (i) Enhancing Transparency and Accountability in state asset management is essential across all stages of the asset management cycle. Good governance principles—transparency, accountability, and stakeholder participation—must be integrated with adequate oversight to ensure responsible management. (ii) Data Integration and Digitalization of asset information systems are critical for identifying idle assets, monitoring asset status, and developing efficient and optimized strategies. (iii) Strengthening the Role of LMAN in asset optimization is necessary, given its strategic position between traditional bureaucracy and modern corporate management. LMAN should apply comprehensive asset valuation, reconfigure underutilized assets using innovative income-generation strategies, implement the Highest and Best Use (HBU) principles systematically, and foster productive public–private collaborations. (iv) Building Human Resource Capacity, enhancing leadership quality, organizational commitment, and strategic execution within government institutions can be achieved through training and certification programs focused on technical and strategic asset management skills. (v) Systematic Application of the HBU Principle is required to ensure every asset is utilized for its highest economic and social value. (vi) Public–Private Partnerships (PPPs) Based on Risk Analysis and Stronger Policy Support are crucial for maximizing asset potential, as evidence shows such schemes improve efficiency and generate significant economic value. (vii) Simplifying Regulations and Strengthening the Legal Framework are vital to support more efficient state asset management, especially through harmonizing overlapping regulations related to pricing and increasing flexibility in utilization policies.

Policy Recommendations

To improve state asset management, the government must integrate good governance principles throughout the entire process by enhancing transparency and accountability, supported by IT-based reporting systems and stronger supervision. Developing detailed operational guidelines and conducting regular evaluations of the asset management cycle can help reduce misalignments between planning and procurement. Strengthening human resource capacity is essential through intensive training in the Highest and Best Use (HBU) principle, information technology, and risk analysis, along with incentives such as professional certification in asset management. Competent and adaptive personnel are critical to addressing modern challenges. A digital, integrated national asset information system must be developed quickly, enabling the identification of idle assets, real-time status monitoring, data-driven optimization strategies, and inter-agency data integration to ensure accurate and synchronized information. The State Asset Management Agency (LMAN) must be further empowered with expanded authority and institutional capacity, guided by clear performance targets to optimize state revenue contributions. LMAN's role should be strengthened particularly in managing idle assets. Regulatory reforms must support flexible pricing and operational efficiency, especially to enable private sector collaboration. Systematic implementation of the HBU principle is required to ensure each asset is utilized to its highest economic and social value. Finally, technical guidelines for asset managers must be responsive to dynamic field conditions, including reallocating idle assets for strategic purposes. This process must be supported by strong communication, transparency, and enhanced cross-sectoral coordination among agencies, institutions, and regional governments.

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