

# The Role of Centralization, Lean Operation, Risk Management Enhancement, and TB Organization Structure Implementation in Corporate Banking Operational Efficiency: A Case Study of Sentinel Bank Jakarta Branch

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## Abstract

This study investigates the synergistic effects of operational centralization, risk management enhancement, and the Transaction Banking (TB) organization model in improving banking operational efficiency through lean operation principles at the SENTINEL Bank Jakarta Branch. Root cause analyses, including 5 Whys, Fishbone, and Pareto methods, identified key inefficiencies such as decentralization, unclear roles, lack of risk awareness, and fragmented governance. A mixed-methods approach was employed, combining Structural Equation Modeling-Partial Least Squares (SEM-PLS) analysis of employee surveys ( $n = 200$ ) with workload benchmarking of transactional and Full-Time Equivalent (FTE) data. The findings reveal that operational centralization significantly enhances operational efficiency ( $STDEV = 0.066$ ,  $T = 7.056$ ,  $p = 0.000$ ) by reducing non-value-added activities, standardizing workflows, and enabling over 70% cost savings. Lean operation principles also demonstrated a significant positive impact ( $STDEV = 0.249$ ,  $T = 3.539$ ,  $p = 0.000$ ), with centralization and TB reorganization further strengthening lean practices. However, risk management enhancements, while positive, had no significant direct effect on operational efficiency ( $STDEV = 0.069$ ,  $T = 0.827$ ,  $p = 0.408$ ), suggesting a more supportive rather than primary role. Similarly, the TB organizational structure's direct impact on efficiency was statistically insignificant ( $STDEV = 0.240$ ,  $T = 1.834$ ,  $p = 0.067$ ), indicating that structural changes must be accompanied by process optimization to realize full efficiency gains. This study contributes to the discourse on corporate banking efficiency by quantifying the interdependencies among structural reforms, lean operations, and risk management practices in addressing operational inefficiencies.

**Keywords:** Operational Centralization, Lean Operation Banking, Risk Management Enhancement, Organizational Restructuring, Banking Operational Efficiency

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## INTRODUCTION

The COVID-19 pandemic has reshaped the business landscape, compelling industries to prioritize operational efficiency and effectiveness. The banking sector, in particular, has undergone a significant transformation driven by the rise of digital technologies, including digital banking, e-payments, and automation tools. However, within corporate banking, the transition towards digitalization has been relatively slower compared to retail banking due to the traditional need for human interaction in high-value transactions. Cultural practices in corporate banking emphasize personal and physical engagements, especially in transaction negotiations and service flexibility. Despite these challenges, operational efficiency remains a critical area of concern, leading banks to seek structural solutions to enhance productivity while maintaining service quality.

One of the key debates in corporate banking operational management centers around centralization versus decentralization. Centralized models promise standardized processes, clear roles, improved quality control, and potential cost savings, aligning with lean operation principles and enhanced risk management initiatives. As digitalization and automation become inevitable, centralization emerges as a viable strategy for banks striving for sustainable operational efficiency. The implementation of the Transaction Banking (TB) organization structure within centralized operations offers a framework for improving workflow, minimizing redundancies, and optimizing resource allocation. However, implementing such models requires careful balancing of financial and non-financial considerations to ensure effective change management and minimal service disruption.

SENTINEL Bank Jakarta Branch serves as a pertinent case study for examining the practical application of operational centralization. With over 50 years of corporate banking services in Indonesia, SENTINEL Bank has a complex structure that supports both local and global clients through collaborations with various financial institutions (SENTINEL Bank, Bank Profile, 2024). Its operational challenges, especially concerning Full-Time Equivalent (FTE) inefficiencies and organizational structure imbalances, highlight the pressing need for restructuring initiatives. Previous enhancements through automation and system improvements have shown a limited impact on workforce optimization, emphasizing the necessity for broader organizational change.

Operational inefficiencies at the SENTINEL Bank Jakarta Branch are evident through disproportionate FTE distributions between core and non-core operations. Despite investments in digital systems, the reduction in manual processing did not proportionally decrease staffing levels, indicating underlying structural inefficiencies. Financial analysis further reveals high personnel costs relative to industry benchmarks, emphasizing the economic implications of delayed operational reforms. These findings underscore the need for SENTINEL Bank to address inefficiencies by reorganizing its operational framework through centralization, aligned with lean principles.

The purpose of this research is to analyze how operational centralization, lean operation practices, enhanced risk management, and the implementation of the TB organizational model contribute to improving operational efficiency at the SENTINEL Bank Jakarta Branch. By quantifying the impact and identifying key success factors and challenges, the study aims to provide strategic recommendations not only for SENTINEL but also for broader applications in the Indonesian corporate banking sector. This research further contributes to the academic literature and offers a practical reference for future operational restructuring efforts in the banking industry.

## LITERATURE REVIEW

### Theoretical Foundation

Emphasized by the Boston Consulting Group report on Operational Excellence in Retail Banking: Raising Performance in Turbulent Times, resource or FTE optimization and cost reduction are key points in enhancing banking operational efficiency (Duthoit et al., 2012). The

report results are also supported by the KPMG International report, "Beyond Savings: Strategic Cost Optimization for the Modern Bank" (Lewis et al., 2024). The reports and analyses collectively validate that FTE optimization is crucial for striking a balance between operational efficiency and growth. Furthermore, from many theories and literature that discuss operational inefficiencies in banking, discussing ways to improve efficiency in banking operations, and the variables that influence operational efficiency in banking, this study emphasizes how the impact of operational centralization, lean operation, risk management enhancement, and restructuring organization positively impact the FTE and cost reduction in the Bank (Bevan et al., 2019).

### **Operation Centralization**

Changes in banking operations business strategy have accelerated with the continuous evolution of technological opportunities to diversify the banking business model or enhance efficiency, especially in physical branch channels, which are one of the most oversized cost items in banks. Operation centralization has demonstrated that the transformation strategy from decentralization to centralization yields significant improvements in operational efficiency. On the other hand, the physical branch is shifting or transforming into a central method or self-service channel (Ortaköy & Özsürünç, 2019). In other studies, it is emphasized that the most significant impact of digital transformation is a change in business models, as well as in organizational culture and collaborative working approaches (Warner & Wäger, 2019).

### **Transaction Banking Operations (TB-Ops) Organization Model**

Based on the organizational structure theory by Henry Mintzberg, there are five configurations, which are simple structure, machine bureaucracy, professional bureaucracy, divisional structure, and adhocracy, that are relevant to banking institutions (Mintzberg, 1980). Mapping the organization configuration to the banking institutions, especially in the case of the SENTINEL Bank Jakarta Branch, machine bureaucracy emerged as the backbone of transactional efficiency. Characterized by high standardization in the process as a coordination mechanism, the theory is ideal for an internal organization merger (among departments) to generate cost leadership by prioritizing operational efficiency, such as integrating deposit and payment operations or trade finance operations.

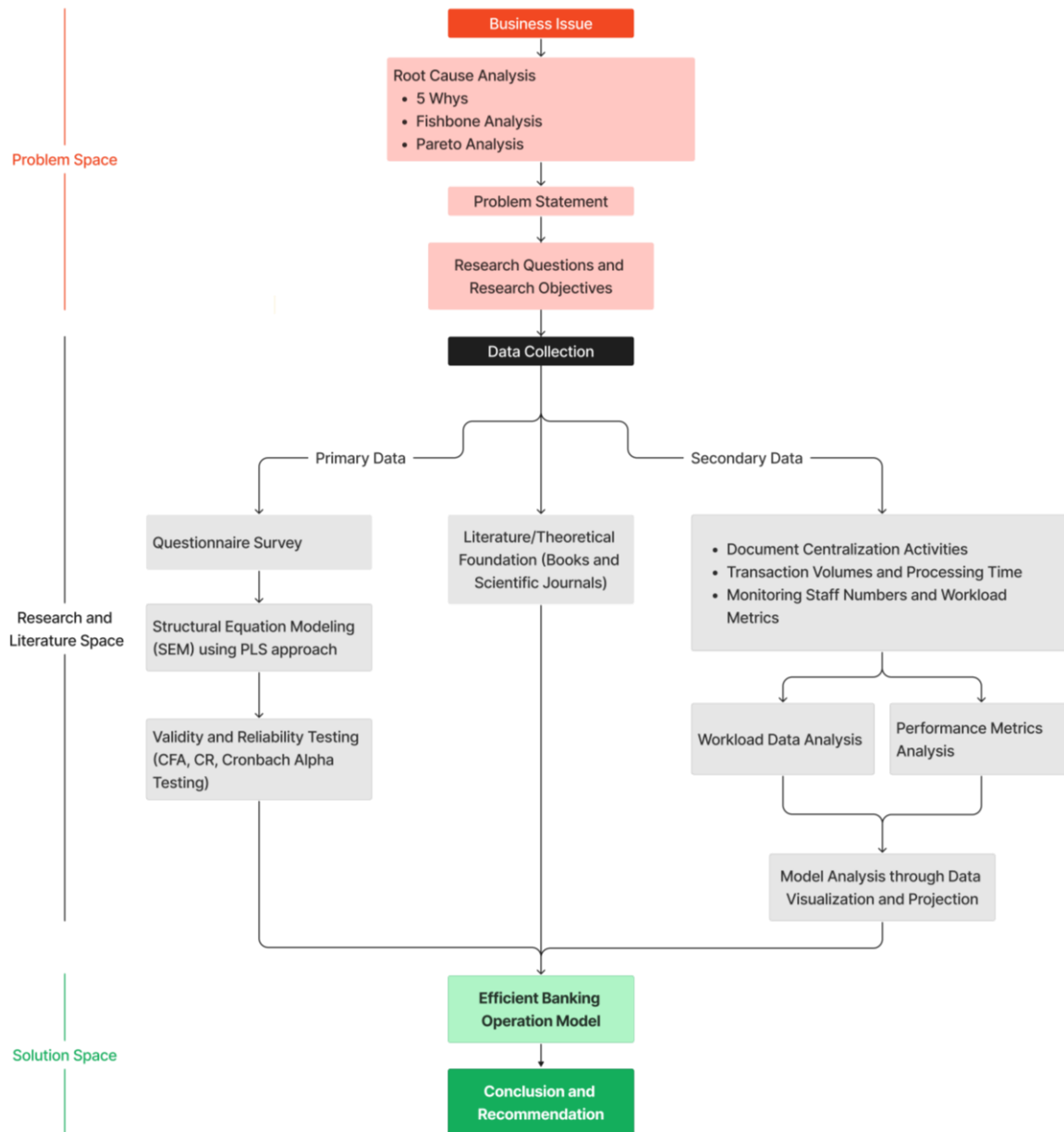
### **Enhancing Operational Risk Management**

Operational risk management is one of the fastest-growing management disciplines within a banking environment, mainly due to various disastrous international incidents. Operational risk is highlighted as a significant risk (primary concern) category alongside credit and market risk. The need to enhance operational risk management requires us to address the challenges associated with the complexity of implementing a structured approach to operational risk management, including the clear identification of roles and responsibilities among organizational layers and players. In the study (Young, 2008). The need for an operational risk management framework that integrates various components, including identification, assessment, monitoring, and control processes, is crucial to defining an organizational structure that significantly impacts the effectiveness and efficiency of the bank in managing operational risk.

## **RESEARCH METHOD**

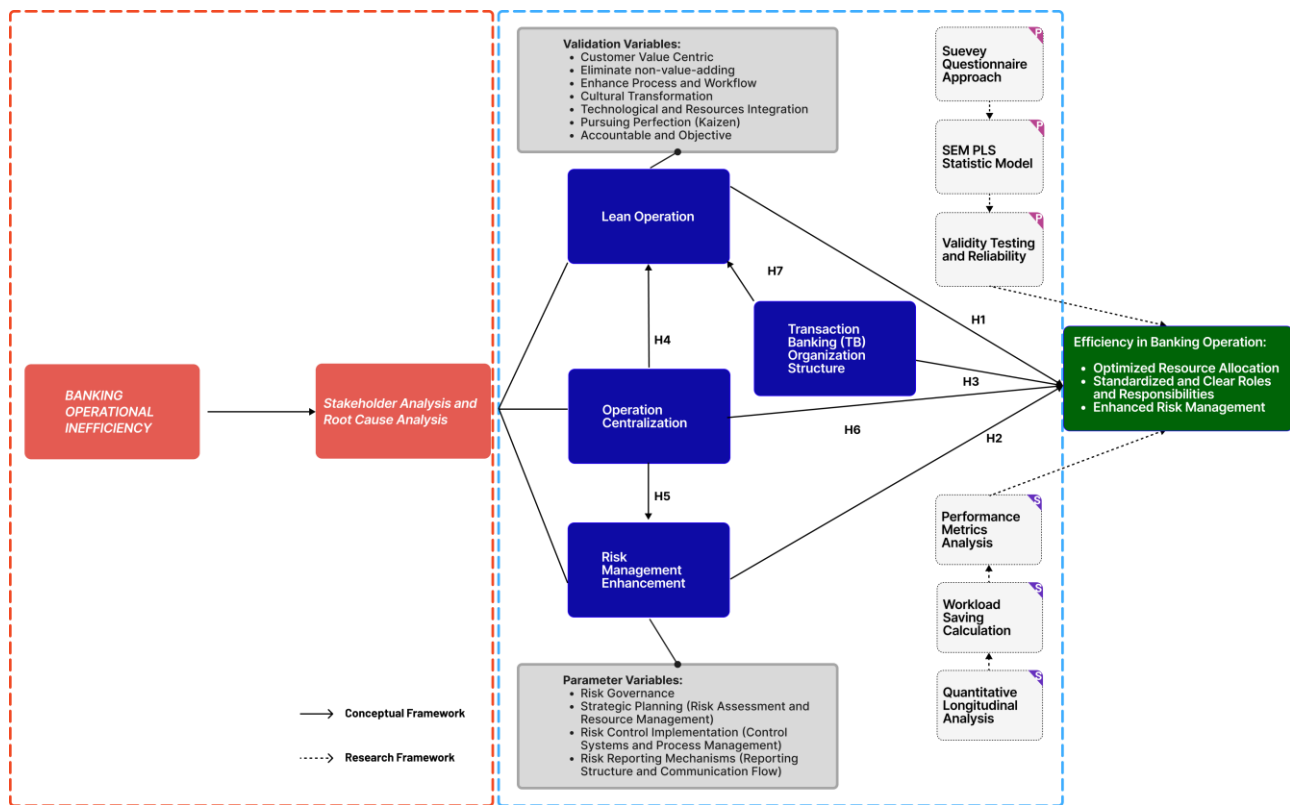
This research employs a quantitative research design that combines longitudinal and survey-based approaches to analyze operational efficiency at the SENTINEL Bank Jakarta Branch systematically. The longitudinal approach enables data collection across different time points to capture changes before and after centralization initiatives. A survey-based method complements the analysis by gathering insights directly from banking operations employees regarding their perceptions of lean operations, risk management, and the impacts of centralization. As stated by Sugiyono (2016), both approaches rely on structured instruments

and standardized data collection techniques based on positivist philosophies. The research design follows a sequential framework that encompasses problem identification, development of the theoretical foundation, collection of primary and secondary data, and statistical analysis, all aimed at ensuring a comprehensive understanding of the research objectives (Figure 1).



**Figure 1.** Research Design

Primary data collection was conducted through a structured questionnaire targeting approximately 200 banking operation employees familiar with the operational processes and changes within the SENTINEL Bank Jakarta Branch. The questionnaire was designed around established theoretical dimensions, with an explicit focus on lean operation principles, risk management enhancements, operational efficiency, and organizational restructuring. Each section used a 5-point Likert scale to ensure consistency and objectivity in responses. In addition to surveys, secondary data were collected from internal bank records, including transaction processing metrics, Full-Time Equivalent (FTE) allocations, and financial performance data. These data sources were critical in triangulating findings from primary data, enabling both subjective perceptions and objective performance measures to be analyzed comprehensively. (Figure 2)



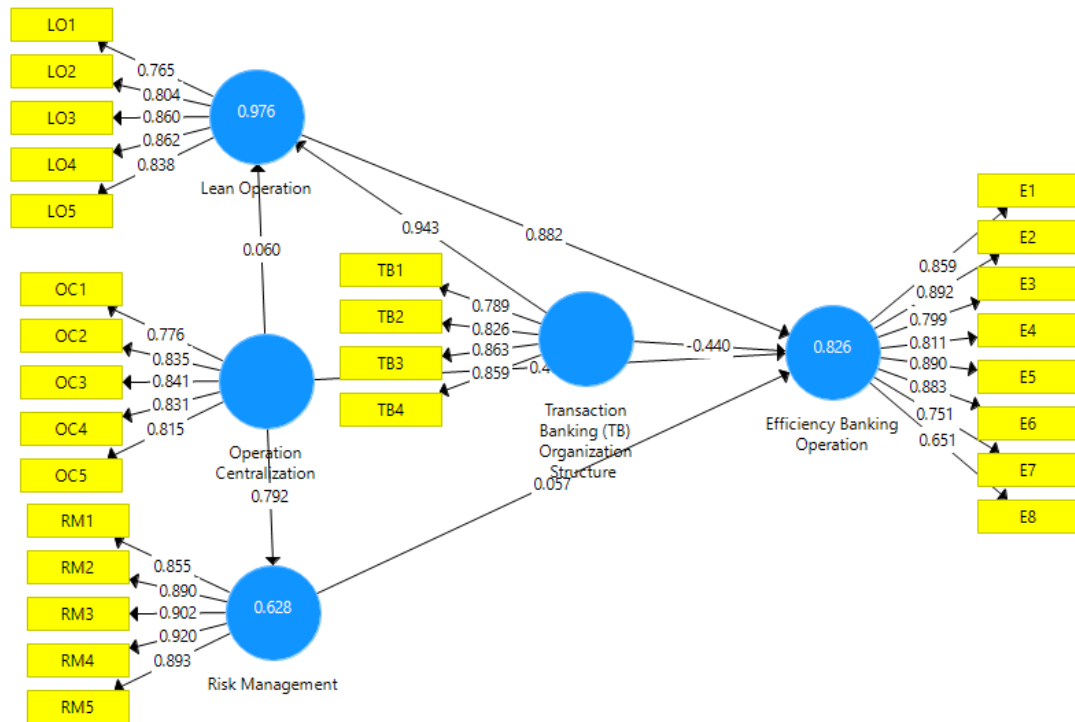
**Figure 2.** Research and Conceptual Framework

For data analysis, this study employed Structural Equation Modeling Partial Least Squares (SEM-PLS) methodology using SmartPLS version 4.1.0.9. SEM-PLS is particularly suitable given the research's small sample size and the exploratory nature of examining complex relationships among latent constructs such as operation centralization, lean operation, risk management, and operational efficiency (Ghozali, 2006). In parallel, workload data analysis was conducted to calculate workload savings, operational efficiency improvements, and changes in transaction volume across departments. Comparative performance benchmarks were also established to assess the relative impacts of decentralization versus centralization strategies. This integrated methodological approach ensures robust, reliable results that are both statistically valid and practically insightful for organizational application.

## RESULTS AND DISCUSSION

### Result

The findings from the primary data collection revealed strong validity and reliability across the research constructs. Validity tests, measured through factor loadings and Average Variance Extracted (AVE) values, confirmed that all indicators exceeded the required thresholds ( $AVE > 0.5$ ), indicating high convergent validity. Reliability tests, as shown by Cronbach's Alpha and Composite Reliability, produced scores above 0.8 for all constructs, demonstrating consistent internal reliability. These results support the robustness of the survey instruments in capturing the essential dimensions of operational centralization, lean operation, risk management, and operational efficiency. Additionally, multicollinearity checks indicated that all Variance Inflation Factor (VIF) values were below 5, ensuring that there was no significant redundancy among the predictor variables. The outer model image below summarizes the results, which are based on data processing using Smart PLS software. Figure 3 displays the findings from the preliminary outer model analysis.



**Figure 3.** Initial Outer Model

Multiple evaluations of the variable coefficients and their indicators are absent from the findings of the first outer model analysis. This model is recognized to satisfy the outer model criteria's standard values. This demonstrates the model's high validity and dependability. The Structural Equation Modeling Partial Least Squares (SEM-PLS) analysis produced significant results regarding the relationships among the studied constructs. The R-squared value for operational efficiency was 0.826, suggesting that operational centralization, lean operations, and risk management enhancements could explain 82.6% of the variance in operational efficiency. Lean operations and centralization had statistically significant positive effects on operational efficiency ( $p < 0.05$ ), while the direct effect of risk management was not statistically significant ( $p > 0.05$ ). These findings highlight the dominant role of centralization and lean practices in driving efficiency improvements at the SENTINEL Bank Jakarta Branch. Furthermore, centralization of operations was found to significantly influence both lean operation practices and risk management practices, reinforcing its central role in operational transformation. Mapping the nine departments into four precise departments could be arranged as follows (Table 1).

**Table 1:** TB-Operations Reorganization Implementation

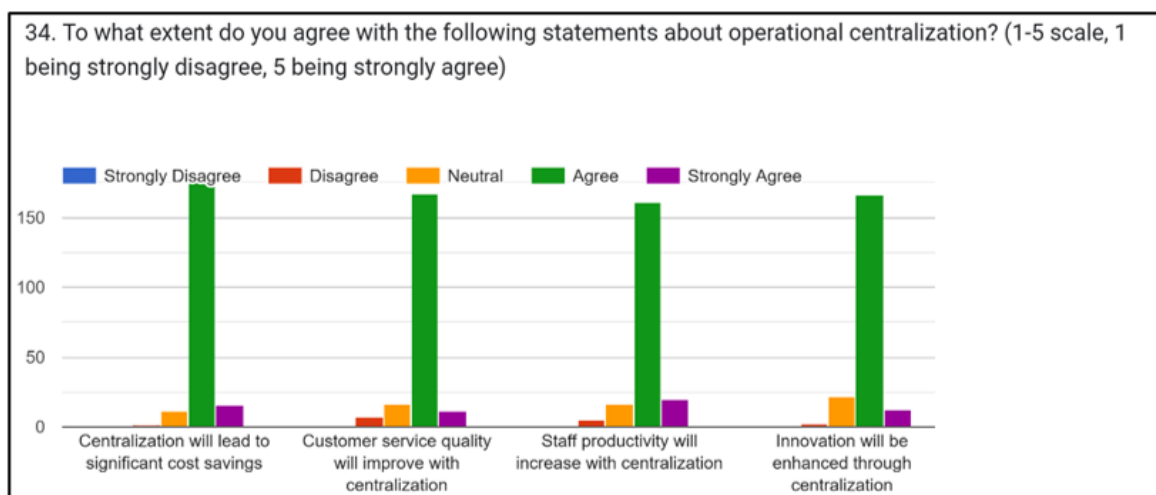
Current Departments	New Departments	Function Roles and Responsibilities
Domestic Remittance Department	Deposit and Payment Operation	The department is responsible for all internal, local currency, and foreign currency settlement transactions, as well as other operational activities within the scope of payment and deposit, including document screening and sanction handling.
Foreign Remittance Department		
Deposit Department		
Surabaya Sub-branch Deposit and Payment		
Service Point Management Department (Operation)		
Operation Planning Department	Trade Finance	The department is responsible for all related trade finance operations, including export and import activities,
Surabaya Sub-branch Export-Import		



Current Departments	New Departments	Function Roles and Responsibilities
Export-Import Department	Operation Department	such as letters of credit, bank guarantees, and documentary credit screening.
Loan Department	Loan Department	The department is responsible for all loan administration, deal operations, outcome settlement, and income settlement within the credit operation function.
Global Markets Operation Department	Global Market Operations Department	The department is responsible for treasury, securities, trading settlement, exchange deal operations, and bank-to-bank transactions related to the bank's market activities.

From the survey responses, a high level of familiarity with the Transaction Banking (TB) organization structure model was observed among employees. Approximately 89% of respondents indicated moderate to high familiarity with the TB model, supporting the readiness for reorganization initiatives. Respondents also broadly agreed that consolidating departments into fewer functional units would improve operational efficiency, particularly by reducing redundancies and clarifying roles and responsibilities. This sentiment aligns with the intended outcomes of centralization efforts, suggesting positive organizational acceptance of the change. Such findings are crucial for successful change management and minimizing employee resistance during the transition.

Secondary data analysis revealed notable inefficiencies in the existing decentralized operation model. Workload data from December 2024 indicated that a disproportionate number of FTEs were allocated to non-core operational activities across several departments. For example, in the Surabaya Sub-branch Deposit & Payment Operation, only 0.75 FTEs were assigned to core activities compared to 7.25 FTEs for non-core tasks. Similarly skewed patterns were observed across departments such as the Export-Import Department and the Domestic Remittance Department. These findings indicate an inefficient allocation of human resources that fails to maximize value-adding activities, thereby increasing operational costs. The data results are visualized in the table below (Figure 4).



**Figure 4.** Operation Centralization Implementation

The comparison of operational staffing between 2018 and 2024 further supports the case for centralization. Despite significant investments in digitalization, the total number of FTEs only decreased by 10, from 182 in 2018 to 172 in 2024. During this period, transaction volumes shifted significantly from manual to fully Straight-Through Processing (STP), yet FTE reductions did not correspond in proportion. For example, manual transaction volumes fell from 48,203 in 2018 to 21,460 in 2024, while fully STP volumes rose from 216,635 to 254,073 transactions. These results suggest that technology improvements alone were insufficient to drive workforce optimization without structural changes in operations.

Further analysis of personnel costs corroborated these operational inefficiencies. Compared to major competitors such as DBS Indonesia, BCA, and BNI, the SENTINEL Bank Jakarta Branch demonstrated one of the highest personnel cost-per-employee ratios, reaching IDR 941.07 million per employee in 2023. This figure substantially exceeds the ratios of peer banks such as BCA (IDR 537.59 million) and BNI (IDR 465.06 million). High personnel costs in conjunction with stagnant operational improvements indicate that SENTINEL Bank's operational model suffered from structural inefficiencies and resource misalignment. These financial pressures provided an additional impetus for exploring operational centralization and reorganization strategies.

Workload analysis after operation centralization planning demonstrated the potential for significant efficiency gains. Using realistic time-per-transaction calculations, it was estimated that a centralized operation could handle a higher transaction volume with a reduced number of FTEs. Consolidating redundant activities and eliminating non-value-added processes were projected to improve FTE utilization rates, shifting many departments from underutilized or overutilized status to a balanced utilization rate (70%-85%). Furthermore, implementing lean operation principles alongside centralization was expected to streamline workflows, reduce processing times, and eliminate redundant approval layers (Figure 5).

Current Department Arrangement	New Department Arrangement	Transactions Processed			Current FTE Assigned	New FTE Proposed	FTE Utilization Rate (Average)	New FTE Utilization Rate	Improvement (%)
		STP	Semi-STP	Non-STP					
Deposit Department	Deposit and Payment Operation	3,236,636	131,103	105,124	78	40	32.97%	81.09%	48.12%
Domestic Remittance Department									
Foreign Remittance Department									
Surabaya Sub-Branch Deposit and Payment									
Service Point Management Department	Trade Finance Operation Department	66,313	1,128	114,584	68	63	36.55%	81.15%	44.60%
Surabaya Sub-Branch Export and Import									
Operation Planning Department (Sanction Screening)									
Export-Import Department (Trade Finance)	Global Market Operations Department	-	-	63,128	14	14	84.55%	84.55%	
Treasury Operations Department									
Credit Operation Department									
	Loan Operation Department	-	-	16,718	12	12	80.38%	80.38%	

**Figure 5.** FTE of TB Organization Structure Model with Operation Centralization

The implementation of the TB organizational model, as proposed, reorganized nine existing departments into four core functional units: Deposit and Payment Operation, Trade Finance Operation Department, Loan Department, and Global Market Operations Department. Each new department was strategically aligned to specific core functions, thereby promoting specialization, reducing redundancy, and clarifying accountability. Survey responses supported the effectiveness of this reorganization, with most participants agreeing that the TB model would enhance process standardization, improve cross-functional collaboration, and boost customer service quality. These structural changes were projected to have a positive impact on overall operational efficiency (Figure 6).



No.	Department in Charge	Reorganization and Centralization of Banking Activities	Elaboration on Lean Operation	FTE
1	Deposit and Payment Operation And Trade Finance Operation Department	Total 31 Activities (Core and Other Operational Activities)	The centralization of a total of 31 banking operational activities, such as deposit account activities, domestic remittance activities, foreign remittance activities, reporting in sub-branch, and service points, potentially leaned by performing reorganization and operation centralization to Deposit and Payment Operation (DPO) and Trade Finance Operations Department (TFOD) Jakarta Branch. This practice could also potentially efficient the FTE alignment to 43.	43
<b>Total FTE Saving</b>				<b>43</b>

**Figure 6.** Operational Activities and FTE Impacted Table from Reorganization and Operation Centralization

Risk management perspectives gathered through the survey highlighted a generally positive view of the impact of centralization on risk control. A majority of respondents believed that centralization would improve governance oversight, streamline risk reporting mechanisms, and enhance control systems. However, some concerns were noted regarding the potential for increased systemic dependencies and communication challenges during the transition. Addressing these concerns through robust risk frameworks and change management strategies would be critical to ensuring a smooth and secure transition to a centralized operational model.

Finally, the Pareto analysis of root causes for operational inefficiencies highlighted the key areas that require attention. The top causes included decentralization of operations (14%), unclear roles and responsibilities (28%), and lack of operational risk awareness (40%). Together, these factors accounted for over 80% of the operational inefficiency issues identified at the SENTINEL Bank Jakarta Branch. Thus, addressing these areas through centralization, lean operational practices, and risk management enhancement was crucial to achieving the desired improvements in efficiency and cost-effectiveness.

## Discussion

The results of this study strongly affirm that operational centralization plays a crucial role in enhancing operational efficiency within corporate banking, specifically at the SENTINEL Bank Jakarta Branch. Centralizing operations enables banks to streamline workflows, eliminate redundant activities, and more effectively allocate human resources to value-added functions.

These findings are consistent with previous research by Womack and Jones (2003), who emphasized that centralized structures promote better workflow design and reduce non-value-added activities. Moreover, Nguyen (2018) In a study on Southeast Asian commercial banks, researchers found that centralized operational models led to faster processing times, fewer errors, and better cost efficiency—key markers of Lean performance. The study concluded that centralization serves as a critical enabler for Lean transformation, especially in large organizations with geographically dispersed branches. In the context of this study, the acceptance of this hypothesis suggests that the centralization strategy adopted by the banking institutions is effective in supporting Lean principles. It enables better utilization of shared services, enhanced control over operations, and a more agile response to operational issues.

These findings are also consistent with previous research advocating for centralization in banking as a means to improve efficiency and reduce operational costs. (Sugiyono, 2016). The substantial positive effect of operation centralization on lean operation practices and risk management frameworks further validates this strategy as a holistic solution. Nonetheless, successful implementation requires careful design to preserve service quality and mitigate the risks associated with loss of flexibility.

The study also highlights the importance of lean operation principles in supporting operational restructuring efforts. Lean operations, with their focus on customer value creation, elimination of non-value-added activities, and continuous improvement, align naturally with the

objectives of centralization. The positive relationship between lean practices and operational efficiency found in this study reinforces the need for banks to integrate lean frameworks into their daily operations. However, it was observed that technology and automation alone are insufficient to drive efficiency gains unless supported by lean cultural transformation and systematic workflow optimization. As such, SENTINEL Bank's adoption of the Transaction Banking (TB) organizational model represents a necessary structural adjustment to operationalize lean principles effectively.

While risk management enhancement was hypothesized to have a direct impact on operational efficiency, the findings indicate that its role is more indirect but essential. Although risk management improvements did not show a statistically significant direct effect on efficiency in this study, they are critical for safeguarding centralized operations from emerging operational risks. As operations become more centralized, the concentration of risk increases, necessitating stronger governance, control mechanisms, and risk reporting frameworks. Therefore, integrating risk management into centralization initiatives ensures operational resilience and regulatory compliance, which are vital for sustaining long-term efficiency gains in banking operations.

The implementation of the Transaction Banking (TB) organization structure at the SENTINEL Bank Jakarta Branch is anticipated to generate substantial efficiency improvements. By consolidating nine fragmented departments into four streamlined units, the bank can achieve better role clarity, more substantial process ownership, and enhanced cross-functional collaboration. Survey responses validated employee support for the TB model, indicating organizational readiness and positive attitudes towards change. However, successful transition demands proactive management of challenges such as communication gaps, customer service continuity, and workforce upskilling. Developing comprehensive change management programs and providing ongoing training will be crucial to ensuring that the reorganization achieves its operational and strategic objectives.

In summary, this study highlights that an integrated approach combining operational centralization, lean operations, and risk management is crucial for addressing operational inefficiencies in corporate banking. The case of SENTINEL Bank Jakarta Branch demonstrates that structural reforms, when aligned with cultural and procedural changes, can significantly improve operational performance. Future research could expand this model to other branches or banks to validate its generalizability within the Indonesian banking sector. Additionally, continuous performance monitoring post-implementation is necessary to ensure that centralization delivers sustained benefits over time. As the banking industry faces increasing pressures for digital transformation and cost optimization, such strategic operational frameworks will become increasingly vital for competitiveness and resilience.

## CONCLUSION

This study comprehensively investigated the synergistic effects of operational centralization, the implementation of the Transaction Banking (TB) organizational structure, lean operation practices, and risk management enhancements on improving operational efficiency at the SENTINEL Bank Jakarta Branch. The findings revealed that operational centralization has a significant and positive impact on operational efficiency, with higher levels of centralization leading to more streamlined activities and substantial cost reductions, projected at approximately IDR 1.2 billion annually. Lean operation practices also demonstrated a direct and significant contribution to efficiency improvements, emphasizing the importance of customer-centric processes, the elimination of non-value-added activities, and continuous improvements, all of which aligned with the centralization initiatives and TB reorganization efforts. Conversely, although risk management enhancements showed a positive relationship with operational efficiency, the direct effect was statistically insignificant, suggesting that its role is more foundational and supports long-term sustainability. The TB organizational structure, which consolidated nine departments into four key units, did not directly impact efficiency in a statistically significant manner; however, it significantly facilitated the adoption of lean

operational practices, indirectly promoting operational improvements. Furthermore, workload analyses demonstrated that the combined strategy of centralization and TB reorganization substantially optimized Full-Time Equivalent (FTE) allocation, addressing critical inefficiencies such as role ambiguity, decentralized governance, and ineffective resource utilization.

To fully realize the potential benefits identified through this research, several strategic recommendations are proposed for the SENTINEL Bank Jakarta Branch. First, it is advised that the operational centralization and TB organizational structure be implemented gradually through a phased approach to minimize execution risks and better manage workforce transitions. Establishing a dedicated lean operations program staffed by trained specialists should be prioritized to drive ongoing process improvements and to foster a culture of continuous efficiency gains. Enhancing the integration of risk management systems remains critical, requiring the development of centralized monitoring mechanisms, standardized risk assessment procedures, and the embedding of risk considerations into operational processes during and after the centralization efforts. Moreover, a comprehensive communication and change management plan must be developed, involving all affected departments to ensure knowledge transfer, staff engagement, and alignment across management levels, alongside promoting new career pathways both vertically and horizontally. Addressing customer impact is equally crucial, which can be achieved through implementing customer experience assessments and establishing relationship management protocols for high-value clients. Finally, future studies are recommended to incorporate more comprehensive and qualitative indicators, extend the research across a broader range of banks, and lengthen the observation period, thereby enhancing the generalizability and applicability of the findings to industry-wide operational policy development.

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