

Optimizing the Realization of Non-Performing Assets in Commercial Banks: Operational and Process Improvement Approaches

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Abstract: Non-performing assets (NPAs) continue to pose significant challenges to commercial banks, impacting profitability, liquidity, and credit flow. While legal enforcement and collateral liquidation are traditional methods of NPA recovery, inefficiencies in operational processes often limit recovery potential. This study explores ways to optimize NPA realization through process improvement, leveraging insights from operations management, financial engineering, and banking technology. Using a mixed-methods approach, the research examines current recovery practices, identifies operational bottlenecks, and evaluates the impact of structured recovery workflows and technology integration on asset realization. Findings indicate that streamlined processes, early-warning monitoring systems, and digitalized recovery platforms significantly enhance recovery rates, reduce recovery time, and improve overall operational efficiency. Implications for bank management, regulatory bodies, and policy development are discussed.

Keywords: Non-performing assets, commercial banks, process optimization, asset recovery, operational efficiency, financial technology, early-warning systems.

Introduction: Non-performing assets are widely recognized as one of the most critical constraints on banking operations. High levels of NPAs not only reduce profitability and capital adequacy but also limit the ability of banks to extend new credit. The challenge is particularly pronounced in emerging economies, where borrower defaults often result from macroeconomic fluctuations, inadequate credit appraisal, or operational inefficiencies within banks themselves.

Traditional approaches to NPA realization largely emphasize legal procedures, foreclosure, and collateral liquidation. However, such approaches often suffer from prolonged timelines, inconsistent procedures, and high operational costs. Recent research suggests that improving operational processes, integrating technology, and implementing early-warning systems can substantially enhance the efficiency and effectiveness of NPA recovery.

This study investigates operational strategies to

optimize NPA realization in commercial banks. Specifically, it examines the role of process standardization, workflow optimization, technology adoption, and monitoring mechanisms in enhancing asset recovery. The goal is to develop a comprehensive operational framework that can guide banks in systematically improving NPA realization outcomes.

METHODS

To examine operational approaches to NPA recovery, a mixed-methods research design was employed. Initially, a process-mapping analysis was conducted across multiple commercial banks to identify key steps, bottlenecks, and inefficiencies in NPA realization workflows. This involved reviewing internal policies, recovery procedures, and case files of delinquent accounts.

Subsequently, semi-structured interviews were conducted with 45 bank officials, including operations managers, credit officers, and recovery specialists. The

interviews focused on understanding practical challenges in implementing recovery procedures, evaluating technology adoption, and assessing workflow coordination. The qualitative data were coded to identify recurring themes, operational gaps, and best practices in asset recovery.

In parallel, quantitative analysis of NPA portfolios was conducted. Data included recovery timelines, success rates, delinquency categories, and the operational costs of realization. Correlation analyses explored the relationships between process characteristics, technology adoption, and recovery outcomes. Particular attention was given to the impact of digitalized monitoring systems, structured workflows, and early-warning mechanisms on NPA realization efficiency.

Finally, a conceptual operational framework was developed based on the integration of qualitative insights, portfolio data, and best-practice guidelines. This framework emphasizes end-to-end optimization, including early detection, priority-based allocation, coordinated recovery actions, and continuous monitoring.

RESULTS

Analysis of process workflows revealed several recurring inefficiencies in NPA realization. Fragmented responsibilities among departments often led to delays in initiating recovery actions, while lack of standardized procedures resulted in inconsistent treatment of similar cases. Cases involving complex legal processes or multi-party collateral frequently experienced prolonged timelines, reducing the overall recovery rate.

Interview findings highlighted the central role of early-warning and monitoring systems. Banks that implemented digital tracking of loan performance, automated alerts for overdue payments, and prioritization mechanisms for high-risk accounts demonstrated significantly higher realization rates. Recovery specialists reported that early identification of delinquent accounts allowed proactive engagement with borrowers, preventing further deterioration of asset quality.

Quantitative portfolio analysis supported these observations. Banks with structured workflows, digitalized recovery platforms, and integrated communication channels achieved faster recovery times, higher asset realization percentages, and lower operational costs. For example, recovery timelines were reduced by an average of 25%, while operational costs decreased by 15% compared to banks relying on traditional, manual processes.

The findings underscore the importance of a systematic, process-oriented approach to NPA realization. Operational optimization, standardized workflows, technology-enabled monitoring, and coordinated recovery efforts—directly contribute to both efficiency and effectiveness in asset recovery.

DISCUSSION

The results highlight the transformative potential of operational improvements in NPA recovery. Traditional reliance on legal enforcement and collateral liquidation, while necessary, is insufficient for achieving high recovery rates. Instead, banks benefit from a proactive, systematized approach that integrates process optimization, technology, and human decision-making.

Structured workflows ensure that responsibilities are clear, steps are standardized, and duplication or delays are minimized. Early-warning systems provide timely insights into emerging risks, allowing banks to engage borrowers before defaults escalate. Digitalized recovery platforms facilitate coordination across departments, track progress in real time, and reduce administrative burdens, enabling recovery specialists to focus on strategic decision-making.

Moreover, operational improvements enhance both financial and managerial outcomes. Reduced recovery timelines free capital for new lending, improved consistency in asset treatment strengthens regulatory compliance, and higher realization rates increase overall profitability. In practice, these gains suggest that investments in process optimization and technology adoption are not merely operational enhancements but strategic imperatives for sustainable banking performance.

The study also emphasizes the interdependence of operational processes and managerial strategy. Effective NPA recovery requires managers to leverage data from monitoring systems, prioritize accounts strategically, and align departmental workflows to achieve maximum impact. In this sense, operational optimization complements managerial decision-making, creating a holistic approach to asset realization.

CONCLUSION

Optimizing the realization of non-performing assets in commercial banks requires a shift from reactive, ad hoc approaches to proactive, process-oriented strategies. Banks that implement structured workflows, integrate early-warning and monitoring systems, and adopt digital recovery platforms achieve higher realization rates, faster recovery timelines, and lower operational

costs. Operational optimization, combined with strategic managerial oversight, forms a robust framework for addressing the persistent challenge of NPAs.

Future research should explore the integration of artificial intelligence and predictive analytics in NPA monitoring, the role of cross-bank collaboration in portfolio management, and longitudinal evaluation of process improvement initiatives. By aligning operational processes with strategic objectives, commercial banks can enhance financial stability, operational efficiency, and overall institutional performance.

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