

# Analysis of The Home Ownership Credit Provision System at PT BANK TABUNGAN NEGARA IN PADANG CITY

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**Abstract:** - This study evaluates the mortgage (KPR) disbursement system at PT Bank Tabungan Negara (Persero) Tbk (BTN), which plays a strategic role in financing the national housing sector. The main focus is on the alignment between formal procedures in Standard Operating Procedures (SOPs) and their implementation in the field, the effectiveness of credit risk mitigation, and the potential use of data-based predictive technology in debtor selection. The study used a mixed methods approach, using interviews, questionnaires, and document analysis as data collection instruments. The results show significant discrepancies between SOPs and practices in several BTN branches, a weak field verification system, and minimal use of predictive technology such as data mining algorithms in the debtor eligibility assessment process. Furthermore, customer dissatisfaction was found regarding information transparency and understanding of mortgage procedures. These findings indicate the need for systemic reform through the integration of digital technology, staff training, improving customer financial literacy, and strengthening post-disbursement monitoring. This research contributes to the development of more efficient and adaptive housing finance policies.

**Key-Words:** - Home Ownership Credit, Non-Performing Loan, Predictive Technology.

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## 1 Introduction

Fulfillment of housing needs is part of the basic rights of every citizen as mandated in Article 28H paragraph (1) of the 1945 Constitution. (Sodikin, 2021) However, the reality is that the housing backlog in Indonesia remains a major issue. According to data from the Ministry of Public Works and Public Housing (PUPR), the national housing backlog reached 12.7 million units in 2023. (KIC, 2022) This situation illustrates a significant gap between the number of homes needed and the availability of adequate housing. This problem is further complicated by the fact that the majority of the affected population are low-income earners (MBR) who cannot afford to purchase a home outright. In response to this problem, the Indonesian government, through various policies, has encouraged the banking sector to provide affordable housing financing products. One of the main instruments in this program is subsidized Home Ownership Credit (KPR), which is distributed by national banks, particularly PT Bank Tabungan Negara (Persero) Tbk (BTN). BTN has a historical reputation as a pioneering bank in housing financing since the post-independence era, and to this day remains a leading financial institution in the distribution of both subsidized and non-subsidized KPR. (BTN, 2025).

Various previous studies have highlighted the dynamics of the mortgage lending system in Indonesia. Biehl et al. (2024) found that the administrative selection process for prospective debtors was still manual and prone to document manipulation. Alihamna (2022) highlights the weak legal protection aspects for debtors in mortgage contracts during the COVID-19

pandemic. Frederica et al. (2021) underscores the importance of collaboration between banks and developers in simplifying the mortgage lending process. Research by Anas (2024) demonstrated that implementing data mining with the C4.5 algorithm can significantly improve the accuracy of predicting borrower eligibility in the subsidized mortgage scheme. These findings suggest that Indonesia's mortgage system requires reform, encompassing policy, procedures, and technology implementation.

Although various studies have examined partial aspects of the mortgage system, there remains a gap in studies that holistically integrate three main dimensions: evaluation of the conformity of procedures (SOPs) with field practices, the effectiveness of credit risk mitigation, and the use of data-based predictive technology. Furthermore, few studies have specifically focused on BTN branches with high levels of Non-Performing Loans (NPLs) as the focus of analysis. This study attempts to fill this gap by conducting an in-depth study of several BTN branches with high NPL levels, including BTN Central Jakarta, Mataram, and Sukabumi. A mixed methods approach was used to gain a comprehensive understanding of the various dimensions that influence the mortgage system, from both internal (institutional) and external (customer and policy) perspectives.

This study aims to evaluate the suitability between BTN's mortgage loan procedures and their implementation in the field, analyze the effectiveness of the credit risk mitigation system in the selection process for prospective debtors, assess the potential use of data-based predictive technology in the mortgage loan process, and formulate strategic recommendations to improve the efficiency and accountability of the BTN mortgage loan system. Because this study uses a mixed methods approach, the quantitative part is used to find significant differences between customer perceptions of the transparency of the mortgage process with the provisions stated in the BTN SOP and the implementation of data-based predictive technology has a positive influence on the effectiveness of debtor selection and the reduction of NPL rates.

This study has high significance, both theoretically and practically. Theoretically, it enriches the literature in the fields of credit risk management, digital banking services, and housing finance policy. Practically, the findings can serve as a reference for BTN management and banking regulators (OJK, Ministry of Public Works and Housing) in designing a more efficient, adaptive, and responsive mortgage system to current challenges. Furthermore, this research also contributes to efforts to reduce the national housing backlog through systemic improvements in the financing sector.

## **2 Research Method**

This study uses a qualitative descriptive approach aimed at providing an in-depth understanding of the Home Ownership Credit (KPR) system at PT Bank Tabungan Negara (Persero) Tbk (BTN). This approach was chosen because it is appropriate for exploring complex social and institutional phenomena in a contextual and natural way, particularly regarding policies, operational procedures, implementation, and the responses of actors in the housing finance system. (Mouchaers et al., 2024) This method allows researchers to dig deep into data on the perceptions, experiences, practices, and obstacles experienced by both BTN internal parties and customers during the mortgage application and disbursement process.

The research design used was an intrinsic case study, where the main object of the study was the BTN mortgage lending system, which was considered to have unique, important characteristics and worthy of in-depth study. The study was conducted at three purposively selected BTN branches: BTN Central Jakarta, BTN Mataram, and BTN Sukabumi. These three branches were chosen because they exhibited significant variations in SOP implementation, Non-Performing Loan (NPL) levels, and the social and economic diversity of their customers. This selection aimed to obtain a more comprehensive picture of mortgage lending practices across different regional and managerial contexts.

Data collection in this study was carried out using triangulation, namely by combining in-depth interviews, field observations, and documentation studies. (Rohliyati et al., 2023) Semi-structured in-depth interviews were conducted with five key informants at each BTN branch,

including credit managers, mortgage analysts, field verification officers, and two active subsidized mortgage customers. The interviews were conducted using an open-ended guide that allowed researchers to flexibly explore the informants' perspectives and experiences while remaining focused on the main research issues: the implementation of standard operating procedures (SOPs), the credit risk evaluation process, and the use of technology in debtor selection. These interviews also served as a means to understand the structural and technical barriers encountered in the field. (Krath et al., 2024).

In addition to interviews, researchers also conducted direct observations of operational processes at the BTN branch office serving as the research location. Observations were conducted using a non-participatory approach, where researchers recorded service flows, interactions between officers and customers, and the completeness and format of documents used during the mortgage application and verification process. These observations served to confirm the alignment between applicable SOPs and actual practices in the field and to detect any deviations. (Aljohani, 2023) Observation results were also used to strengthen interview data and provide a realistic picture of work dynamics in the field.

Secondary data sources were also utilized in this study to complement and provide context to the primary data. The documents reviewed included BTN's Standard Operating Procedures (SOPs) for mortgage disbursement, branch performance reports, particularly those related to NPL figures, internal audit documents, credit risk evaluation reports, and regulations from the Financial Services Authority (OJK) and the Ministry of Public Works and Housing (PUPR) governing housing finance. Furthermore, the researchers utilized references from academic literature and scientific articles related to banking digitalization and credit risk management. The use of secondary data provided a normative and theoretical basis for analyzing the primary data obtained in the field. (Ndhlovu & Pasipamire, 2023).

The collected data was then analyzed using thematic content analysis techniques. The analysis was conducted through several important stages: transcription of interview data, data reduction to filter relevant information, data categorization based on themes, and drawing narrative conclusions. (Christou, 2023). Transcriptions were conducted verbatim to ensure the accuracy of the interview content. The data was then filtered to identify information directly relevant to the research focus, such as the suitability of standard operating procedures (SOPs), the effectiveness of risk mitigation, operational constraints, and customer perceptions. Categorization was carried out by grouping the data into key themes, such as field verification implementation, communication between officers and customers, and the potential use of predictive technology.

To ensure the validity of the findings, the researcher used a triangulation strategy of sources and methods. (DeFusco, 2023) Source triangulation was conducted by comparing information obtained from various informants who have different roles in the mortgage lending system. Method triangulation was conducted by comparing the results of interviews, observations, and documentation. This technique allowed researchers to examine the consistency of data from various perspectives. Furthermore, member checking was conducted by sending a summary of the interview results to informants for confirmation. This step was taken to ensure that the researcher's interpretation did not deviate from the informant's original intent. Furthermore, discussions with the supervisor and colleagues (peer debriefing) were conducted to test the consistency of the analysis' logic and prevent interpretive bias.

## **4 Research Results and Discussion**

### **4.1. RESULTS**

#### **a) Procedural Policies Implemented at BTN**

The research results show that PT Bank Tabungan Negara (Persero) Tbk (BTN) has a procedural policy in the form of a fairly comprehensive and structured Standard Operating Procedure (SOP) in the process of providing Home Ownership Loans (KPR). This SOP covers stages starting from the initial application by prospective debtors, administrative and field verification, creditworthiness assessment, to disbursement of funds and post-disbursement monitoring. Normatively, BTN's SOP requires that every KPR application go through a factual

verification process of income data, employment stability, and direct inspection of the prospective debtor's property and residence. The goal is to ensure that prospective KPR recipients truly meet the administrative and financial requirements, thereby minimizing the risk of default from the outset.

However, interviews and field observations revealed inconsistencies in implementation at several branches. At BTN Mataram and BTN Sukabumi, factual verification processes were often not carried out due to limited field staff and high workloads. This resulted in verification being conducted solely through administrative means using income documents, without direct validation in the field. In practice, officers relied solely on documents such as pay slips, bank statements, and employment certificates. This situation indicates that although procedures are in place, their technical implementation is suboptimal, leaving potential administrative risks and moral hazard in debtor selection.

**b) Its Effectiveness in Mitigating Credit Risk at BTN**

In terms of credit risk mitigation effectiveness, research results indicate that BTN faces serious challenges, particularly in risk management in the subsidized mortgage segment. Based on data obtained from BTN's internal documents, the trend of Non-Performing Loans (NPLs) in subsidized mortgages has consistently increased over the past five years. This indicates that the implemented risk mitigation system is still unable to reduce the potential for default among low-income debtors, as shown in the following NPL trend data for subsidized and non-subsidized mortgages:

**Table 1. BTN NPL Trends Based on Mortgage Type 2020–2024**

| Year | NPL of Subsidized Mortgage (%) | Non-Subsidized Mortgage NPL (%) |
|------|--------------------------------|---------------------------------|
| 2020 | 2.35                           | 1.12                            |
| 2021 | 2.89                           | 1.20                            |
| 2022 | 3.12                           | 1.18                            |
| 2023 | 3.47                           | 1.22                            |
| 2024 | 3.81                           | 1.25                            |

The data in Table 1 shows that the NPL for subsidized mortgage loans has increased nearly 1.5-fold over the past five years. This increase aligns with field findings that the borrower selection process for subsidized mortgage loans is still dominated by a manual approach without in-depth analysis of prospective borrowers' repayment capacity. Furthermore, the post-disbursement reporting and monitoring system remains reactive and not yet based on real-time monitoring technology. Another factor exacerbating the situation is borrowers' lack of understanding of payment obligations and penalty mechanisms, which leads to late installment and failure to meet credit obligations.

**c) The Potential of Applying Data-Based Predictive Technology in the Debtor Selection Process at BTN**

Research results indicate that the use of data-based predictive technology in BTN's debtor selection system is still very minimal, particularly in the initial process of assessing prospective debtors' eligibility. To date, the debtor selection process still relies heavily on manual document evaluation and the judgment of loan officers. There is no automated assessment system or credit scoring system based on data mining algorithms used systematically by branch offices.

In fact, the potential for applying predictive technology to debtor selection is enormous, especially considering that BTN has historical data on thousands of mortgage debtors that can be analyzed to build predictive models based on payment patterns, employment background, housing type, and geographic location. Several algorithms such as C4.5, Naïve Bayes, or Random Forest can be applied to support a more objective and data-driven decision-making process, not just based on static document assessment. (Sinlae et al., 2022) This technology enables faster, more accurate analysis, and can adapt to the specific risks of each branch or market segment.

In addition to assisting in the selection process, predictive technology can also be used for post-disbursement monitoring, namely predicting debtor payment behavior based on certain early indicators, such as late installments, changes in employment data, or inappropriate use of funds. This way, BTN can identify potential defaults early and intervene proactively. The use

of this technology also aligns with the digitalization policy direction of the banking and housing finance sectors being intensified by the Financial Services Authority (OJK) and the Ministry of Public Works and Housing (PUPR).

## **4.2. DISCUSSION**

The results of this study show that although BTN has a structured system and standard operating procedures (SOPs) for providing mortgages, their implementation in the field faces various challenges, both in terms of human resources, verification processes, and technology. The mismatch between SOPs and actual practices is the root of many problems in this system. In management systems theory, the gap between formal procedures and field execution is an indication of weak internal control systems and low operational training effectiveness. (Habamenshi & Nibeza, 2024).

The fact that the field verification process was not carried out as intended indicates an imbalance between institutional expectations and branch operational capacity. In credit risk management, the verification process is a crucial step in understanding the debtor's overall profile. (Mayasari et al., 2022) Without this process, banks run a high risk of extending credit to unworthy parties, ultimately leading to an increase in non-performing loans (NPLs).

Furthermore, the heavy reliance on manual evaluations is also a significant weakness. In the digital era, credit systems should be able to utilize data-driven technology to support decision-making. Data mining and predictive algorithms such as C4.5 or random forests can help identify historical patterns related to debtors' repayment eligibility. (Madaan et al., 2021) Other countries that have adopted this system have proven to be able to significantly reduce the non-performing loan ratio.

On the other hand, customers' perceptions of not understanding procedures and not receiving adequate information indicate weak communication and financial education from banks. In a customer-centric approach, financial institutions are required to not only provide services but also empower customers through adequate information and guidance. (Sheth et al., 2023). Customers' low understanding of the mortgage process has the potential to lead to administrative errors, late payments, and general customer dissatisfaction.

The SWOT analysis confirmed that BTN possesses strengths in terms of policy support and institutional reputation, but at the same time faces external threats such as economic fluctuations and housing subsidy policies. This requires BTN to adapt, including by accelerating its system digitalization process and building partnerships with external parties such as fintech companies and alternative credit rating agencies.

Considering all these findings, transforming BTN's mortgage lending system is an urgent need. System improvements must address not only procedural and technological aspects, but also strengthen human resources and customer communication. Intensive training, strengthened oversight, and the integration of analytical technology must go hand in hand to achieve the ultimate goal of providing inclusive and sustainable housing.

## **5 Conclusions**

Based on the research conducted, it can be concluded that the Home Ownership Credit (KPR) system at PT Bank Tabungan Negara (Persero) Tbk (BTN) has intertwined strengths and weaknesses that influence the quality of service and the risk of the national housing credit portfolio. In terms of strengths, BTN holds a strategic position as a pioneer in housing financing in Indonesia. BTN has long been trusted as the primary bank distributing subsidized mortgages aimed at low-income communities (MBR). Government support for the subsidized mortgage program and BTN's institutional capacity throughout Indonesia are key strengths enabling BTN to reach community groups that have previously experienced limited access to formal financing. Furthermore, BTN's standard operating procedures for mortgage disbursement are normatively quite comprehensive and cover various important stages, from initial debtor selection and field verification to post-disbursement monitoring. The availability of these procedures demonstrates that BTN has a robust institutional framework for managing housing financing risks.

However, this study also identified several systemic and operational weaknesses that impacted the effectiveness of BTN's mortgage policy implementation in the field. One major weakness lies in the mismatch between formal procedures in standard operating procedures (SOPs) and actual practices at branch offices. Field verification, which should be a crucial instrument for verifying the validity of prospective borrowers' information, was often replaced by purely document-based administrative checks. This situation was exacerbated by limited human resources at several BTN branches, resulting in incomplete and inaccurate verification. Consequently, the risk of granting credit to unworthy borrowers increased, reflected in the high rate of non-performing loans (NPLs) in the subsidized mortgage segment.

Another weakness is identified in technology and digitalization. The borrower selection process still relies heavily on manual assessments and is not supported by an adequate predictive technology system. However, in today's digital era, the use of analytical algorithms such as decision trees, random forests, or data mining-based machine learning could help BTN improve the accuracy of risk evaluations and accelerate the credit decision-making process. The lack of integration of information systems between branches also hampers real-time monitoring by the head office. As a result, gaps in SOP implementation are difficult to control, and corrective action is slow. Findings from a customer survey also showed that the majority of respondents felt they did not receive adequate information regarding the status of their mortgage applications. This indicates a problem with information transparency and communication between bank officers and customers, which in turn can impact levels of satisfaction and trust in BTN's services.

In addition to institutional and technical aspects, this study also found that financial literacy among subsidized mortgage customers remains relatively low. Many customers do not fully understand their rights and obligations under the financing scheme. This presents a challenge for BTN, as it has the potential to lead to misunderstandings, late payments, and even non-performing loans. In this context, customer education is a crucial part of the mortgage system and should not be overlooked.

Based on these findings, several strategic recommendations have been developed for improvement. First, BTN needs to reformulate its mortgage disbursement standard operating procedures (SOPs) to be more adaptive to field dynamics and flexible in implementation without compromising accountability. The new SOPs must take into account available human resource capacity, geographic conditions, and the risk profile of branch areas. Second, it is necessary to improve the competence of loan officers through ongoing training covering technical aspects of verification, communication skills, and an understanding of financial technology. Field officers must have adequate skills to conduct assessments objectively, professionally, and evidence-based.

Third, BTN needs to integrate predictive technology into its debtor selection system, for example by developing credit scoring based on historical customer data, as well as utilizing alternative data such as utility payment records, e-commerce transactions, or other digital financial histories. Utilizing big data and machine learning algorithms will add value to the efficiency of the selection process and improve the accuracy of credit decisions. Fourth, strengthening internal information and reporting systems is crucial. BTN branches must be connected to an integrated, real-time system so that the head office can monitor the implementation of SOPs, identify deviations, and intervene appropriately and quickly if any occur.

Fifth, BTN needs to develop a digital and educational customer communication strategy, including through mobile applications, social media platforms, and other interactive media. The goal is to improve public financial literacy, clarify customer rights and obligations, and strengthen trust in the mortgage system. This strategy will not only increase customer satisfaction but also contribute to smoother installment payments and reduce non-performing loans (NPL).

Sixth, BTN needs to begin building strategic partnerships with fintech institutions, alternative data providers, and regulators to establish a technology- and data-driven housing finance ecosystem. This collaboration will open access to broader and more in-depth

information on prospective borrowers' financial profiles, while also supporting a more accurate and efficient credit selection system.

Finally, to strengthen empirical evidence and inform data-driven policy, further longitudinal or quasi-experimental research is recommended. Such research could compare the performance of BTN branches that have implemented predictive technology with those that have not, to objectively assess its impact on debtor selection effectiveness and NPL rates. Furthermore, demographic, geographic, and post-disbursement payment behavior dimensions also need to be studied more thoroughly to ensure that the formulated improvement strategies are truly contextual and relevant.

Overall, it can be concluded that BTN's mortgage system is in a critical phase requiring comprehensive structural and digital transformation. If improvements are only implemented partially, BTN will face the risk of increasing non-performing loans, declining customer satisfaction, and weakening its strategic role as a national housing finance provider. Conversely, if these reform steps are implemented systematically and sustainably, BTN will not only strengthen its position in the national banking sector but also have the potential to become a pioneer in the application of financial technology in the housing finance sector in Indonesia. This research is expected to be a relevant scientific contribution to supporting this transformation strategically and sustainably.

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