THE ROLE OF DIGITAL TECHNOLOGY IN THE EFFICIENCY OF RESOLVING NON PERFORMING LOANS THROUGH COLLATERAL SALES

Diva Amalia Aryadi and Joni Prayogi

Faculty of Economics and Business, Universitas Jenderal Soedirman
Email corresponding author : diva.aryadi@mhs.unsoed.ac.id

Abstract

The development of digital technology has undergone significant changes in the business sector including the banking industry. One of the main challenges in resolving non-performing loans (NPLs), which often involves the sale of collateral as a method to recover assets. The purpose of this article is to explore how digital technology can improve efficiency in resolving non-performing loans through optimization of information systems, digitization of the auction process, and the application of big data and artificial intelligence in resolving non-performing loans. This article is compiled based on a qualitative approach with a literature study method that examines various academic sources, and a direct approach during work practices in the application of digital technology as a resolution of non-performing loans (NPLs). The analysis is carried out by examining how optimization of information systems, digitization of the auction process, and the use of big data and artificial intelligence contribute to improving the efficiency of resolving non-performing loans in the banking industry. With a cloud-based system and real-time data integration, banks can conduct risk analysis more quickly and accurately. In addition, the digitization of the auction process through an online platform makes it easier for creditors to sell collateral assets transparently and competitively, so that it can accelerate the asset recovery process. Artificial intelligence also functions in asset valuation, helps determine the most appropriate market price, and automates the document verification process, which has an impact on reducing human errors and accelerating the resolution of problematic loans. With the efficient adoption of digital technology, the banking sector can increase productivity in handling problematic debts, reduce the level of bad debts, and strengthen overall financial stability. Therefore, the application of digital technology is a crucial step in facing the challenges faced by the banking industry in today's digital era.

Keywords: Digital technology, non-performing loans, banking efficiency

Abstrak

Perkembangan teknologi digital telah mengalami perubahan signifikan bidang bisnis termasuk industri perbankan. Salah satu tantangan utama dalam penyelesaian kredit yang bermasalah (non-Performing loans/NPL), yang sering kali melibatkan penjualan agunan sebagai metode untuk memulihkan aset. Tujuan dari artikel ini adalah untuk mengeksplorasi bagaimana teknologi digital dapat meningkatkan efisiensi dalam menyelesaikan kredit bermasalah melalui pengoptimalan sistem informasi, digitalisasi

proses lelang, serta penerapan *big data* dan kecerdasan buatan dalam penyelesaian kredit yang bermasalah. Artikel ini disusun berdasarkan pendekatan kualitatif dengan metode studi literatur yang menelaah berbagai sumber akademik, dan pendekatan secara langsung selama praktik kerja dalam penerapan teknologi digital sebagai penyelesaian kredit bermasalah (NPL). Analisis dilakukan dengan mengkaji bagaimana optimalisasi sistem informasi, digitalisasi proses lelang, serta pemanfaatan *big data* dan kecerdasan buatan berkontribusi dalam meningkatkan efisiensi penyelesaian kredit bermasalah di industri perbankan. Dengan adanya sistem berbasis *cloud* dan integrasi data *real-time*, bank dapat melakukan analisis risiko dengan lebih cepat dan tepat. Selain itu, digitalisasi proses lelang melalui platform *online* memberikan kemudahan bagi pihak kreditur dalam menjual aset agunan secara transparan dan kompetitif, sehingga dapat mempercepat proses pemulihan aset. Kecerdasan buatan juga berfungsi dalam penilaian aset, membantu menentukan harga pasar yang paling sesuai, dan mengotomatisasi proses verifikasi dokumen, yang berdampak pada pengurangan kesalahan manusia serta mempercepat penyelesaian kredit yang bermasalah. Dengan adopsi teknologi digital yang efisien, sektor perbankan dapat meningkatkan produktivitas dalam penanganan utang bermasalah, mengurangi tingkat utang tak tertagih, dan memperkuat stabilitas keuangan secara keseluruhan. Oleh karena itu, penerapan teknologi digital menjadi langkah krusial dalam menghadapi tantangan yang dihadapi industri perbankan di era digital saat ini.

Kata Kunci: Teknologi digital, kredit bermasalah, efisiensi perbankan

A. INTRODUCTION

The community's need for housing is increasing every year, people prefer to buy housing on credit because credit purchases are considered more affordable and allow people to own a house without waiting for funds. allows people to own a house without having to wait for the funds to be fully funds are fully collected. Therefore, banks that offer credit are Bank BTN is the most popular because it is the largest bank in Indonesia. State-Owned Enterprise (SOE) that focuses on housing finance. housing.

Bank BTN, with its vision and mission, has a major impact on Indonesia, one of which is to support the government in advancing the welfare of the Indonesian people through home ownership. Bank BTN with its mission to advance the welfare of the community This can be seen from the number of Home Ownership Loans (KPR) which has increased the number of creditors every year as evidenced by the increasing number of *outsanding* and consumer targets. However, the more debtors, the more credit risk increases, thus affecting the number of nonperforming debtors. thus affecting the number of problem debtors, resulting in hampering the installment payment process.

Examples of cases that make nonperforming loans lead to auction are The debtor initially paid installments smoothly according to the due date, however, there were several factors such as layoffs, financial decline, illness, divorce and others that caused the debtor to have difficulty paying installments so that the debtor defaulted and was unable to installments. Debtors carry out restructuring or rescheduling in the hope

that the economy will improve. After the due date of the restructuring, the installment payer increases so that the debtor feels heavy to pay and the debtor is protracted in arrears classified as NPL collectibility (4 installment arrears) and is offered restructuring again so that he can pay. However, after maturity restructuring installments are getting bigger and increasing the number of installments so that the debtor gave up being able to pay it. Bank BTN Bank BTN offered a solution by selling the collateral because the arrears had already reached up to 8 installments, which is classified as bad credit. Based on a qualitative approach with a literature study method that examines various academic sources, and a direct approach during work practice in the application of digital technology as a settlement of non-performing loans (NPLs). The analysis is carried out by examining how the optimization of information systems, digitalization of the
auction process, and the use of *big data* and artificial intelligence contribute to improving the efficiency of nonperforming loan resolution in the banking industry

Digital technology provides various solutions to improve efficiency in resolving NPLs, including through optimizing information systems, digitizing the auction process, and applying big data and artificial intelligence (AI). Digital-based systems allow banks to manage credit data more accurately, conduct risk analysis quickly, and accelerate the collateral auction process in a transparent and competitive manner. Digitalization also makes it easier to monitor debtors and help determine more effective risk mitigation strategies.

Teknologi digital memberikan berbagai solusi untuk meningkatkan efisiensi dalam penyelesaian NPL, termasuk melalui optimalisasi sistem informasi, digitalisasi proses lelang, serta penerapan *big data* dan kecerdasan buatan (Artificial Intelligence/AI). Sistem berbasis digital memungkinkan bank untuk mengelola data kredit secara lebih akurat, melakukan analisis risiko dengan cepat, serta mempercepat proses pelelangan agunan secara transparan dan kompetitif. Digitalisasi juga mempermudah pemantauan debitur dan membantu dalam menentukan strategi mitigasi risiko yang lebih efektif.

Seeing the important role of technology in resolving non-performing loans, the author conducted practical work at the *Branch Collection* unit of Bank BTN to understand more deeply how digital technology is applied in the NPL resolution process, especially in collateral sales. Through direct experience in the world of work, the author can compare the theories obtained in lectures with real implementation in the banking industry, as well as identify challenges and opportunities in digitizing nonperforming loan resolution. Internship implementation activities are a learning system that takes place in related companies or agencies. The objectives of carrying out MBKM internship activities at PT Bank Tabungan Negara KC Purwokerto include:

1. Apply the theories that have been obtained during lectures to the world of work.
2. Acquire knowledge and experience of the world of work, especially in the field of Banking.
3. Train discipline, a sense of responsibility and a professional attitude in carrying out work both individually and in groups and be able to adapt to the work environment.
4. Train both soft and hard skills.
5. Train writers to be more creative, communicative and complete tasks assigned in the work environment.

B. IMPLEMENTATION AND METHODS

In the activities carried out by the author during the internship took place on August 12 - December 6, 2024 for four months at PT. Bank Tabungan Negara, Tbk. Purwokerto Branch Office, the author for one month was placed in the *branch consumer funding* unit and for three months was placed in the *branch consumer* unit. Internship procedures are carried out five days a week.

Table 1. Internship Operating Hou

Working Day	Working Hours	Break Time
Monday - Friday	07.30 – 16.30	12.00 – 13.00

Activities during the MBKM internship at PT Bank Tabungan Negara KC Purwokerto for four months, as follows:

1. Updating the Delinquent Debtor List (DDM) is an activity to update data on the status of late payments by debtors. During the internship, the task assigned was to revise the data of customers who have paid and those who have not paid. The function of this data update is to maintain transparency in credit management, help manage risk, and see the progress of collection

2. The collection process carried out using WhatsApp is responsible for reminding by contacting debtor numbers and being a means of communication for debtors who want to ask questions about their credit. This activity is useful to provide a warning of its obligations so that the risk of bad credit can be reached.

3. Records Management Records management is a systematic process for organizing, storing and maintaining important documents or records produced by a company so that they are easily accessible, manageable, and reusable in the future. Records management aims to ensure that the archive can support operational, administrative activities. Managing archives has its own place and rules such as memo archives, and letters.

4. Phone calls between internal parties at Bank BTN KC Purwokerto to ensure communication between employees runs effectively and activities run smoothly. Employees can convey any matters that need to be carried out or conveyed to the unit for the continuity of banking performance.

4

C. RESULTS AND DISCUSSION

Digital technology is a system that uses computer-based devices, the internet, and information technology to manage, store, process, and categorize data efficiently. Technology in nonperforming loan resolution procedures can be used to improve operational efficiency, speed up transaction processes, improve data security, and support data-based decision making.

Procedures have an important role in solving problems of activities or operational activities within a business organization in accordance with existing regulations. The company's goal to support the smooth running of ongoing business activities is realized through these steps. Procedures are a sequence of activities involving several people in one or more departments to ensure uniform handling of company transactions that occur repeatedly (Mulyadi, 2010). The following is a procedure of the general stages in resolving non-performing loans:

1. Identification of non-performing loans

    Analysis in identifying nonperforming loans can be classified by looking at the quality of the credit. The following is a classification of credit quality:

    a. Collectibility 1 (Current/Pass)

    b. Collectibility 2 (Special Mention) : late principal and interest payments that exceed the due date of 25-85 days.

    c. Collectibility 3 (Substandard) : delayed principal and interest payments for more than 86-115 days.

    d. Collectibility 4 (Doubtful): The delay in payment lasts between 116-180 days from the due date.

    e. Collectibility 5 (Bad/Loss) : unable to make payments of principal and interest installments beyond the due date, which is more than 180 days Pendekatan kepada debitur

2. Approach to debtors

    Approaching the debtor is a communicative and cooperative notification, aimed at establishing an understanding with the debtor before taking further steps.

3. Collateral evaluation

    Collateral evaluation is the process of assessing the assets pledged by the debtor as collateral for the credit granted by the bank. This evaluation aims to determine the current market value of the collateral and ensure its viability as security for the debtor's credit obligations.

4. Settlement process through collateral Sale

    The settlement process through the sale of collateral is a step taken by the bank to recover nonperforming loans by selling assets pledged by the debtor

5. Distribution of proceeds from sale of collateral

    The distribution of proceeds from the sale of collateral in the settlement of nonperforming loans is carried out in accordance with the priority of payments stipulated by law and credit agreements

6. Documentation and reporting

Administrative completion through documentation related to the results auction or sale becomes evidence of reporting to the banking authority (OJK) regarding the settlement of nonperforming loans

7. Legal action (If required)

Legal action required If the collateral sale process is not collateral sale process is insufficient or there are legal obstacles, the bank can take further legal action in accordance with applicable regulations.

Factors that hinder the procedure for resolving non-performing loans:

1. The procedure for resolving nonperforming loans is that there are obstacles regarding the credit *monitoring* system which is still manual, the debtor is not transparent about the obstacles at Bank BTN, limited human resources in analyzing credit

2. Approach to the debtor regarding evaluation or obstacles to the debtor there is a discrepancy or lack of cooperation on the part of the collector.

3. Collateral evaluation has limitations of incomplete documents, lengthy processes, and debtors not wanting to leave their homes

4. The settlement process through the sale of collateral has difficulties in selling the collateral, additional costs are required to sell the collateral.

5. Distribution of proceeds from the sale of collateral most debtors ask for money more money from the sale, inadequate selling price, improper use of costs costs that are not appropriate.

6. Documentation and reporting on delays in preparing reports, misalignment between internal and external reports.

7. Legal actions in law enforcement that are less efficient and longer. long process.

D. CLOSING
Summary

The implementation of the MBKM internship program at PT Bank Tabungan Negara, Tbk. Purwokerto Branch Office is a special opportunity to gain experience and learning directly about the flow of business in the world of work. Based on the internship activities that have been carried out, it can be concluded that:

1. Bank BTN has implemented procedures for resolving nonperforming loans in accordance with the SOP policy set by the head office to achieve company goals. It can be seen from the handling of loans in accordance with the quality/collectability of the credit.

2. The benefits obtained by the existence of a management system in operations can be observed during the internship, employees in the branch collection unit routinely hold evaluations once a week, especially in collecting debtors in order to reduce the risk of bad credit.

3. The digitalization system and the application of technology in E-Call bill data updates and payment bill alerts via WhatsApp already use digital technology and artificial intelligence (AI)

Advice

Suggestions for BTN's Branch Collection unit Based on the evaluation

conducted, here are some recommendations for BTN's Branch Collection.

1. Identification of non-performing loans: Updating the collection system by keeping up with technological developments by creating a "Fast Collection" technology, approach to debtors and education, good risk management and performance evaluation.

2. Approach to debtors: The solution is a more personal approach with a deep understanding of the debtor's condition, as well as a more flexible policy from the bank, and offering solutions that are realistic and in accordance with the debtor's ability.

3. Collateral evaluation: Need to emphasize and implement clear SOPs regarding the completeness of documents, digital documents with more efficient verification, strict action against debtors.

4. Settlement process through collateral sale: Looking at the surrounding market segment by considering the estimated auction price, adequate cost preparation to facilitate the auction sale.

5. Distribution of collateral sale proceeds: Education and reaffirmation of the contract agreement, optimizing the collateral sale process, transparency of funds and legal certainty.

6. Documentation and reporting: Standardization of report preparation, better coordination between staff.

7. Legal action: Using alternative dispute resolution methods (such as mediation or arbitration) to avoid legal proceedings.

long and complicated, thus achieving a faster resolution.

Acknowledgments

E. REFERENCES

Adi, T. W. (2016). Business Law and Contracts.

D. Sukma, R. S. (2023). Procedures for Resolving Problem Credit at PT. Bank State Savings (Persero) Tbk Padang Branch. 1-13.

Nurul Ichsan Hasan, M. (2014). Introduction to Banking.

Rachmayani, A. N. (2015). Banking Management Textbook.

Wardani, D. K. (2020). The Effect of Capital Market Socialization and Perception of Risk to Student Investment Interest in the Capital Marke