

# Loan Application Risk Assessment Report

Application ID: APP-20250213-2824

Date: October 26, 2023

## Executive Summary

This report assesses the creditworthiness of Mark Mann (Application ID: APP-20250213-2824) for a loan of PHP 281,481.98. Based on our predictive model, the application is categorized as **Critical Risk** with an 86.12% probability. This assessment necessitates a thorough review and cautious consideration before loan approval.

## Applicant Profile

Feature	Value
Application Date	2025-05-28
First Name	Mark
Last Name	Mann
Contact Number	9043321819
Email Address	rhodespatricia@example.org
Civil Status	Widowed
Dependents	0
Address City	Anthony Ville
Address Province	Oriental Mindoro
Years of Stay	0
Residence Type	Owned
Employment Type	Self-Employed
Credit Limit	PHP 38,118.00
Gross Monthly Income	PHP 124,383.56
Source of Funds	Business Income
Prepaid Load Frequency	14.0
Postpaid Plan History	Premium Plan
Data Usage Patterns	Medium
GCash Avg Monthly Deposits	PHP 22,764.22
GCash Avg Monthly Withdrawals	PHP 4,789.78
GCash Frequency of Transactions	27.0
Loan Purpose	Home Renovation
Loan Amount Requested (PHP)	PHP 281,481.98
Loan Tenor (Months)	6

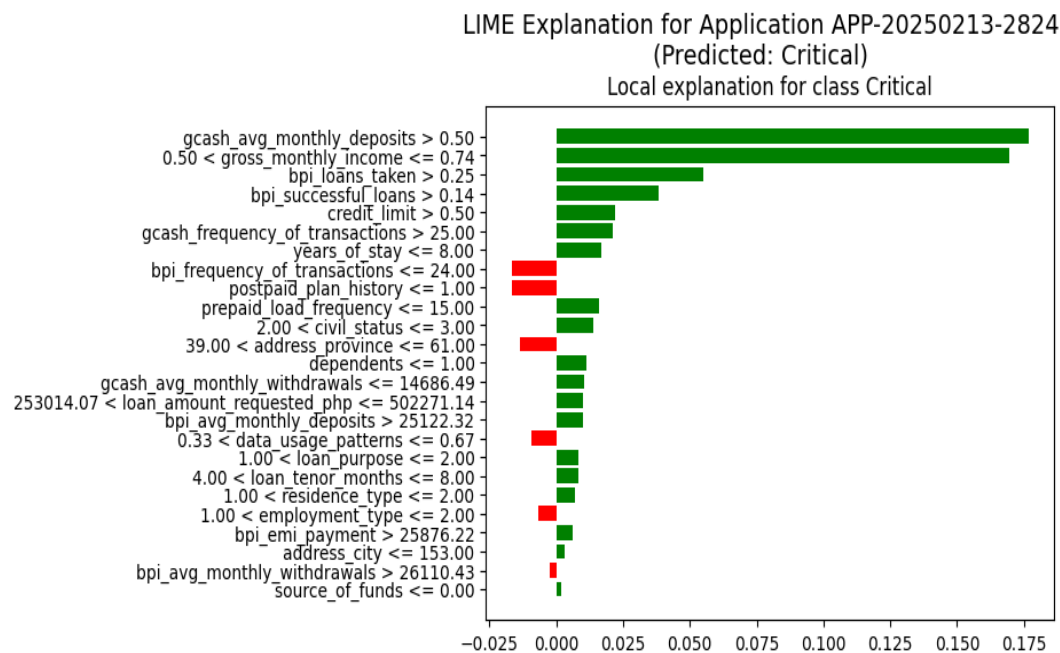
## Financial Behavior Analysis

Mark Mann is self-employed with a reported gross monthly income of PHP 124,383.56. His GCash transactions show relatively high deposit activity (PHP 22,764.22 average monthly) compared to withdrawals (PHP 4,789.78 average monthly), suggesting a potential surplus. However, the lack of BPI data prevents a comprehensive assessment of his banking behavior and financial stability. The high loan amount requested (PHP 281,481.98) relative to his credit limit and the short loan tenor (6 months) are significant concerns. His zero years of stay at his current residence also raises flags.

# Key Feature Impacts & Visualizations

## LIME Analysis

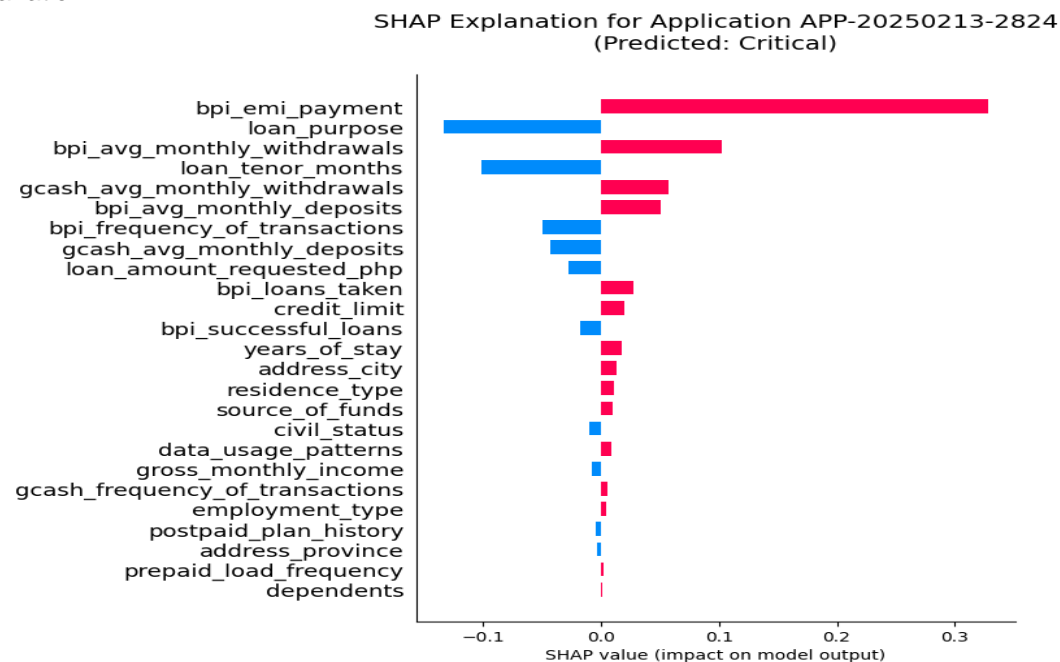
LIME Explanation



**Interpretation:** The LIME visualization aims to explain the model's prediction locally. It shows the most influential features for this specific application. Positive values indicate features contributing to the "Critical" risk prediction, while negative values suggest features that might mitigate risk. For instance, high GCash average monthly deposits positively contribute to the high-risk assessment, while a low BPI frequency of transactions slightly reduces it. The absence of BPI data is a major drawback in the interpretation of this model.

## SHAP Analysis

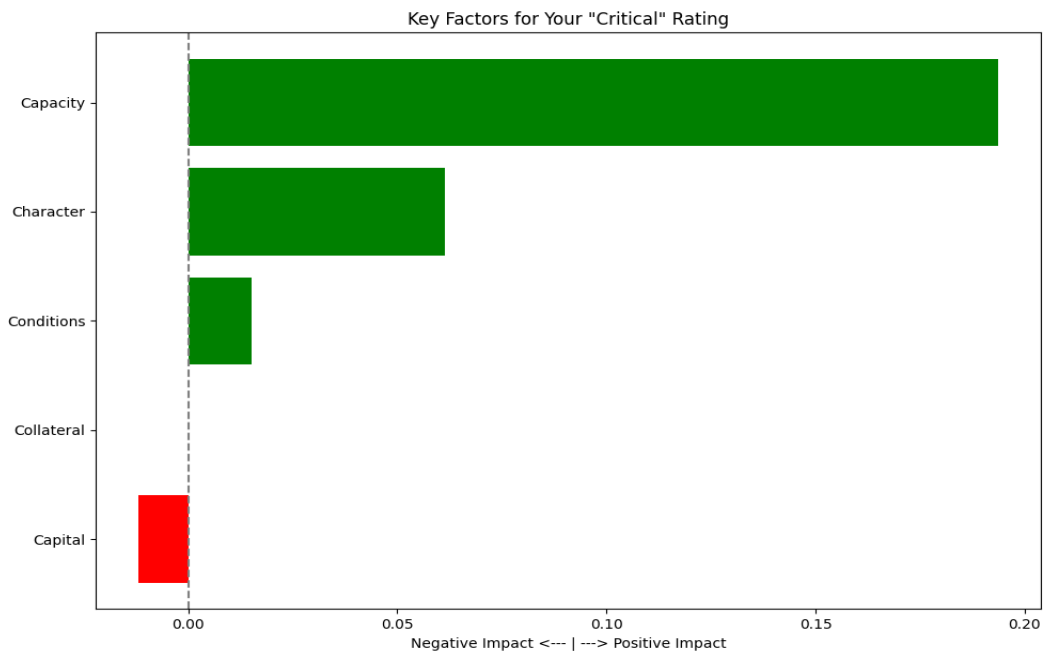
SHAP Explanation



**Interpretation:** The SHAP (SHapley Additive exPlanations) summary plot provides a global explanation of the model's behavior. It ranks features by their importance in driving the prediction across all data points. This visualization will highlight which factors consistently increase or decrease the risk score. High BPI EMI payments are likely to be a dominant driver of critical risk, along with other factors shown to have a significant impact in the visualization.

## Aggregated 5C Contributions

Aggregated 5C Contributions



**Interpretation:** This visualization aggregates the contribution of features to the five Cs of credit (Character, Capacity, Capital, Collateral, Conditions). Capacity (representing the applicant's ability to repay) is the most significant positive contributor to the critical risk assessment. Negative Capital indicates concerns regarding the applicant's financial resources.

## Risk Assessment and Recommendations

**Risk Factors Summary:** The high predicted probability of critical risk is driven primarily by the substantial loan amount requested relative to the applicant's credit limit, the short repayment period, the lack of comprehensive banking data (BPI), and the limited information on the applicant's credit history and financial stability.

**Recommendations:**

- 1. Request complete BPI banking data:** The absence of BPI data significantly limits the assessment. Request detailed transaction history (deposits, withdrawals, frequency) and loan information to gain a better understanding of the applicant's financial habits.
- 2. Verify income sources:** Independently verify Mark Mann's claimed gross monthly income of PHP 124,383.56 through documentation (tax returns, business records).
- 3. Assess debt levels:** Investigate if the applicant has any other outstanding loans or financial obligations that might impact his repayment capacity.
- 4. Reduce loan amount or extend tenor:** Consider reducing the loan amount or extending the repayment period to mitigate the risk associated with the high debt-to-income ratio.
- 5. Require additional collateral:** Request collateral to secure the loan, thus reducing the lender's risk.

**Overall Assessment:** Based on the available data and the high predicted probability of critical risk (86.12%), approval of this loan application is strongly discouraged. Further investigation and risk mitigation strategies are necessary before any decision can be made. A more conservative approach is recommended.