Loan Application Risk Assessment Report

Application ID: APP-20250213-2824

Date: October 26, 2023

Executive Summary

This report assesses the risk associated with loan application APP-20250213-2824 submitted by Mark Mann. Our model predicts a **Critical** risk category with an 86.12% probability. This necessitates a thorough review and cautious approach to the application.

Applicant Profile Summary

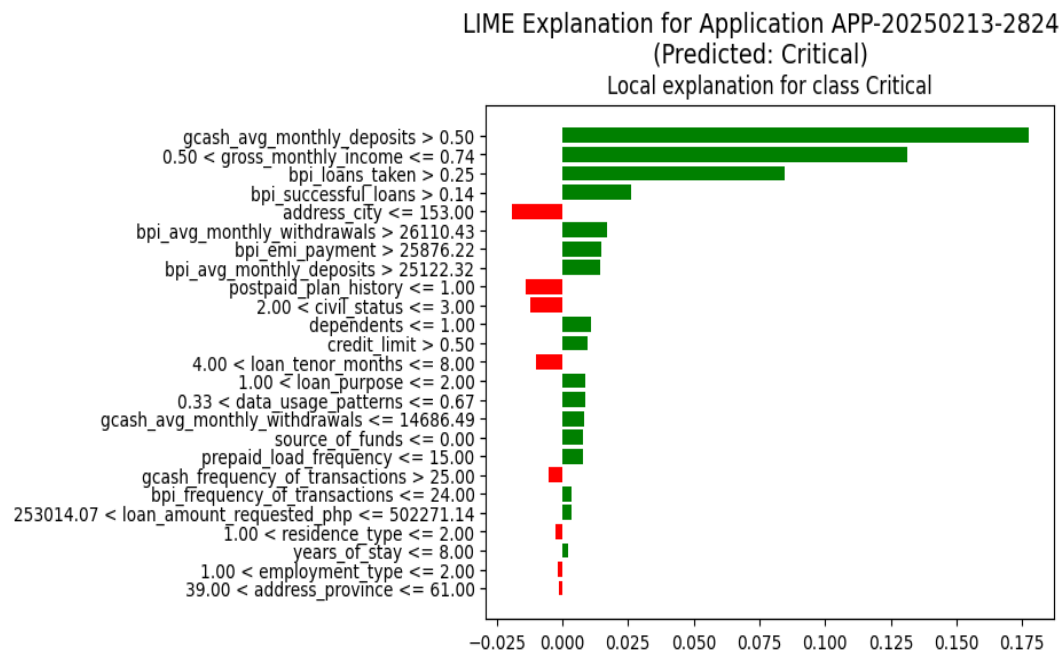| Feature	Value
Application Date	2025-05-28
Applicant Name	Mark Mann
Contact Number	9043321819
Email Address	rhodespatricia@example.org
Civil Status	Widowed
Dependents	0
Address City	Anthony Ville
Address Province	Oriental Mindoro
Years of Stay	0
Residence Type	Owned
Employment Type	Self-Employed
Credit Limit (PHP)	38,118.00
Gross Monthly Income (PHP)	124,383.56
Source of Funds	Business Income
Loan Purpose	Home Renovation
Loan Amount Requested (PHP)	281,481.98
Loan Tenor (Months)	6
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

Financial Behavior Analysis

Mark Mann is self-employed with a reported gross monthly income of PHP 124,383.56. He has a relatively high GCash deposit frequency and average monthly deposits, suggesting some level of financial activity. However, the lack of BPI data (deposits, withdrawals, loans) prevents a comprehensive assessment of his banking behavior and credit history. The absence of this crucial information significantly increases the perceived risk. His loan request of PHP 281,481.98 for home renovation, with a 6-month tenor, represents a substantial portion of his reported monthly income, raising concerns about his debt servicing capacity. The high prepaid load frequency may indicate potential spending habits that need further investigation.

Key Feature Impacts & Visualizations

LIME Analysis

LIME Explanation

Interpretation: The LIME explanation shows the local importance of features around the prediction for this specific application. Positive values indicate features that contribute to the model's prediction of a critical risk, while negative values suggest features that mitigate this risk. For example, high gcash_avg_monthly_deposits positively impacts the critical risk prediction, while postpaid_plan_history (Premium Plan) negatively impacts it. The absence of BPI data is a significant limitation, preventing a holistic view from the LIME perspective.

SHAP Analysis

SHAP Explanation
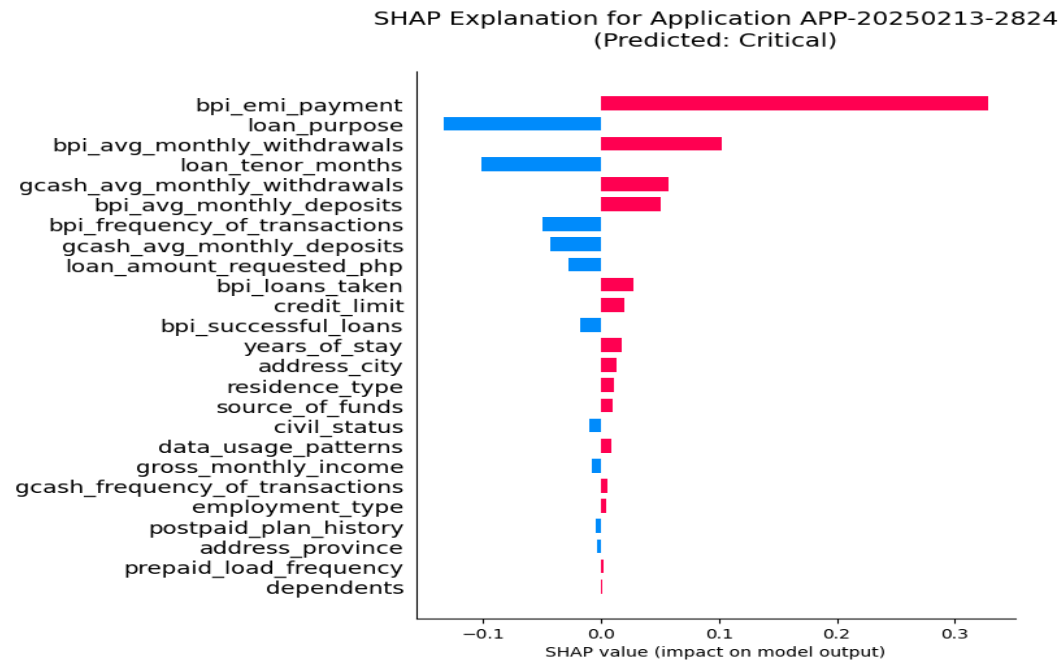
Interpretation: The SHAP analysis provides a global view of feature importance across all loan applications, and the effect of each feature on the prediction for this specific application. It displays the impact of individual features

on the model's prediction of "Critical" risk. High bpi_emi_payment (even though the value is missing for this applicant, the SHAP value indicates its strong positive influence) and bpi_avg_monthly_withdrawals (which also lacks a value here but implies high impact if the value were substantial), have the largest positive impact. loan_tenor_months and loan_purpose have strong negative impacts, indicating that shorter tenors and different loan purposes might have reduced risk. The missing BPI data severely limits the SHAP analysis's ability to generate a truly accurate risk profile.

Aggregated 5C Contributions

Aggregated 5C Contributions

Key Factors for Your "Critical" Rating

Negative Impact <--- | ---> Positive Impact
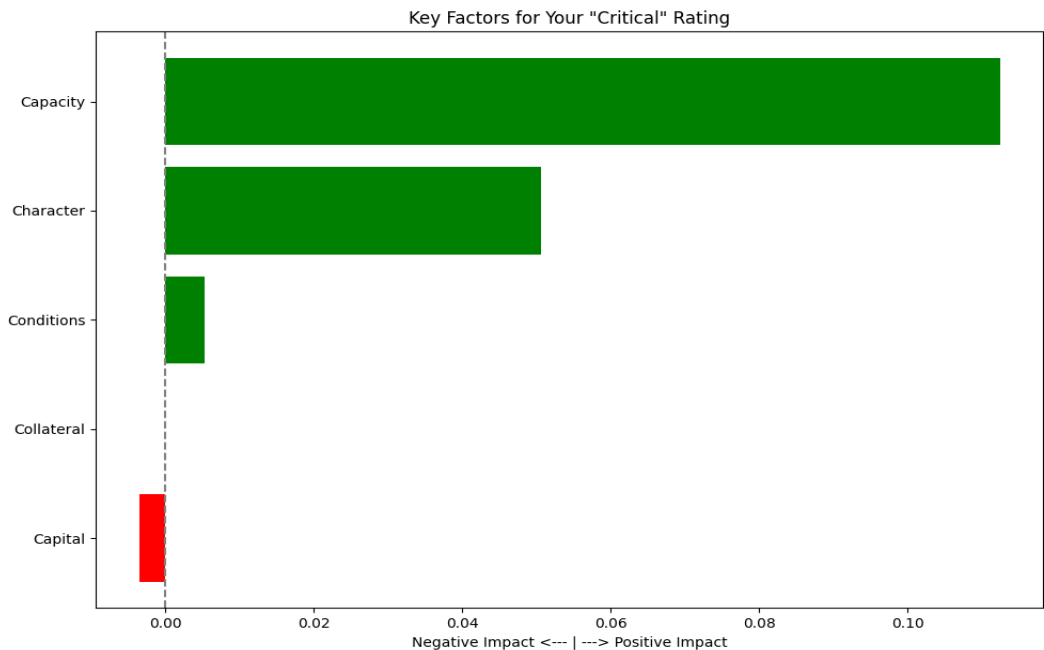
Interpretation: The 5C analysis aggregates feature contributions into five categories: Character, Capacity, Capital, Collateral, and Conditions. While Capacity shows a positive contribution, the lack of data, especially concerning BPI transactions and the high loan amount relative to income, raises significant concerns. The extremely low contribution of Collateral is alarming.

Risk Assessment and Recommendations

Risk Factors Summary:

1. **Lack of BPI Data:** The absence of information on BPI transactions is a major red flag, hindering a complete understanding of the applicant's financial history and creditworthiness.
2. **High Loan Amount Relative to Income:** The requested loan amount is a significant portion of the applicant's reported monthly income.
3. **Self-Employment:** Income stability and predictability are less certain for self-employed individuals.
4. **Short Loan Tenor:** A six-month tenor puts pressure on repayment capability.
5. **Limited Collateral Information:** No collateral information is available for assessment.

Recommendations:

1. **Request Complete BPI Data:** Immediately request detailed BPI bank statements to assess the applicant's banking history, transaction patterns, and existing debt obligations.
2. **Verify Income Source:** Thoroughly verify the applicant's reported income and the stability of their business income. This might require additional documentation, such as business tax returns or financial statements.
3. **Assess Debt Service Capacity:** Conduct a thorough debt-service ratio analysis considering the requested loan alongside any existing debt obligations.
4. **Explore Alternative Loan Options:** Consider reducing the loan amount or extending the loan tenor to make repayment more manageable. Explore options that include collateral to mitigate risk.
5. **Reject Application if Data Not Forthcoming:** If the applicant fails to provide the requested information, particularly the BPI data, the loan application should be rejected due to the significant uncertainty and high predicted risk.

Overall Assessment: Based on the currently available data and the model's prediction, this loan application presents a **very high risk**. The absence of key financial information from BPI significantly weakens the assessment. The loan should only be considered after a comprehensive review of the applicant's complete financial history, including the missing BPI data, and a thorough reassessment of the risk.