Business Summary Report: Predictive Insights for Collections Strategy

# 1. Summary of Predictive Insights

Model Overview

Our Gradient Boosting Machine (GBM) model analyzes customer data to forecast delinquency risk with high precision.

Key Findings

• High-Risk Segments:

• Recent missed payments

• Credit utilization >70–80%

• Credit score <650

• Top Predictors:

• Missed Payments History

• Credit Utilization

• Credit Score

• Pattern Identified:

• Delinquency risk increases with higher utilization and inconsistent payments.

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| Key Insight | Customer Segment | Influencing Variables | Potential Impact |
| High Credit Utilization Increases Delinquency | Customers with >70% utilization | Credit\_Utilization, Debt\_to\_Income, Income | Early Outreach can reduce defaults and improve portfolio health |

# 2. Recommendation Framework

Restated Insight:

Customers with >70% credit utilization are at significantly higher delinquency risk.

Recommendation:

Launch a targeted financial wellness outreach for these customers.

SMART Breakdown:

• Specific: Outreach program for >70% utilization segment

• Measurable: 5% reduction in delinquency rate in this group by Q4 2025

• Actionable: Collections + Support teams will reach out via calls and digital messages

• Relevant: Targets top predictor of delinquency

• Time-bound: Rollout by Q3 2025, evaluate by Q4 2025

Business Rationale:

• Prevent delinquency through early intervention

• Reduce losses and improve customer experience

• Use AI-driven targeting to enhance efficiency and ROI.

# 3. Ethical and Responsible AI Considerations

Bias & Fairness

• Risk: Bias may arise from training data (e.g., Location or Employment\_Status as proxies).

• Mitigation:

• Monitor model fairness across segments

• Remove or adjust proxy variables

• Use fairness-aware techniques

Explainability

• Challenge: GBMs are complex and not easily interpretable.

• Mitigation:

• Use SHAP or LIME to explain predictions

• Clearly communicate key contributing factors (e.g., “high credit utilization”)

Responsible Use

• Encourages proactive, not punitive, engagement

• Promotes transparency, accountability, and privacy

• Aligns with Geldium’s ethical lending principles