Geldium Delinquency Risk Insights & Recommendations Report

# 1. Summary of Predictive Insights

Based on exploratory data analysis (EDA) and predictive modeling, the following key patterns were identified:

- Customers with low credit scores (below 600), high credit utilization (above 80%), and multiple missed payments are at the highest risk of delinquency.

- Delinquency is more frequent among younger customers with lower income and shorter account tenure.

- Variables with the strongest predictive power include Credit\_Score, Credit\_Utilization, Missed\_Payments, Income, and Debt\_to\_Income\_Ratio.

* Top 3 Risk Factors:
* • Credit Utilization > 80%
* • Credit Score < 600
* • Missed Payments ≥ 2

# 2. Recommendation Framework

Based on the insight that high credit utilization is a top driver of delinquency risk, we propose the following SMART recommendation:

SMART Goal:

Implement a proactive communication program targeting customers with credit utilization above 80% to offer personalized payment plan options, aiming to reduce delinquency in this segment by 15% over the next 6 months.

Rationale:

This recommendation is actionable, targeted, and aligns with Geldium’s goal of reducing delinquency rates by addressing financial stress early and offering tailored support.

# 3. Ethical and Responsible AI Considerations

* Fairness Risks and Mitigations:
* • Income bias: The model may unfairly predict higher risk for lower-income groups. Mitigation: Monitor model performance across income brackets and apply fairness-aware reweighting.
* • Location or employment status bias: Segments with less representation may face prediction errors. Mitigation: Include fairness dashboards and ensure model retraining includes diverse segments.

Model Explainability:

To ensure transparency, all risk predictions will include feature-level explanations using SHAP values. Visual aids and plain language summaries will be shared with non-technical stakeholders to ensure clarity.

Responsible AI Practices:

All decisions flagged as high-impact (e.g., payment denial or escalation) will require human review. The system will be audited quarterly to ensure fairness, accuracy, and compliance with financial regulations.