Business Summary Report: Predictive Insights for Collections Strategy

# 1. Summary of Predictive Insights • Customers with high credit utilization (over 75%) are significantly more likely to default on payments. This is the strongest predictor of delinquency. • Customers who have missed payments in the past 12 months show a higher risk of becoming delinquent again. This pattern reflects behavioral consistency in payment discipline. • Customers with lower annual income and higher debt-to-income ratios are also at increased risk, especially those in the bottom income quartile with outstanding debts exceeding 40% of income. Top 3 Risk Factors: 1. High credit utilization 2. History of missed payments 3. High debt-to-income ratio

Briefly restate your model’s findings from Task 2. Focus on high-risk segments, key predictors of delinquency (e.g., missed payments, credit utilization), and any meaningful patterns the Collections team should be aware of.  
  
Tip: Use 2–3 bullet points or short paragraphs. Refer to the dataset and insights you uncovered.

Optional: Include a Key Insights Summary Table (you may create this in Excel or insert manually).

|  |  |  |  |
| --- | --- | --- | --- |
| Key Insight | Customer Segment | Influencing Variables | Potential Impact |
| [Insert key insight from your model] | [Describe the customer segment this insight applies to] | [List the variables that contributed to this insight] | [Describe what the business could do with this insight] |

# 2. Recommendation Framework Restated Insight: High credit utilization is a key driver of customer delinquency risk. Proposed Recommendation: Launch a proactive outreach program targeting customers with >75% credit utilization to offer personalized payment plans or temporary credit limit adjustments. Specific: Identify customers with >75% utilization and offer 1-on-1 financial assistance. Measurable: Aim to reduce delinquency rate in this group by 20% within 3 months. Actionable: Use model scores and utilization rates to trigger outreach workflows. Relevant: Addresses the strongest risk factor identified by the model. Time-bound: Pilot the intervention over the next quarter. Justification and Business Rationale: By targeting the most influential risk factor early, Geldium can reduce delinquency rates cost-effectively while demonstrating proactive financial support to customers. This aligns with both risk reduction and customer relationship goals.

Based on one of your model’s insights, outline your recommended intervention. Your recommendation should follow a SMART approach (Specific, Measurable, Actionable, Relevant, Time-bound).

Use the following subheadings to guide your structure:

* Restated Insight:
* Proposed Recommendation:
* Specific:
* Measurable:
* Actionable:
* Relevant:
* Time-bound:
* Justification and Business Rationale:

# 3. Ethical and Responsible AI Considerations • Fairness Risk 1: Customers with lower income may be disproportionately flagged as high risk. Mitigation: Avoid using income alone as a determinant and combine it with behavioral variables. • Fairness Risk 2: Model bias may arise from imbalanced training data. Mitigation: Use stratified sampling and test model across different segments to ensure equal performance. • Explainability: Logistic regression allows us to clearly explain why a prediction was made using coefficients or visual aids like SHAP plots. • Responsible AI: All decisions support financial inclusion and are subject to human review, promoting transparency, fairness, and accountability in high-stakes use cases.

Reflect on the fairness, transparency, and impact of your model and recommendation.  
  
Include a brief discussion of any relevant ethical considerations, such as:

* Potential for bias or unfair treatment of certain customer groups (Provide specific examples related to your analysis).
* Explainability – how easy it is to communicate why the model makes its predictions.
* Whether the recommendation supports responsible financial decision-making.
* Other ethical principles considered (e.g., transparency, accountability, data privacy).

Keep your report under two pages. Write in plain, professional language. Use headings, bullet points, or short paragraphs to make it easy for the reader to follow.