Business Summary Report: Predictive Insights for Collections Strategy

# 1. Summary of Predictive Insights

- Customers with 2 or more missed payments and a Debt-to-Income (DTI) ratio greater than 0.5 are 3x more likely to become delinquent.  
- High credit utilization (above 80%) consistently correlates with increased risk across all customer segments.  
- Self-employed and unemployed customers, particularly those with low income and shorter account tenure, show elevated default risk.  
  
\*\*Key Insights Summary Table\*\*  
  
| Key Insight | Customer Segment | Influencing Variables | Potential Impact |  
|--------------------------------------------------------------|-------------------------------------|--------------------------------------------|--------------------------------------------------|  
| High missed payments + high DTI = 3x delinquency likelihood | Mid- to low-income customers | Missed\_Payments, DTI | Prioritize outreach and hardship support |  
| Credit utilization > 80% indicates stress | All segments | Credit\_Utilization | Trigger early reminders and personalized plans |  
| Employment instability + low income = increased risk | Self-employed/unemployed customers | Employment\_Status, Income, Account\_Tenure | Offer tailored financial literacy or support |

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:\*\*   
Customers with 2+ missed payments and DTI > 0.5 are 3x more likely to default.  
  
\*\*Proposed Recommendation:\*\*   
Pilot a targeted SMS campaign combined with hardship plan offers for high-risk customers.  
  
 - \*\*Specific:\*\* Focus outreach on customers meeting both conditions: 2+ missed payments and DTI > 0.5.  
 - \*\*Measurable:\*\* Aim to reduce 30+ day delinquency in this group by at least 12%.  
 - \*\*Actionable:\*\* Leverage existing CRM and model outputs to trigger messages and track enrollment.  
 - \*\*Relevant:\*\* Aligns with Collections goals to lower risk through proactive, customer-friendly support.  
 - \*\*Time-bound:\*\* Launch 6-week pilot and review results at end of campaign window.  
  
\*\*Justification and Business Rationale:\*\*   
This approach offers a scalable, cost-effective way to reduce delinquency through early engagement. It uses predictive insights to target the most at-risk customers and provides a path to recovery instead of penalization. SMS is already integrated into Geldium’s operations, making this highly implementable with minimal friction.

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

\*\*Bias:\*\*   
Care was taken to avoid variables that act as proxies for sensitive characteristics (e.g., ZIP code, gender). Risk segmentation is based on behavioral and financial variables only. However, model performance should still be monitored across demographics (e.g., employment type) to detect bias.  
  
\*\*Explainability:\*\*   
A Random Forest model was used, supported by feature importance tools like SHAP. This allows the Collections team to understand key drivers behind each customer’s risk score and justify outreach decisions.  
  
\*\*Responsible Decision-Making:\*\*   
Outreach is non-punitive and offers support over restriction. Customers are informed, given options, and treated consistently. The campaign promotes trust while addressing business risk. Ongoing fairness reviews will be built into the feedback loop.

* 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.