**Business Summary Report**

**Predictive Insights for Collections Strategy**

**1. Predictive Insights**

Our predictive model (logistic regression on Geldium’s repayment dataset) highlights key risk factors for delinquency:

* **Gen Z (<30 years old, high utilization, 2+ missed payments):**  
  3.4x higher default risk. Signals financial overextension and limited repayment history.
* **Self-employed / unemployed with high DTI (>0.4):**  
  Increased delinquency due to income volatility and repayment strain.
* **Short-tenure customers (<2 years):**  
  Overrepresented in delinquency, likely linked to limited credit history and onboarding challenges.

**📊 Key Insights Summary Table**

| **Insight** | **Segment** | **Drivers** | **Business Implication** |
| --- | --- | --- | --- |
| High utilization + missed payments = 3.4x risk | Gen Z (<30), new accounts | utilization, missed\_payments, age | Prioritize outreach + financial coaching |
| Income volatility drives risk | Self-employed, unemployed | employment\_status, DTI | Flexible repayment & hardship support |
| Short tenure = higher delinquency | <2 years account history | tenure, missed\_payments, limit | Strengthen onboarding & early engagement |

**2. Recommendation Framework**

**🔍 Restated Insight**  
Customers under 30 with utilization >60% and 2+ missed payments are **3.4x more likely** to default.

**📌 Recommended Action: Pilot Outreach Campaign**

* **Specific:** Target Gen Z (<30) with >60% utilization + ≥2 missed payments via CRM segmentation.
* **Measurable:** Reduce 30+ day delinquency by **12%** in pilot group over 6 weeks.
* **Actionable:** Use CRM to deploy automated SMS nudges; offer optional financial coaching.
* **Relevant:** Directly addresses highest-risk segment aligned with Geldium’s objectives.
* **Time-bound:** Launch in 2 weeks, run 6 weeks, review results at week 7.

**📈 Business Rationale**

* Focus on the **highest-risk, high-impact group**.
* **Scalable, low-cost tools** already in place (CRM, messaging).
* Balanced approach: prevention + support instead of penalties.
* Quick to implement, measurable outcomes, potential for expansion if successful.

**3. Ethical & Responsible AI**

**Fairness & Bias**

* Risk of underperformance for underrepresented groups (e.g., rural, freelancers).
* Employment status & tenure monitored to avoid proxy bias.
* Mitigation: fairness audits, exclusion of sensitive variables, bias checks across groups.

**Explainability**

* Logistic regression ensures interpretability.
* SHAP values explain predictions (e.g., “High utilization + missed payments → elevated risk”).
* Supports transparency, compliance, and agent trust.

**Responsible Use**

* Outreach is **supportive, not punitive**.
* Customers receive coaching and flexible repayment options.
* Human oversight ensures no automated exclusion or penalty.

**Principles Applied**

* Transparency: clear documentation of model logic.
* Accountability: final decisions by trained agents.
* Privacy: data use fully aligned with Geldium’s policies & regulations.