

# 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.
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### **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.