Business Summary Report: Predictive Insights for Collections Strategy

# 1. Summary of Predictive Insights

# Top 3 Risk Factors:

* Missed Payments → Customers with 2+ missed payments in the past 6 months are the strongest predictors of delinquency risk.
* High Credit Utilization (>70%) → Customers consistently using most of their available credit show 3x higher delinquency rates than low utilizers.
* Low Credit Score (<400) + High Debt-to-Income Ratio (>40%) → Indicates financial strain and strongly increases delinquency probability.

# High-Risk Customer Segments:

* + "New High-Utilizers" → Customers with Account\_Tenure ≤ 2 years and utilization above 70%.
  + "Students & Young Borrowers" → Under-30 customers with 2+ missed payments show volatile repayment behavior.
  + "Income-Behavior Mismatch" → High-income customers (> $100k) with poor payment patterns.

# Key Insights Summary Table:

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| **Key Insight** | **Customer Segment** | **Influencing Variables** | **Potential Impact** |
| Multiple missed payments signal highest risk | Customers with 2+ missed payments | Missed\_Payments, Month\_1–Month\_6 history | Flag for early outreach or repayment plan |
| High utilization raises default likelihood | Credit Utilization  >70% | Credit\_Utilization, Loan\_Balance | Proactive credit counseling or utilization cap |
| New borrowers show elevated risk | Account Tenure  ≤ 2 years | Account\_Tenure, Loan\_Balance, Credit\_Score | Closer monitoring in first 24 months |
| Student segment more volatile | Students with utilization >60% | Employment\_Status = Student, Credit\_Utilization | Tailored financial literacy or support  programs |

# 2. Recommendation Framework

**Restated Insight:** Customers with Credit\_Utilization > 70% show ~3.2x higher delinquency rates.

# SMART Recommendation:

* **Specific:** Target customers with Credit Utilization >70% for a 6-week SMS + payment plan outreach pilot.
* **Measurable:** Aim for a 10% reduction in 30-day delinquency among this cohort.
* **Actionable:** Implement via SMS platform and self-service repayment tools.
* **Relevant:** Aligns with Geldium's goal to reduce delinquency while preserving relationships.
* **Time-bound:** 6-week pilot, results reported within 12 weeks.

**Justification:** Targeting high-utilization customers provides measurable impact and is low-cost, quick to deploy, and aligned with Geldium's strategy. A randomized pilot ensures ROI validation while fairness checks safeguard against bias.

# 3. Ethical and Responsible AI Considerations

* **Fairness Risks:** Employment status bias (students/unemployed flagged unfairly) and age-related bias (younger or mid-aged groups). Mitigated with subgroup performance checks and calibration.
* **Explainability:** Use plain-language explanations (e.g., 'High risk due to missed payments and high utilization') and SHAP for transparency.
* **Responsible Practices:** Document inputs and limitations, maintain human review for critical cases, secure customer data, and ensure outreach is supportive not punitive.
* **Business Alignment:** Recommendations balance risk reduction with fairness, accountability, and customer trust.