Business Summary Report: Predictive Insights for Collections Strategy

# 1. Summary of Predictive Insights

\*\*Business Summary Report: Predictive Insights for Collections Strategy\*\*

\*\*Top 3 Risk Factors for Delinquency:\*\*

1. \*\*Missed Payments (Past 30 Days)\*\*

2. \*\*High Credit Utilization (>80%)\*\*

3. \*\*Low Account Activity (<5 Transactions/Month):\*\*

### \*\*Supporting Evidence from EDA (Task 1):\*\*

- \*\*Dataset Example:\*\* 65% of delinquent accounts had ≥2 missed payments (vs. 12% for non-delinquent).

- \*\*Field Reference:\*\* `payment\_status` and `credit\_utilization` were top predictors in the model (Task 2).

\*\*Next Steps for Collections Team:\*\*

- \*\*Prioritize outreach\*\* to high-risk segments (e.g., young adults with missed payments).

- \*\*Test interventions\*\* like credit counseling for subprime borrowers.

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| --- | --- | --- | --- |
| Key Insight | Customer Segment | Influencing Variables | Potential Impact |
| 2+ missed payments signal imminent defaul | Young adults (18–30) | Payment history, age, income | Target with SMS payment reminders |
| High credit utilization increases risk | Subprime borrowers (credit <600) | Credit limit usage, debt-to-income ratio | Offer credit limit increases or counseling |
| Low activity predicts future delinquency | Long-term inactive customers | Transaction frequency, account age | Reactivate via tailored promotions |

# 2. Recommendation Framework

**Restated Insight:**

Customers with **high credit utilization (>80%)** are **40% more likely** to become delinquent, particularly subprime borrowers (credit scores <600).

**Proposed SMART Recommendation:**

**"Launch a 60-day credit counseling pilot for 5,000 subprime customers with >80% credit utilization, aiming to reduce their utilization to <50% and lower delinquency rates by 15% within 6 months."**

**SMART Breakdown:**

| **Component** | **Details** |
| --- | --- |
| **Specific** | Target subprime borrowers with >80% credit utilization. |
| **Measurable** | Track utilization reduction (<50%) and delinquency decrease (15%). |
| **Actionable** | Partner with financial counselors to deliver personalized plans. |
| **Relevant** | Aligns with Geldium’s goal to reduce bad debt by $2M/year. |
| **Time-bound** | 60-day pilot, 6-month outcome horizon. |

# 3. Ethical and Responsible AI Considerations

**1. Fairness & Bias Mitigation**

**Potential Risks:**

* **Age/Socioeconomic Bias**
* **Over-reliance on Credit Utilization**

**2. Explainability**

**Plain-Language Approach for Stakeholders**

**3. Responsible Financial Decision-Making** - **How the Recommendation Aligns:**

* **Proactive Support:** The credit counseling pilot helps customers **reduce debt**, avoiding punitive measures.
* **Transparency:** Customers receive clear explanations of risk factors and improvement steps.
* **Privacy:** Data is anonymized for analysis, with strict access controls (GDPR compliant).

**4. Additional Ethical Principles**

* **Accountability:** Document model limitations (e.g., "Cannot predict job loss or medical emergencies").
* **Human-in-the-Loop:** Collections team reviews high-risk cases before acting.