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

1. **Summary of Predictive Insights**

Based on the predictive model framework and exploratory data analysis (EDA), the following key insights were identified:

* **High credit utilization and multiple missed payments** are the strongest predictors of customer delinquency risk.
* **Younger customers under the age of 30 with 2+ missed payments** show higher delinquency rates compared to other segments.
* Customers with **low income levels and high debt-to-income ratios** are more likely to default within the next 30 days.

**Key Insights Summary Table:**

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| --- | --- | --- | --- |
| **Key Insight** | **Customer Segment** | **Influencing Variables** | **Potential Impact** |
| High credit utilization increases risk | All customers with credit utilization >80% | Credit utilization, total balance | Early intervention can reduce default risk by prioritizing outreach. |
| Young customers with missed payments are high risk | Customers aged <30 with 2+ missed payments | Missed payments, age | Targeted payment reminders or hardship programs for this segment. |
| Low income and high debt-to-income increases delinquency risk | Customers in bottom 25% income bracket | Income, credit balance, missed payments | Tailored repayment plans and financial counseling offers. |

**2. Recommendation Framework**

**Restated Insight:**  
Customers with high credit utilization (>80%) are at significantly higher risk of delinquency.

**Proposed Recommendation:**  
Launch a targeted SMS/email outreach campaign offering financial counseling and tailored repayment options to customers with credit utilization above 80%, aiming to reduce their delinquency rate within 30 days.

**SMART Structure:**

* **Specific:** Identify and contact all customers with credit utilization exceeding 80%.
* **Measurable:** Aim to reduce delinquency within this group by **10% over 6 weeks**.
* **Actionable:** Use existing customer contact channels (SMS, email, phone) to deliver repayment plan offers and financial advice.
* **Relevant:** Supports Geldium’s strategy to reduce short-term delinquency and retain valuable customers.
* **Time-bound:** Campaign to be launched within 2 weeks and results evaluated after 6 weeks.

**Justification and Business Rationale:**  
This recommendation is based on predictive model insights showing high credit utilization as a primary delinquency risk factor. Targeted outreach allows proactive intervention, offering repayment flexibility and support before accounts default — protecting both customer relationships and business cash flow.

**3. Ethical and Responsible AI Considerations**

* **Potential for Bias:**
  + The model may disproportionately flag lower-income or younger customers. This will be monitored through regular fairness audits using demographic performance metrics (like disparate impact ratio).
  + Mitigation strategy: Human review of high-risk cases and inclusion of contextual hardship data (e.g., recent job loss indicators) where available.
* **Explainability:**
  + The model uses understandable variables (like missed payments and credit utilization), allowing for clear, plain-language explanations of why a customer is flagged.
  + Example explanation: *"Your credit usage has been consistently high, and our model suggests you may face difficulty managing payments soon."*
* **Responsible Financial Decision-Making:**
  + The recommendation prioritizes customer welfare by offering support and flexible repayment rather than imposing punitive measures.
  + Ensures business actions remain aligned with ethical lending and collection practices.
* **Transparency and Data Privacy:**
  + All predictive decisions and customer communications will be logged, with data access restricted to authorized personnel only.
  + Customers will be informed about how their data influences personalized financial advice or offers.