Business Summary Report: Predictive Insights for Collections Strategy

1. Summary of Predictive Insights

Our predictive modeling analysis has identified specific behavioral patterns that signal impending delinquency. By focusing on these dynamic financial behaviors rather than static demographics, the Collections team can transition to a targeted, risk-based approach.

Top 3 Risk Factors:

- **Recent Missed Payments (Critical):** The single strongest predictor of future delinquency is a missed payment in the most recent billing cycle (Month 6). Immediate history outperforms long-term history.
- **High Leverage (Utilization-to-Score Ratio):** Customers who have high credit utilization (>80%) relative to a moderate credit score are in a "fragile" state and prone to rapid default.
- **Income Capacity Strain:** A low Income-to-Loan ratio indicates customers lack the financial buffer to absorb shocks, making them highly susceptible to delinquency.

2. Recommendation Framework

Restated Insight:

Customers who missed a payment in the most recent month (Month 6) are disproportionately likely to become fully delinquent compared to those with older missed payments.

Proposed Recommendation (SMART Goal):

Implement a "Rapid Response" protocol to target the top 20% of high-risk customers with a 'Missed' status in the current cycle, aiming to increase the "Cure Rate" (return to on-time status) by 15% within the first 90 days of the Q3 pilot.

Justification and Business Rationale:

Prioritizing "fresh" delinquency captures customers when they are most likely to have the funds to pay but simply forgot or faced a temporary hurdle. This approach yields the highest return on investment by preventing minor slips from compounding into unmanageable debt.

3. Ethical and Responsible AI Considerations

Fairness Risks and Mitigation:

1. **Risk: Demographic Bias.** The model could inadvertently proxy for protected characteristics (e.g., if Location correlates with specific communities), leading to unfair targeting.
   - **Mitigation:** We employ **Disparate Impact Analysis** to regularly test error rates across different age groups and locations, ensuring no group is disproportionately flagged.
2. **Risk: Lack of Transparency ("Black Box").** Agents may blindly follow risk scores without understanding the context, leading to robotic or unsympathetic customer interactions.
   - **Mitigation:** We provide **Explainability** by displaying the "Top 3 Contributing Factors" (e.g., "High Utilization") alongside every risk score, empowering agents to have informed and empathetic conversations.