Business Summary Report: Predictive Insights for Collections Strategy

1. Summary of Predictive Insights

The predictive model developed to assess customer delinquency risk has surfaced actionable patterns and key indicators relevant for Geldium's collections strategy. These insights can help the Collections team identify vulnerable customers earlier and prioritize interventions accordingly.

- **High-Risk Segment**: Customers with a **credit score below 450**, **credit utilization over 35%**, and **three or more missed payments** over the past six months show a significantly increased risk of delinquency.

- **Behavioral Signals**: A recurring pattern of **'Late' or 'Missed'** payments, especially in the **first three months**, is strongly correlated with future delinquency.

- **Key Risk Drivers**: The most predictive variables include **Missed_Payments**, **Credit_Score**, **Credit_Utilization**, and **Loan_Balance**.

Key Insight	Customer Segment	Influencing Variables	Potential Impact
Missed payments increase delinquency risk	Mid-income earners with short tenure	Missed_Payments, Account_Tenure, Credit_Score	Prioritize proactive contact and support
High credit utilization drives risk	Employed with heavy card usage	Credit_Utilization, Credit_Card_Type	Offer spending caps or personalized financial counseling
Low credit score + recent missed payments	Self-employed customers in metro areas	Credit_Score, Payment History, Location	Flag accounts for early monitoring and intervention

2. Recommendation Framework

- ➢ **Restated Insight:**
  - Customers with **three or more missed payments** and **credit scores under 450** are highly likely to become delinquent.
  - **Proposed Recommendation:**
  - **Specific**: Launch a **targeted outreach campaign** that offers customized payment plans and financial coaching to high-risk customers.
  - **Measurable**: Aim to reduce the delinquency rate among this cohort by **15% over a three-month pilot**.
  - **Actionable**: Utilize weekly risk reports generated from the model to prioritize outreach by the collections team.
  - **Relevant**: Aligns with Geldium's goal to proactively manage risk and reduce revenue loss due to delinquencies.
  - **Time-bound**: Implement the pilot within **the next quarter**, with **bi-weekly tracking and review** of performance metrics.
- ➢ **Justification and Business Rationale:**
  By identifying and engaging high-risk customers early, the company can mitigate financial losses, improve repayment outcomes, and strengthen customer relationships. Proactive strategies are typically more cost-effective and build goodwill compared to reactive recovery efforts.

3. Ethical and Responsible AI Considerations

- ➢ **Fairness and Bias Mitigation**: Sensitive variables such as race or gender were excluded from the dataset. Categorical features like *Employment_Status* and *Location* were closely monitored to minimize indirect bias.
- ➢ **Explainability**: Logistic Regression was selected for its transparency. Its coefficients are easy to interpret, which supports regulatory compliance and business trust.
- ➢ **Responsible Recommendations**: The model's insights are being used to offer supportive, not punitive, actions—such as budgeting help or restructuring options—to promote responsible financial behavior.
- ➢ **Privacy and Accountability**: All customer data was anonymized and used in compliance with internal policies and applicable regulations. Ongoing review ensures responsible model behavior.