Business Summary Report: Predictive Insights for Collections Strategy

# 1. Summary of Predictive Insights

The model highlights that missed payments and high credit utilization are the strongest predictors of credit delinquency. Customers with lower income levels, higher loan balances, and poor credit scores also show elevated risk. Notably, the high-risk segment is concentrated among borrowers with frequent payment delays and a utilization ratio exceeding 70%. These patterns suggest areas where the Collections team should proactively engage.

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| Key Insight | Customer Segment | Influencing Variables | Potential Impact |
| Missed payments are the top delinquency signal.  High credit utilization increases delinquency.  Low-income, high-loan customers are vulnerable. | Customers with 2+ missed payments in 6 months.  Customers using >70% of credit limit.  Income < ₹25,000 & loan balance > ₹3L | Missed payments, payment history  Credit utilization ratio, income.  Income, loan balance, credit score. | High risk of default; prioritize for early intervention.  Indicates financial strain; monitor for worsening behavior.  Risk of overleveraging; may benefit from restructured plans. |

# 2. Recommendation Framework

From above key insights, here’s a SMART-based intervention recommendation using credit utilization.

* Restated Insight: Customers with high credit utilization (above 70%) are significantly more likely to become delinquent, especially when combined with lower income levels.
* Proposed Recommendation:
* Specific: Proactively identify customers with credit utilization above 70% and income below ₹25,000, and enroll them in a targeted credit counseling and restructuring program.
* Measurable: Aim to reduce delinquency rates within this group by 15% over the next quarter, with enrollment of at least 500 high-risk customers.
* Actionable: Use the existing model output to flag eligible customers and initiate outreach through SMS, email, or app notifications offering personalized support options.
* Relevant: This intervention targets one of the most predictive risk segments identified by the model and aligns with Geldium’s goal of reducing NPA rates and improving customer retention.
* Time-bound: Launch the program within 2 weeks, monitor progress monthly, and conduct a full performance review after 3 months.
* Justification and Business Rationale: This recommendation directly addresses a segment identified as high-risk by the model, allowing Geldium to intervene before delinquency occurs. By offering structured support—such as spending limit adjustments, EMIs rescheduling, or financial literacy tips—we reduce financial pressure, lower the likelihood of default, and improve long-term repayment behavior. This proactive approach not only mitigates risk but also builds trust and loyalty among vulnerable customers.

# 3. Ethical and Responsible AI Considerations

In developing and applying the delinquency prediction model, I’ve prioritized fairness, explainability, and responsible decision-making.

Fairness & Bias Mitigation - Since the model uses sensitive financial indicators such as income, credit utilization, and missed payments, there's a risk of **indirect bias against low-income customers**—a group that may already face structural disadvantages. For instance, flagging low-income borrowers as high-risk based solely on income could unintentionally lead to exclusion from formal credit, even when they have responsible payment behavior. To address this, the model was carefully designed to weigh **behavioral variables (like payment history)** more heavily than static demographic traits.

Explainability **-** It was a key reason for selecting logistic regression. Its coefficients clearly show the direction and influence of each feature, making it easier to explain model decisions to customers, compliance teams, and auditors. This supports **transparent communication**, especially when a customer is flagged as high-risk or denied a product—ensuring they understand how to improve their standing.

Decision making and ethical principles - The recommendation to offer **targeted financial support** (rather than penalizing customers) reflects a **responsible and inclusive approach**. Rather than limiting access, it enables vulnerable segments to stay engaged with the financial system while reducing default risk for Geldium. This aligns with broader ethical principles such as **customer protection, financial inclusion, data privacy and accountability** were also observed, only necessary and permitted data fields were used, and decisions are traceable, which ensures compliance with regulatory frameworks like RBI and GDPR.