



# AI-Powered Collections Strategy



Leveraging Agentic AI for Scalable, Fair, and  
Effective Debt Management at Geldium



# How the System Works

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- **Inputs:** Customer profile, financial indicators, payment history
- **Decision Logic:** Predict delinquency risk → assign risk tier (Low, Medium, High)
- **Actions:**
  - Low: Monitor only
  - Medium: Offer financial tools
  - High: Proactive outreach + support plan
- **Learning:** Track outcomes → retrain model → refine rule

# Key Predictors & Risk-Based Actions

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- **Top Attributes:**

- Credit Utilization 🏠 – signals financial stress
- Missed Payments 🚨 – strong delinquency marker
- DTI Ratio 📊 – shows debt pressure
- Age 👤 – younger = higher early risk
- Account Tenure ⌚ – longer = more stable

- **Risk Responses:**

Low	Clean record	No
Medium	1 missed payment + moderate score	Offer budget tools
High	2+ missed payments + high DTI	Outreach + tailored support

# Role of Agentic AI

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## **Agentic AI in Collections: How It Works**

- Automates low-risk and repetitive actions like reminders and monitoring
- Delegates sensitive or high-impact decisions (e.g., legal escalation) to human agents
- Learns continuously from outcomes to refine its suggestions
- Collaborates with people via dashboards, alerts, or recommendations before executing nuanced actions

## Examples of Collection Actions

Action	Automation Suitability	Reason
Payment Reminder SMS/Email	✅ Full Automation	Low-stakes, templated messaging—ideal for AI scheduling & sending
Flagging High-Risk Accounts	✅ Full Automation	Model can detect patterns (e.g., missed payments + high DTI) accurately
Offering Standard Repayment Plans	⚖️ Human Oversight Recommended	Needs human review to tailor support and ensure fairness
Escalating to Legal Collection	❌ Human Oversight Needed	Complex, high-impact decision requiring human judgment
Debt Restructuring Negotiation	❌ Human Oversight Essential	Requires empathy, negotiation skills, and personalized financial advice

# Responsible AI Guardrails

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## Key Practices

- **Fairness**
  - Regular bias testing across age, gender, income groups
  - Use balanced datasets and stratified validation
  - Avoid discriminatory proxies in feature selection
- **Transparency**
  - Choose interpretable models (e.g., logistic regression or decision trees)
  - Generate explainable outputs (e.g., SHAP values, feature importance)
  - Provide accessible documentation to stakeholders and regulators
- **Compliance**
  - Align with local and global data protection laws (e.g., GDPR, DPDP Bill)
  - Secure storage and use of customer data with encryption and audit trails
  - Obtain consent for automated decision-making where required

## Monitoring & Auditing Recommendation

Practice	What to Monitor	Frequency
<b>Bias Audit</b>	Performance across customer segments (e.g., age, income)	Quarterly
<b>Model Drift Detection</b>	Accuracy and predicted probabilities over time	Monthly
<b>Action Outcome Tracking</b>	Responses to outreach actions (e.g., repayment rates)	Ongoing
<b>Compliance Checks</b>	Data use, consent records, rule adherence	Semi-annually
<b>Human Review Logs</b>	Review override decisions for accountability	Real-time & monthly audit

# Expected Business Impact

## Key KPIs: Balancing Outcomes & Fairness

KPI	What It Measures	Why It Matters
Delinquency Reduction Rate	% decrease in past-due accounts	Tracks business impact
Customer Engagement Rate	Response to outreach (SMS, email)	Gauges effectiveness of interventions
Resolution Time	Avg. time to resolve delinquency	Indicates operational efficiency
Fairness Index	Disparity in predictions/actions across segments	Ensures equitable treatment
Human Review Escalation Rate	% of cases flagged for manual oversight	Balances automation with judgment



## How Agentic AI Improves Efficiency & Experience

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- **Smart Prioritization** : AI can rank accounts by risk level in real time—letting teams focus on urgent cases first, saving time and reducing delinquency faster.
- **Personalized Outreach** : Customers receive targeted support (e.g. budgeting tips, tailored repayment offers), improving trust and increasing response rates.
- **Continuous Learning** : The system adapts based on outcomes—refining its decisions and reducing false flags, which helps both staff and customers

# Final Takeaways

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- **AI + Human Oversight** = Smarter, fairer collections
- **Predictive Insights** guide risk-driven support—not punishment
- **Responsible Design** ensures transparency, equity, and compliance
- **Continuous Learning Loop** keeps improving outcomes over time

END

**Thanks,**

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DATED : **13/07/2025**