EXECUTIVE SUMMARY

Credit Card Customer Profitability & Churn Risk Analysis

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1. Business Context

Many banks employ a uniform approach to managing credit card customers, overlooking key variations in their profitability, engagement patterns, and likelihood of churn. This lack of differentiation leads to several inefficiencies, including suboptimal retention expenditure, failure to capture potential revenue, and avoidable revenue leakage, particularly among high-value customers who are quietly at risk of defecting.

To mitigate this problem, this project implemented a data-driven strategy. The core objectives were to accurately identify profitable customers, evaluate their churn risk, and develop tailored, targeted retention recommendations.

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2. Objective

The primary objective of this analysis was to:

- Identify high-value customers contributing disproportionately to revenue
- Detect customers at elevated risk of churn using behavioral and payment signals
- Segment customers into actionable groups
- Recommend retention strategies aligned with customer value and risk

The ultimate goal is to **protect revenue while optimizing retention costs**.

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3. Data & Methodology

The analysis used credit card customer-level data including:

- Transaction behavior
- Credit utilization and limits
- Repayment and payment delay patterns
- Customer demographics

The workflow included:

- Data cleaning and preparation (SQL, Python)
- Feature engineering for profitability and churn signals
- Exploratory Data Analysis (EDA)
- Customer segmentation based on value, engagement, and churn risk
- Retention strategy mapping
- Interactive dashboards built in Power BI for decision-making

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4. Key Insights

- **Revenue concentration is high**: A small percentage of customers contributes a disproportionately large share of total spend.

- **High-value customers are not immune to churn**: A meaningful subset of high-revenue customers falls into medium and high churn-risk categories.

- **Credit limits do not predict profitability**: Customers with similar credit limits exhibit vastly different spending behaviors.

- **Payment behavior is a strong churn indicator**: Higher payment delays and high credit utilization strongly correlate with churn risk.

- **Growth At-Risk customers represent the highest ROI opportunity**: These customers show early churn signals but are easier and cheaper to retain than extreme high-risk segments.

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5. Strategic Recommendations

Based on segmentation and risk analysis, the following actions are recommended:

- **High-Value At-Risk**: Prioritize immediate retention using personalized offers, fee waivers, and proactive outreach to prevent revenue leakage.

- **Growth At-Risk**: Deploy scalable engagement strategies such as cashback offers and EMI options to convert them into long-term high-value customers.

- **High-Value Loyal**: Reinforce loyalty through rewards and premium benefits to sustain stable revenue.

- **Stable / Low-Value At-Risk**: Maintain service quality with low-cost, digital-first strategies to control retention spend.

This targeted approach ensures that retention investments are aligned with business value.

6. Business Impact

Implementing these recommendations is expected to:

- Reduce churn among high-value customers
- Protect and stabilize revenue streams
- Improve retention ROI by focusing spend where it matters most
- Enable proactive decision-making through clear, interactive dashboards

Even modest improvements in retaining high-value at-risk customers can lead to **significant revenue protection**.

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7. Conclusion

This project demonstrates how combining customer behavior, profitability, and churn risk enables smarter, more targeted retention strategies. By shifting from a one-size-fits-all approach to a segmented, insight-driven strategy, banks can both **maximize customer lifetime value and minimize unnecessary retention costs**.

The analysis, dashboards, and recommendations together provide a strong foundation for data-driven customer strategy and executive decision-making.