

## Credit Card Analysis

### Business Problem:

The company seeks to enhance its credit card business by understanding customer behavior, preferences, and lifetime value. A lack of actionable insights is limiting the ability to:

1. Acquire new customers effectively.
2. Retain existing customers.
3. Maximize profitability.

### Key Objectives:

- 1. Improve Customer Acquisition:**
  - Identify target customer segments.
  - Develop effective marketing strategies to attract new customers.
- 2. Enhance Customer Retention:**
  - Analyze customer churn.
  - Implement strategies to retain high-value customers.
- 3. Maximize Profitability:**
  - Optimize product offerings and pricing.
  - Develop cross-selling initiatives to boost revenue and profitability.
- 4. Gain Competitive Advantage:**
  - Use data-driven insights to stand out in the market and improve customer experiences.
- 5. Support Strategic Decision-Making:**
  - Provide actionable information for marketing, product development, and customer relationship management.

## Steps Taken:

### 1. Data Acquisition and Cleaning:

- Collected credit card transaction data, customer demographics, and product usage information.
- Cleaned data by handling missing values, inconsistencies, and outliers.

### 2. Data Modeling (in Power BI):

- Built a data model to define relationships between entities (e.g., customers, transactions, products).
- Created measures for key performance indicators (KPIs):
  - Customer Lifetime Value (CLTV).
  - Average Transaction Value.
  - Churn Rate.

### 3. Data Visualization (Power BI):

- Developed interactive dashboards and reports.
- Used diverse chart types (bar, line, pie charts) to represent data.
- Added filters and slicers for interactive data exploration.

### 4. Analysis and Insights:

- Conducted detailed analysis to uncover trends and patterns.
- Generated actionable insights to inform business strategies.

## Methodology (Power BI):

1. **Data Import:** Imported cleaned data into Power BI.
2. **Data Transformation:** Processed and enriched data using Power Query.
3. **Data Modeling:** Created a star schema for relationships between tables.
4. **Measure Creation:** Calculated KPIs and aggregations using DAX functions.
5. **Visualization:** Designed interactive dashboards and reports.
6. **Data Analysis:** Used advanced DAX calculations for deep insights.

## Insights Generated:

### 1. Customer Segmentation:

- **Demographic Segmentation:** Identified segments based on age, gender, income, marital status, and education.
- **Product Usage:** Analyzed preferences for card types, transaction channels, and features.
- **Behavioral Segmentation:** Segmented based on spending habits, transaction frequency, and loyalty.

### 2. Customer Lifetime Value (CLTV):

- Identified high-value customers contributing significantly to revenue.
- Analyzed churn rates and factors leading to attrition.

### 3. Product Performance:

- Assessed profitability across card products and suggested optimizations.
- Identified cross-selling opportunities based on customer behavior.

### 4. Geographic Analysis:

- Evaluated sales performance by region to identify growth areas.
- Located regions with high customer density for targeted marketing.

## Recommendations:

1. **Targeted Marketing:** Develop personalized campaigns for better acquisition and retention.
2. **Customer Loyalty Programs:** Reward high-value customers to encourage loyalty.
3. **Product Optimization:** Align product offerings with customer preferences and profitability insights.
4. **Cross-Selling Initiatives:** Introduce strategies to increase transaction value and satisfaction.
5. **Geographic Expansion:** Focus efforts on high-growth regions to expand the customer base.
6. **Churn Prevention:** Use targeted outreach and personalized retention strategies to reduce attrition.

## Conclusion:

By leveraging these insights and implementing the recommendations, the company can:

- Strengthen customer relationships.
- Boost revenue growth.
- Achieve sustainable success in the competitive credit card market.