

BIG DATA ANALYTICS

BANKING CAPSTONE PROJECT

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CUSTOMER CHURN PREDICTION

FROM CONCEPT TO REALITY

Objective: Identify customers at risk of churning to improve retention strategies. Dataset: 10,000 records with customer demographics, account information, and engagement metrics.

Method: Random Forest Classifier to predict churn probability.

Key Results: Analysis revealed customer churn patterns based on age, balance, and activity levels. The model helps identify high-risk customers for targeted retention campaigns, reducing customer attrition rates.

PERSONALIZED MARKETING

CREDIT CARD OFFER TARGETING

01

Objective: Target customers with personalized credit card offers based on their profile and behavior

02

Dataset: Customer transaction history, demographics, and financial behavior patterns

03

Key Results: Machine learning models segment customers and predict offer acceptance rates, improving marketing ROI

ATM OPERATIONS ANALYSIS DOWNTIME AND MAINTENANCE PREDICTION

SOURCES OF INSPIRATION AND CREATIVITY

Objective: Analyze ATM machine downtime patterns to optimize maintenance schedules and improve service reliability. Dataset: 10,000 records of predictive maintenance data including machine type, temperature, rotational speed, torque, and tool wear.

Key Results: Analysis revealed 3.39% failure rate with identification of key failure types including heat, power, and overstrain failures. Predictive models enable proactive maintenance scheduling, reducing unexpected ATM downtime.



EMPLOYEE PERFORMANCE ANALYSIS WORKFORCE PRODUCTIVITY AND OPTIMIZATION

SOURCES OF INSPIRATION AND CREATIVITY

Objective: Analyze employee performance metrics to identify high performers and areas for workforce optimization. Dataset: Employee performance data including productivity metrics, attendance records, and performance ratings.

Key Results: Identified top-performing employees and performance patterns across departments. Analysis enables data-driven decisions for training programs, promotions, and resource allocation to maximize workforce productivity and employee engagement.



INSURANCE POLICY RENEWAL

BRAINSTORMING TO BRILLIANCE

- 01**  Objective: Predict policy renewals for better customer engagement
- 02**  Dataset: 381,109 records with demographics, vehicle info, and policy details
- 03**  Method: Machine learning to identify customer segments likely to renew
- 04**  Key Results: Response rate analysis by age, gender, and premium amount for targeted engagement