BANK CUSTOMER CHURN PREDICTION

OUTLINE

- Overview
- Business & Data Understanding
- Modeling
- Evaluation
- Recommendations
- Next Steps

OVERVIEW

- Customer churn: customers leaving the bank
- High churn - lost revenue, higher acquisition costs
- Goal: Predict churn early to retain customers

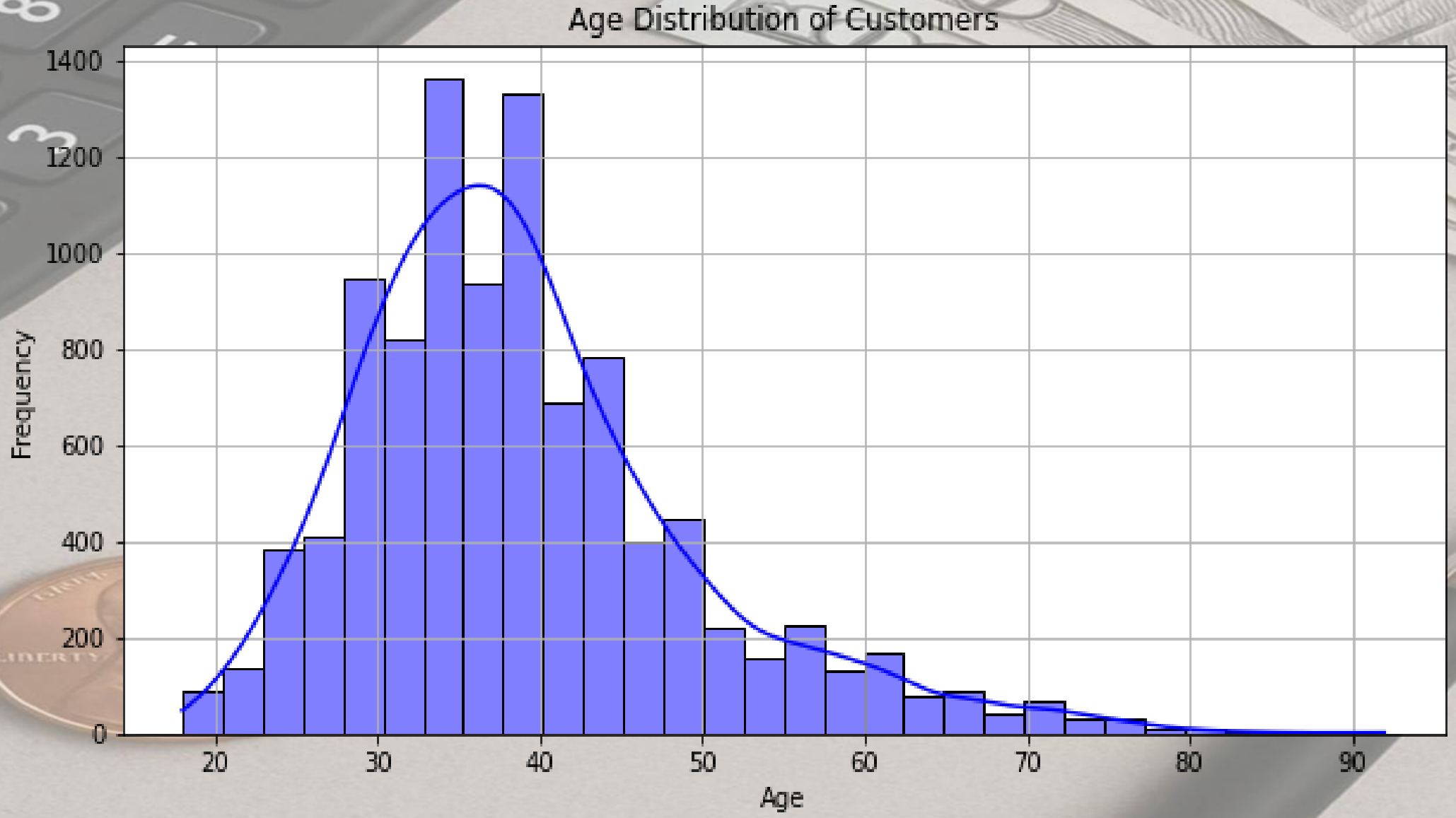
BUSINESS PROBLEM

- Retaining customers is cheaper than acquiring new ones
- The Bank would like to focus on high-value customers for maximum impact
- Churn prediction supports proactive retention campaigns

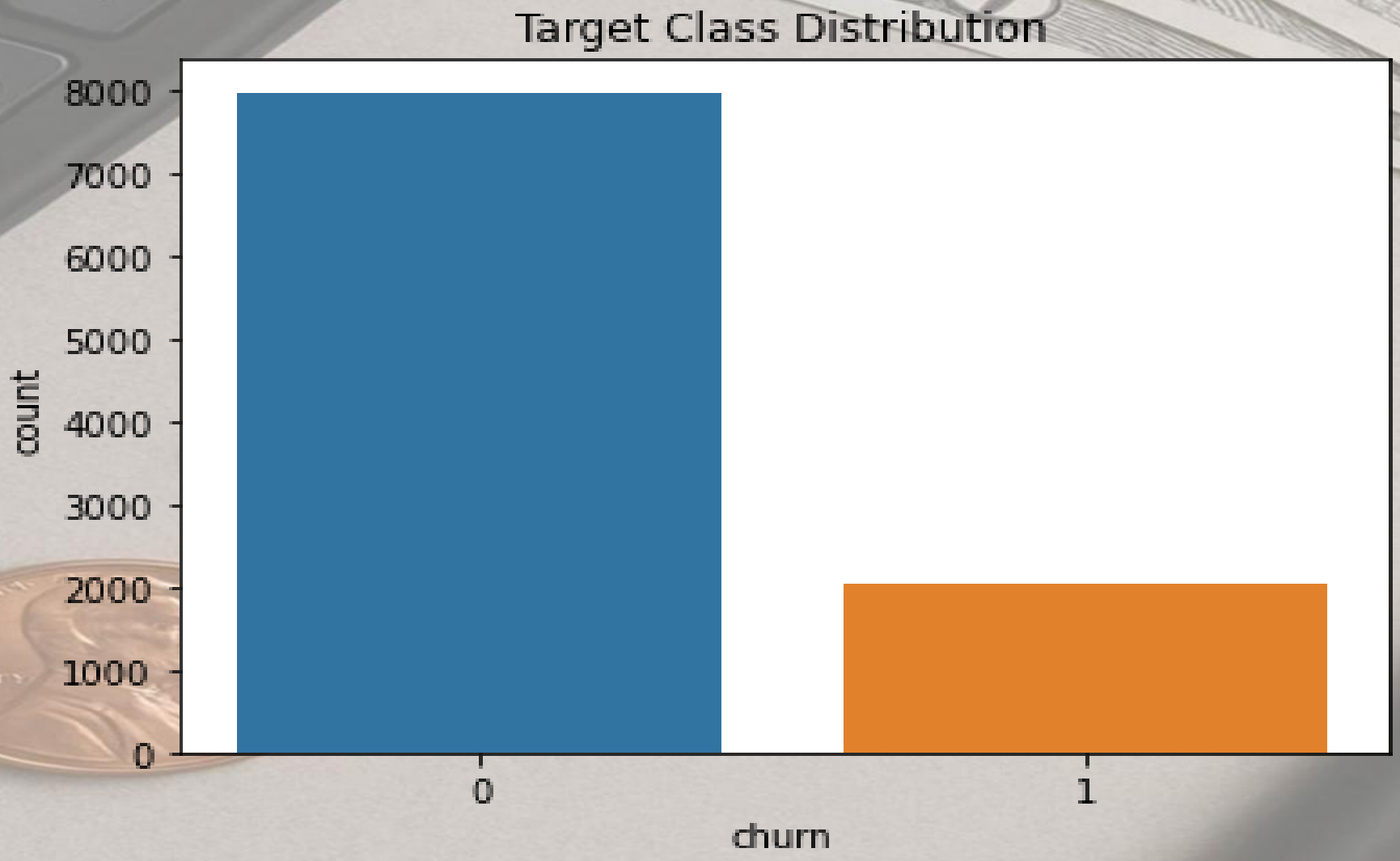
DATA UNDERSTANDING

- 10,000 customer records
- Features: age, credit score, tenure, balance, products, activity, salary, credit card ownership, activity
- Target variable: churn (yes/no)Imbalance: 80% non-churners, 20% churners

AGE DISTRIBUTION OF CUSTOMERS



DISTRIBUTION OF CHURNERS AND NON-CHURNERS



MODELLING

- Models used: Logistic Regression, Decision Tree, Random Forest(final model)
- Balanced target classes using weights and oversampling
- Focused on recall/sensitivity(catching churners) while improving precision

EVALUATION

- Precision: how many predicted churners were correct
- Recall: how many actual churners were caught by the model
- F1-score: balance between precision & recall

EVALUATION METRICS

MODEL	PRECISION	RECALL	F1-SCORE
Logistic Regression	38%	70%	49%
Decision Tree	47%	77%	58%
Random Forest	50%	77%	58%

RECOMMENDATIONS

1. Customer Retention Campaigns

- Loyalty rewards & personalized offers for high-risk customers
- Proactive outreach by customer service reps
- Gather feedback to address dissatisfaction

2. Product & Service Improvements

- Simplify and bundle products to boost loyalty
- Enhance digital banking experience for engagement

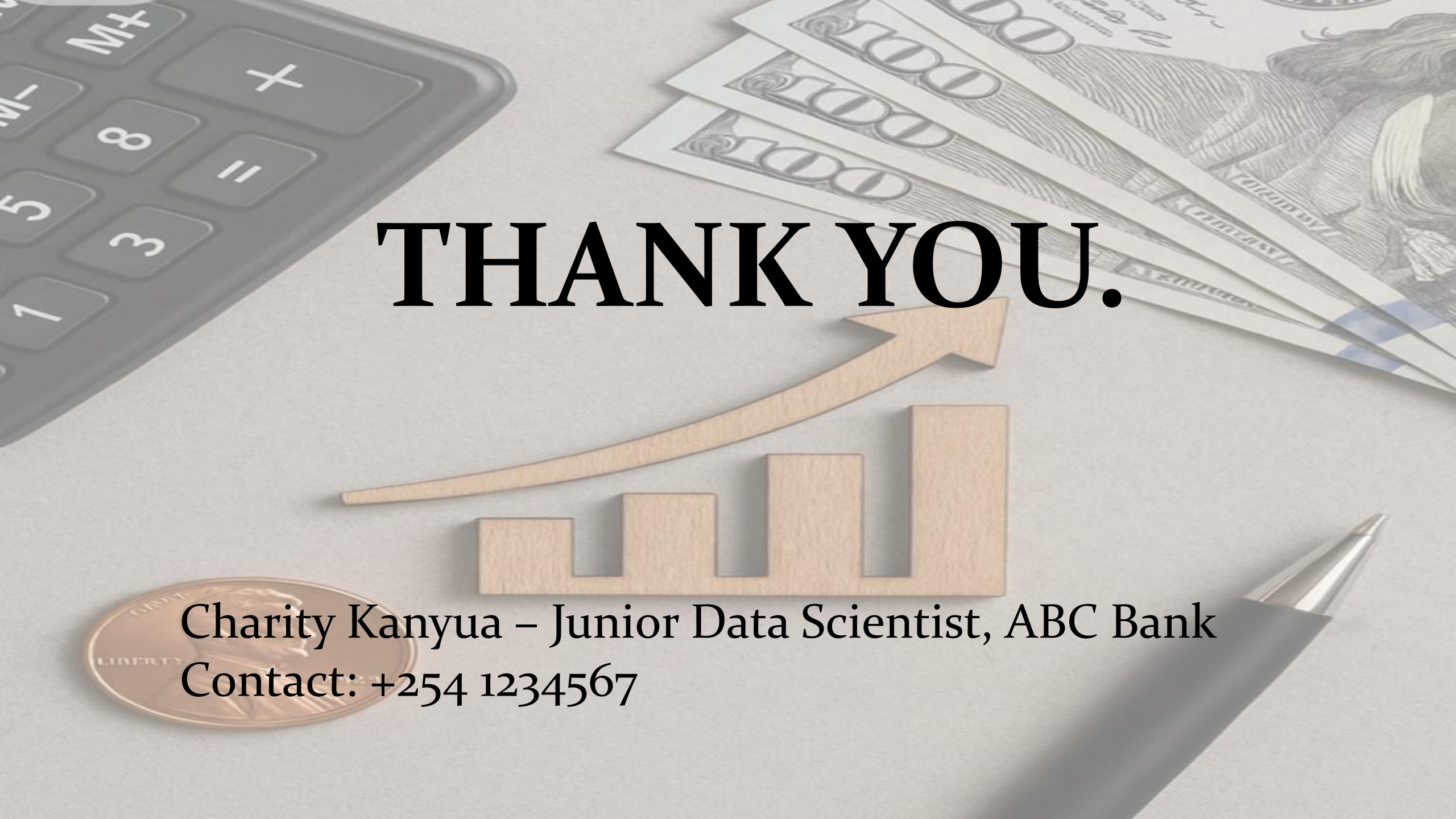
3. Risk Management

- Monitor credit scores & offer counseling
- Use churn alerts as an early warning system

NEXT STEPS

- Deploy the churn model into business systems for real-time alerts.
- Design targeted retention strategies, prioritizing high-value customers.
- Continuously monitor and retrain the model with new data.
- Measure impact through churn reduction, customer lifetime value, and ROI.
- Expand predictive analytics to other areas like loan defaults and product adoption


QUESTIONS?



THANK YOU.

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