

The background of the image is a light gray surface. In the top left corner, a portion of a dark gray calculator is visible, showing buttons for '+', '8', '=', '3', and '1'. In the top right corner, several US \$100 bills are fanned out. In the bottom left corner, a US penny is visible. In the center, there is a bar chart made of five wooden blocks of increasing height, with a wooden arrow pointing upwards and to the right, indicating growth. In the bottom right corner, a black pen with a silver tip is visible.

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

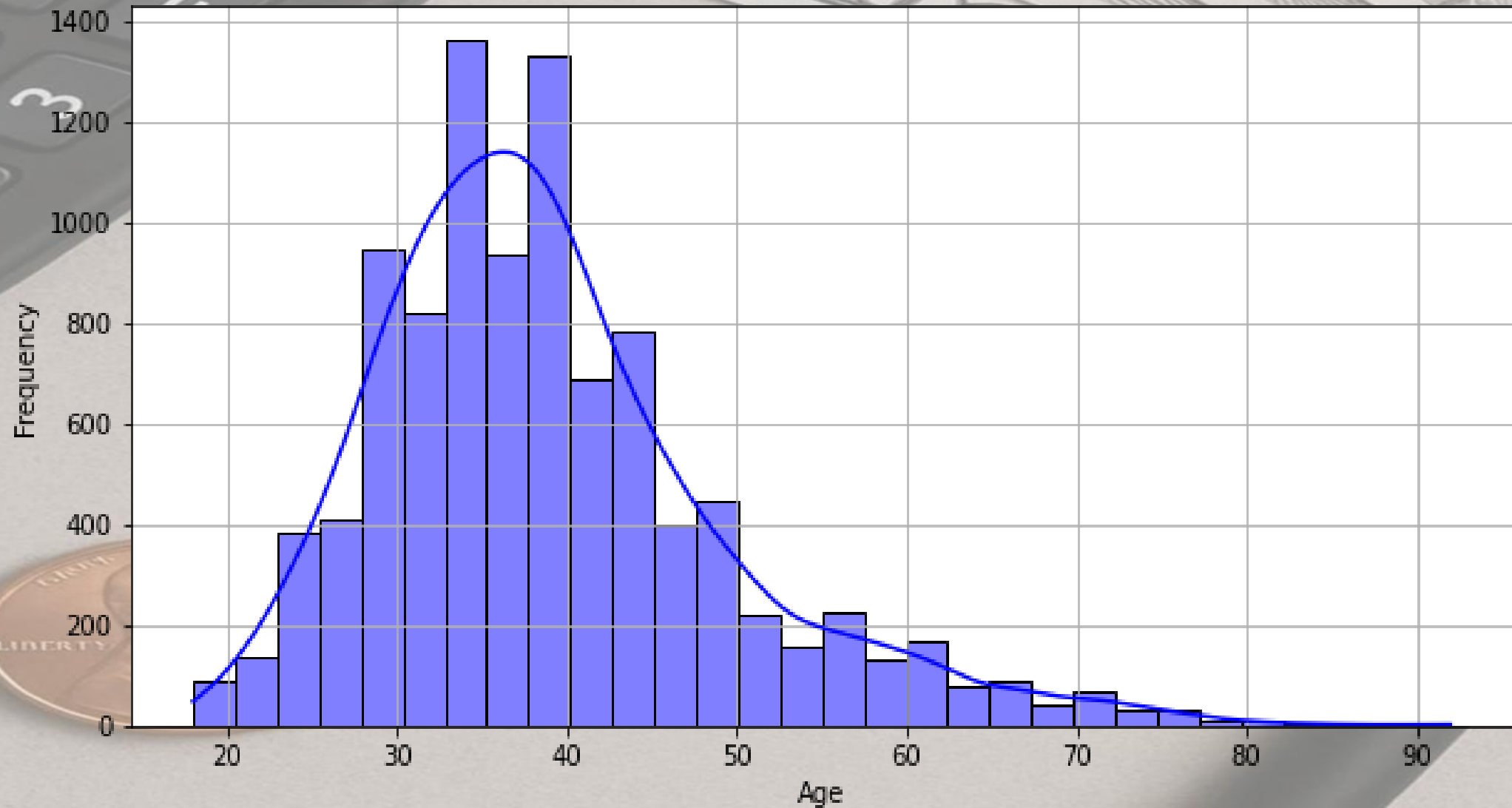
- Retaining customers is cheaper than acquiring new ones
- The Bank would like to focus on high-value customers for maximum impact
- Churn prediction supports proactive retention campaigns

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

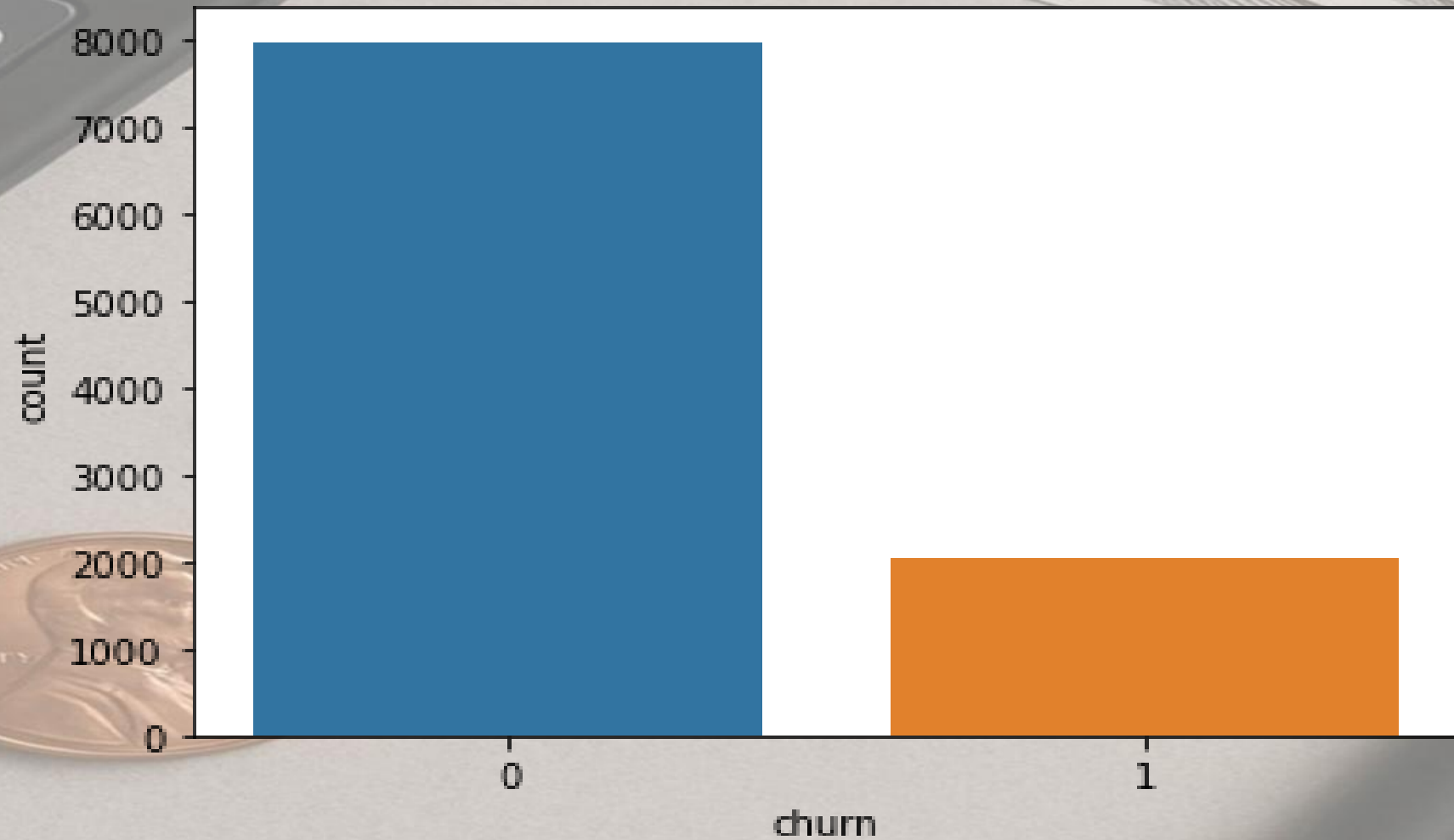
AGE DISTRIBUTION OF CUSTOMERS

Age Distribution of Customers



DISTRIBUTION OF CHURNERS AND NON-CHURNERS

Target Class Distribution



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

A composite background image featuring financial symbols: a calculator in the top left, a stack of US dollar bills in the top right, a wooden bar chart with an upward arrow in the center, a US penny in the bottom left, and a pen in the bottom right.

QUESTIONS?

A collage of financial and business-related items: a calculator in the top left, a stack of 100 Euro banknotes in the top right, a wooden bar chart with an upward-pointing arrow in the center, and a pen in the bottom right. A copper coin is also visible in the bottom left.

THANK YOU.

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