



Bank Analysis

A comprehensive customer and financial performance analytics project demonstrating advanced Power BI capabilities, data modeling expertise, and strategic business intelligence.



PROJECT OVERVIEW

Bank Analysis

Customer & Financial Performance Analytics

Platform & Technology

Built entirely in **Microsoft Power BI**, leveraging its full suite of business intelligence capabilities

Core Competencies

- Advanced data modeling & relationships
- DAX calculations & measures
- Interactive dashboard design

Business Problem & Objective



Complex Data Challenges

Raw banking data is difficult to analyze effectively, requiring transformation and sophisticated modeling to extract meaningful patterns.



Risk Identification

Identifying high-value customers and assessing loan default risk remains challenging without proper analytical frameworks.



Decision Support Needs

Stakeholders require quick, visual insights to make data-driven strategic decisions in a fast-paced environment.

Project Objective

Analyze customer demographics and balance distributions across multiple dimensions

Track critical financial KPIs using interactive Power BI dashboards

Identify patterns in loan defaults and customer behavioral segments

Data, Tools & Methodology

01

Data Acquisition

Excel files containing comprehensive bank customer data and transactional records

02

Data Preparation

Cleaning and transformation using Power Query to ensure data quality and consistency

03

Data Modeling

Building robust relationships between tables and establishing a star schema architecture

04

KPI Development

Creating DAX measures and calculated columns for business metrics and performance indicators

05

Dashboard Design

Developing interactive visualizations with drill-through capabilities and dynamic filtering

- **Technical Stack:** Power BI Desktop for modeling and visualization | DAX (Data Analysis Expressions) for calculations | Power Query M for ETL operations

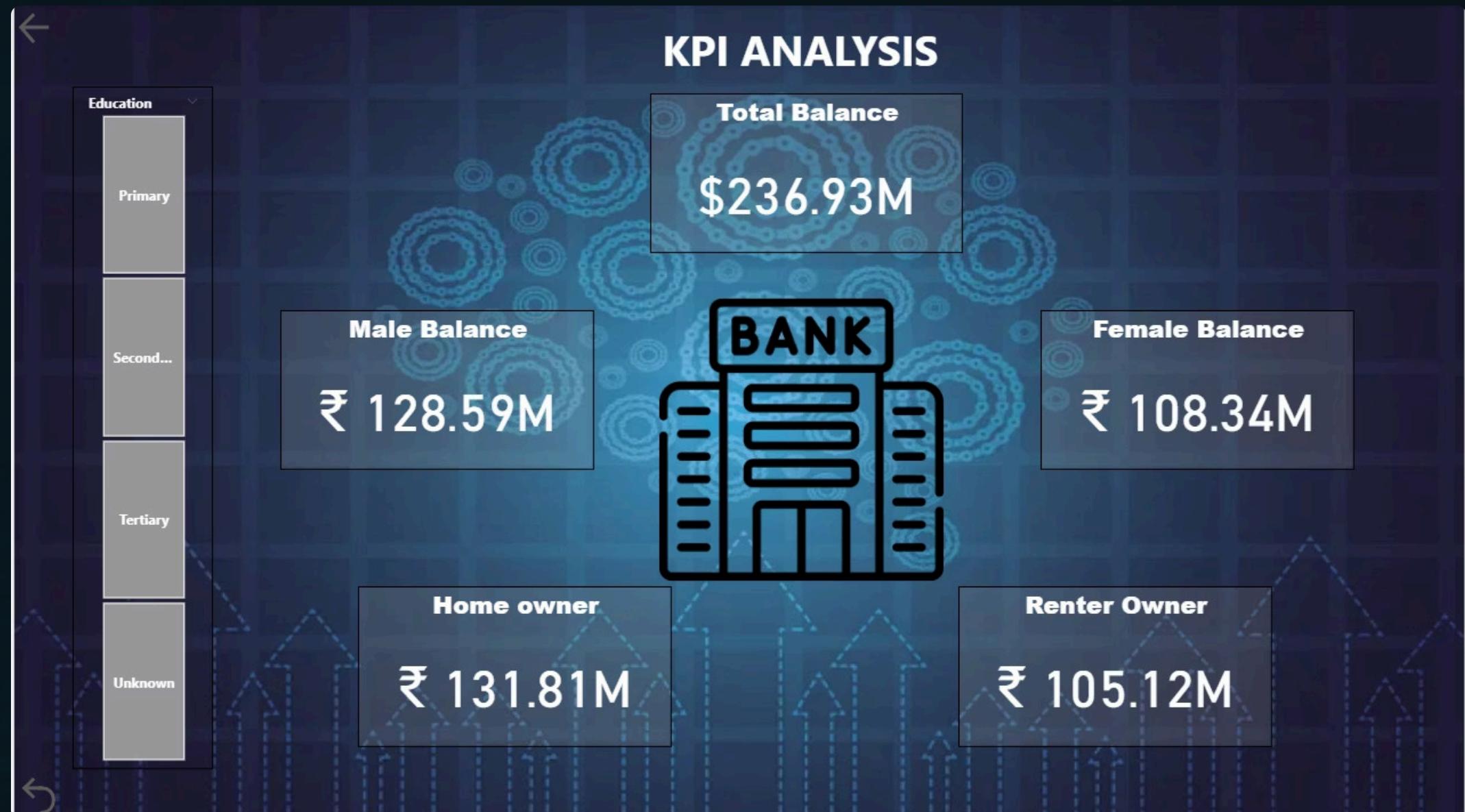
KPI Analysis Dashboard

Key Features

- Total balance overview with trend indicators
- Critical financial KPIs at a glance
- Gender-based balance comparison analysis
- Home ownership vs. renter financial profiles

Business Value

This executive-level dashboard provides instant visibility into overall financial performance, enabling quick decision-making and strategic planning. The comparative views reveal demographic patterns that drive resource allocation.



Customer Analysis I Dashboard

Customer Segmentation

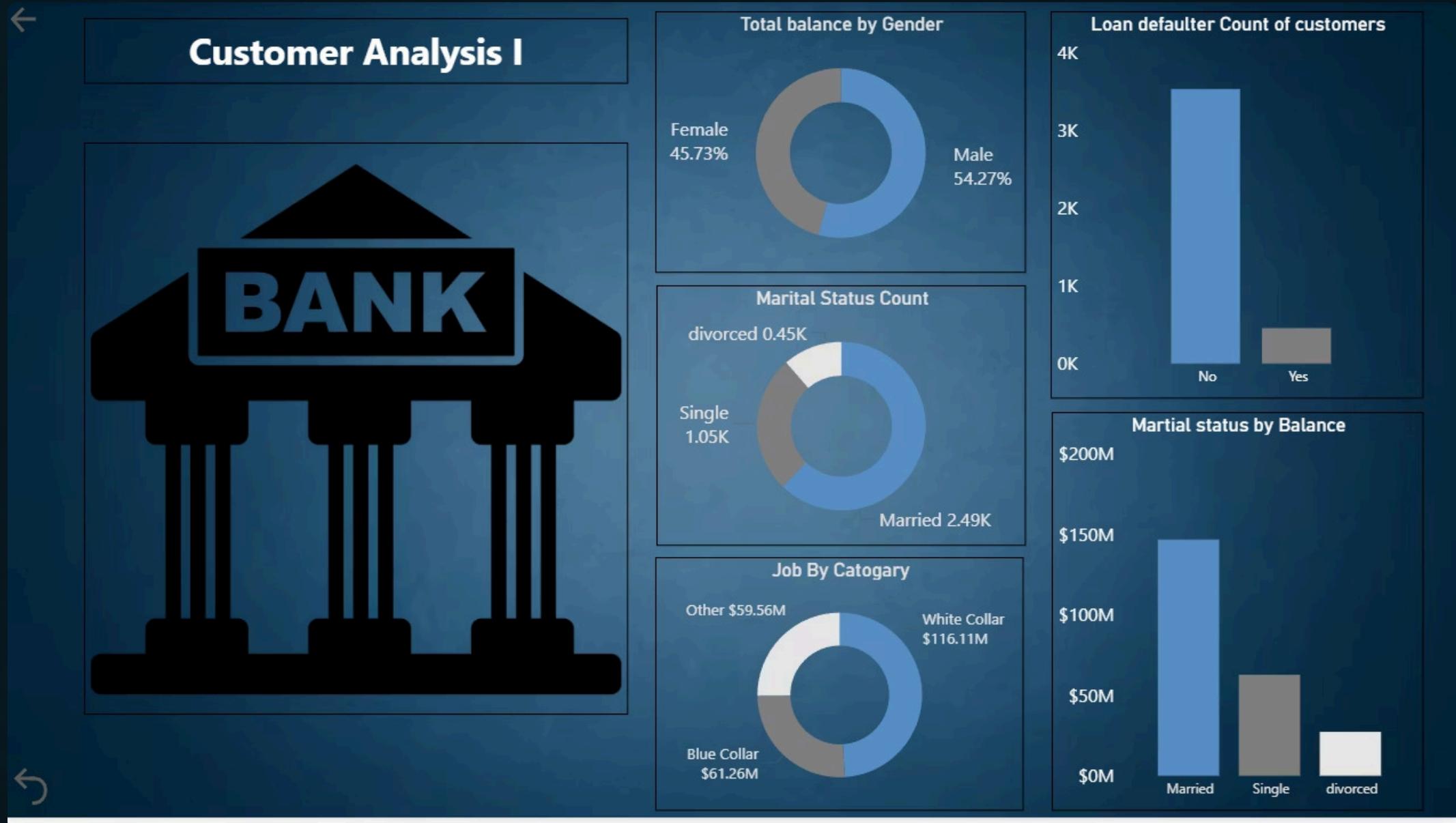
Comprehensive breakdown by gender, marital status, and demographic attributes revealing distinct customer profiles and banking behaviors.

Job Category Analysis

Detailed contribution analysis showing which professional categories drive the highest account balances and represent the most valuable customer segments.

Loan Default Comparison

Critical risk analysis comparing defaulters versus non-defaulters, highlighting patterns and warning signals for proactive risk management.



Customer Analysis II Dashboard

Demographic Deep Dive

- Age Distribution Insights

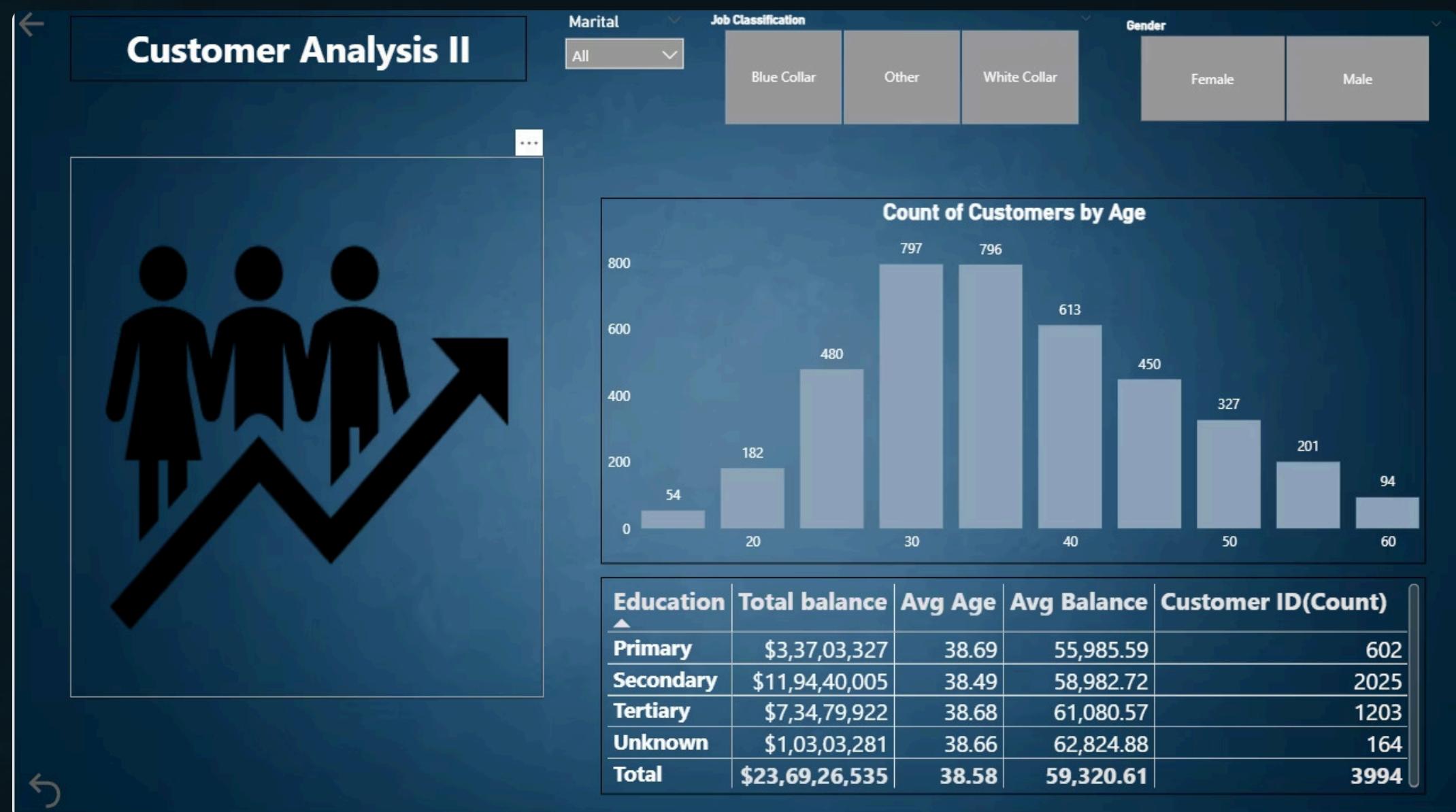
Customer base segmented by age groups, revealing concentration patterns and generational banking preferences

- Education Impact Analysis

Balance distribution and customer counts across education levels, showing correlation between education and financial capacity

Strategic Application

These demographic insights enable **targeted banking strategies** tailored to specific customer segments, improving product-market fit and marketing ROI.



Trend Analysis Dashboard



Monthly Balance Trends

Granular month-over-month balance fluctuations revealing seasonal patterns and growth trajectories



Quarterly Growth Patterns

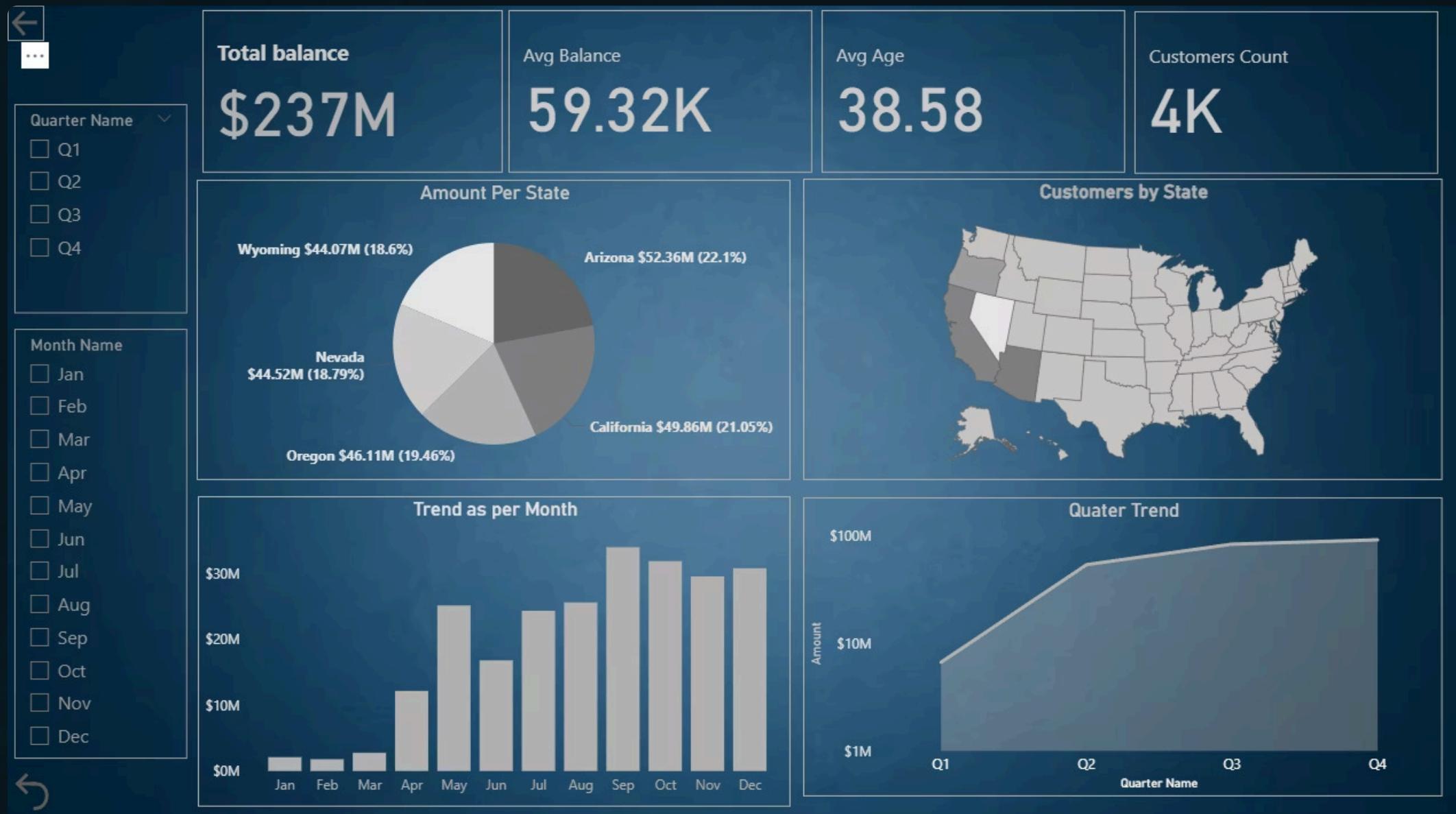
Aggregated quarterly performance showing sustained growth periods and identifying optimal business cycles



Seasonal Performance

Year-over-year seasonal insights supporting forecasting accuracy and resource planning

Trend analysis is invaluable for **financial forecasting**, **budget planning**, and **strategic initiative timing**. Historical patterns inform future projections and help anticipate market conditions.



Key Findings from Analysis



Married Customers Lead

Married customers maintain significantly higher total balances, indicating greater financial stability and banking engagement

White-Collar Dominance

White-collar professionals contribute the most substantial financial value to the institution

Home Ownership Correlation

Home owners demonstrate markedly greater financial stability and lower risk profiles

Age Concentration

The majority of customers fall within the 30–40 age bracket, representing the core demographic

Low Default Rate

Loan default rate remains relatively low, indicating effective credit assessment processes

Strategic Business Recommendations

1

Premium Product Targeting

Develop and market premium banking products specifically tailored to high-value customer segments identified through the analysis, including married professionals and home owners.

2

Retention Strategy Focus

Implement targeted retention programs for married customers and white-collar professionals, leveraging personalized offers and relationship management to maintain loyalty.

3

Proactive Risk Monitoring

Establish early warning systems to monitor loan default customers proactively, using predictive analytics to intervene before defaults occur.

4

Seasonal Marketing Optimization

Align marketing campaigns and product launches with identified seasonal trends to maximize customer engagement and financial performance during peak periods.

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