Customer Behavior Dashboard Project

Data Analysis & Visualization Report

Unlocking actionable insights for strategic decision-making.

Project Overview

1 ## Objective

Analyze customer behavior and purchasing patterns to uncover key trends.

2 ## Methodology

Develop SQL-driven insights and interactive dashboard for comprehensive data exploration.

3 ## Impact

Empower data-driven business decisions and optimize customer engagement strategies.

Dataset Description

Our analysis leverages a rich dataset encompassing detailed customer demographic and transaction information.

- **Demographics:** Age, location, registration date

- **Transactions:** Purchase history, discount application, subscription status

- **Storage & Query:** Efficiently managed and accessed using SQL databases.

Problem Statement

Customer Segmentation

Understand distinct customer groups based on age and comprehensive purchase history.

Loyalty Identification

Accurately classify new, returning, and loyal customer segments for targeted strategies.

Discount Impact

Quantify the effectiveness of discounts on purchasing behavior and volume.
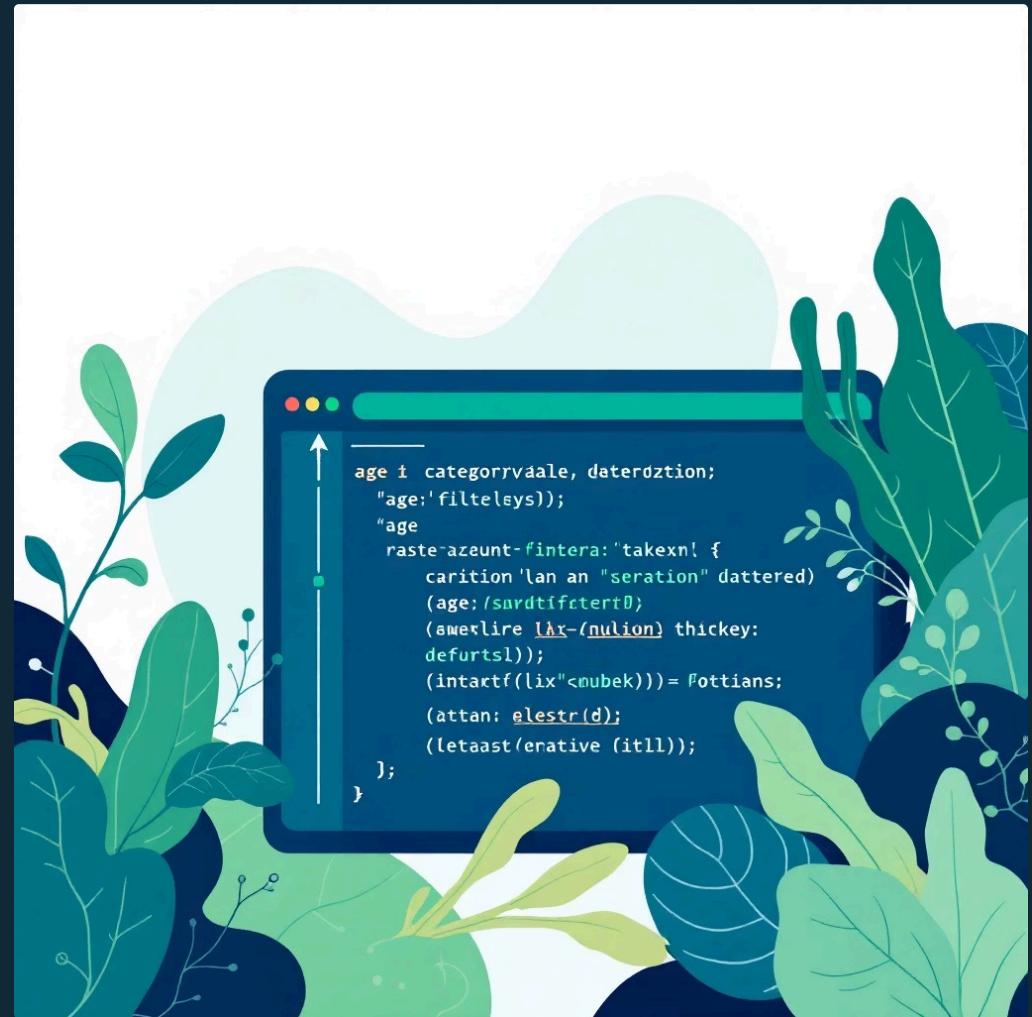
SQL Logic – Age Grouping

Precise Customer Categorization

Utilizing CASE WHEN statements for dynamic age-based segmentation.

- **Youngest:** 19 – 30 years

- **Adult:** 31 – 45 years

- **Senior:** 46 – 80 years

This structured approach enhances readability and facilitates targeted analysis across different age demographics.

SQL Logic – Customer Segmentation

Data Cleaning

COALESCE and CASE statements address missing values, ensuring data integrity.

Segmentation

Customers categorized into **New**, **Returning**, and **Loyal** segments.

Aggregation

GROUP BY clauses summarize data, providing clear counts and metrics for each segment.

Dashboard Features

Interactive Filters

Dynamic filtering by age group and customer segment for granular analysis.
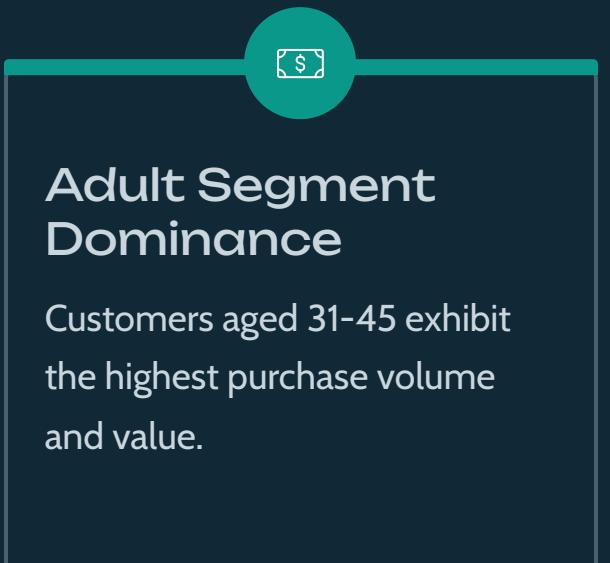
Visual Storytelling

Comprehensive visuals: bar charts, pie charts, and actionable KPIs.

Platform

Developed and deployed using Power BI for robust data presentation.

Key Insights

Adult Segment Dominance

Customers aged 31-45 exhibit the highest purchase volume and value.

Discount Responsiveness

Loyal customers show a significantly higher positive response to promotional discounts.

Youngest Segment Potential

The 19-30 age group displays promising growth trends and future value.

Conclusion

This project demonstrates a comprehensive approach to customer behavior analysis.

01

Strategic Marketing

Tailored marketing strategies based on identified customer segments and behaviors.

02

Actionable Insights

SQL-driven analysis and interactive dashboards provide clear, measurable business insights.

03

End-to-End Analytics

A successful workflow from raw data to impactful business intelligence.