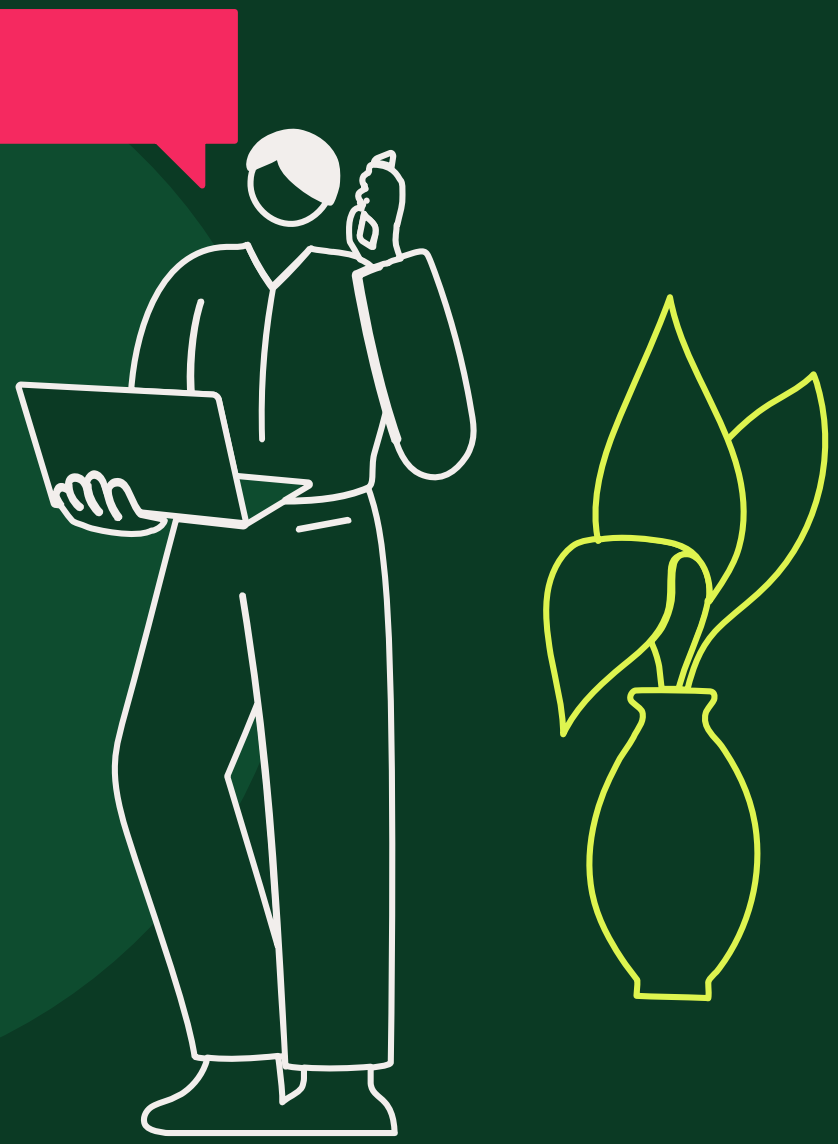
# Financial Sales Analysis

Revenue, Cost & Profitability Insights

# Project Objective

- Analyze sales data to evaluate business performance
- Understand revenue, cost, and profit trends
- Identify high-performing products and regions
- Generate actionable business insights



# Dataset Overview

**Dataset Description:**

- Transaction-level sales data
- Time period: Multiple years
- Covers customers, products, and geography

**Key Data Fields:**

- Date (Day, Month, Year)
- Revenue, Cost, Profit
- Product Category & Sub-Category
- Country & State
- Customer Age Group & Gender

# Methodology & Tools

**Methodology:**

- Data cleaning and validation
- Data type conversion and checks
- Financial KPI calculation
- Trend and segmentation analysis
- Visualization and interpretation

**Tools Used:**

- Python (Pandas, Matplotlib)
- Jupyter Notebook
- Excel (for dashboard)

# Data Validation & Quality Checks

- Validated revenue, cost, and profit fields for consistency
- Checked for missing and duplicate records
- Verified date formats and numeric data types
- Verified consistency between transaction-level data and aggregated financial totals

**Result:**

Calculated financial metrics closely matched recorded totals, confirming data reliability for analysis.

# Key Financial Metrics

**Overall Business Performance:**

- Total Revenue: Calculated from all transactions
- Total Cost: Operational cost of sales
- Total Profit: Revenue minus cost
- Profit Margin: Profit as a percentage of revenue

**Insight:**

The business is profitable with a healthy margin.

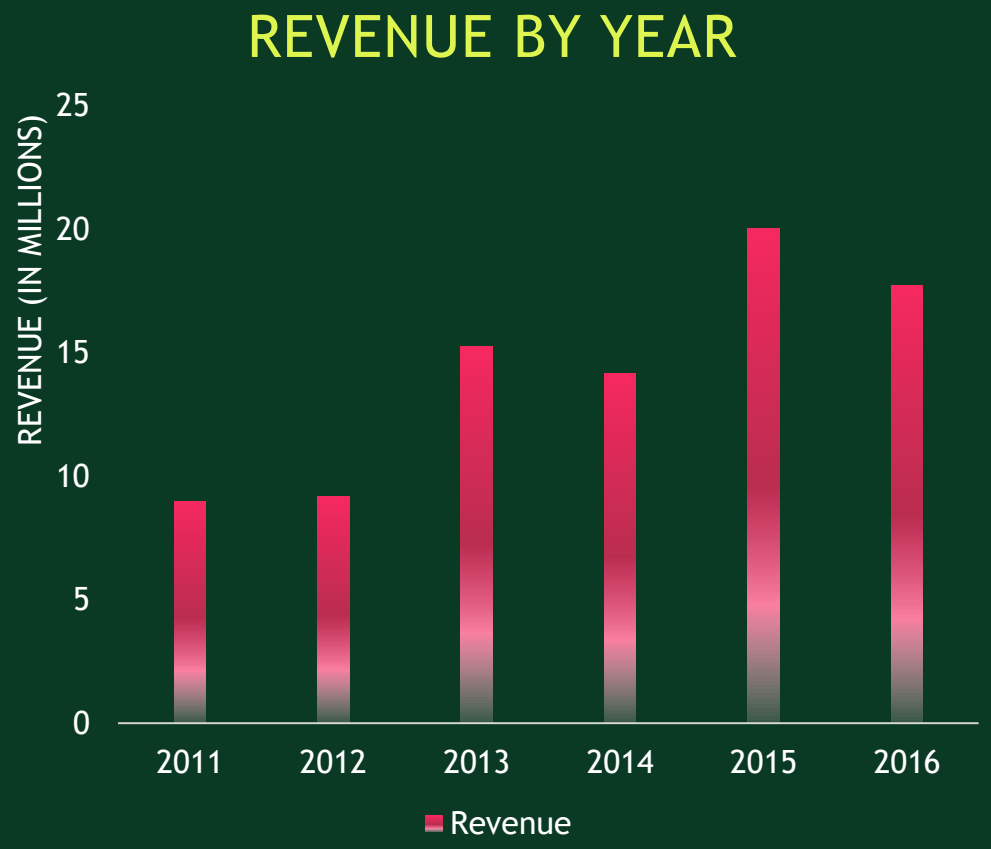
# Revenue Trend Over Time

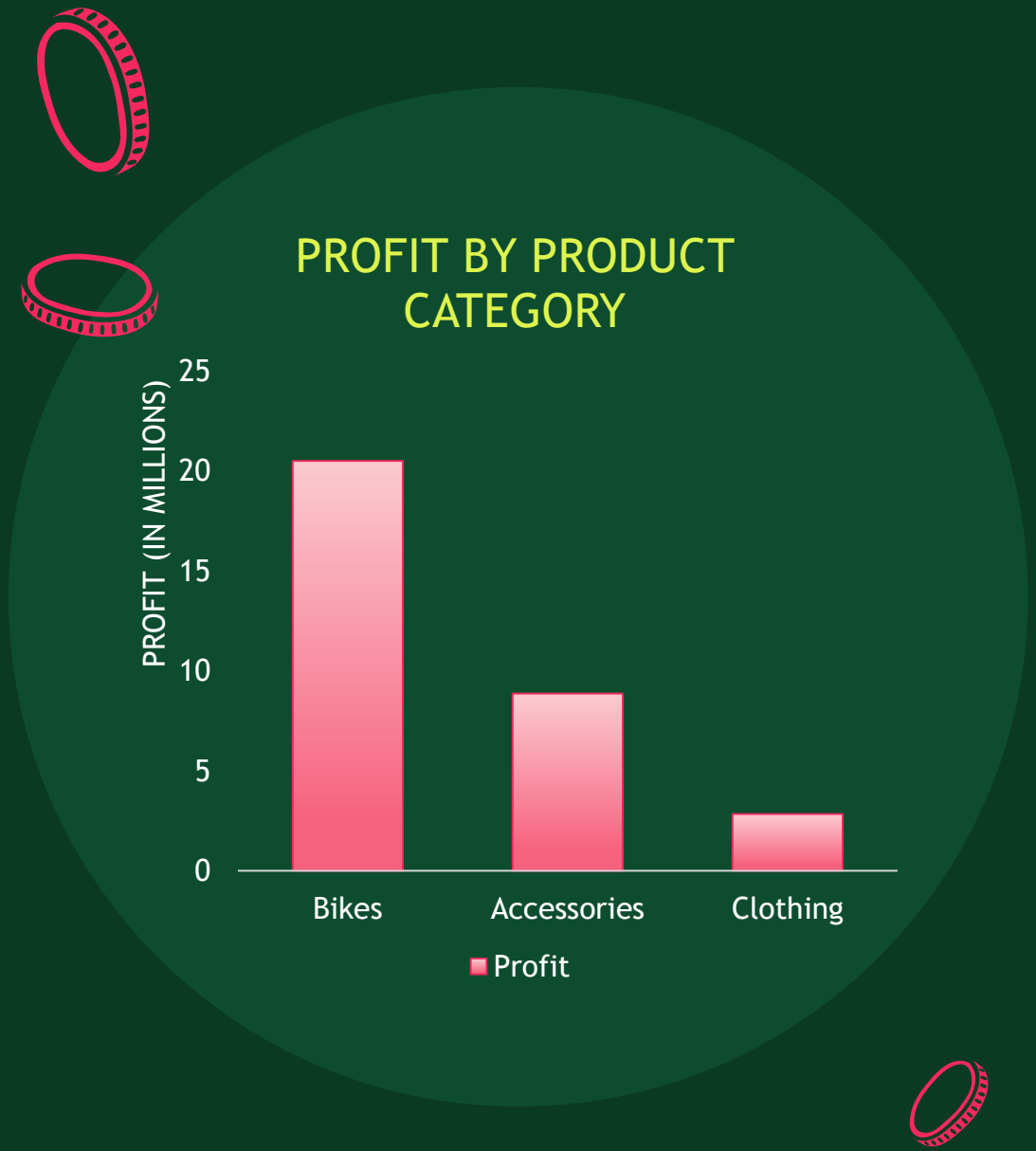
**Revenue by Year:**

- Year-wise revenue analysis performed
- Bar chart used to visualize trend

**Insight:**

- Revenue shows consistent growth over time
- Indicates increasing customer demand and market expansion






# Profit Contribution by Product Category

**Profit by Product Category:**

- Products grouped by category
- Total profit calculated for each category

**Insight:**

- Certain product categories contribute significantly more to profit
- Focus should be on high-margin categories

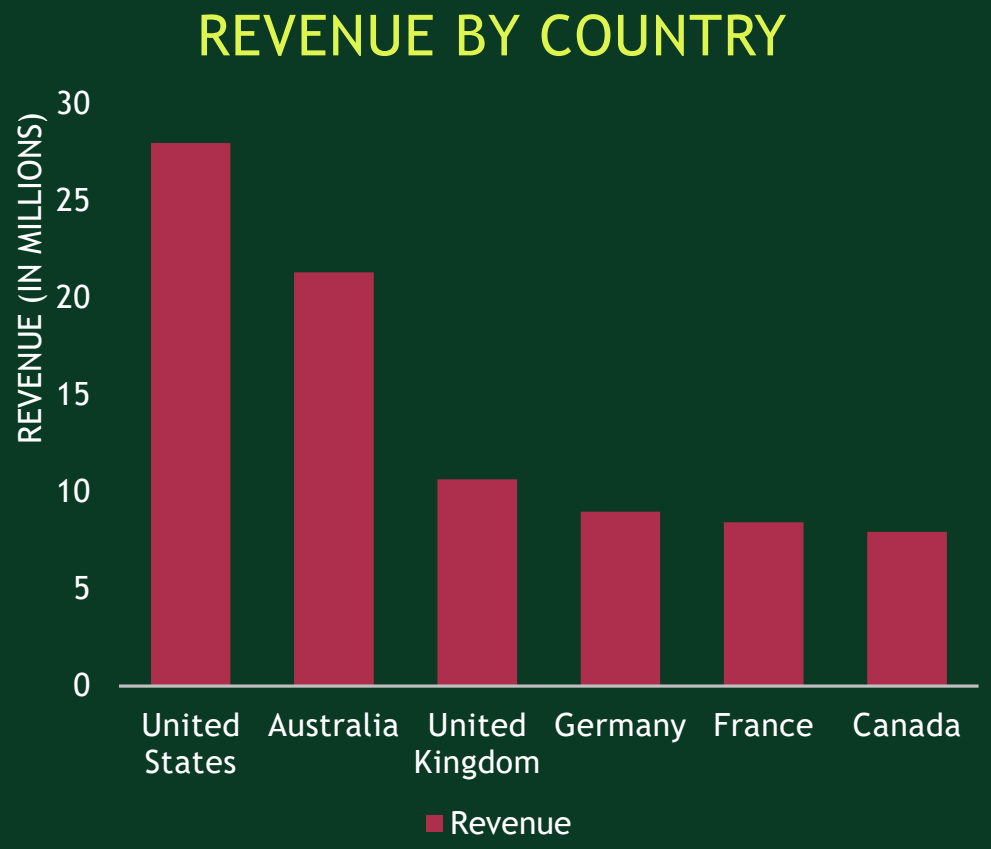
# Geographic Revenue Distribution

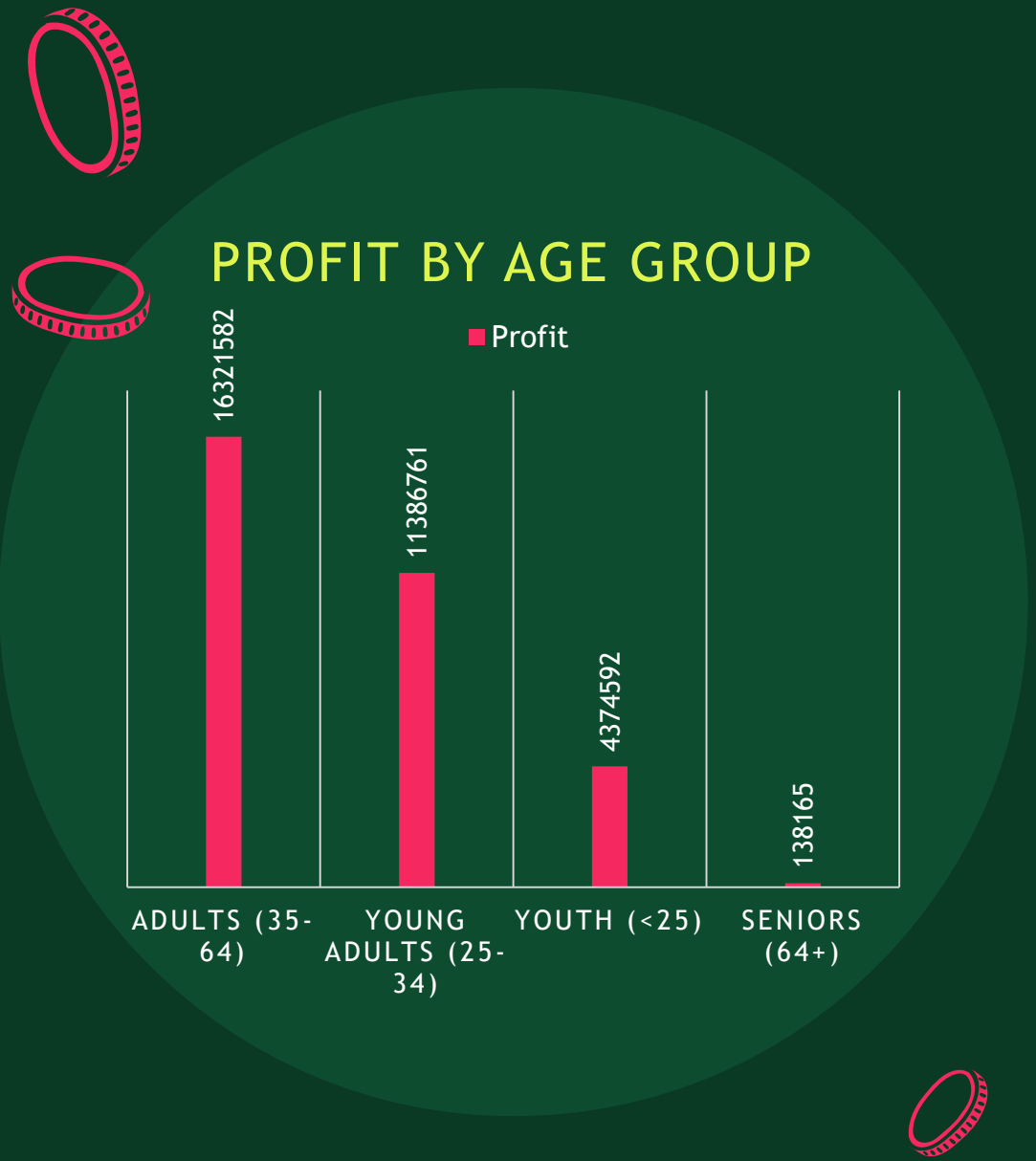
## Revenue by Country:

- Country-wise revenue analysis conducted

## Insight:

- Revenue is concentrated in a few key countries
- Opportunity to expand in underperforming regions






# Customer Demographics and Profitability

## Customer-Based Insights:

- Profit analyzed by:
  1. Gender
  2. Age group

## Key Observations:

- Adult age group contributes the highest profit
- Customer demographics influence purchasing behavior

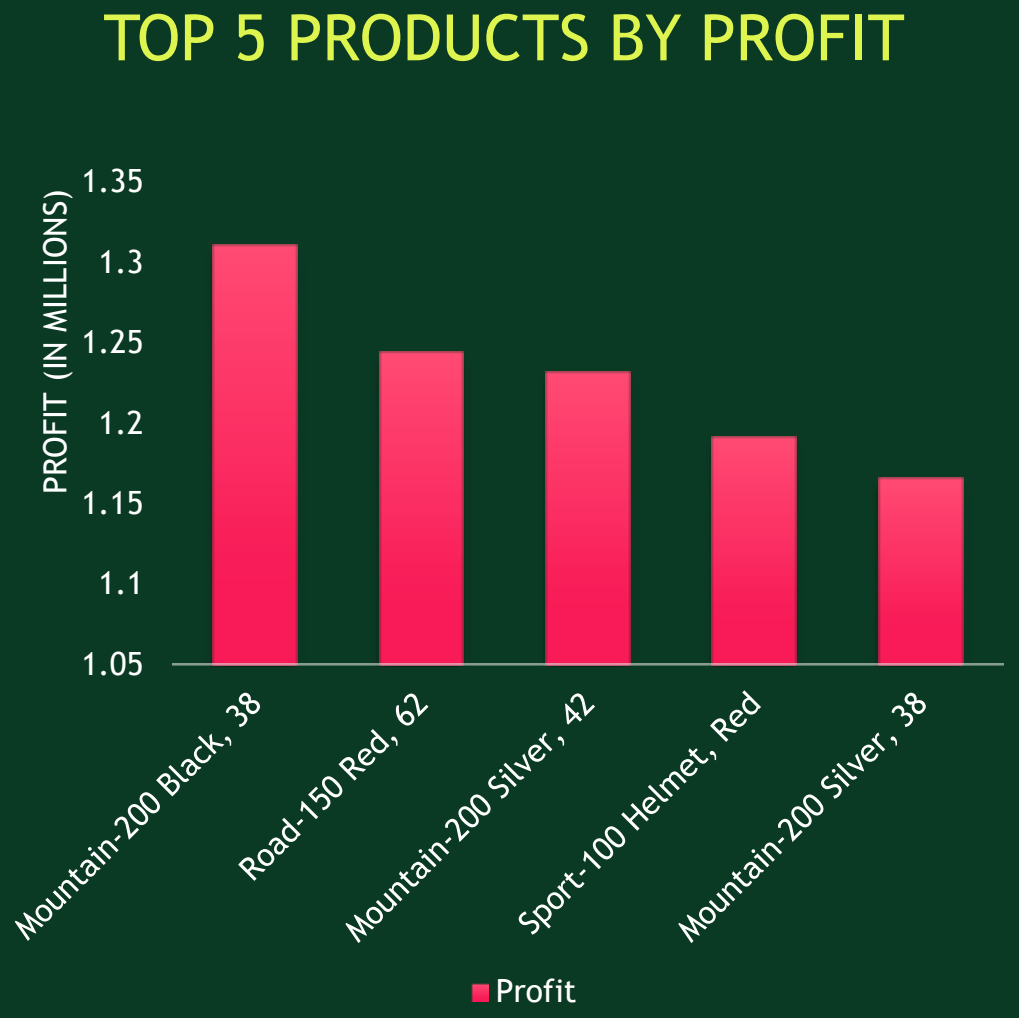
# Top Products Analysis

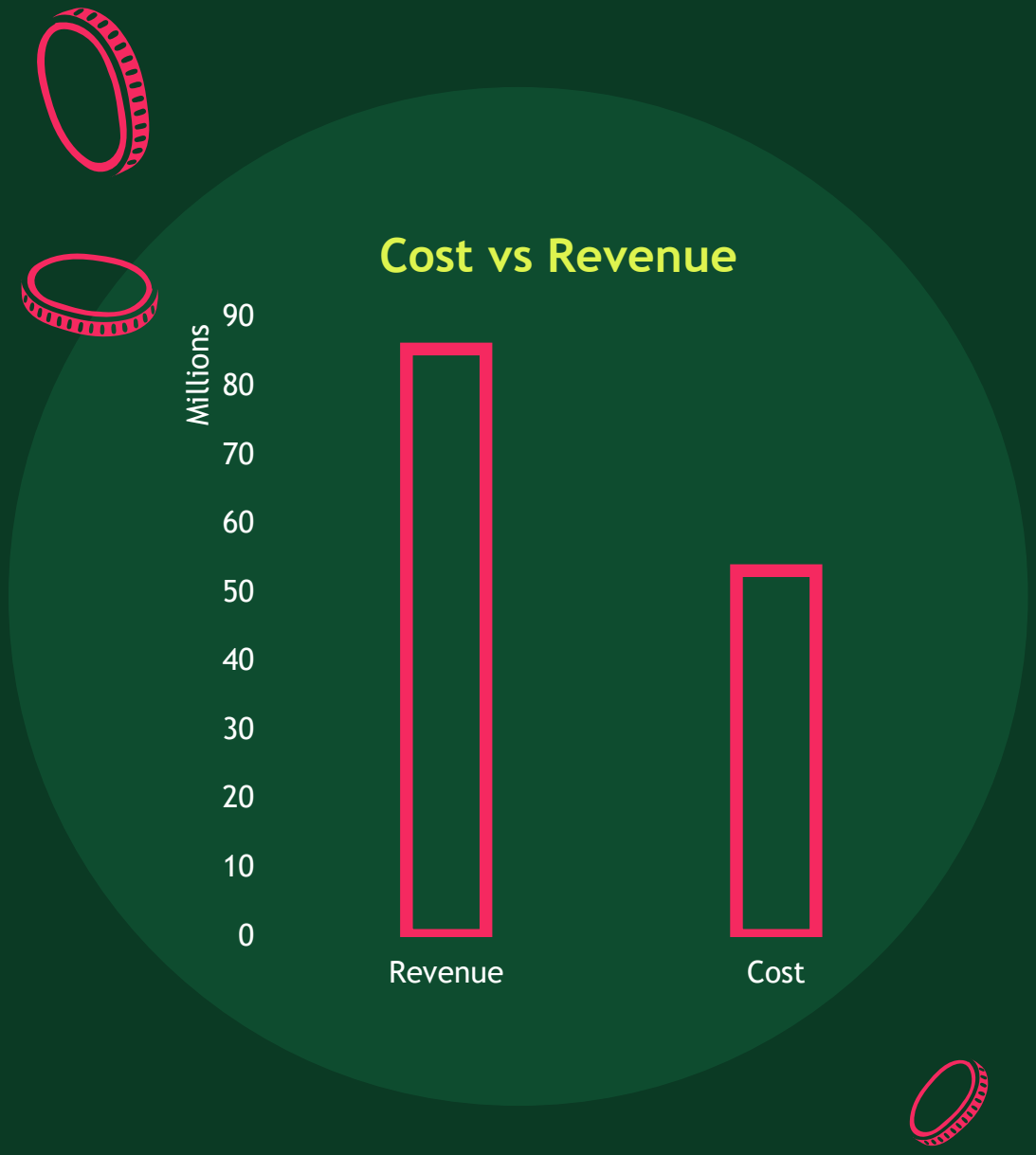
## Top 5 Products by Profit:

- Ranked based on total profit contribution

## Insight:

- Small number of products generate a large share of profit
- These products should be prioritized in marketing and inventory






# Cost vs Revenue Comparison

## Analysis Performed:

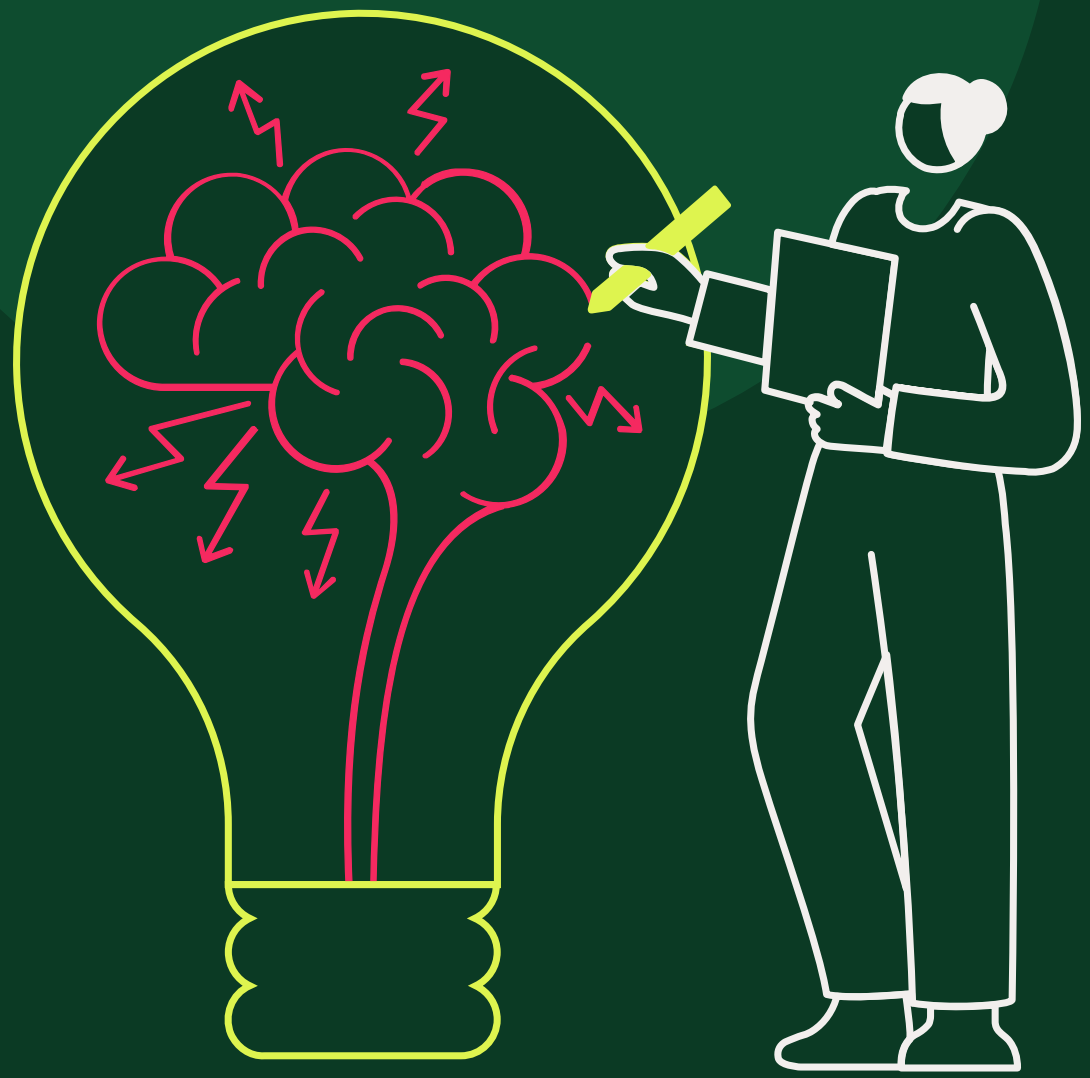
- Total revenue compared against total cost

## Insight:

- Revenue significantly exceeds cost
- Cost control is critical to maintain profit margins

# Key Business Insights

- Strong overall profitability
- Product category performance varies significantly
- Revenue concentration exists geographically
- Customer age group impacts profitability

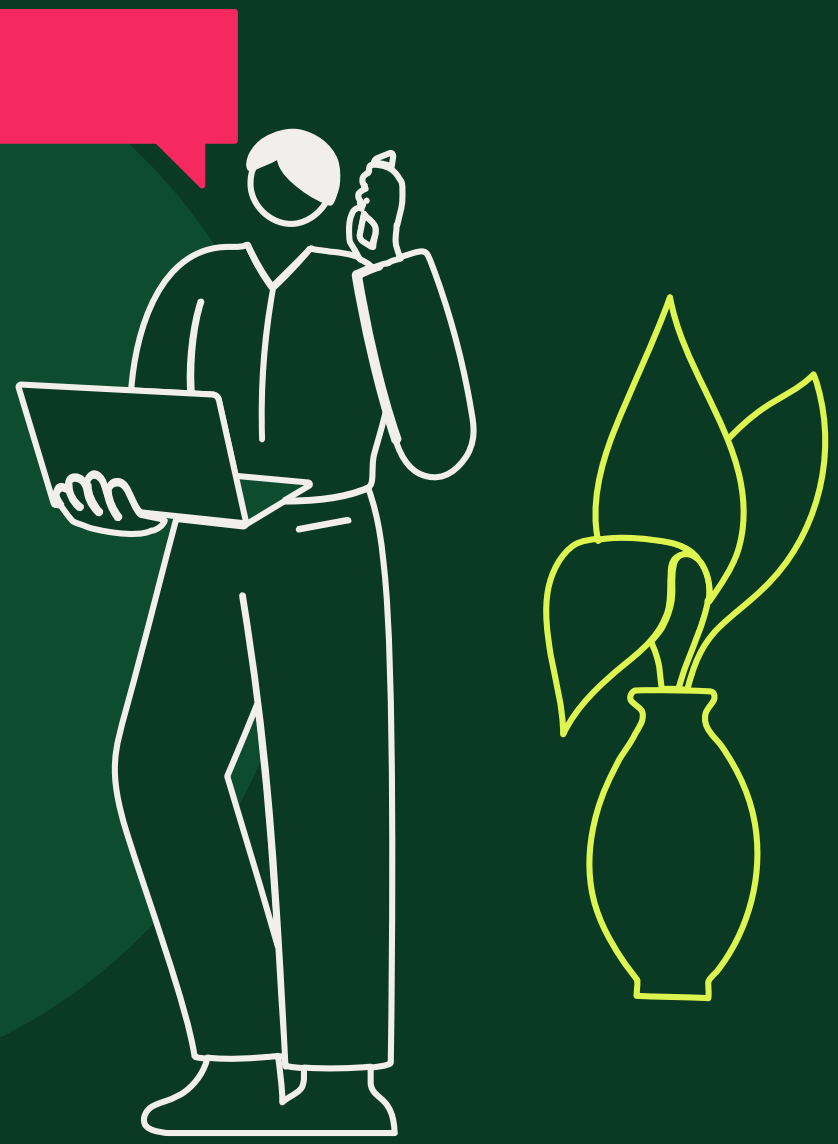


# Recommendations

- Focus on high-profit product categories
- Expand presence in high-revenue countries
- Control operational costs
- Target profitable customer segments with tailored strategies

# Conclusion

- The financial analysis provides clear visibility into business performance
- Data-driven insights can improve strategic planning
- Python-based analysis ensures accuracy and scalability



# Thank you

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