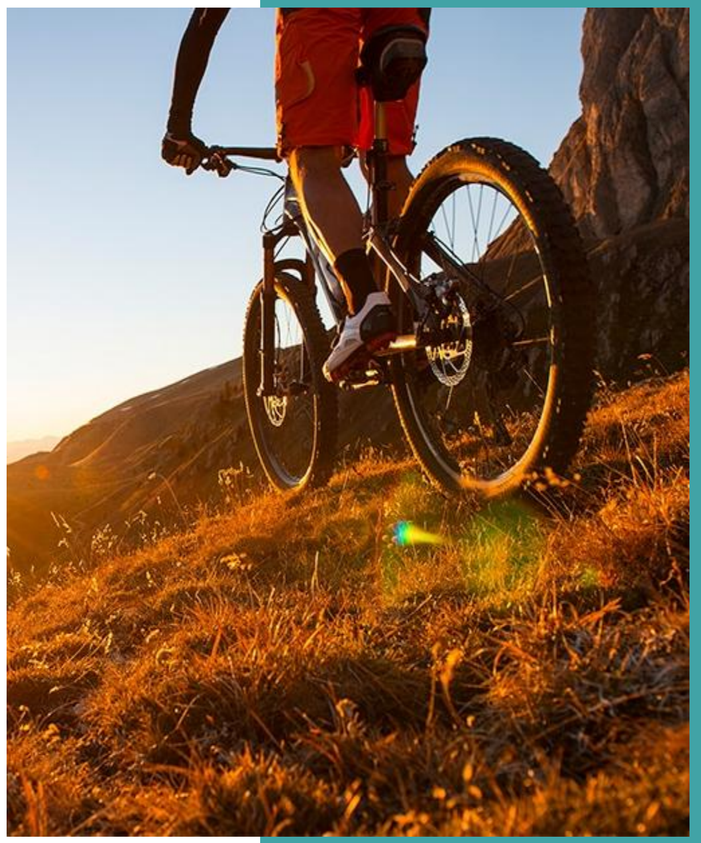
BIKE-SALES Analysis

A Case Study



SOMASRI PATRA

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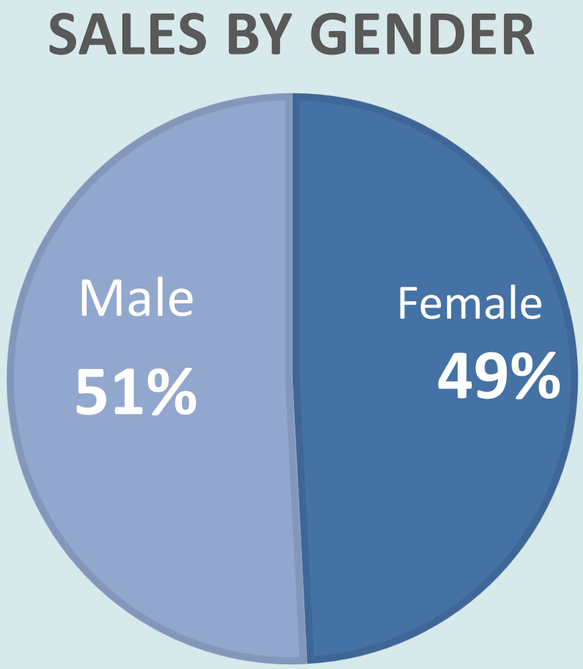
Project Overview

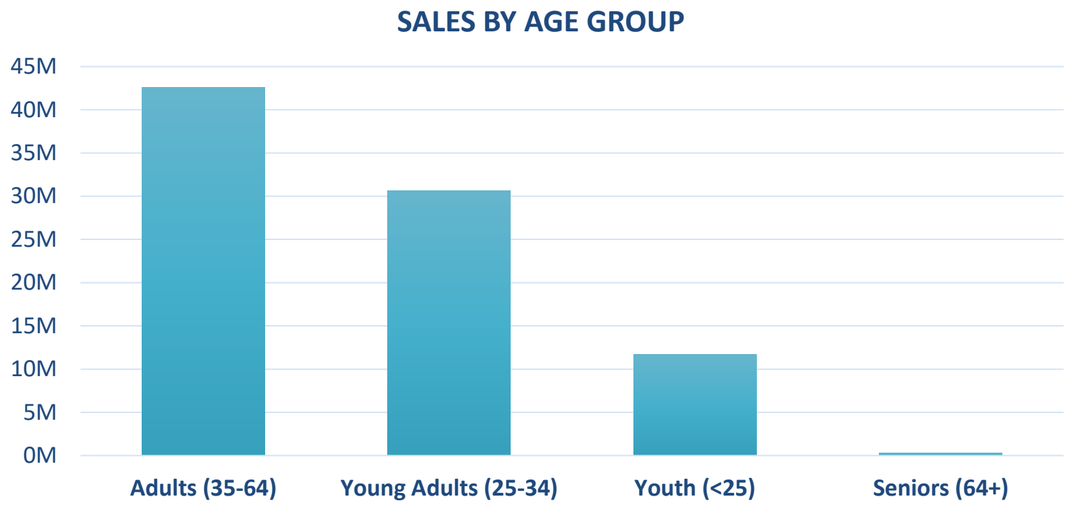
This case study analyzes bike sales data to uncover key business insights. It explores sales performance, customer behavior patterns, popular products, and yearly sales trends. The analysis highlights revenue drivers, profit margins, and seasonal variations. Insights from this study can support better inventory planning, marketing strategies, pricing decisions, and customer experience improvements. Overall, it demonstrates how data-driven analysis can enhance business performance in the bike retail industry.

Dataset Overview

- Source: Kaggle – Bike sales data (2011–2016) : Contains details on date, customer demographics, location, product categories, and sales metrics.
- Data is cleaned, standardized, and validated; no missing values identified.
- Tools used: Excel and SQL for analysis and insights.
- Provides a strong foundation to study sales trends, customer behavior, and business performance.

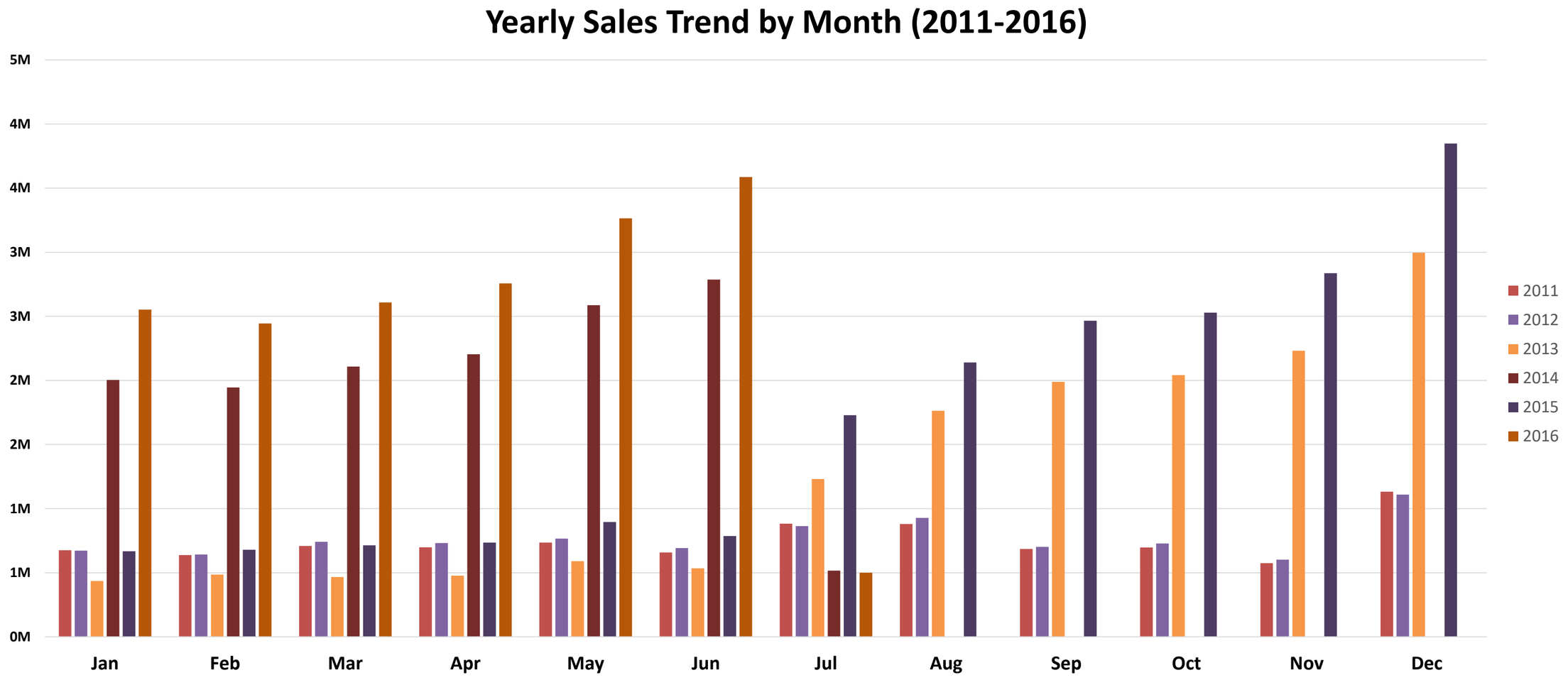
Customer Segmentation Insights



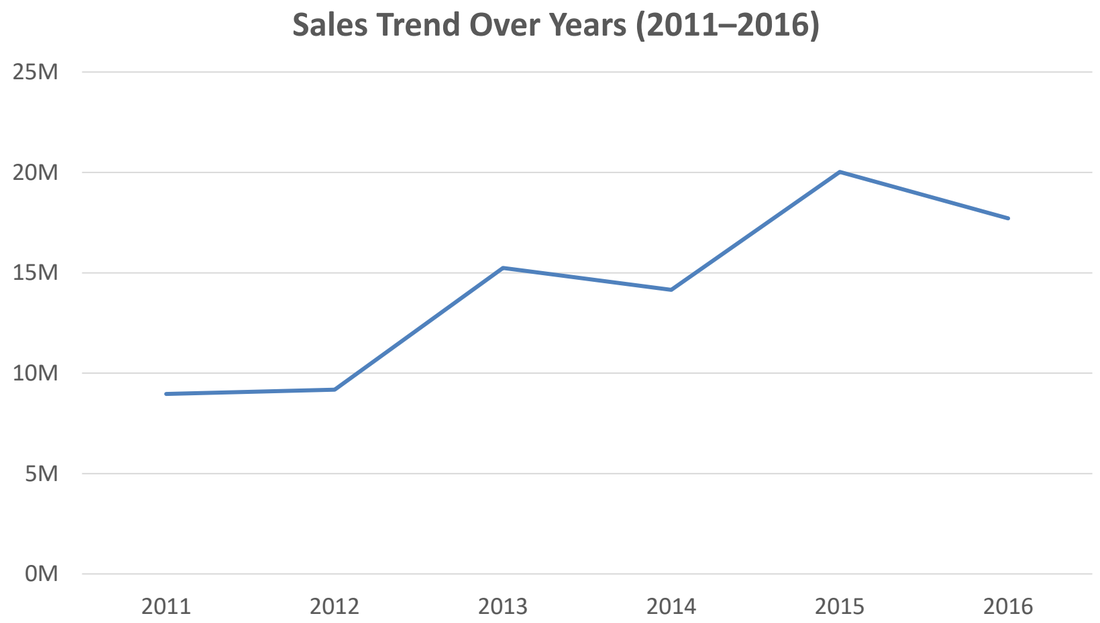


- Male customers account for the majority (51%) of total buyers, indicating stronger sales potential among this segment.
- The age group 35–65 represents the largest share of buyers.

Sales Performance



Sales Performance



- **Seasonal spike:** Sales consistently peak in December, indicating strong demand during holiday season.
- **Long-Term Growth**:
  Over the years, sales have shown **upward trend**, reaching their highest point in **2015 with 20.02M** in revenue.

Profit vs Order Quantity

Product	Sum of Profit
Mountain-500 Black, 52	7487
Road-650 Red, 52	9345
Mountain-500 Silver, 48	9778

Bottom 3 Products by Profit

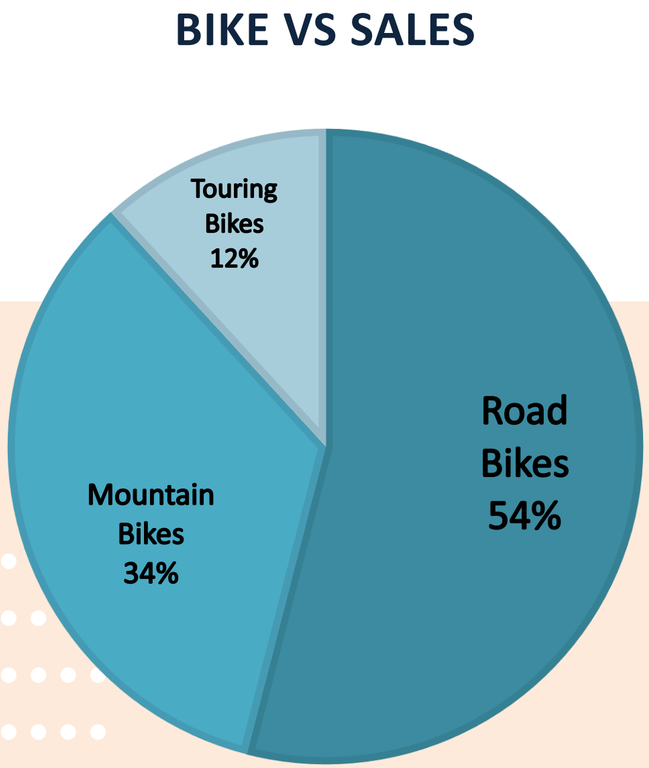
Product	Sum of Profit
Mountain-200 Black, 38	1310464
Road-150 Red, 62	1243755
Mountain-200 Silver, 42	1231452
Sport-100 Helmet, Red	1191402
Mountain-200 Silver, 38	1165560

Top 5 Product by Profit

Product	Order Quantity
Water Bottle - 30 oz.	164086
Patch Kit/8 Patches	157583
Mountain Tire Tube	102792
AWC Logo Cap	67316
Sport-100 Helmet, Red	63663

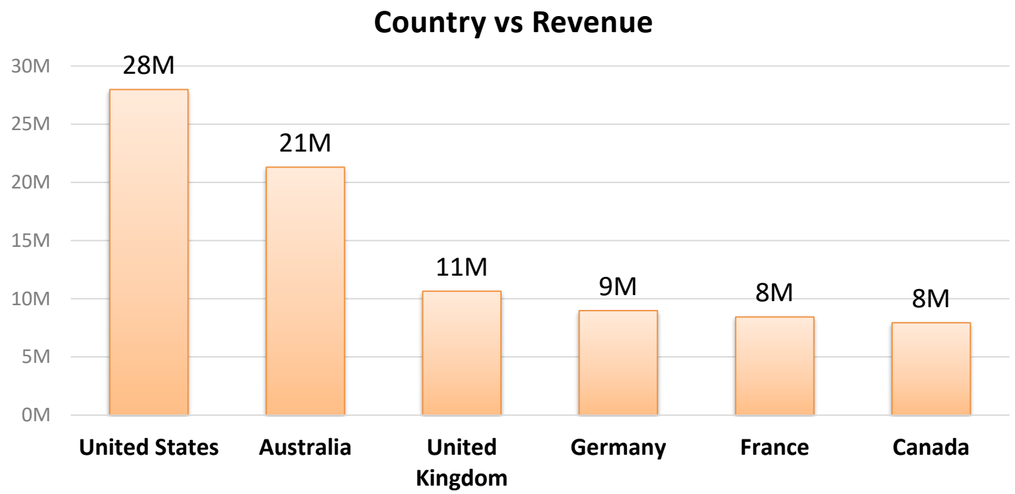
Top 5 Product by Order Quantity

Popular Products



- Mountain-200 Black, 38 stands out as the top profit contributor.
- Water Bottles are ordered in very large quantities, indicating strong demand despite their relatively lower unit profitability.
- The dataset includes three primary product categories: Accessories, Clothing and Bikes.
- Within the Bike segment, which is the core revenue driver: **Road Bikes** dominate, contributing 54% of total bike sales. **Mountain Bikes** account for 34% of bike sales, positioning them as the second-largest contributor.

Geographical Insights



- United States generates the highest revenue (27.9M), followed by Australia (21.3M) and the United Kingdom (10.6M).
- Within the United States, the top 3 revenue-contributing states are : California (17.6M), Washington (6.7M) & Oregon (3.4M).

Recommendation

- Launch targeted discounts for Men aged between 35-64.
- Offer discounts in December to attract new customers.
- Prioritize marketing and inventory push for Road and Mountain Bikes, as they are the core revenue drivers.
- Increase Inventory for water bottle to prevent stockouts.
- Increase supply in California, Washington & Oregon to capitalize on regional demand.

Thank You