

# Bike Shop

Business Analysis

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A stylized pink tree with vertical lines for leaves is positioned on the far left.

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# Project Overview & Dataset



# Project Overview

**Goal:** Act as a **business analyst consultant** for a bike shop. Analyze **6 years of data** to deliver **descriptive insights** and **propose solutions** for improved business understanding and **data-driven** decision-making.

## Objectives & Deliverables:

- Conduct Exploratory Data Analysis (**EDA**) to uncover key insights.
- Create two **interactive dashboards** for real-time data visualization.
- Develop an internal **custom App** for data monitoring and decision support.

**Outcome:** **Improve** the Bike shop's ability to make informed decisions and improve overall **business performance**.



# Dataset



## Size / Shape

6 Years (2011-2016) & +100k Entries



## Order Time

Day  
Month  
Year



## Customer data

Age  
Gender  
Country  
State



## Product types

Category  
Sub category  
Product name



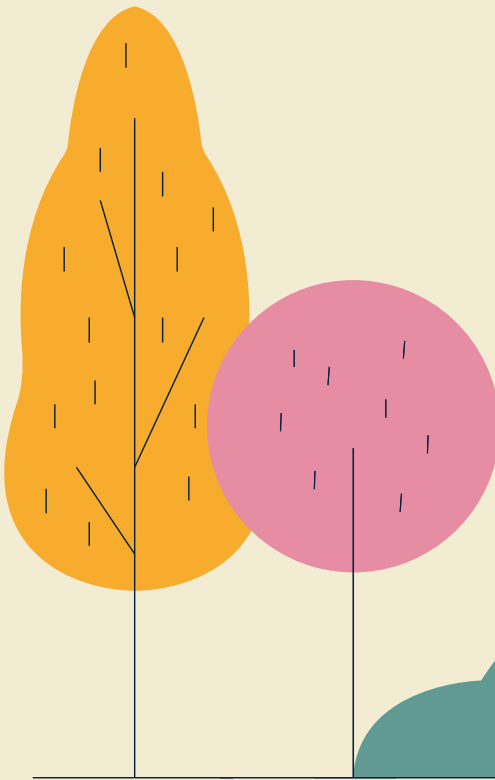
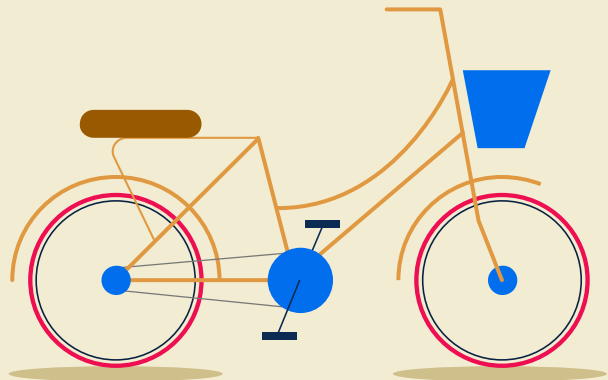
## Sales data

Order quantity  
Unit Cost / Price  
Profit / Cost  
Revenue

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# Exploratory Analysis

Understand the Business



# Product Categories



## Bikes

Road, Mountain &  
Touring



## Accessories

Tubes, Tires, Helmets,  
Bike racks, Bottles etc.

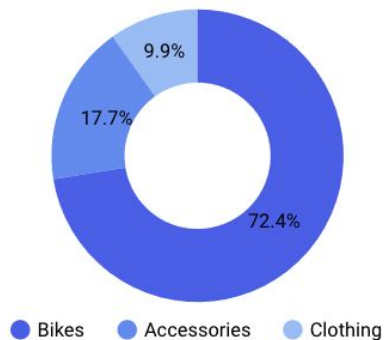


## Clothing

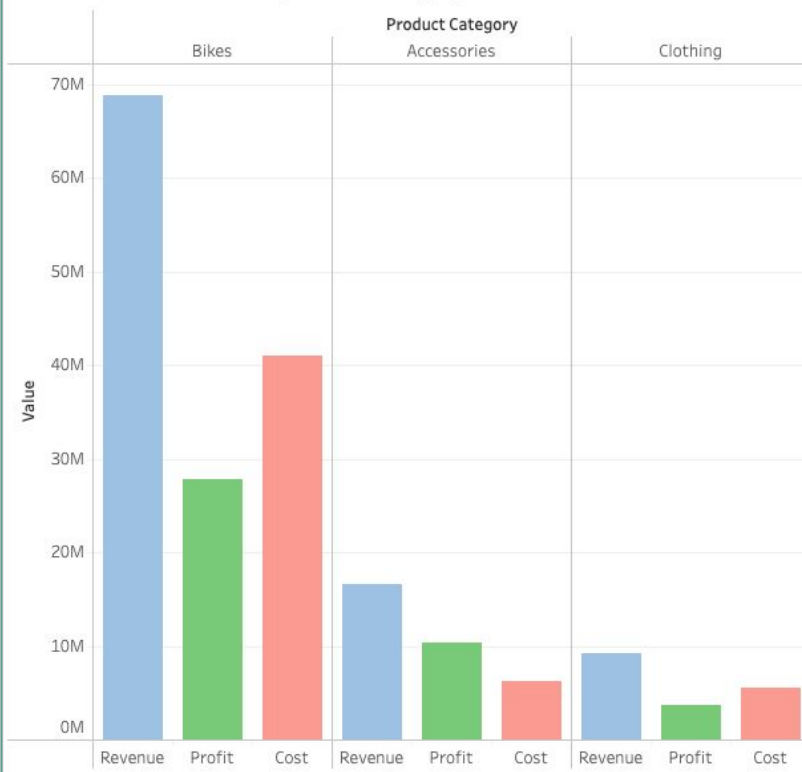
Shorts, Vests, Caps,  
Gloves, Jerseys, etc.

# Revenue Streams

Revenue by Product Category

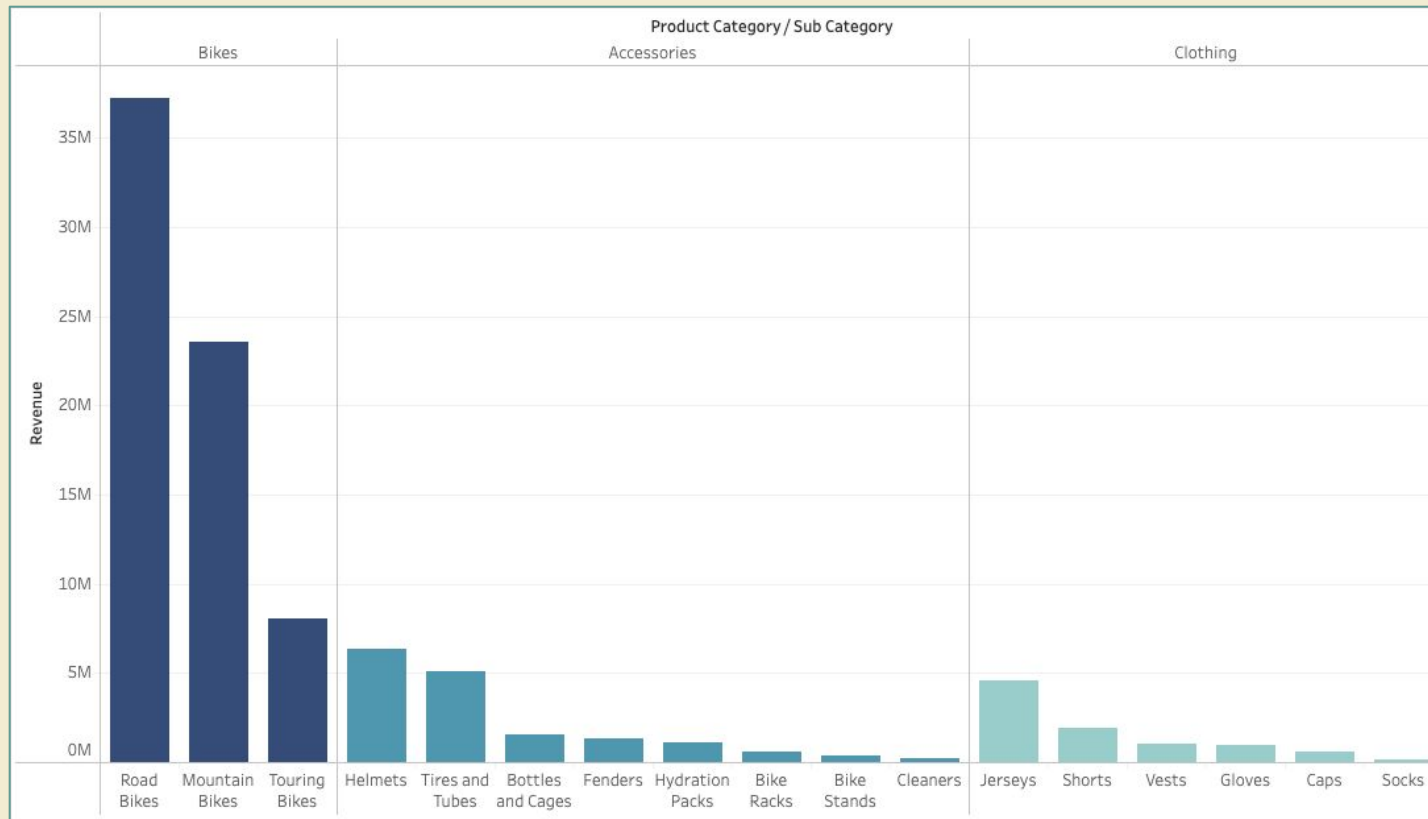


Revenue, Profit and Cost by Product category

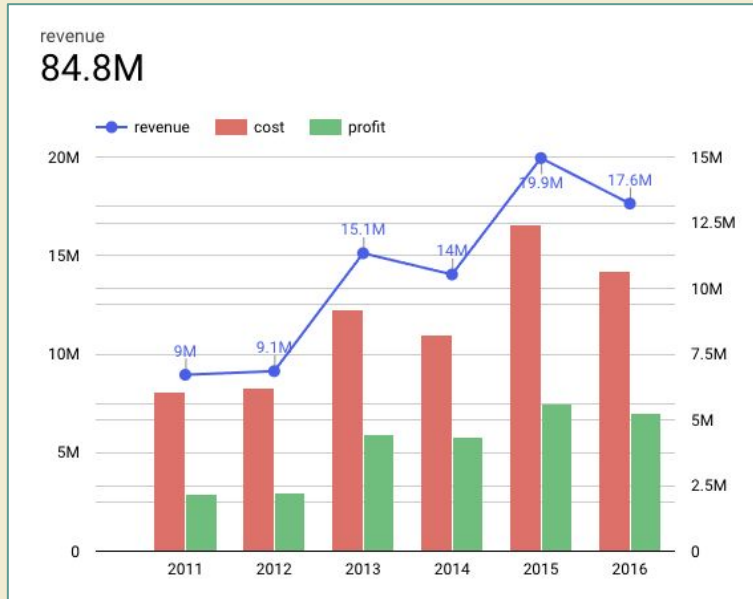




# Revenue by Product Sub-Category



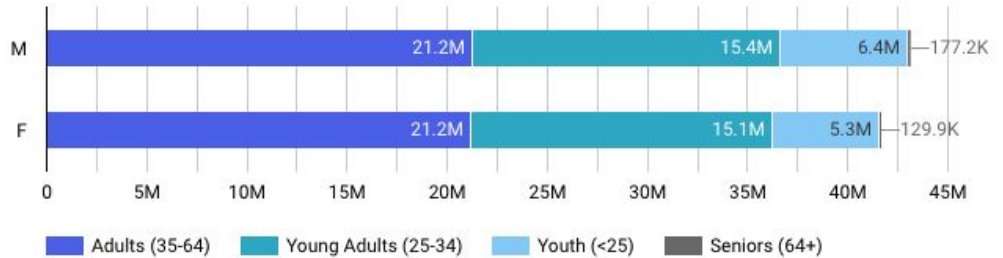
# Sales Insights Over Time



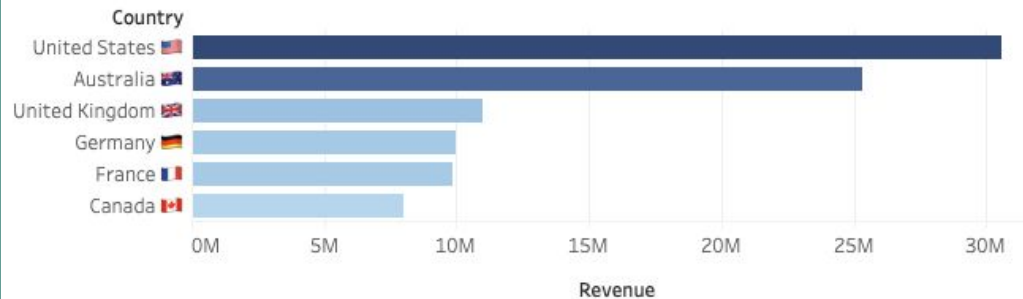
# Customer Insighst



Revenue Distribution by Gender and Age Group



Revenue by Country



# Exploratory Key Takeaways

## Product Insights:



- **70% of our revenue** is coming from **bike sales** .
- Our **key product** are **Road bikes** accounting for 54% of our bike revenue

## Sales Performance:



- Total Revenue between 2011 and 2016 = **\$84.8 million** .
- **YoY Growth Highlights:**
  - 2013: Experienced a significant growth of **65.9%** , reaching \$15.1 million.
  - 2014: A slight decrease of **7.3%** to \$14 million.
  - 2015: Strong rebound with a **42.1%** increase, totaling \$19.9 million.
- Our **Compound Annual Growth Rate** (CAGR) is **13.2%** , indicating solid long-term growth.

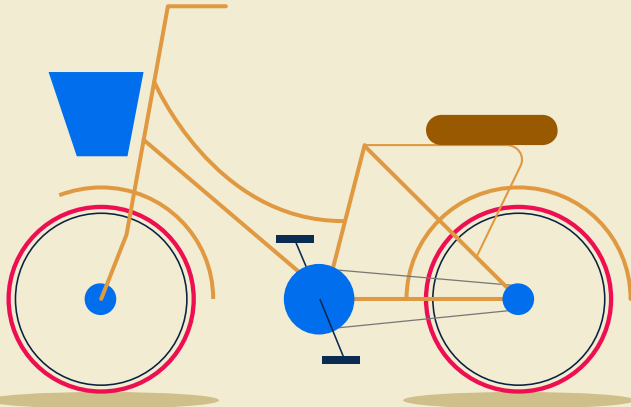
## Customer Insights:



- **Seasonal Trends:** June and December is the peak sales month, likely driven by pre-summer and holiday demand, while July shows the lowest sales.
- **Top Export Markets:** The U.S. and Australia are our largest export markets, with the UK, Germany, and France leading in Europe.

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# Analytical Business Solutions



# Proposed Business Solutions

## Interactive Dashboards

Sales & Customer Insights  
(Looker & Tableau)

## Internal Custom App

Price Catalog &  
Budget bike planner

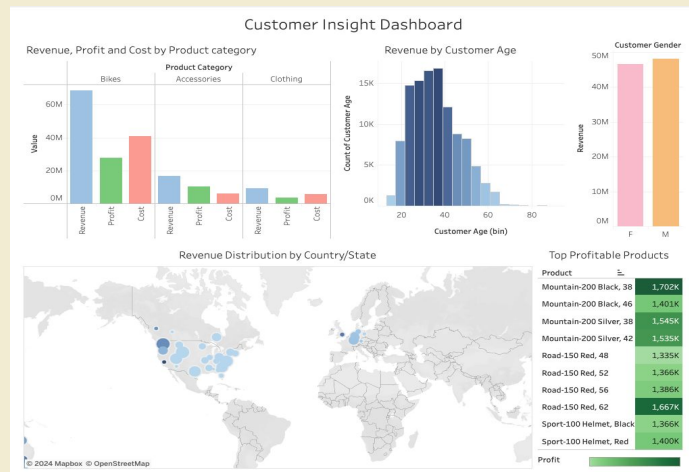


# Sales Insights Dashboard



<https://lookerstudio.google.com/reporting/1ced46e7-5472-4e27-9673-03ee0a85f042>

# Customer Insights Dashboard



[https://public.tableau.com/views/BikeShopCustomerInsightDash/Dashboard1?:language=en-US&sid=&redirect=auth&display\\_count=n&origin=viz\\_share\\_link](https://public.tableau.com/views/BikeShopCustomerInsightDash/Dashboard1?:language=en-US&sid=&redirect=auth&display_count=n&origin=viz_share_link)



# Bike Shop App Content

**Goal:** Develop an internal custom App (for employees) to Improve Customer Service and Maximize Profits.

Product Price Catalog Bike Budget Planner

## Product Price Catalog

Select a product and consult product's manufacturing

Select Product Category:

Accessories

Select Product Sub-Category:

Bike Racks

Select Product:

Hitch Rack - 4-Bike

Results of the selected product:

Unit Cost: 45.00€

Unit Price: 120.00€

**Product Catalog:**  
Consult Manufacturing  
Cost and Final Price

Product Price Catalog Bike Budget Planner

## Bike Budget Planner

Select a bike category, choose a budget range, and consult potential p

Select Product Category:

Road Bike

Select Budget Range:

1000 3000

500

Selected category: Road Bike

Selected budget range: 1000€ - 3000€

DataFrame shape: (38, 4)

Unit price range: 540€ - 3578€

Products within your budget range of 1000€ to 3000€:

|   | product          | unit_cost | unit_price | profit_margi |
|---|------------------|-----------|------------|--------------|
| 5 | Road-250 Red, 44 | 1,519     | 2,443      | 37.822%      |
| 6 | Road-250 Red, 52 | 1,519     | 2,443      | 37.822%      |

**Bike Budget Planner:**  
Provide Customized  
Service and Maximize  
Profit Sales

# Future Add-Ons

- **Inventory Updates:** Real-time stock checks.
- **ML Demand Predictor:** Forecast demand to align inventory with sales trends.

# Thank you

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