Zara Retail Case Study Report

Zara Retail Case Study
Maximising Gross Margin through Data-Driven Strategy

Executive Summary

Zara, a global leader in fashion retail, is shifting focus from top-line growth to maximizing profitability. This report dives into a comprehensive analysis using Zara's global retail dataset to uncover key patterns and inefficiencies affecting Gross Margin. Leveraging Python for exploratory data analysis and Tableau for interactive dashboards, we explore customer behaviour, discount strategies, product performance, and store operations to identify actionable strategies for Gross Margin optimization.

Project Background: Zara & Retail Data

As one of the world's largest fashion retailers, Zara operates across diverse markets with varying consumer behaviour, pricing dynamics, and operational costs. With this expansion, the company has identified **Gross Margin** as a strategic metric. Gross Margin is defined as:

Gross Margin = Revenue - Production Cost
Where:

- **Revenue = Unit Price × Quantity × (1 - Discount)**
- **Production Cost = Cost × Quantity**

Our goal is to analyse key drivers of Gross Margin by evaluating product pricing, customer segmentation, discount trends, and store performance.

Objective: Gross Margin Optimization

objective is to explore Zara's datasets to:

- Deconstruct Gross Margin across geography, product category, customer profiles, and store performance.
- Identify product-customer-region combinations that contribute most/least to profitability.
- Examine the impact of operational choices like discounts, employee roles, and store type on margin.

- Uncover trends across time and regions to guide strategic pricing and resource allocation.

Data Description

The project uses six interconnected datasets:

- transactions.csv: Each row represents a sale, including quantity, price, discount, revenue, and profit.
- products.csv: Contains SKU-level product details such as name, category, production cost, and price.
- customers.csv: Customer profiles, including region, segment, and demographics.
- stores.csv: Store-level data (name, region, type).
- discounts.csv: Discount percentage by product, store, and date.
- employees.csv: Store staff details, not directly used in margin analysis but useful for operational analysis.

Data Cleaning & Preparation

Performed in Python (Pandas):

1. Customers.csv(data_1)

    - Replaced missing values in the job column with "Unknown".
    - Removed duplicate records based on customer_id, as the table is intended to contain unique customers.
    - Converted the date column from object type to datetime.

2. Discount.csv(data_2)

    - Replaced missing values in category and subcategory with "Unknown".
    - Converted the start_date and end_date columns from object type to datetime

3. Employee.csv(data_3)

    - **No changes** were made to this table.

4. Product.csv(data_4)

    - Normalized the size column according to gender categories: Male, Female, and Children.
    - Identified that missing sizes corresponded to accessories and replaced them with "Free Size".
    - Replaced all missing values in the color column with "Unknown".

5. Stores.csv(data_5)

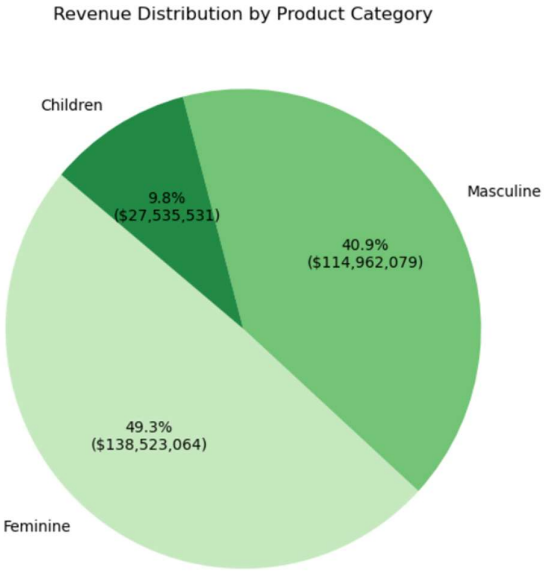
    - **No modifications** were necessary for this table.

6. Transaction.csv(merged_df)

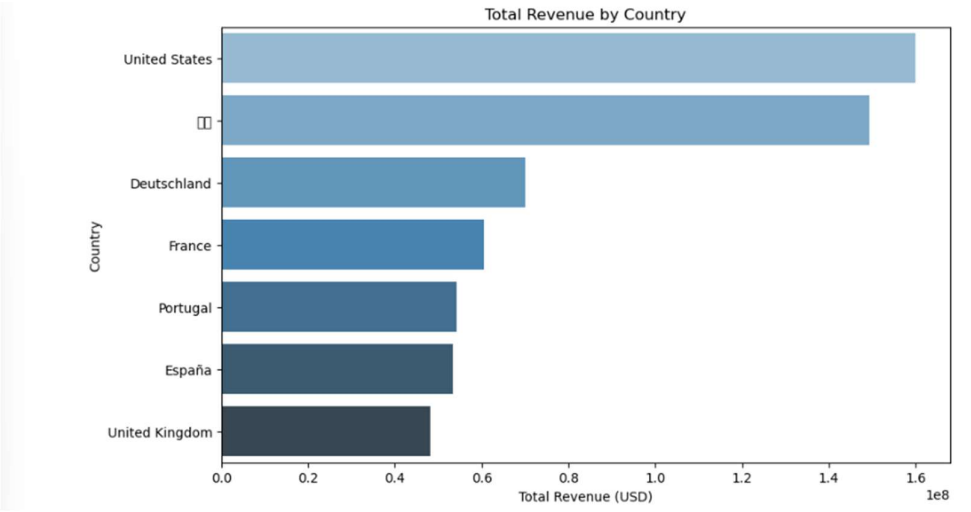
    - Identified missing values in the size and color columns.
    - Merged the products table with the transactions table to retrieve accurate product-related information.
    - Replaced missing size values (mostly accessories) with "Free Size" and normalized the size column.
    - Replaced missing values in the color column with "Unknown".
    - Removed approximately 798 duplicate records to ensure transaction uniqueness.
    - Converted the date column from object type to datetime.
    - Dropped temporary columns added during the merge from the products table.
    - Normalized currency by creating two new columns:\n - Invoice Total USD\n - Line per Unit USD
    - Created a separate invoice table derived from the cleaned transactions table.

Revenue Margin Analysis

- **By Category**:



- **By Store**:



- **Discounts Impact**:

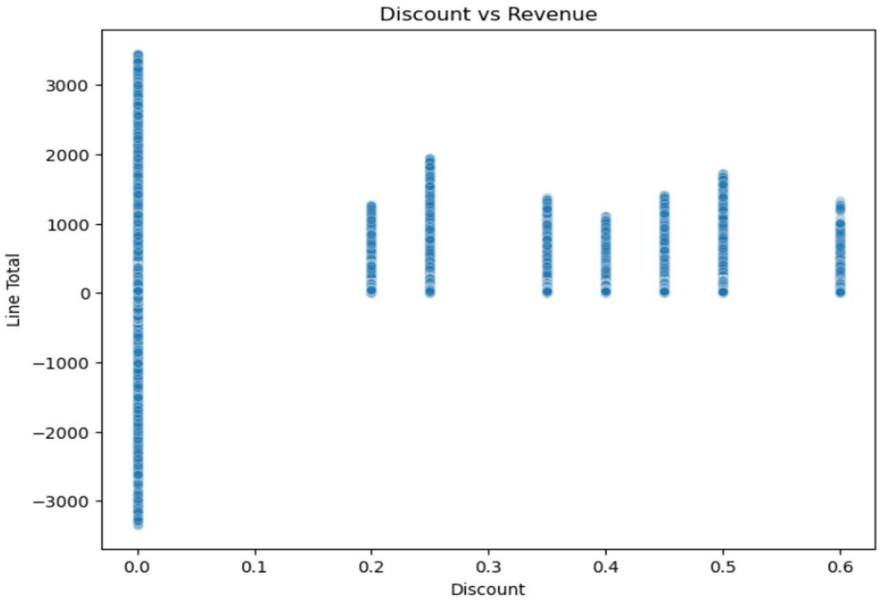


Tableau Dashboard Walkthrough

The project includes a 7-page Tableau dashboard:

1. **KPIs**: Revenue, Profit, Margin KPIs
2. **Gross Margin Analysis**: By category, store
3. **Store Overview**: Revenue and margin by region and store type
4. **Customer Insights**: Top 10 customers
5. **Discount Explorer**: Discount trends over time

Recommendations & Conclusion

- Optimize discount strategy by capping max discount.
- Focus on high-value customer segments.

End of Report