

Technical Report: Luxury Shopping Behavior Analysis Dashboard

Project Overview

This project analyzes luxury shopping behavior using transactional and customer data to understand purchasing patterns, customer preferences, and performance drivers across product categories, demographics, and shipping options. The analysis is presented through an interactive Excel dashboard designed to support data-driven retail decision-making.

Objective

The primary objective of this project is to:

- Identify top-performing product categories and items
- Analyze customer behavior by gender and age group
- Evaluate the impact of shipping types on purchase value
- Highlight key factors influencing customer satisfaction and spending

Dataset Description

The dataset contains customer purchase records with attributes including:

- Product category and item name
- Purchase amount
- Customer gender and age category
- Review ratings
- Shipping type
- Purchase frequency and seasonality

Methodology

The analysis followed a structured data analytics workflow:

1. **Data Cleaning** – Removed inconsistencies, handled missing values, and standardized categorical variables.
2. **Data Transformation** – Aggregated purchase amounts, categorized age groups, and grouped products by category.
3. **Exploratory Analysis** – Used pivot tables and summary statistics to identify trends and outliers.
4. **Visualization** – Built an interactive Excel dashboard with slicers for size, season, and purchase frequency.

Key Metrics Analyzed

- Total number of customers
- Total and average purchase amount
- Product category performance
- Item-level revenue contribution
- Gender-based rating distribution
- Shipping type performance by purchase value

Insights and Findings

- **Clothing** is the highest-performing product category by total purchase value.
- **Blouse** emerges as the best-performing individual item across all categories.
- **Male customers** record the highest overall review ratings.
- **Free shipping** drives the highest purchase amounts, indicating its influence on buying decisions.
- Younger customers contribute a significant share of positive reviews, suggesting strong engagement within that demographic.

Dashboard Features

- KPI cards summarizing total customers, top category, best item, and highest ratings
- Interactive slicers for size, season, and purchase frequency
- Category and item-level performance charts
- Gender and age-based rating visualizations
- Shipping type comparison by purchase amount

Business Value

The dashboard provides actionable insights for:

- Retail managers optimizing product mix and inventory
- Marketing teams targeting high-value customer segments
- Decision-makers evaluating shipping strategies to increase revenue
- Brands seeking to improve customer satisfaction and loyalty

Tools Used

- Microsoft Excel (Pivot Tables, Charts, Slicers, Dashboard Design)