

ZARA Product Sales Analysis Using Power BI

1. Project Overview

This Power BI dashboard provides data-driven insights into ZARA's product sales, promotions, placement strategies, and time-based performance metrics. The analysis helps uncover actionable retail trends based on the dataset "Zdata.csv".

2. Data Collection

- **Source:** Internal scraped dataset from ZARA (CSV format)
 - **Columns:**
 - Product ID, Product Name, Brand
 - Product Category, Section, Product Position
 - Price, Sales Volume
 - Promotion (Yes/No), Seasonal (Yes/No)
 - Scraped Timestamp (`scraped_at`)
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3. Data Cleaning

In Excel:

- Removed irrelevant columns
- Ensured uniqueness in `Product ID`
- Applied formulas to clean text:
 - `=PROPER()` for capitalization
 - `=LOWER()` for consistent lowercase values

In Power Query Editor (Power BI):

- Trimmed and cleaned text columns (`brand` , `category` , etc.)
 - Removed null or broken rows
 - Merged `SectionMapping` table to enhance section labels
 - Set correct data types:
 - Price as Decimal
 - Sales Volume as Whole Number
 - `scraped_at` as Date/Time
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4. Data Transformation (Power BI)

DAX Calculated Columns:

```
Revenue = 'Zdata'[Sales Volume] * 'Zdata'[price]
Hour = HOUR('Zdata'[scraped_at])
```

```

Time Block = SWITCH(TRUE(),
    HOUR('Zdata'[scraped_at]) >= 6 && HOUR('Zdata'[scraped_at]) <= 11,
    "Morning",
    HOUR('Zdata'[scraped_at]) >= 12 && HOUR('Zdata'[scraped_at]) <= 16,
    "Afternoon",
    HOUR('Zdata'[scraped_at]) >= 17 && HOUR('Zdata'[scraped_at]) <= 20,
    "Evening",
    HOUR('Zdata'[scraped_at]) >= 21 || HOUR('Zdata'[scraped_at]) <= 5,
    "Night",
    "Other")
Year = YEAR('Zdata'[scraped_at])
Month = FORMAT('Zdata'[scraped_at], "MMMM")
Scraped_Time = FORMAT('Zdata'[scraped_at], "hh:mm:ss")

```

5. Exploratory Insights

- Identified high-performing product categories
- Analyzed the impact of promotion and seasonal status on sales
- Examined product placement influence (End-cap vs Aisle vs Front)
- Reviewed scraping/sales activity by hour of day

6. Visualizations Used

Visual #	Insight	Chart Type
1	Top 10 Products by Sales Volume	Bar Chart
2	Promotion Impact on Sales	Clustered Column, Box Plot
3	Product Position vs Sales	Clustered Column Chart
4	Seasonal vs Non-seasonal Sales	Donut Chart
5	Sales by Product Category	Treemap
6	Top Revenue Generating Products	Bar Chart
7	Section-wise Sales (MAN/WOMAN)	Column Chart
8	Price Band Distribution	Stacked Column
9	Sales Activity by Hour	Line Chart / Bar Chart

7. Dashboard Features

- Interactive filters for:
- Promotion, Seasonality, Product Position
- Slicers for Category, Section, Time Block

- Tooltips include: Price, Revenue, Units Sold
 - Professional layout and color scheme for easy analysis
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8. Conclusions

- **Promotions increase sales volume**, especially when combined with **End-cap placements**
 - **Seasonal items** outperform non-seasonal products
 - **WOMAN section** products show higher revenue on average
 - **Afternoon time blocks** show heightened scraping/sales activity
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9. Future Enhancements

- Add weekly or monthly sales trend data
 - Combine with POS/inventory systems
 - Use Python/R for predictive analytics inside Power BI
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