

ADIDAS SALES ANALYSIS REPORT

Power BI Dashboard & Data Analysis

1. Objective

The objective of the Adidas Sales Analysis Dashboard is to provide a comprehensive, interactive and data-driven view of Adidas sales performance across products, regions, customers and time periods. The dashboard helps business users monitor key performance indicators (KPIs), identify high-performing regions and customer segments, understand product and category performance, and support strategic decision-making related to sales, marketing and inventory planning.

2. Datasets Used

The analysis is primarily based on the Adidas sales transaction dataset, supported conceptually by customer, product, supplier and warranty datasets in the data model.

Primary Dataset: Adidas Sales Data

Source file: *Adidas sales data22.xlsx*

Number of records (orders): 1003

Key columns:

- OrderID – Unique identifier for each sales transaction
- Order Date – Date of the sales order
- CustomerID – Unique customer identifier
- ProductID – Unique product identifier
- Quantity – Units of product sold
- Price per Unit – Selling price per unit
- Sales – Total sales amount for the transaction
- Profit – Profit earned on the transaction
- Region – Geographic region where the sale occurred
- Sales Method – Channel used (e.g. Online, Outlet, In-store)

Supporting Conceptual Datasets

- Customer_Data.xlsx – 250 customer records with CustomerID, name, region, city, country, phone and email
- Product_Data.xlsx – 125 product records with ProductID, product name, category, subcategory and price
- Supplier_Data.xlsx – 50 supplier records with SupplierID, supplier name, country, phone and email
- Warranty_Data.xlsx – 125 records linking ProductID to warranty months and warranty type for Adidas products

These additional datasets are designed to enrich analysis in Power BI through a star-schema data model.

3. Data Cleaning & Preparation

Data cleaning was performed in Power Query (within Power BI) before loading data into the model.

The key steps were:

- Imported all Excel datasets using the Power BI Excel connector.
- Removed duplicate rows based on key fields such as OrderID, CustomerID, ProductID and SupplierID where applicable.
- Filtered out rows with null or invalid values in mandatory fields (OrderID, Order Date, Sales, Profit, Region).
- Standardised and corrected data types: text for IDs and names, whole numbers for quantities, decimal numbers for Sales and Profit, and date type for Order Date.
- Cleaned column names to ensure consistency and readability (for example, renaming 'OrderID' to 'Order ID' where needed or vice versa consistently across tables).
- Ensured that numeric fields were free from formatting symbols (e.g. currency symbols) where required for calculations, while preserving original formatted fields where needed for display.

All transformation steps were saved as Applied Steps in Power Query, making the cleaning process fully traceable and repeatable.

4. Data Model (Relationships)

A star-schema style data model was used to support efficient analysis and reporting:

Fact Table

- Sales (Adidas sales transactions)

Dimension Tables

- Customers – Customer master data (CustomerID, name, region, city, country)
- Products – Product master data (ProductID, product name, category, subcategory, price)
- Suppliers – Adidas suppliers (SupplierID, supplier name, country, contact details)
- Warranty – Warranty details linked to ProductID (warranty months, warranty type)
- Date – Calendar table (optional) used for monthly and yearly time intelligence.

Key Relationships

- Customers[CustomerID] – 1:Many → Sales[CustomerID]
- Products[ProductID] – 1:Many → Sales[ProductID]
- Products[ProductID] – 1:Many → Warranty[ProductID]
- Suppliers[SupplierID] – 1:Many → Products[SupplierID] (where applicable)

Cross-filter direction is typically set to Single, and inactive or ambiguous relationships are avoided to maintain a clear, unidirectional filter flow from dimensions to fact tables.

5. DAX Measures Used

Key performance indicators were implemented using DAX measures in Power BI:

- Total Sales = SUM(Sales[Sales])
- Total Profit = SUM(Sales[Profit])
- Profit Margin (%) = DIVIDE(SUM(Sales[Profit]), SUM(Sales[Sales])) * 100
- Total Orders = DISTINCTCOUNT(Sales[OrderID])
- Total Quantity Sold = SUM(Sales[Quantity])
- Average Order Value = DIVIDE([Total Sales], [Total Orders])

Additional measures can include:

- Sales by Region = $\text{SUM}(\text{Sales}[\text{Sales}])$ evaluated in the context of Region
- Sales by Sales Method = $\text{SUM}(\text{Sales}[\text{Sales}])$ in the context of channel (Online, Outlet, In-store)
- Monthly Sales = $\text{SUM}(\text{Sales}[\text{Sales}])$ evaluated over the Date hierarchy or a dedicated Date table.

6. Dashboard Visuals

The Adidas Sales Analysis Dashboard in Power BI includes the following visuals:

KPI Cards

- Total Sales
- Total Profit
- Profit Margin (%)
- Total Orders
- Average Order Value

Bar and Column Charts

- Sales by Region – compares total sales across regions (South, West, Northeast, Southeast, Midwest).
- Sales by Sales Method – shows sales split between Online, Outlet and In-store channels.

Donut / Pie Charts

- Profit by Product Category or Subcategory (where product category data is available).

Line Chart

- Monthly Sales Trend – tracks sales across months to identify peaks and troughs.

Tables

- Top 10 Customers by Sales – identifies the most valuable customers based on total spend.

Maps (optional)

- Sales by Region/City – visualises geographic contribution to revenue.

Slicers

- Region, Category, Sales Method and Date slicers – allow users to filter and interact with the dashboard.

7. Key Insights from the Adidas Sales Data

Using the Adidas sales dataset, several insights emerge:

Overall Performance

- Total Sales: \$10,457,282.00
- Total Profit: \$1,601,610.03
- Total Orders: 1,003
- Total Quantity Sold: 263,842 units
- Average Order Value: \$10,426.00

- Overall Profit Margin: 15.32%

Regional Performance

The strongest regions by total sales are:

- South – \$3,023,054.00
- West – \$2,529,078.00
- Northeast – \$2,116,262.00

These regions contribute a significant share of total revenue and should remain a focus for sales and marketing efforts, while lower-performing regions present opportunities for targeted campaigns and distribution improvements.

Channel Performance

Sales by channel (Sales Method) show that:

- Online – \$4,519,511.00
- Outlet – \$4,452,815.00
- In-store – \$1,474,242.00

Online and Outlet channels together drive the majority of revenue, indicating strong performance in both digital and discount-based channels. In-store performance can be further analysed to improve conversion and basket size.

Time-Based Trends

Monthly sales trends reveal periods of higher demand (for example, months with peaks in the resampled monthly sales), which may correspond to seasonal promotions, holidays or product launches. These peaks indicate opportunities to repeat successful campaigns and to plan inventory accordingly.

Customer Insights

The top 10 customers, led by CustomerID C0583, each generate close to or above \$19,000 in sales. These high-value customers are critical for revenue and should be prioritised for retention programs, personalised offers and premium services.

8. Tools & Technologies Used

- Microsoft Excel – For initial data storage and file-based datasets (Sales, Customers, Products, Suppliers, Warranty).
- Microsoft Power BI Desktop – For data import, Power Query-based data cleaning, data modelling, DAX measure creation and interactive dashboard design.
- Power Query – For data transformation, removal of duplicates, handling of null values and data type corrections.
- DAX (Data Analysis Expressions) – For defining business measures such as Total Sales, Profit, Margin and Average Order Value.
- (Optional) Python – Used externally for quick exploratory analysis and automated report generation in PDF format.

9. Conclusion

The Adidas Sales Analysis Dashboard consolidates key sales, profit, customer and regional information into a single, interactive view that supports data-driven decision-making. The analysis shows healthy overall performance with strong contributions from specific regions and sales channels, a solid average order value and a profit margin above 15%.

By leveraging dimensional modelling, DAX measures and intuitive visualisations, the dashboard enables business users to:

- Monitor KPIs in real time
- Drill down into regions, channels and customer segments
- Identify high-value customers and high-performing product areas
- Detect seasonal trends and campaign impacts

This framework can be extended further by integrating more detailed product hierarchies, promotional calendars and inventory data, allowing Adidas to refine its sales strategies, optimise marketing spend and enhance customer satisfaction.