



Final Project: Designing a Sales Dashboard in Excel

PREPARED FOR

Course 1: Business Analytics with Excel

IITK PCP Data Analytics and Generative AI

PREPARED BY

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Project Overview

As a data analyst for an Ecommerce company with a global customer base, you are tasked with analysing sales data from past years to generate actionable insights for business improvement. Your goal is to design an interactive Excel dashboard that provides a comprehensive view of the sales data, enabling stakeholders to make informed decisions.

Data Overview

The dataset includes the following key columns:

- **Order ID:** Unique identifier for each order
- **Order Date:** Date the order was placed
- **Ship Date:** Date the order was shipped
- **Aging:** Used for creating histogram bins
- **Ship Mode:** Mode of shipment for the order
- **Product Category:** Category of the product
- **Product Name:** Name of the product
- **Sales:** Sales amount generated by the order
- **Quantity:** Number of items in the order
- **Discount:** Discount applied to the order
- **Profit:** Financial gain from the order
- **Shipping Cost:** Cost of shipping the order
- **Order Priority:** Priority level of the order
- **Customer ID:** Unique identifier for each customer
- **Customer Name:** Name of the customer
- **City:** City where the order was placed
- **State:** State of the customer
- **Country:** Country of the customer

- **Region:** Geographical region
- **Months:** Month the order was placed

Dashboard Design

KPIs and Metrics

Total Sales

Total revenue generated from all orders over a specific period. Provides an overview of business performance, with higher sales indicating strong demand and helping guide inventory, marketing, and growth strategies.

Total Profit

Total earnings after deducting costs related to sold products. Reflects business profitability, supporting decisions on cost management and product pricing.

Profit Margin

The percentage of profit from total sales, calculated as $\text{(Profit/Sales)*100}$. Measures efficiency in converting sales into profit, guiding cost control and pricing strategies.

Total Order Count:

The total number of orders placed during a specific period. Tracks customer activity, with a rising order count indicating increased customer engagement, helping with inventory planning and marketing evaluation.

Charts

Sales by Month

A monthly breakdown of sales revenue. Helps identify seasonal trends, assisting in resource allocation and marketing strategies during peak months.

Profit by Month

A monthly breakdown of profit. Tracks profitability trends over time, aiding in budgeting and forecasting.

Sales by Region

Geographical breakdown of sales performance by region. Identifies high performing regions, guiding marketing and resource allocation for regional strategies, including expansion and localised promotions.

Sales by Product Category

Highlights which categories drive revenue, enabling better product prioritisation, inventory management, and marketing focus.

Top 5 Products

The top five products generate the highest sales revenue. Allows stakeholders to focus on high demand products for inventory and promotional efforts.

Customer Segment Sales Distribution

Sales distribution by customer segments. Insights into which segments drive sales, helping tailor marketing and product strategies to specific groups.

Insights Gained

Sales and Profit Trends

Sales and profits drop significantly in February but recover from March onward. The highest sales occur in December and January, likely due to holiday shopping. Throughout the year, sales follow a sine wavelike pattern, indicating consistent performance with periodic fluctuations.

Top Performing Regions

The top regions contributing to sales are Africa, EMEA, Central Asia, and Central North America. These regions drive a substantial portion of revenue, suggesting potential for further market expansion and focused marketing strategies.

Product Category Analysis

The Fashion category dominates sales, accounting for 65% of total revenue, while the Electronics category contributes the least. This insight highlights the need for improvement in Electronics marketing and product offerings.

Customer Segment Insights

Household consumers represent 50% of total sales, making them the largest segment. This data suggests a need to focus on household products in promotions, inventory management, and marketing strategies.

Data Analysis Process

Defining the Problem Statement

The aim was to analyse sales data and provide insights that could guide business decisions.

Data Understanding

Comprehensive exploration of the dataset to identify key columns and relevant metrics.

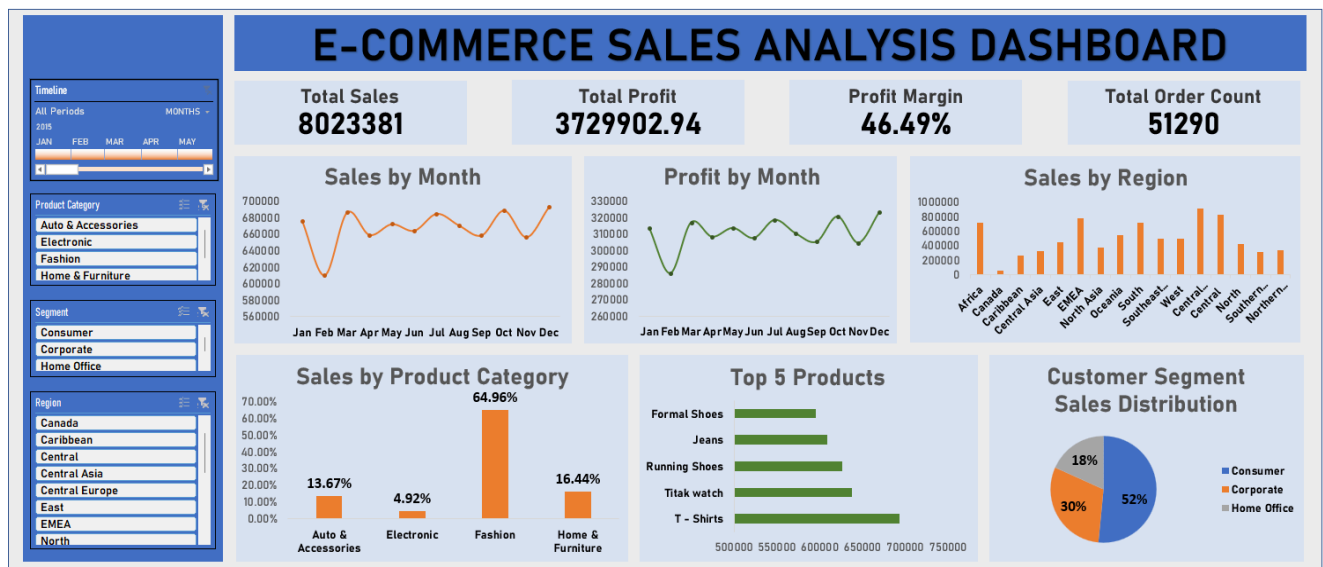
Data Cleaning

- Used Power Query to set accurate data types, remove duplicates, and handle missing values.
- Data Standardization: Due to inconsistencies in region assignments (e.g., "Central" used for both Central Europe and Central North America), the following steps were taken:
 - Extracted unique region country combinations using the `UNIQUE` function.
 - Differentiated the United States regions (West, East, South, Central) by adding markers like (C) for Central and so on.
 - Filtered and corrected region assignments in the new table and added markers for countries in the main dataset. Finally, applied `VLOOKUP` to ensure accurate region mapping in the main dataset.
 - After correcting the regions, distinguishing markers were removed from the dataset using a formula to clean up the region names using a combination of `LEFT` and `FIND` functions.

Defining KPIs, Metrics, and Visualisations

Identified the required KPIs and metrics, then created PivotTables, PivotCharts, Slicers, and Timelines for interactivity.

Conclusion



The sales dashboard developed in Excel offers a clear and interactive view of the company's performance. By analysing key metrics such as Total Sales, Profit, and Profit Margin, along with visualising sales trends by month, region, and product category, stakeholders gain valuable insights for strategic decision-making. The dashboard highlights areas of strength, such as the high demand for Fashion products and successful regions like Africa and Central North America, while identifying opportunities for improvement in the Electronics category. Accurate data cleaning and standardisation ensure reliable analysis, supporting better marketing strategies and resource allocation. Overall, this tool provides actionable insights to drive business growth and adapt to market changes effectively.