Power BI Dashboard Project Report

Project Title

E-Commerce Sales Dashboard - Power BI

Project Overview

The E-Commerce Sales Dashboard provides actionable insights from raw sales and customer data for an online retail business. It allows management to monitor sales performance, customer behavior, product trends, and revenue KPIs in real-time.

Objective

1. Analyze monthly and yearly sales trends.
2. Track top-performing products and categories.
3. Understand customer demographics and behavior.
4. Monitor revenue, profit margins, and returns.
5. Create a visually interactive dashboard for decision-making.

Data Source

- Files: Excel / CSV
- Fields: Order ID, Customer ID, Product Name, Category, Quantity Sold, Unit Price, Total Sales, Order Date, Region, Profit
- Sample Data Volume: 10,000+ rows

Data Preparation

1. Data Cleaning:
- Removed duplicates and blank rows
- Standardized product and category names
- Corrected date formats

2. Data Transformation (Power Query):
- Total Sales = Quantity Sold x Unit Price
- Profit Margin = (Profit / Total Sales) x 100 - Extracted Month and Year from Order Date

3. Data Modeling:
- Relationships created between Sales, Products, and Customers
- Calculated columns for metrics: Revenue, Profit Margin %, Average Order Value

Dashboard Layout

1. Header Section: Dashboard title & logo, KPI cards: Total Sales, Total Profit, Total Orders,Average Order Value
2. Sales Trend Analysis: Line chart for Monthly Sales, Year-over-Year comparison bar chart, Filters: Region, Category, Product
3. Top Products & Categories: Column chart: Top 10 Products by Sales, Pie chart: SalesDistribution by Category
4. Customer Insights: Map: Sales by Region, Donut chart: Customer Segmentation (New vsReturning)
5. Profit Analysis: Profit vs Sales trends, conditional formatting for low-margin products

Tools & Features Used

- Power BI Desktop
- Power Query Editor (ETL)
- DAX formulas for calculations
- Interactive visualizations: Cards, Charts, Tables, Maps
- Conditional formatting for top metrics
- Drill-down / Drill-through functionality- Power BI Service for publishing

Challenges Faced

1. Handling large datasets with multiple relationships
2. Creating dynamic DAX formulas for KPIs
3. Designing a visually appealing dashboard
4. Ensuring real-time refresh & correct metric aggregation

Conclusion

-The Power BI Sales Dashboard transforms raw data into actionable insights. It helps management make data-driven decisions, monitor sales, track profits, and optimize business strategies efficiently.