Business Sales Dashboard from E-commerce Data

Future Interns – Data Science & Analytics Internship
Task 1

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Tool Used: Power BI

Introduction

E-commerce businesses generate large volumes of sales data that can be analyzed to gain valuable insights into customer behavior, product performance, and revenue trends. Analyzing this data helps businesses identify best-selling products, high-revenue categories, and seasonal sales patterns, enabling better strategic decisions.

This project focuses on analyzing e-commerce sales data and building an interactive Power BI dashboard to visualize key business metrics. The dashboard provides a clear understanding of overall sales performance and supports data-driven business decision-making.

Objectives of the Project

The key objectives of this project are:
• To analyze overall sales performance and revenue trends
• To identify best-selling products and high-revenue categories
• To understand sales patterns over time
• To compare category-wise and product-wise performance
• To present insights through an interactive dashboard

Dataset Overview

The dataset used in this project contains e-commerce transaction data, where each record represents a product sale. The data includes details such as order date, product name, product category, quantity sold, sales value, and revenue.

This dataset allows analysis of customer purchasing behavior, product popularity, and revenue contribution across different categories and time periods.

Tools and Methodology

Power BI was used as the primary tool for data analysis and visualization. The dataset was reviewed for missing values and inconsistencies before analysis. Necessary data cleaning steps were performed, such as formatting dates, correcting data types, and handling null values.

Key measures such as total sales, total revenue, average order value, and category-wise revenue were calculated using Power BI. The data was then transformed into meaningful visual representations to support insights.

Dashboard Overview

An interactive Power BI dashboard was designed to display sales performance in a clear and structured manner. The dashboard includes KPI cards showing total revenue, total sales, and average sales value.

Visualizations such as bar charts, line charts, and tables were used to analyze sales trends, top-performing products, and high-revenue categories. Filters were added to allow users to explore data by product category, time period, or product name.

(Insert dashboard screenshots here)

Key Insights

The analysis showed that certain product categories contribute significantly more to total revenue compared to others. A small number of products were identified as best-sellers, generating a large portion of total sales.

Sales trends indicated seasonal variations, with higher sales observed during specific periods. The dashboard also revealed underperforming products and categories that may require promotional strategies or inventory optimization.

Business Recommendations

Based on the insights, it is recommended to focus on high-revenue categories and best-selling products by maintaining adequate inventory and targeted promotions. Seasonal sales patterns should be considered when planning marketing campaigns and stock levels.

Underperforming products may be improved through discounts, bundling strategies, or by reviewing pricing and demand. Continuous monitoring of sales data can help businesses respond quickly to changing customer preferences.

Conclusion

This project successfully analyzed e-commerce sales data and presented key business insights through an interactive Power BI dashboard. The dashboard enables businesses to track performance, identify growth opportunities, and make informed decisions.

Through this task, skills in data cleaning, business analytics, DAX calculations, and data visualization were strengthened. The project fulfills the requirements of Task 1 of the Future Interns Data Science & Analytics internship and demonstrates practical application of analytical techniques in a real-world business context.