

# E-commerce Sales Analysis Project Report

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## Abstract

This project focuses on analyzing e-commerce sales data to extract meaningful insights into customer behavior, sales performance, and profit distribution. The goal is to understand trends, improve business decisions, and identify key growth opportunities using data analysis and visualization techniques.

## Introduction

The rapid growth of e-commerce has led to the generation of vast amounts of data. Analyzing this data helps businesses identify profitable products, optimize sales strategies, and enhance customer experience. This project utilizes data analysis and visualization to study sales patterns in an e-commerce dataset.

## Tools Used

- Python (Pandas, NumPy, Matplotlib, Seaborn) - Power BI for interactive dashboards - Jupyter Notebook for analysis and reporting

## Steps Involved in Building the Project

1. Data Collection: Imported sales dataset for analysis. 2. Data Cleaning: Handled missing values, removed inconsistencies, and standardized columns. 3. Exploratory Data Analysis (EDA): Used descriptive statistics and visualizations to understand sales trends. 4. Dashboard Creation: Built interactive Power BI dashboard to present insights effectively. 5. Insights Generation: Identified top-performing categories, customer segments, and regions.

## Conclusion

The project successfully highlighted key insights into e-commerce sales, including regional performance, profitable product categories, and customer preferences. By leveraging Python and Power BI, the analysis provided a foundation for data-driven decision-making, ultimately helping businesses improve sales strategies and profitability.