Olist E-Commerce Analytics Project Report

1. Introduction

This report presents an end-to-end data analytics solution built using the Brazilian Olist e-commerce dataset. The objective of the project is to analyze sales performance, customer behavior, seller efficiency, and delivery operations to support data-driven business decisions.

2. Dataset Overview

The dataset contains approximately 100,000 e-commerce orders with multiple relational tables including customers, orders, order items, payments, sellers, products, reviews, and geolocation.

3. Tools and Technologies

- Excel: Initial exploration and data validation

- Python (Pandas, NumPy): Data cleaning, transformation, and exploratory analysis

- SQL: Data modeling, joins, aggregations, and analytical queries

- Power BI: Interactive dashboards and reporting

- Power Query: ETL and data preparation

- DAX: KPI creation and business calculations

4. Data Modeling

A star schema data model was designed with fact tables for orders and order items, and dimension tables for customers, sellers, products, date, and geography.

5. Key KPIs and Metrics

- Total Revenue

- Total Orders

- Average Order Value (AOV)

- Revenue by Region, Seller, and Category

- Delivery Performance and Delays

- Customer Review Score

- Estimated Profit and Profit Margin

6. Power BI Dashboards

Interactive dashboards were developed to analyze sales performance, regional trends, seller contribution, logistics efficiency, and customer satisfaction.

7. Key Insights

- A small number of sellers contribute significantly to total revenue

- Delivery delays negatively impact customer review scores

- Some regions show high demand but lower delivery efficiency

- Certain categories generate high revenue but lower margins

8. Conclusion

This project demonstrates strong analytical, business intelligence, and data modeling skills. The insights generated can help improve operational efficiency, customer satisfaction, and strategic decision-making.