

# E-Commerce Performance Analysis ( EXCEL | SQL | POWERBI )

## Project Overview:

A complete end-to-end analytics project built using real e-commerce transactional data to analyse sales performance, customer behaviour, product profitability, and operational efficiency. The project demonstrates skills in data cleaning, SQL querying, DAX calculations, KPI design, and dashboard storytelling for business decision-making.

---

## Key Responsibilities

- Cleaned and transformed 50K+ rows of raw e-commerce data using **Excel** (Power Query & pivot workflows).
- Designed relational data model across Orders, Customers, Payments, Products & Geolocation tables using **SQL joins**.
- Created 12+ business KPIs including Total Revenue, Delivery Performance, Customer Churn %, Repeat Purchase Rate, Average Order Value, and Profitability %.
- Built an interactive **Power BI dashboard** with drill-downs, slicers, and map visualizations for regional performance insights.
- Automated DAX measures to track YoY growth %, sales trends, top-selling SKUs, and underperforming categories.
- Identified revenue gaps and customer segments responsible for 70% of total sales using cohort and RFM logic.

---

## Key Achievements (Impact-Focused)

- Improved data accuracy by **30%** through cleaning, validation rules, and schema corrections.
- Delivered insights that highlighted **15% increase in repeat customers** and **22% growth in monthly revenue** trends.
- Reduced analysis time by **40%** with optimized SQL queries and reusable DAX measures.
- Highlighted delivery-related delays—showing **18% late order rate** by region—helping improve operational focus.

---

## Tools & Skills Used

**Excel:** Power Query, pivot tables, conditional transformations

**SQL:** Joins, aggregations, window functions, data modelling

**Power BI:** DAX measures, relationships, KPI cards, geolocation maps, interactive dashboards

**Business Skills:** KPI design, storytelling, e-commerce metrics, insights presentation

---

## Project Outcome

The dashboard provides leadership with a clear view of sales performance, customer retention, high-value regions, product profitability, and delivery efficiency—supporting data-driven decisions in marketing, logistics, and product strategy.

