



Retail Insights Hub – Power BI

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. Introduction

This project analyzes an online retail dataset using Power BI. The goal is to provide actionable insights into sales performance, customer behavior, and product demand for the year 2011. The dashboard is designed to support leadership in identifying seasonal trends, high-performing regions, and opportunities for growth.

Tools used include **Power BI**, **Power Query Editor**, and **an Excel dataset**.

. Dataset Description

Source: Online retail dataset (Excel).

Key columns: Invoice No, Stock Code, Customer ID, Product Description, Quantity, Unit Price, Country.

Scope: Transactions filtered to 2011.

. Data Cleaning & Preparation

Steps performed in Power Query Editor:

- Removed invalid records (transactions with negative quantities, zero/negative unit prices).
- Filtered invoice dates after 1-Jan-2011.
- Replaced null product descriptions with blanks.
- Converted Customer ID to integer type.
- Final dataset: unit prices > 0, quantities ≥ 1 , invoice dates in 2011 only.

. Dashboard Visuals

- Monthly Revenue (Line Chart): Shows revenue trends across 2011, peaks in October & November.
- Top 10 Countries by Revenue (Clustered Column Chart): Excluding UK, highlights Netherlands, Eire, Germany.
- Top 10 Customers by Revenue (Clustered Column Chart): Shows most valuable customers driving majority of revenue.
- Product Demand by Country (Map): Excluding UK, highlights Europe, parts of Asia and Australia.

. Business Insights

- Seasonal revenue peaks → plan resources accordingly.
- High-performing countries → prioritize marketing spend.
- Key customers → strengthen loyalty programs.
- Geographic demand → identify expansion opportunities.

. Conclusion

The Retail Insights Hub dashboard provides a clear view of company performance in 2011. It helps leadership make informed decisions about resource allocation, marketing focus, customer engagement, and market expansion.