Sales Data Analysis Report – Online Retail

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Data Source: UCI Machine Learning Repository

LEVEL-1 ANALYSIS

This Online Retail II data set contains all the transactions occurring for a UK-based and registered, non-store online retail between 01/12/2009 and 09/12/2011.The company mainly sells unique all-occasion gift-ware. Many customers of the company are wholesalers.

Column Descriptions

Column	Description
InvoiceNo	A 6-digit integral number uniquely assigned to each transaction. If this code starts with the letter 'C', it indicates a cancellation.
StockCode	A 5-digit integral number uniquely assigned to each distinct product.
Description	Product(item) name.
Quantity	The quantities of each product(item) per transaction.
InvoiceDate	The day and time when a invoice was generated.
UnitPrice	Product price per unit in sterling (£).
CustomerID	A 5-digit integral number uniquely assigned to each customer.
Country	The name of the country where a customer resides.

Column Data Types

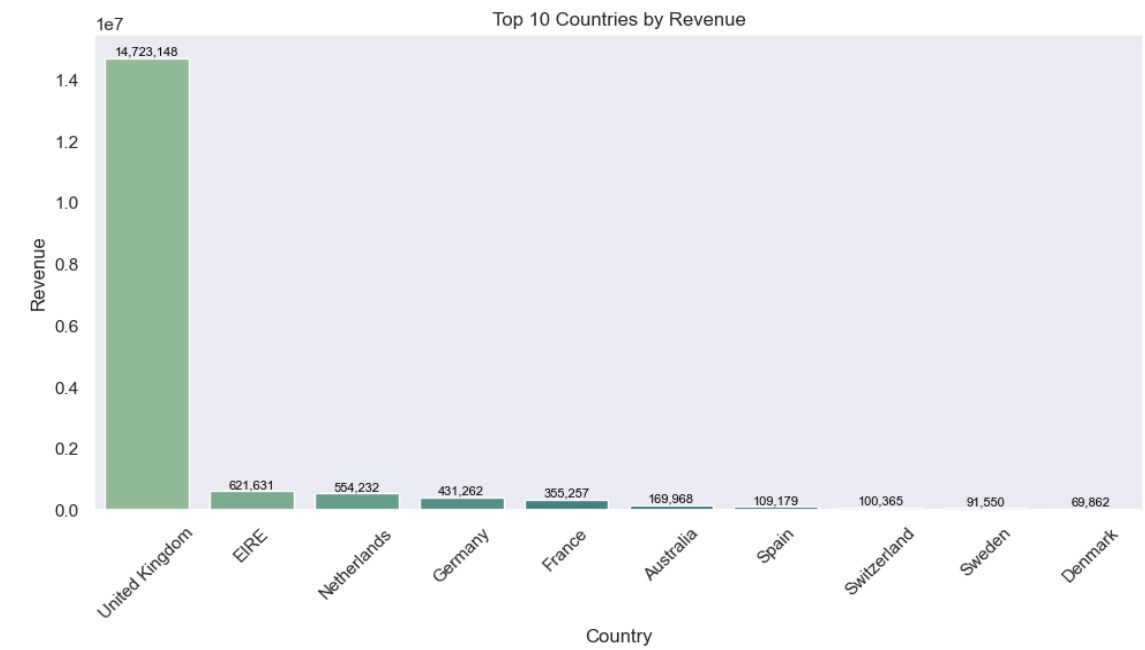| Column	Data Type
InvoiceNo	Text
StockCode	Text
Description	Text
Quantity	Numeric
InvoiceDate	Datetime
UnitPrice	Numeric
CustomerID	Numeric
Country	Text

Key Performance Indicators

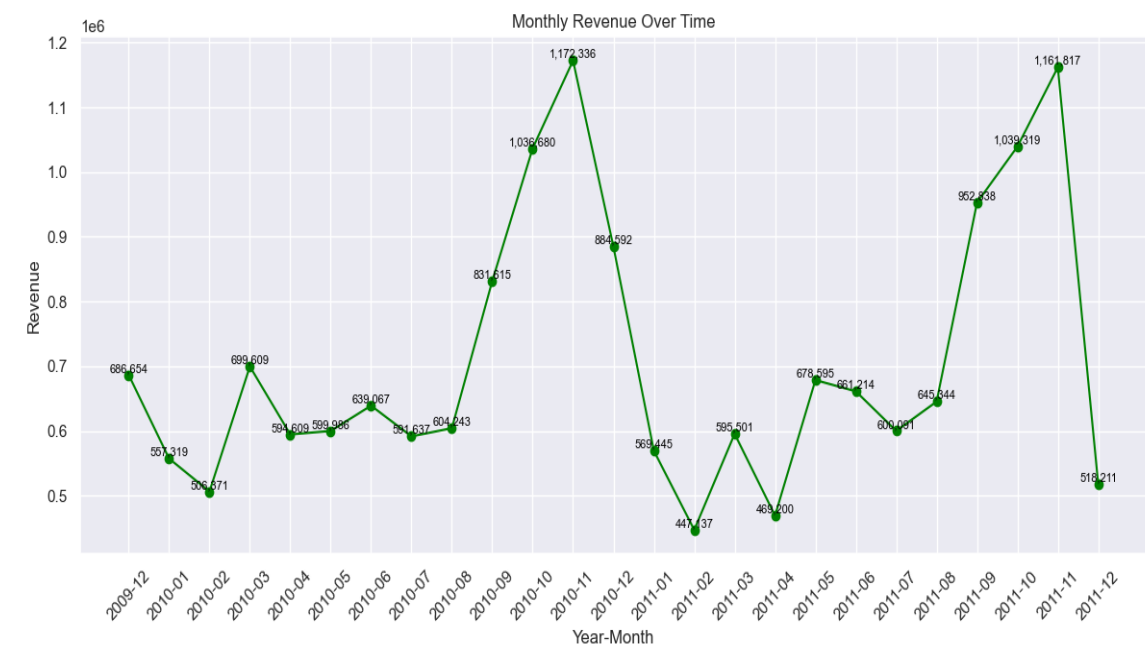| Metric	Value
Total Transactions	36,969
Total Revenue	£17,743,429.18
Avg Revenue per Invoice	£479.95
Unique Customers	5,878

Interesting Facts

• The dataset contains 805549 cleaned transaction records spanning two years, after removing null CustomerIDs, cancellations, and zero-value rows.

• There are 41 unique countries in the dataset.

• The most frequently purchased product is 'WHITE HANGING HEART T-LIGHT HOLDER'.

• The country with the highest number of customers is United Kingdom.
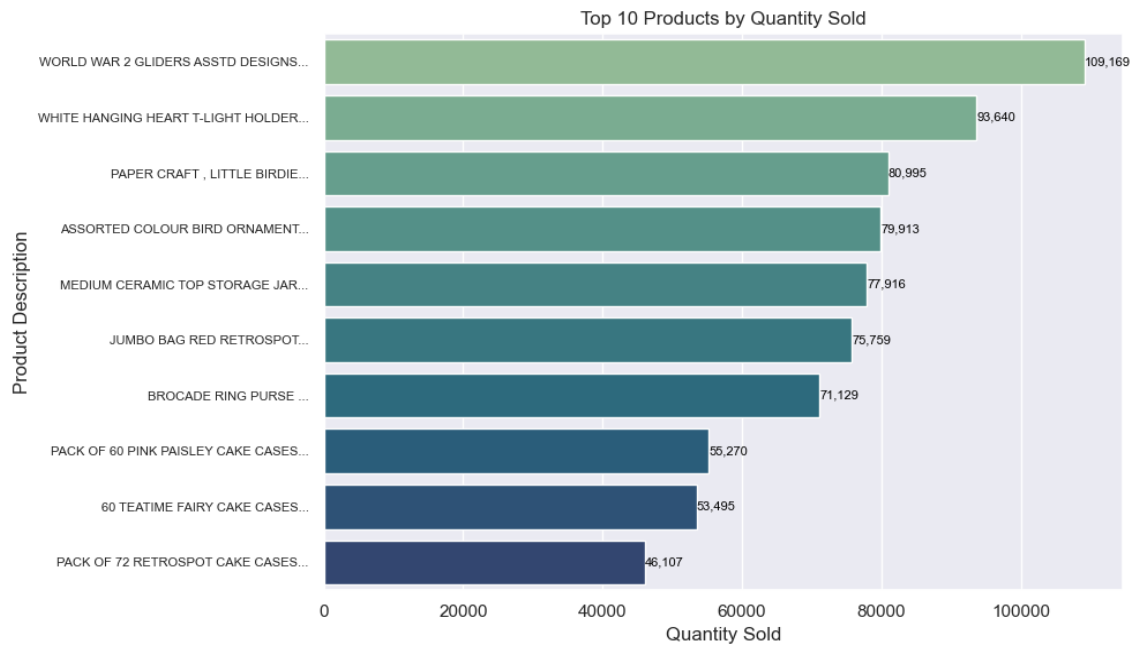
LEVEL-2 ANALYSIS

Top 10 Countries by Revenue
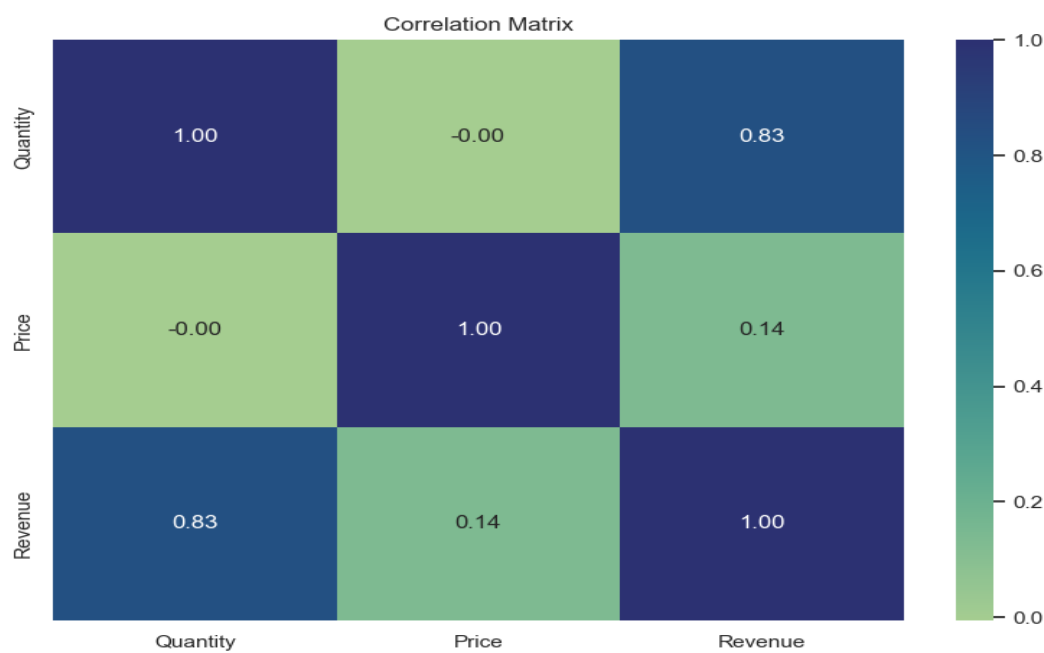

Monthly Revenue Trend

Top 10 Products by Quantity Sold

Top 10 Products by Quantity Sold

Product Description	Quantity Sold
WORLD WAR 2 GLIDERS ASSTD DESIGNS...	109,169
WHITE HANGING HEART T-LIGHT HOLDER...	93,640
PAPER CRAFT , LITTLE BIRDIE...	80,995
ASSORTED COLOUR BIRD ORNAMENT...	79,913
MEDIUM CERAMIC TOP STORAGE JAR...	77,916
JUMBO BAG RED RETROSPOT...	75,759
BROCADE RING PURSE ...	71,129
PACK OF 60 PINK PAISLEY CAKE CASES...	55,270
60 TEATIME FAIRY CAKE CASES...	53,495
PACK OF 72 RETROSPOT CAKE CASES...	46,107

LEVEL-3 ANALYSIS

Correlation Heatmap of Numeric Features

Correlation Matrix

	Quantity	Price	Revenue
Quantity	1.00	-0.00	0.83
Price	-0.00	1.00	0.14
Revenue	0.83	0.14	1.00

Revenue Distribution (KDE Plot)

KDE Plot of Revenue (Filtered - Below 99th Percentile)
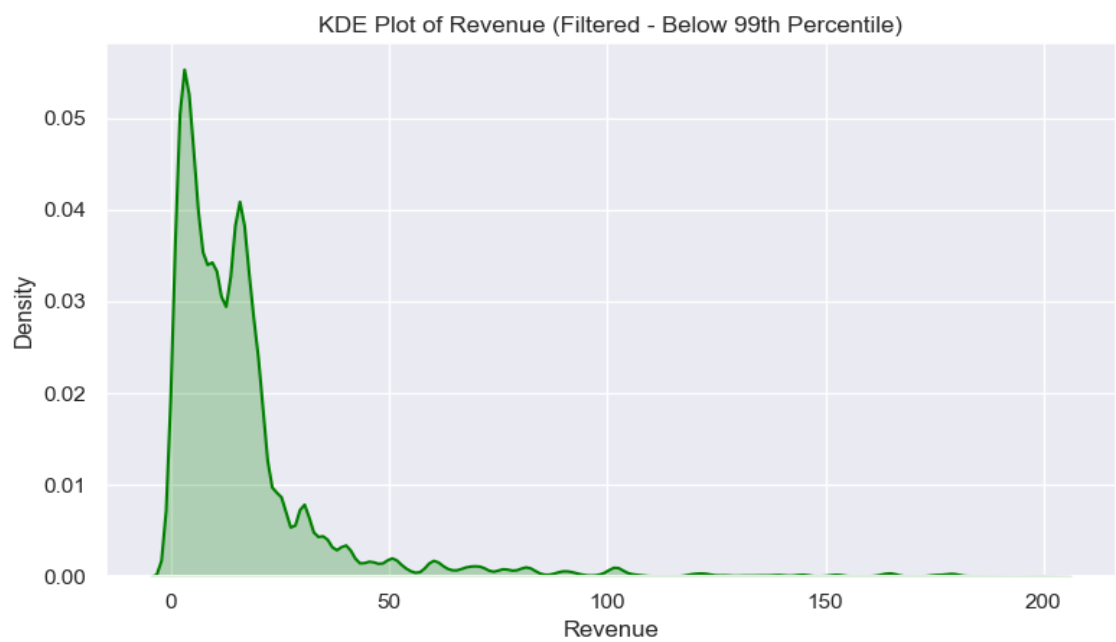
Quantity vs Revenue by Country

Quantity vs Revenue – Top 5 Countries by Revenue

Country
- United Kingdom
- France
- EIRE
- Germany
- Netherlands