

# Ecommerce Sales Analysis 2010-2011



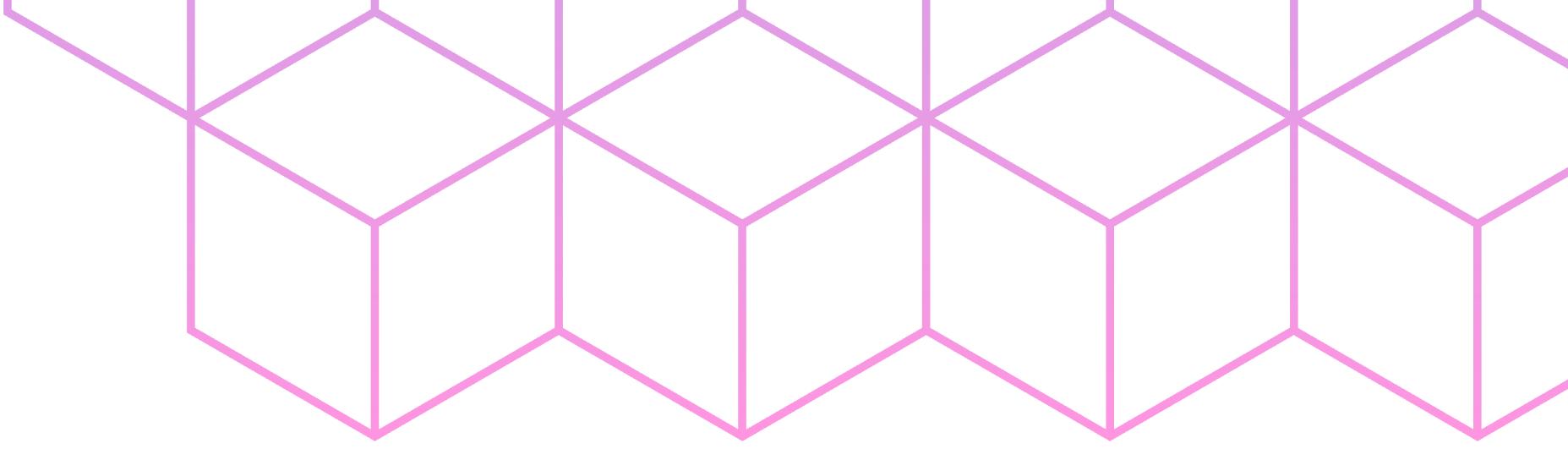
Presented by: Farmankhan.

15 August, 2025



# Introduction

This case study analyzes over **500,000 e-commerce transactions** from December 2010 to December 2011. The goal is to identify sales patterns, profitable products, customer behavior, and geographical performance to guide business growth strategies.



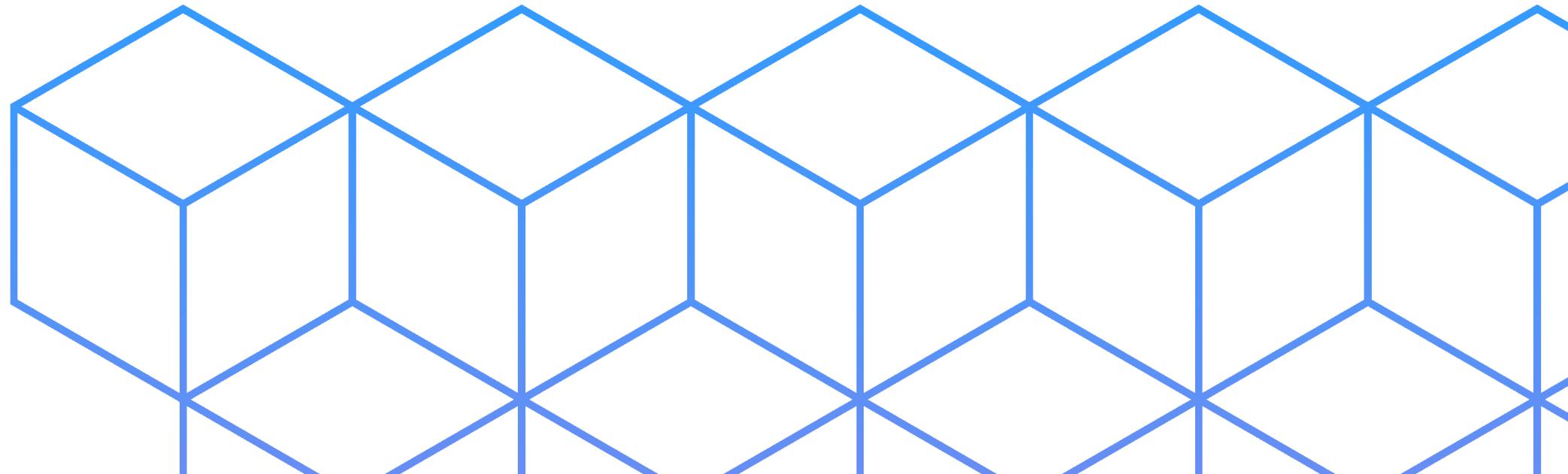
Dataset source - kaggle  
platform

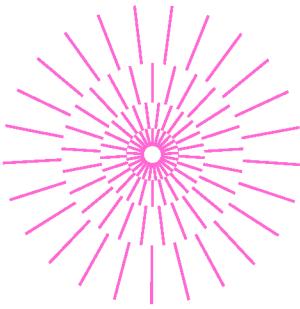
DatasetName -  
Ecommerce data

Datasets have  
Rows= 5,41,909  
Columns=8

Link -  
<https://www.kaggle.com/datasets/carrie1/ecommerce-data>

# Data overview

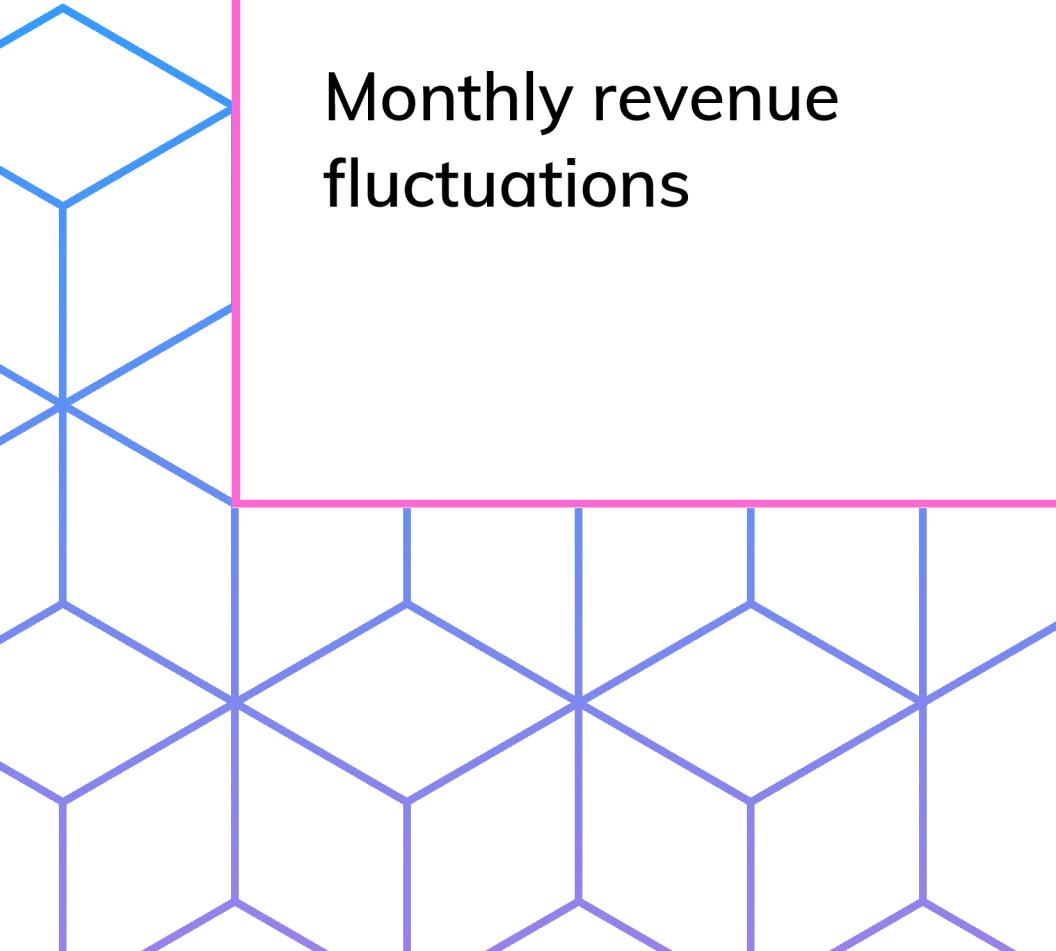




# Problem Statement

01

Monthly revenue  
fluctuations



02

Top products and  
customers

03

Regional sales  
performance

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# Key Findings

## Sales Trend

- Removed missing CustomerID, negative/zero quantities, and zero prices.

## Product Performance

- Created TotalAmount = Quantity × UnitPrice, extracted month and hour from transaction date.

## Customer Analysis

- Used descriptive statistics and visualizations to find trends.

## Geographical insights

- ggplot2 (R) Programming

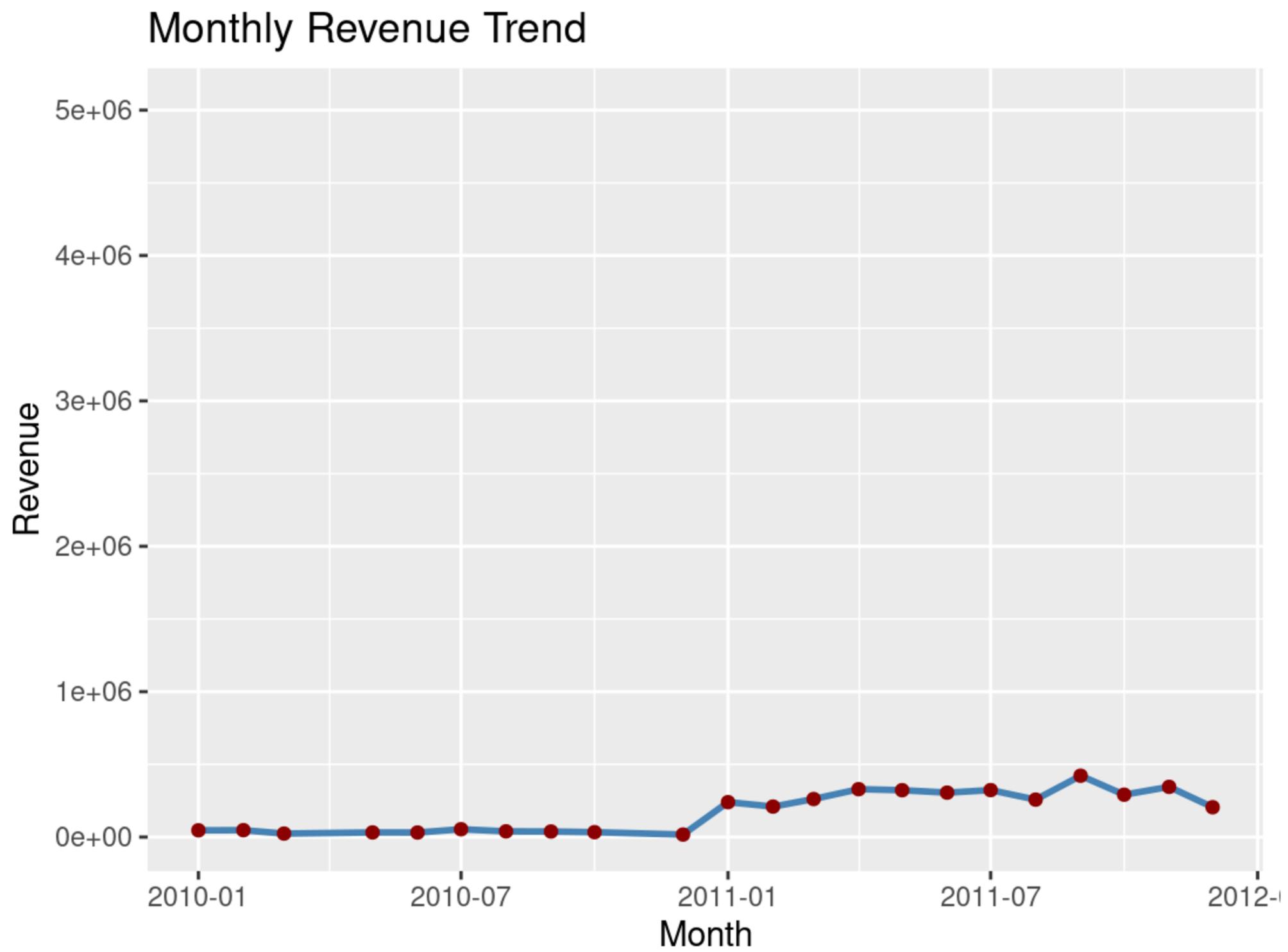
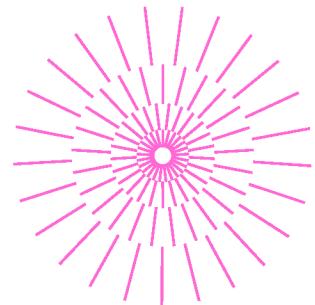
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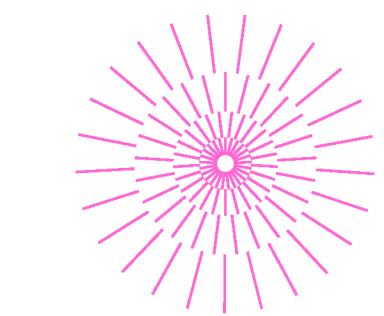
# Methodology

Data cleaning	Feature Engineering	EDA (Exploratory Data Analysis)	Visualization Tools
<ul style="list-style-type: none"><li>Removed missing CustomerID, negative/zero quantities, and zero prices.</li></ul>	<ul style="list-style-type: none"><li>Created TotalAmount = Quantity × UnitPrice, extracted month and hour from transaction date.</li></ul>	<ul style="list-style-type: none"><li>Used descriptive statistics and visualizations to find trends.</li></ul>	<ul style="list-style-type: none"><li>ggplot2 (R) Programming</li></ul>

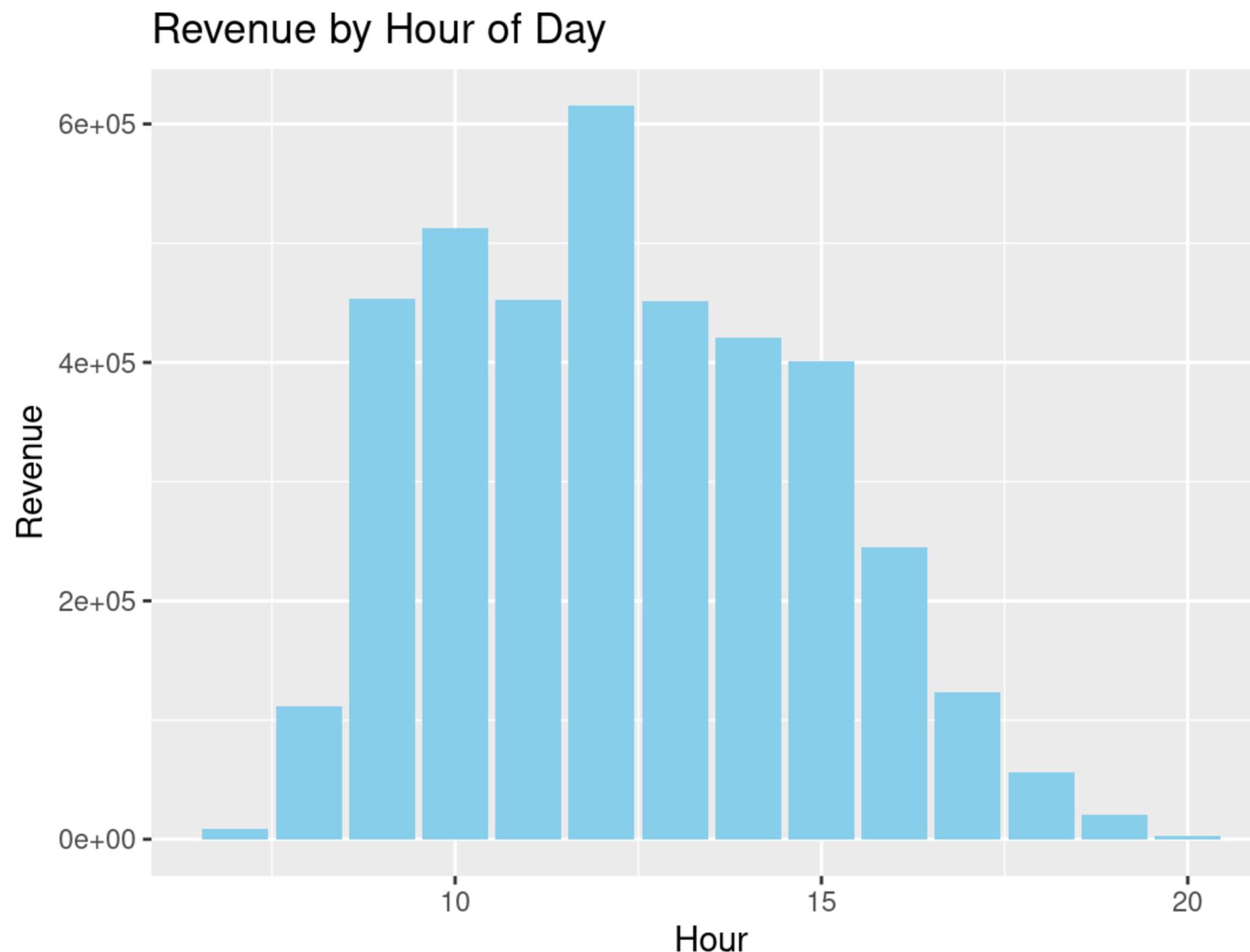
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# Monthly Revenue Trend

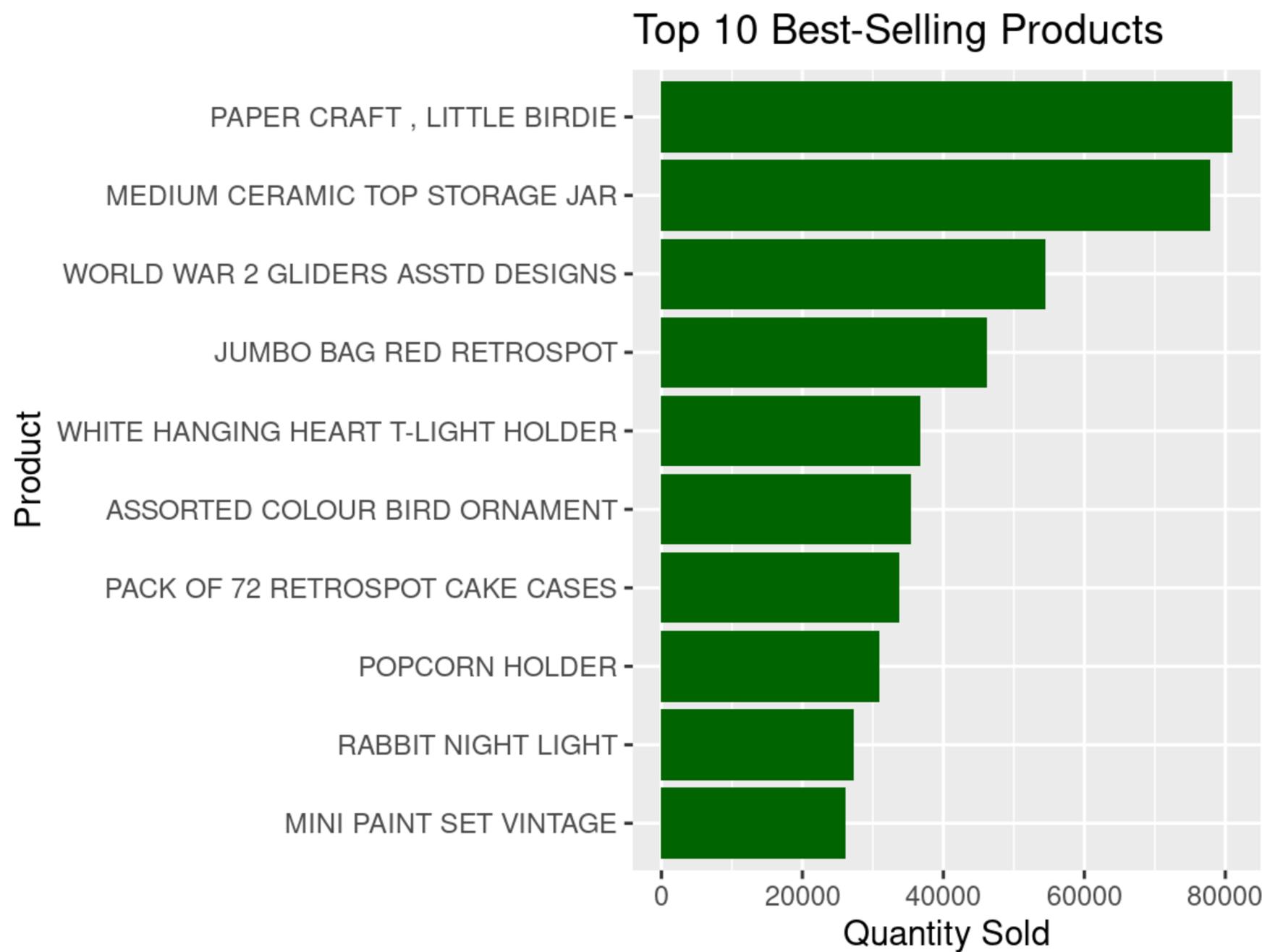


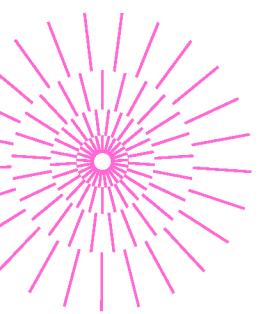


# Revenue by hour of Day

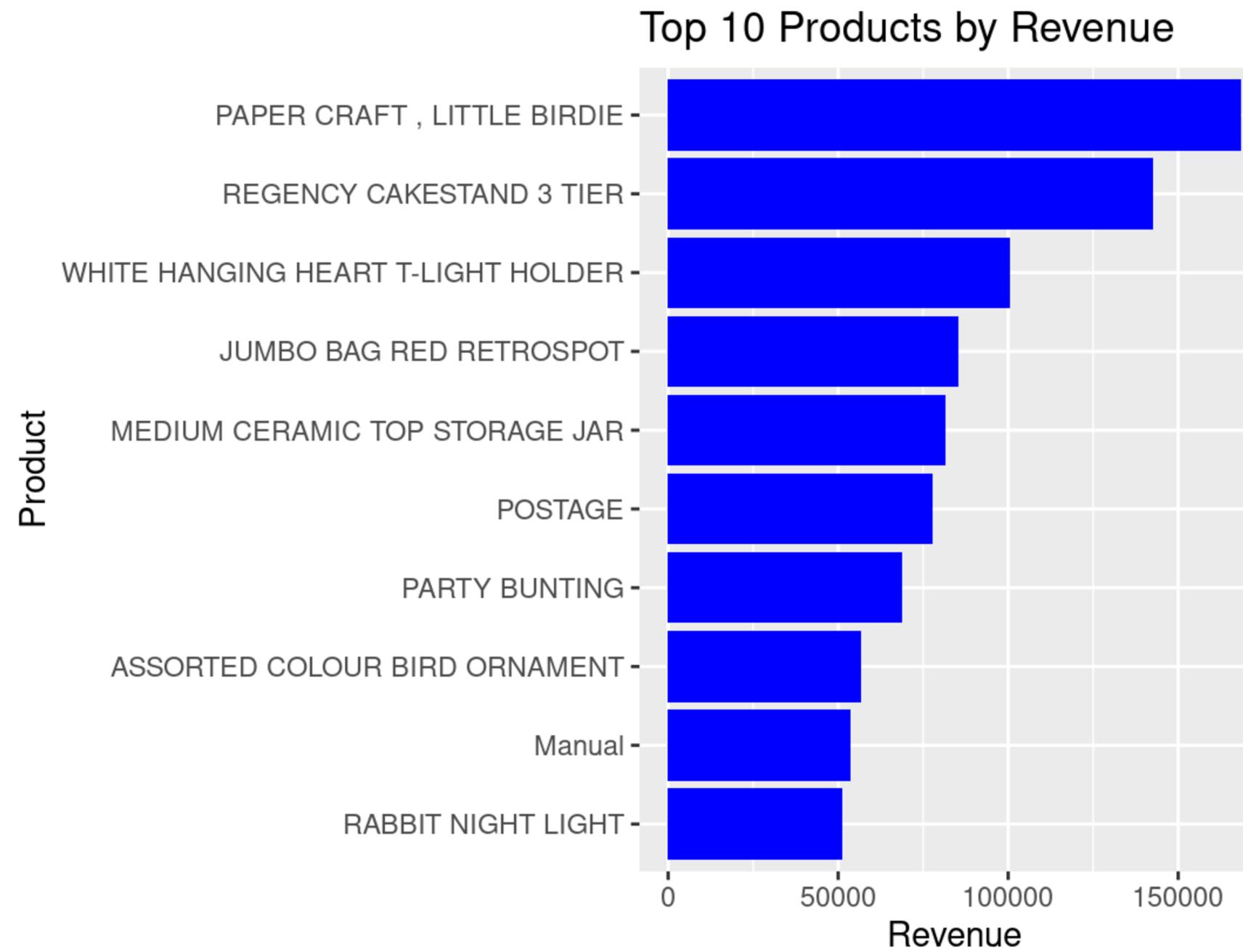


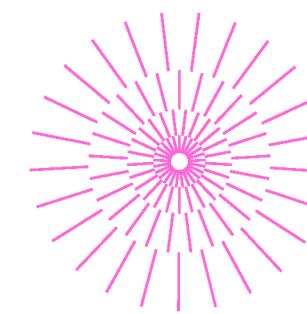
# Top Best - Selling Products



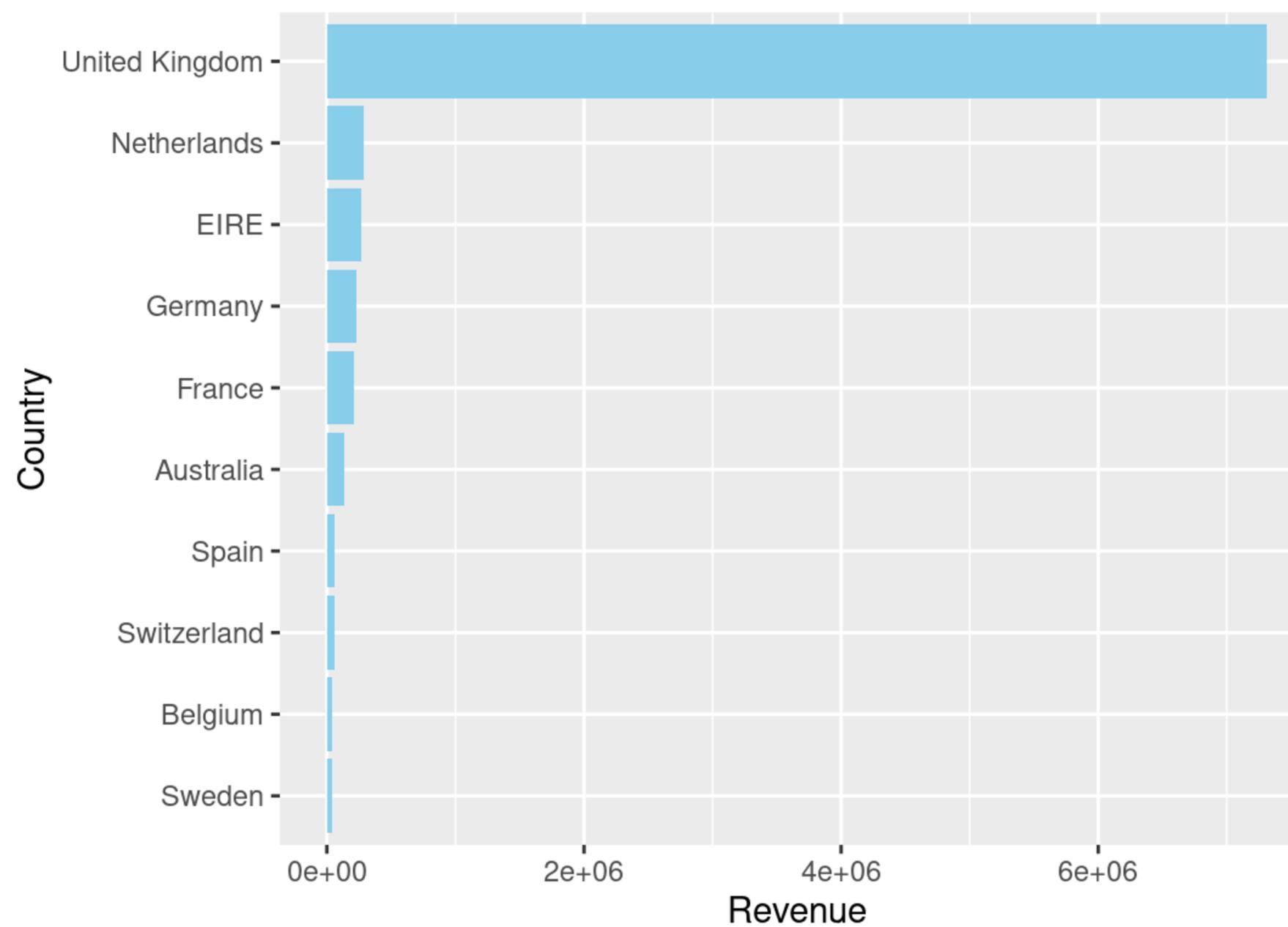


# Top 10 products by Revenue





# Top 10 Countries by Revenue



United Kingdom(Max)

Sweden(Min)

# Recommnedations

## Seasonal Promotions

1. Increase marketing spend before November to capitalize on holiday sales.

## Product Focus

1. Maintain high inventory levels for best-selling items year-round.

## International Expansion

1. Focus on growing sales in Germany and France.