

E-Commerce Sales Dashboard (2009–2011)

Data Science & Analytics Internship

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Full Dashboard: [Link](#)

Task 1

ABOUT THE PROJECT

- **Program**

Future Interns — Data Science & Analytics Task 1

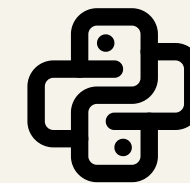
- **Focus**

In this internship simulation project, I analyzed e-commerce sales data and developed a professional, interactive Power BI dashboard to visualize key business insights, including sales performance, customer behavior, and revenue trends.

- **Tools**



Ms. Excel



Python



Power BI

OBJECTIVES & BUSINESS QUESTIONS

Project Objectives

- **Analyze online retail data from 2009–2011**
- **Visualize sales performance using Power BI**
- **Deliver actionable insights to improve business decisions**

Business Questions

1. **What are the best-selling products?**
2. **When do sales peak during the year?**
3. **Which countries generate the most revenue?**
4. **How do customer behaviors impact total revenue?**



DATA OVERVIEW

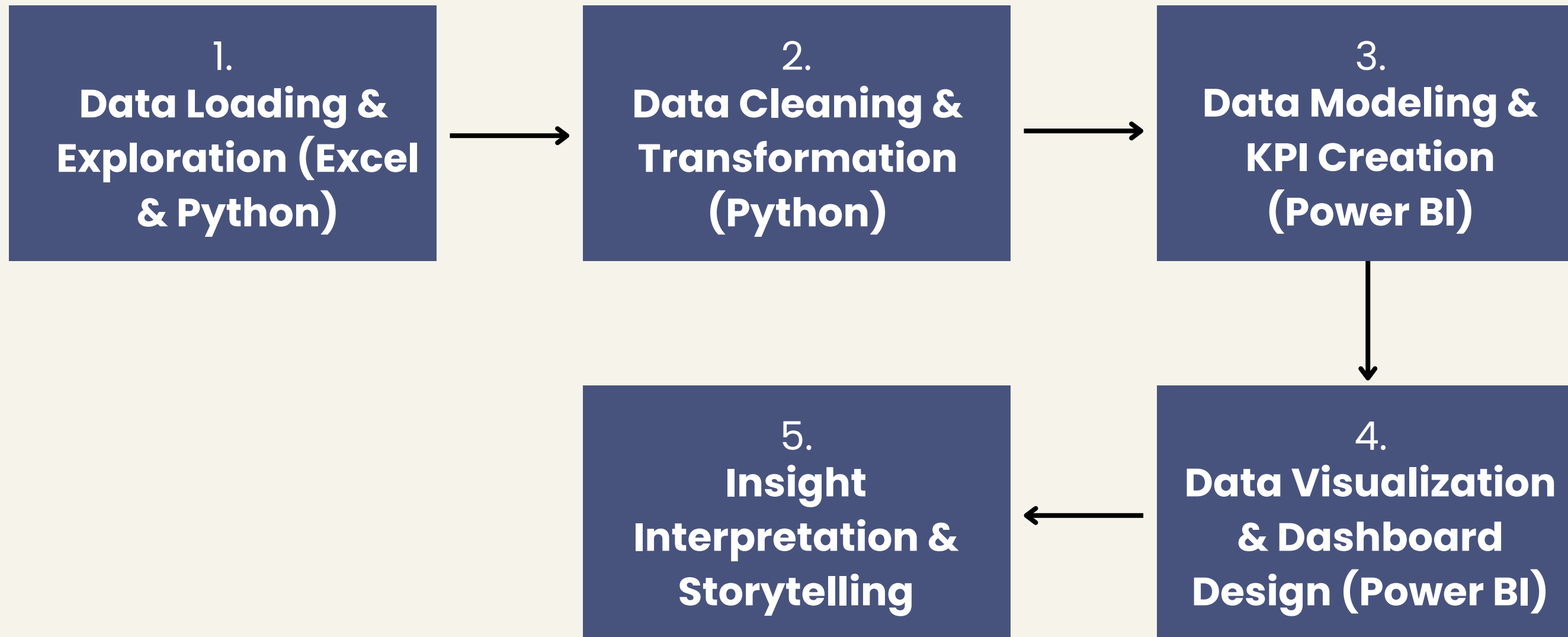
Dataset used

- Data from a UK-based e-commerce company
- Period covered: 2009 – 2011
- File type: CSV (merged from two yearly datasets)

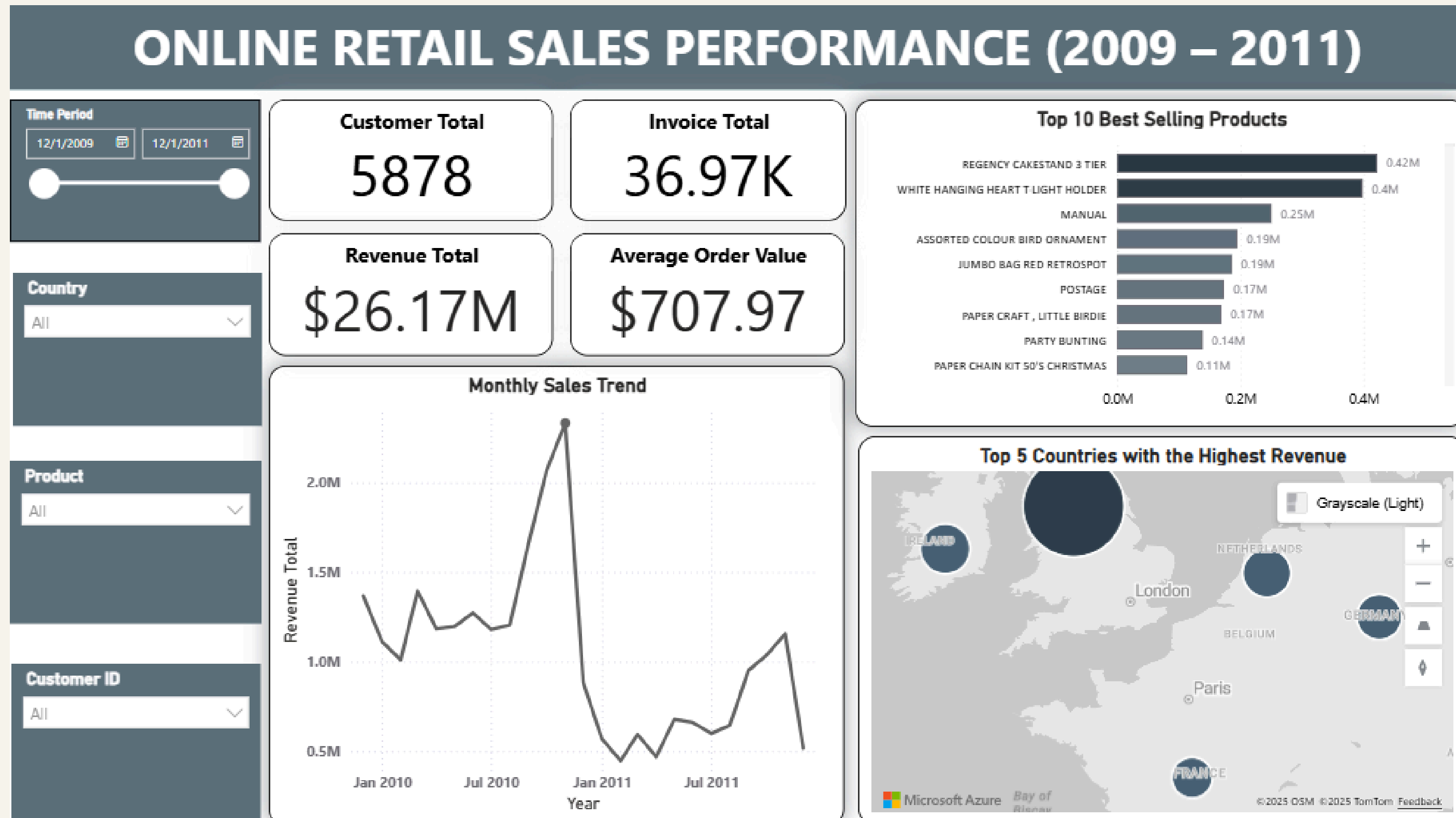
Dataset summary

- Total Records: 769,033 rows
- Total Columns: 11 features
- Key fields:
 - invoice – transaction ID
 - stockcode – product code
 - description – product name
 - quantity – units purchased
 - price – unit price
 - revenue – calculated (quantity × price)
 - country – customer location
 - customer_id – buyer identifier
 - InvoiceDay – date of transaction
 - month_year – generated for trend analysis
 - AOV (Average Order Value) – Calculated KPI (Revenue ÷ Number of Orders, based on unique invoices)

DATA ANALYSIS WORKFLOW



DASHBOARD OVERVIEW



KPI SUMMARY

Insight Summary

- The dashboard shows a **total revenue of \$26.17M**, generated from **36.97K invoices** over the 2009–2011 period.
- A total of **5,878 unique customers** contributed to the sales, indicating a strong customer base.
- The **average order value (AOV) of \$707.97** suggests that customers tend to make **bulk** or **high-value purchases**.
- High AOV and steady transaction volume indicate **healthy customer engagement** and **potential brand loyalty** within the e-commerce store.

Customer Total

5878

Invoice Total

36.97K

Revenue Total

\$26.17M

Average Order Value

\$707.97

MONTHLY SALES TREND

Insight Summary

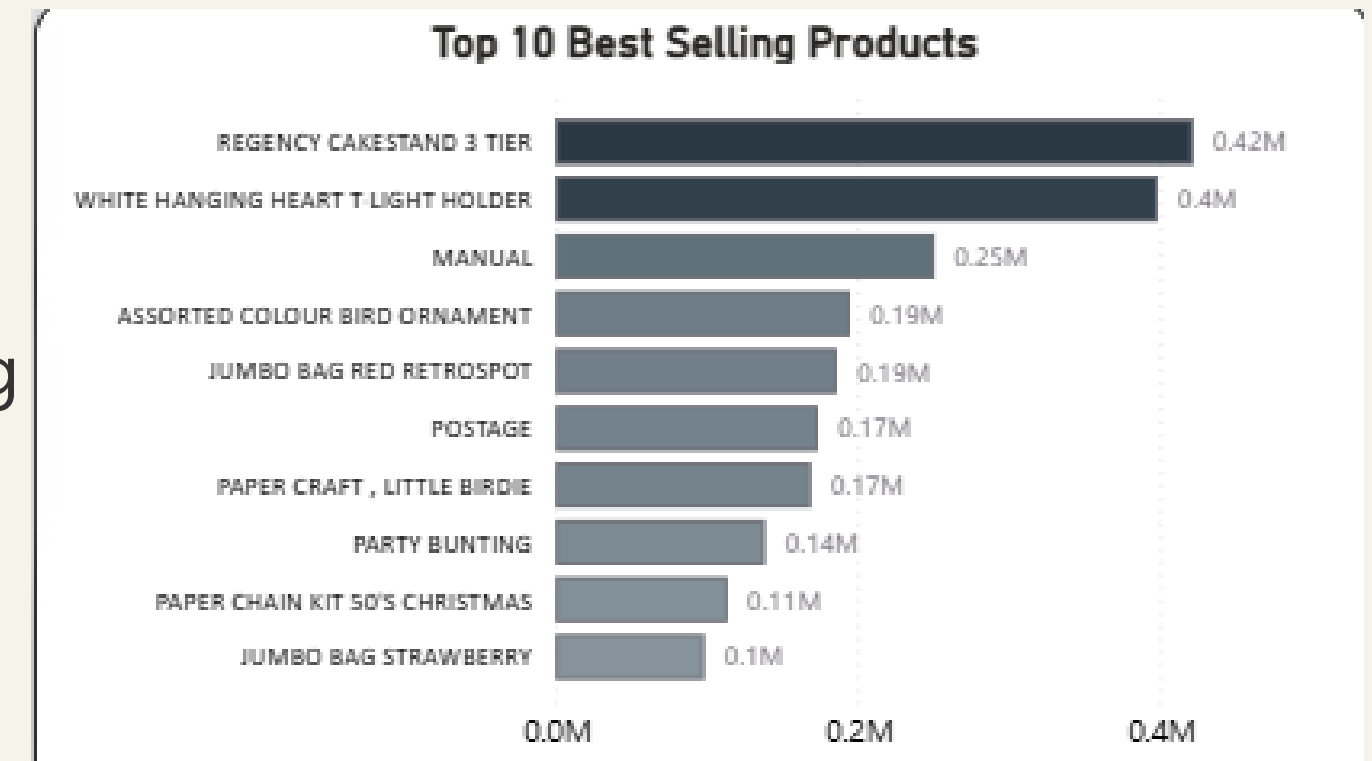
- Highest revenue in **November 2010 (\$2.33M)** during the holiday season.
- Lowest revenue in **February 2011 (\$446K)** after post-holiday slowdown.
- Clear seasonal pattern, with sales peaking in **Q4 (October–December)** each year.
- Performance recovers in **mid 2011**, showing stable customer demand.
- Focus marketing and inventory strategy on **Q4 peak period to maximize sales.**



TOP PRODUCTS & REGIONS

Insight Summary

- 'Regency Cakestand 3 Tier' is the best-selling product, generating approximately **\$421K in revenue**, followed closely by 'White Hanging Heart T-Light Holder' (**\$398K**).
- Most top performing items belong to **the Home Decor and Gift category**, indicating strong demand for decorative household products.
- The **United Kingdom** contributes the highest total revenue, followed by Germany, France, and Ireland
- Sales are heavily concentrated in Western Europe, showing that the company's strongest market presence is within the European region.



Conclusions & Recommendations

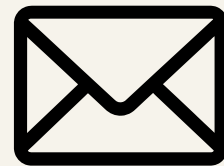
Business Insights

- Sales peaked in **November 2010 (\$2.33M)** showing strong holiday season demand.
- High AOV (**\$707.97**) reflects **bulk** and **repeat buyers**.
- Home Decor and Gift products dominate overall sales.
- UK and Germany generate the **highest revenue** within Western Europe.

Business Recommendations

- **Boost Q4** promotions and prepare inventory earlier.
- Prioritize Home Decor and Gift categories for marketing focus.
- Strengthen logistics and partnerships in Germany and France.
- Build a **loyalty program** to retain high value customers.

Let's Connect



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