



Analysis of Customer Behaviour

- Prashanth R

METHODOLOGY USED FOR ANALYSIS

- **Data Analysis Tool**: Python was chosen as the primary tool for conducting the analysis.
- **Libraries Utilized**: The analysis relied on several Python libraries, including NumPy, Pandas, Matplotlib and Seaborn.
- **Data Preprocessing**:
 - Imputation: Missing values in the 'Description' column were imputed with the value 'Unknown' to ensure completeness in the dataset.
 - Handling Missing Customer IDs: Missing customer IDs were imputed with 'o.o' to facilitate smooth analysis.
 - However, it's noted that both 'o.o' and 'Unknown' are excluded from the final analysis to prevent skewing results.
- **Analysis Approach**:
 - Year-wise Analysis: The dataset was segmented by year, and analysis was performed separately for each year.
 - Comparative Analysis: Visualizations were utilized to compare the data between different years, allowing for insights into patterns, and changes over time.
- **Exclusion Criteria**: The values 'o.o' and 'Unknown' were excluded from the final analysis to ensure the accuracy and reliability of the results.
- **Visualization Techniques**: Visualizations were created using Matplotlib and Seaborn libraries to represent the analysis findings effectively. Various charts and plots were employed depending on the nature of the data and the analysis requirements.

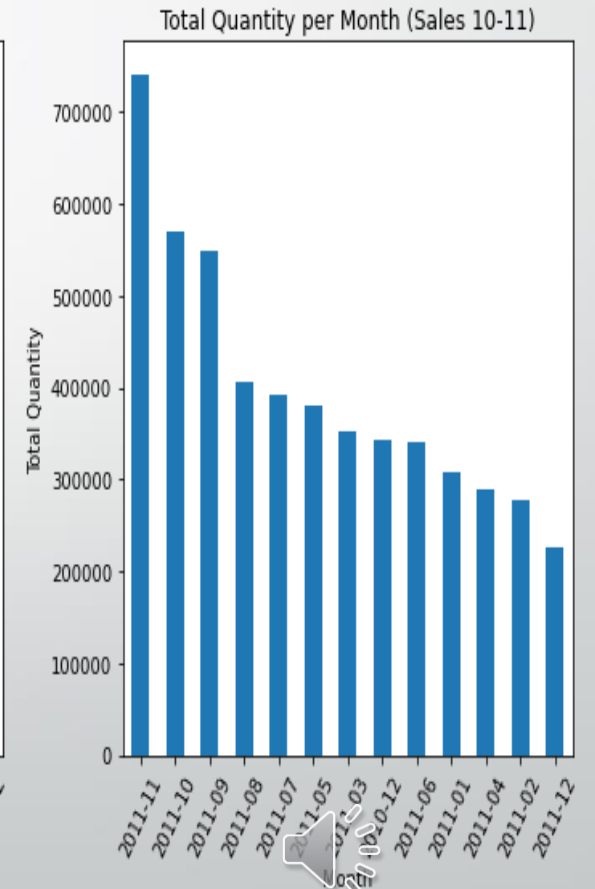
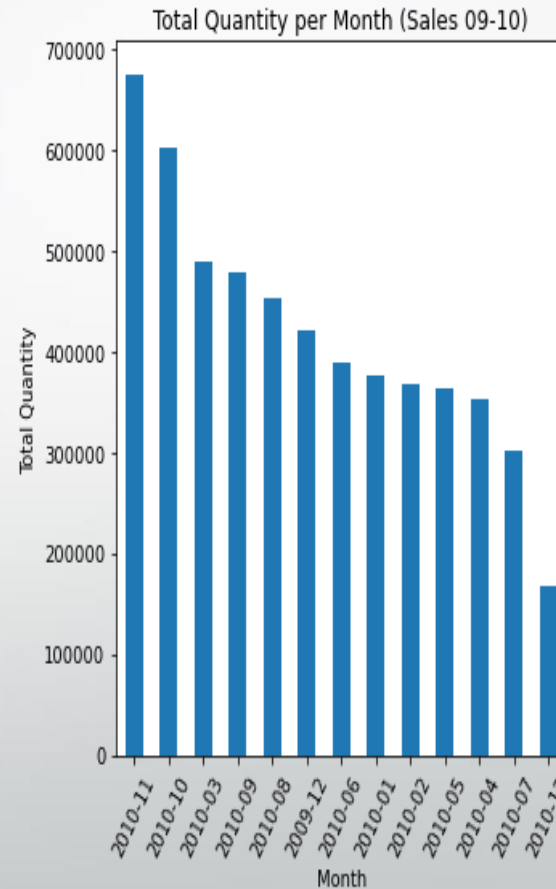
TOTAL QUANTITY PER MONTH

09-10

In our sales analysis for the fiscal year 2009-10, it's evident that November 2010 recorded the highest quantity of products sold, totalling 673,856 units. This was closely followed by October 2010, with sales amounting to 601,729 units.

10-11

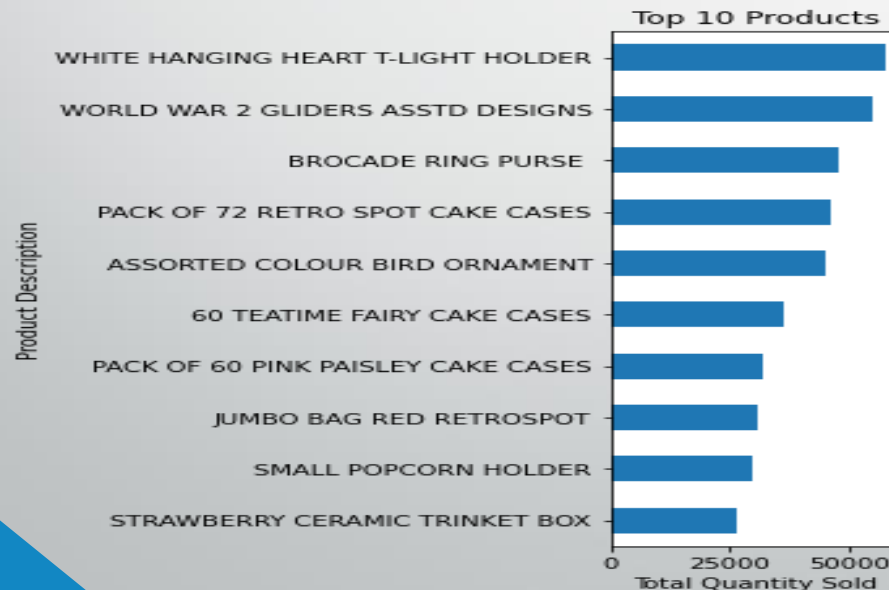
From Sales analysis of Year 2010-11 we can observe that the Quantity sold is higher in November of 2011 amounting to 740,286 quantity of products, followed by 570,532 quantities in October 2011.



TOP TEN SELLING PRODUCTS

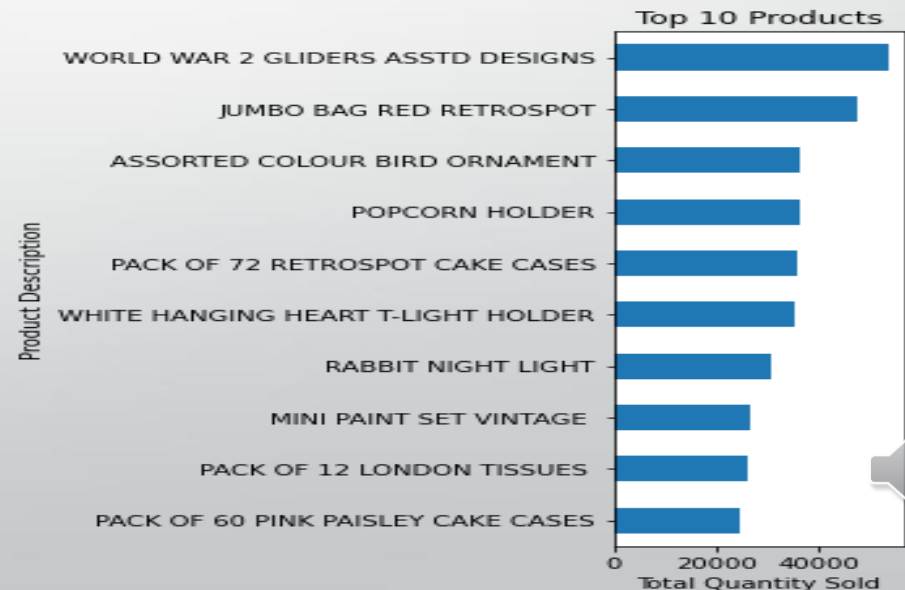
09-10

The top-selling product is the "White Hanging Heart T-Light Holder" with sales reaching 57,733 units, closely followed by "World War 2 Gliders Asstd Designs" with 54,698 units sold.



10-11

The top-selling product is "World War 2 Gliders Asstd Designs," with sales totaling 53,847 units, followed closely by "Jumbo Bag Red Retrospot," with 47,363 units sold.

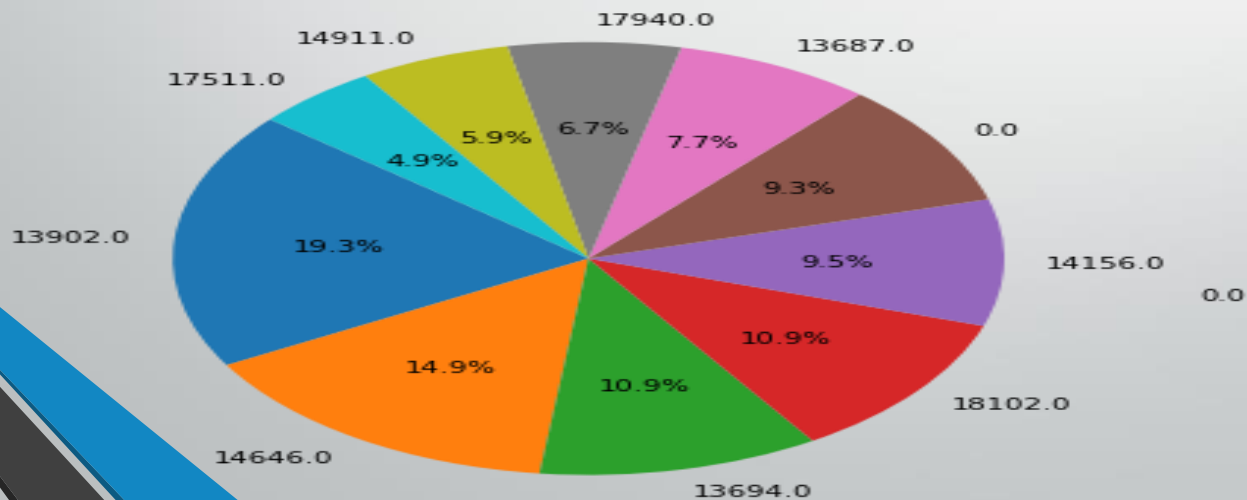


CUSTOMER PURCHASE DISTRIBUTION

Quantity Purchased in 09-10

The top purchasing customer, identified by customer ID 13902, bought 218,090 units during the 2009-10 period. Following closely, customer ID 14646 purchased 168,501 units, albeit lower than the top customer.

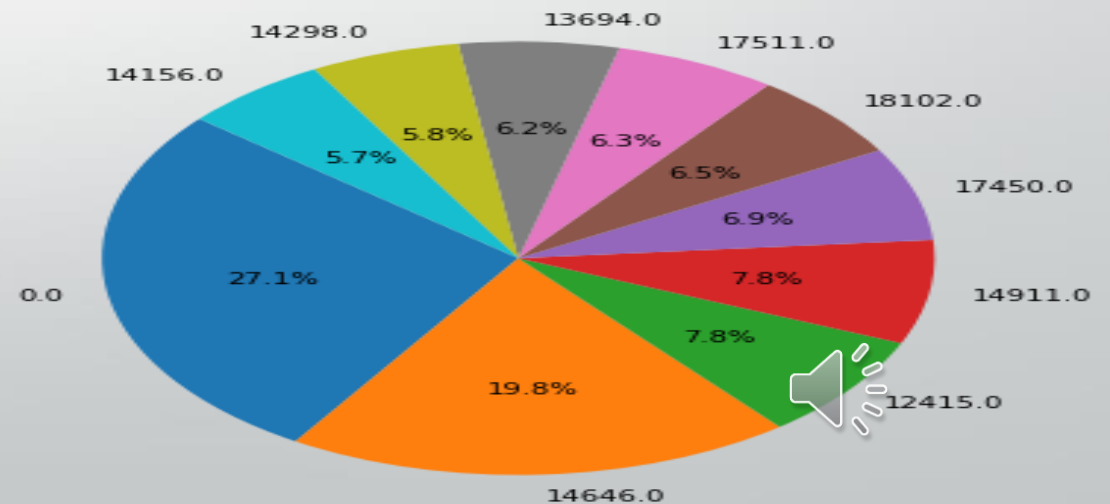
Top 10 Customers by Quantity Purchased



Quantity Purchased in 10-11

In the 2010-11 period, customer ID 14646 made the highest quantity of purchases, totaling 196,719 units. The second highest customer purchased a comparatively lower quantity, amounting to 77,242 units.

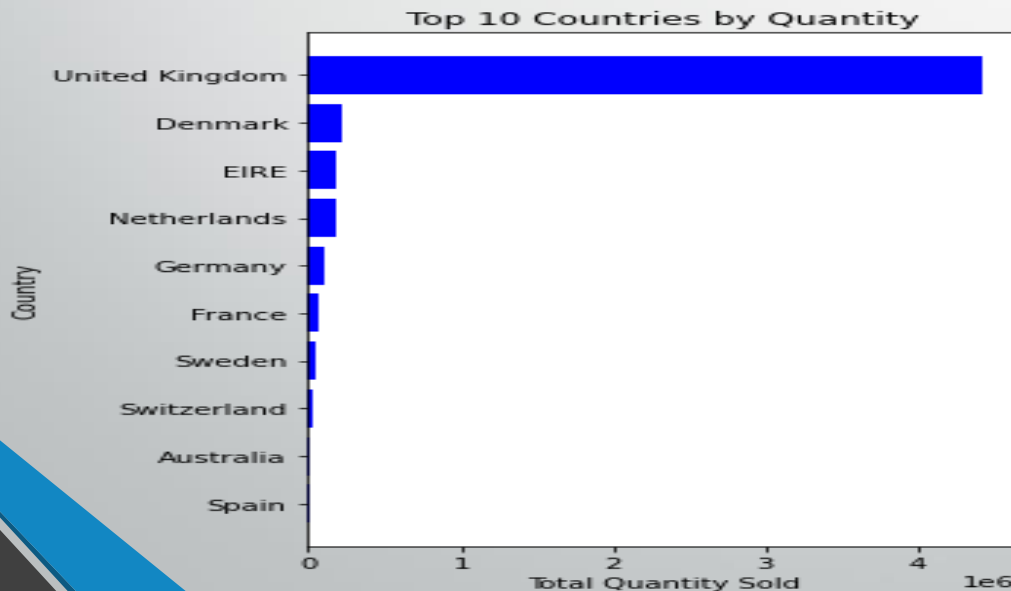
Top 10 Customers by Quantity Purchased



TOP 10 COUNTRIES BY QUANTITY

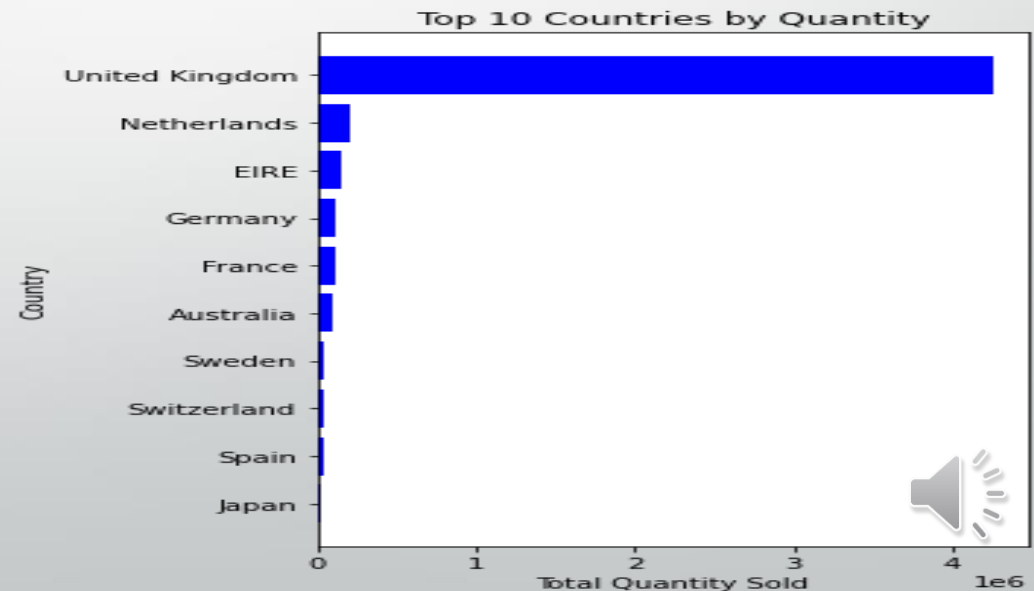
09-10

The highest quantities are purchased in the United Kingdom with a whopping number of 4,429,046 quantities in Year 2009-10.



10-11

The United Kingdom continues to lead in purchasing quantities, with a significant total of 4,263,829 units in the 2010-11 fiscal year.



REVENUE GROWTH

0.2% Growth

The revenue from sales has experienced a modest 0.2% growth, increasing from £9,539,484.634 to £9,747,765.934. This indicates that the business is thriving and has the potential to further expand its market share.

Business Expansion

Given the recent uptick in revenue and the positive growth trend observed, this presents an opportune moment for our business to consider expansion initiatives.



STRATEGIC RECOMMENDATIONS

- In view of the recurring pattern of increased sales in November for both years, leverage this insight to plan marketing campaigns, promotions, and product launches to capitalize on heightened consumer demand during this period.
- Identify and increase quantities of top-selling products such as "White Hanging Heart T-Light Holder" and "World War 2 Gliders Asstd Designs".
- Implement personalized marketing initiatives, loyalty programs, and exclusive offers to nurture relationships with customers like 13902 & 14646 and drive repeat purchases.
- Given the consistent high sales in the United Kingdom, also consider expanding into new countries while also strengthening market presence in the UK.
- By implementing these strategic recommendations, the business can position itself for sustained growth and success in the marketplace.



Thank you!

