The data cleaning phase is essential for ensuring the accuracy and reliability of subsequent analyses. By addressing missing values through careful examination of attributes and rows, and applying appropriate methods to handle these gaps, the dataset is refined to include more complete records, which reduces potential inaccuracies. Converting InvoiceDate to a DateTime format and ensuring the correct data types for Quantity, UnitPrice, and CustomerID further enhances the dataset’s integrity. Additionally, identifying and addressing negative values in UnitPrice and Quantity ensures the data’s accuracy, providing a solid foundation for meaningful analysis and deeper insights.

Analyzing daily sales and transaction trends reveals valuable information about the business’s performance for December 2010. Aggregating total sales on a daily basis uncovers revenue patterns, such as peak sales days in the first half of the month and lower activity as Christmas approaches. Examining daily transaction counts provides insights into customer activity levels. For instance, December 10th shows the second-highest daily sales amount but with significantly fewer transactions (2,758) compared to December 1st, which had the highest sales with 3,108 transactions. This suggests that December 10th had higher-value purchases. Analyzing records from December 10th could identify high-spending customers for targeted marketing promotions. Additionally, further analysis could break down data by hour to pinpoint peak times of day, aiding in optimizing capacity allocation for the online store.

Identifying the top 10 best-selling products provides a focused view of what drives revenue. By aggregating sales data by StockCode and Description, the analysis highlights top-performing products. For example, "Dotcom Postage" and "Regency Cakestand 3 Tier" generate the most revenue compared to other items. Ensuring these popular products are well-stocked before anticipated sales increases can maximize revenue potential and meet customer demand effectively.