

## Data Driven Insights

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### Summary

#### **Objective:**

Analyze top-performing and underperforming products to guide effective inventory stocking, identify peak sales days, and recognize top customers and customer trends to support data-driven decisions.

#### Approach:

The data from sales, inventory, and customer records was cleaned and merged in R, analyzed using Python and SQL queries, and then organized into pivot tables in Excel. Visualizations were developed in Python, with additional SQL queries applied to gain deeper insights.



### Insights

#### **Products**

Sales data indicates that only the top three products have high demand, while the rest show lower sales levels.

#### **Customers**

Sales data reveals that, despite having over 50 customers in our database, only three are active buyers. This gap underscores the importance of targeted marketing strategies to convert more customers into buyers, maximizing engagement and potential revenue from the existing customer base.

#### **Inventory overview**

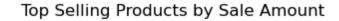
Stocking should prioritize high-demand products to reduce dead stock. Quarterly stock checks will help maintain accurate records, track fast-moving items, and support efficient restocking.

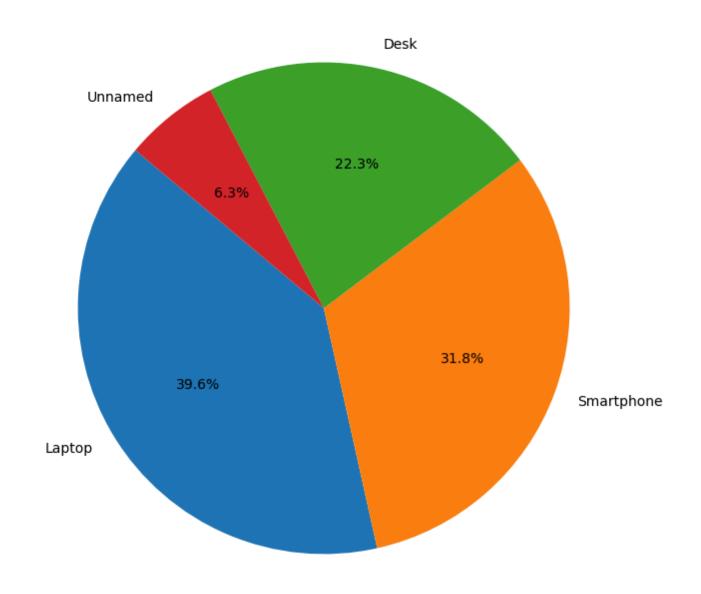


## Top-performing Products

According to sales data, Laptops, Smartphones, and Desks were the top three products. Some sales, however, lacked product names and were marked as "Unnamed" to account for these transactions.

For more accurate sales analysis in the future, ensure product names are consistently captured.

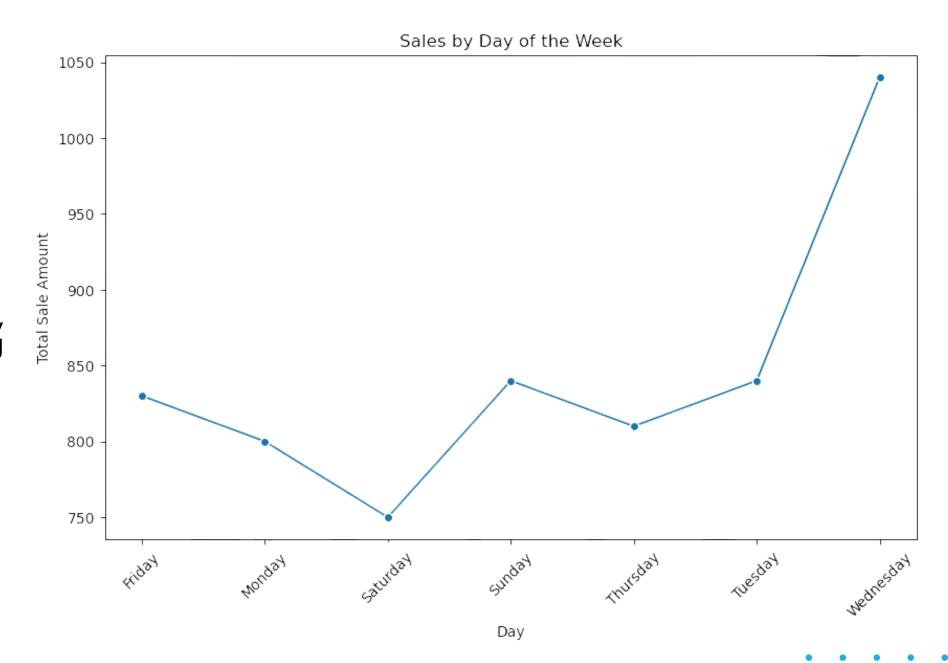




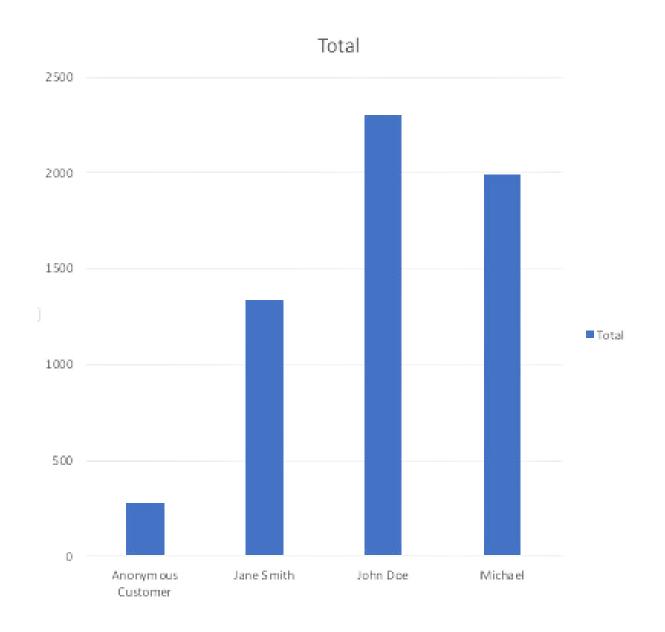


### Peak Sales Days

The highest sales occurred on Wednesday, Sunday, and Tuesday, with Saturday being the least performing day of the week.







#### High-Value Customers

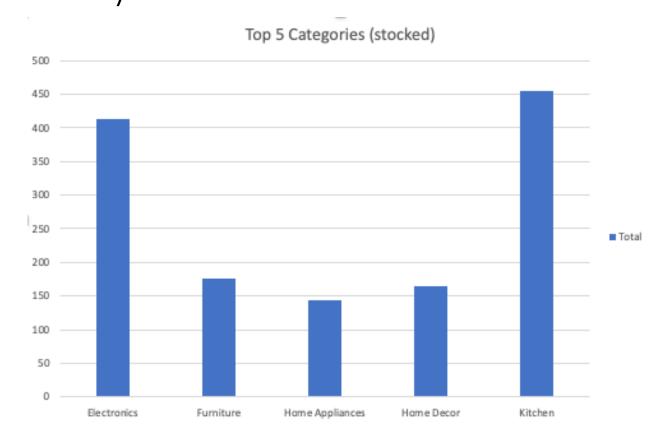
The top three customers were John Doe, Michael, and Jane Smith. Some sales, however, lacked customer details and were classified under "Anonymous Customer" to account for these transactions.

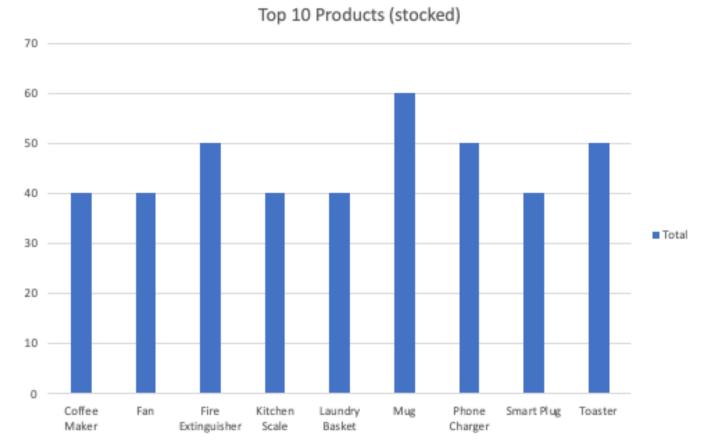
It is recommended that customer information is consistently captured for more accurate analysis in the future.



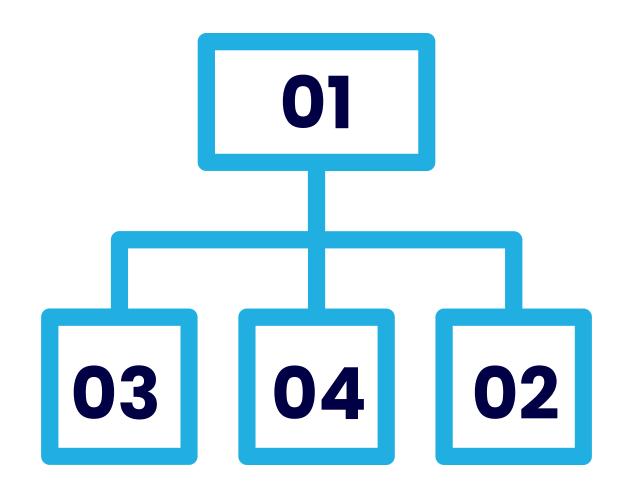
#### **Inventory Overview**

Stocking should focus primarily on the top three products to maximize revenue, while minimizing stock on other products to reduce the risk of dead stock accumulation—evident from the fact that none of the top 10 stocked products are among the best-sellers. Additionally, accurate data entry is essential to maintain correct inventory records and reliable stock valuations.









## Analysis Results & Recommendations





#### **Product Strategy**

As recommended, product stocking should prioritize the top three products.

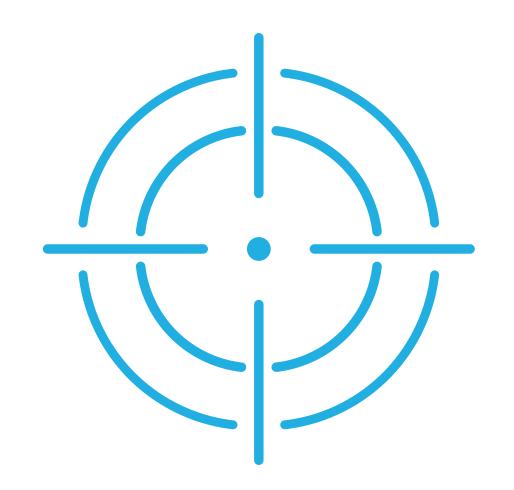
To clear dead stock, consider running a promotional sale or creating bundled offers that pair dead stock items with top-sellers, such as a Laptop and Laptop Stand bundle.



## **Customer Engagement**

With over 50 customers in our database but only three active buyers, targeted marketing efforts should be prioritized to convert non-purchasing customers into buyers.

This could include personalized promotions, loyalty incentives, and follow-up communications to boost engagement and sales.





### Inventory Management

Schedule stock-taking at least quarterly to ensure accurate product counts and data entry.

Regular stock checks will also support the analysis of fast-moving products, aiding in timely and informed restocking decisions.





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## THANK YOU