Project 1

E-commerce Analysis.

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May 31, 2025

Objective.

To analyze e-commerce sales data using the Sample Superstore Dataset across product categories, customer segments, and time periods, aiming to:

- Identify monthly sales patterns and seasonal trends
- Determine top and bottom performing product categories and sub-categories
- Examine profitability across different business dimensions
- Evaluate customer segment efficiency and performance

This analysis aims to uncover insights into e-commerce operations.

Dataset Summary.

The dataset includes data sales from **2014** to **2017**.

9994
Rows of data

21
Columns

- Row ID
- Order ID
- Order Date
- Ship Date
- Ship Mode
- Customer ID
- Customer Name
- Segment
- Country
- City
- State
- Postal Code
- Region
- Product ID
- Category
- Sub-Category
- Product Name
- Sales
- Quantity
- Discount
- Profit

0 Missing values

0 Duplicate data

Key columns used in this analysis:

----- *Order Date*
----- *Sub-Category*
----- *Sales*
----- *Category*
----- *Profit*
----- *Segment*

Analysis Highlights.

Technology
Top Categories → **50.8% profit**

Phones
Sub-Category Winner → **$330K Sales**

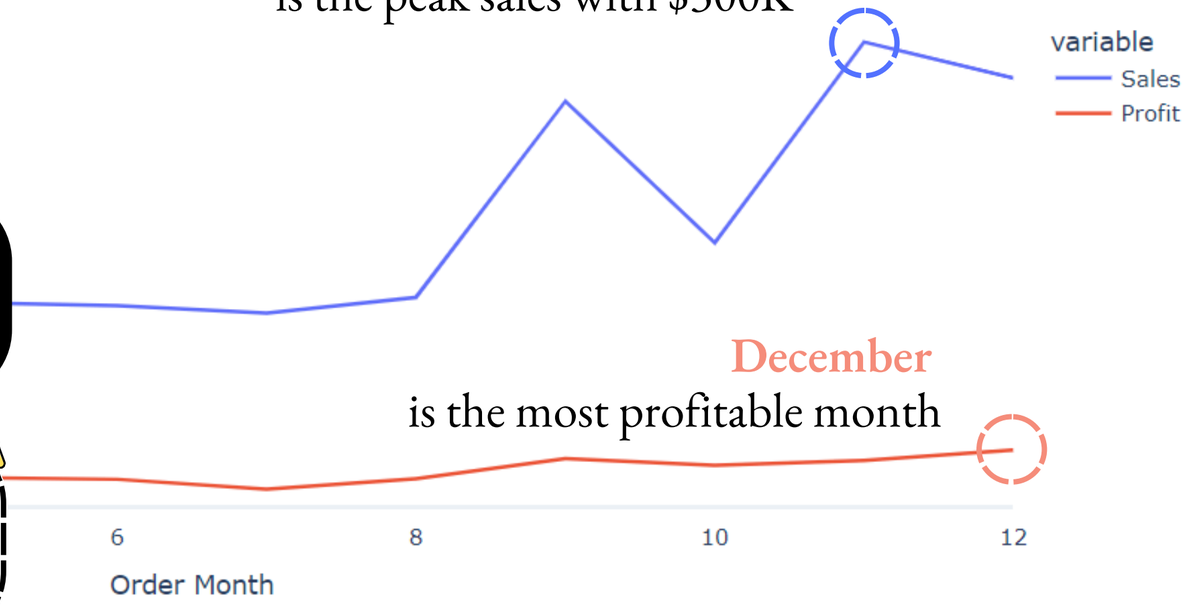
Home Office
Efficiency Leader → **7.12 ratio**

Consumer
Highest Volume, Lowest Efficiency → **8.66 ratio**

Tables
Biggest Lost Maker → **-$17K Profit**

November
is the peak sales with $300K

December
is the most profitable month



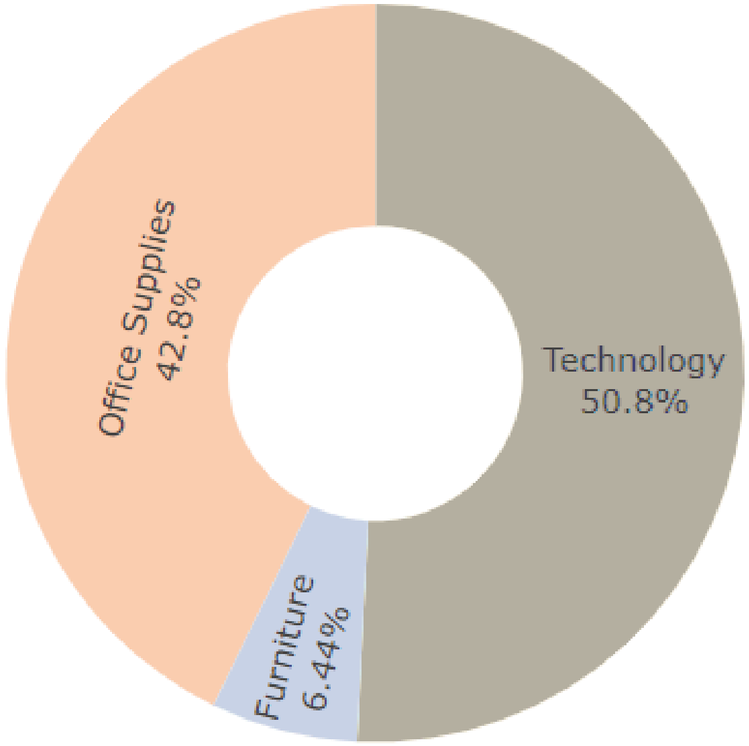
Seasonal Sales Deep Dive.

Sales by Month

The highest sales happened in the end of the year or Q4, meaning that many customers doing transactions because of the end-year discount.

Technology: The Profit Powerhouse.

Profit by Category



Technology is the winner on Category.

The pie chart shows that 'Technology' has the important role in generating profit with 50,8%, followed by 'Office Supplies' with 42,8%, while 'Furniture' has the lowest profit contribution with 6,44%.

Customer Segment Efficiency.

Sales and Profit by Customer Segment

'Customer' segment showing both **the highest volume and profitability**.

In this case, the Consumer segment requires $8.66 in sales to generate $1 of profit, making it least efficient.

'Home Office' has **the lowest volume** and **profitability**.

Home Office has the lowest ratio, meaning it only needs $7.12 in sales to generate $1 of profit, making it the most efficient segment in terms of profitability.

Sub-Categories Analysis.

Profit by Sub-Categories

'Copiers' has the highest profit with **$55K**.

However, we can also clearly see that **'Tables' has a negative profit** of **-$17K**, indicating losses in this sub-category.

Contact

Work With Me!

Full analysis with Python code on Medium.

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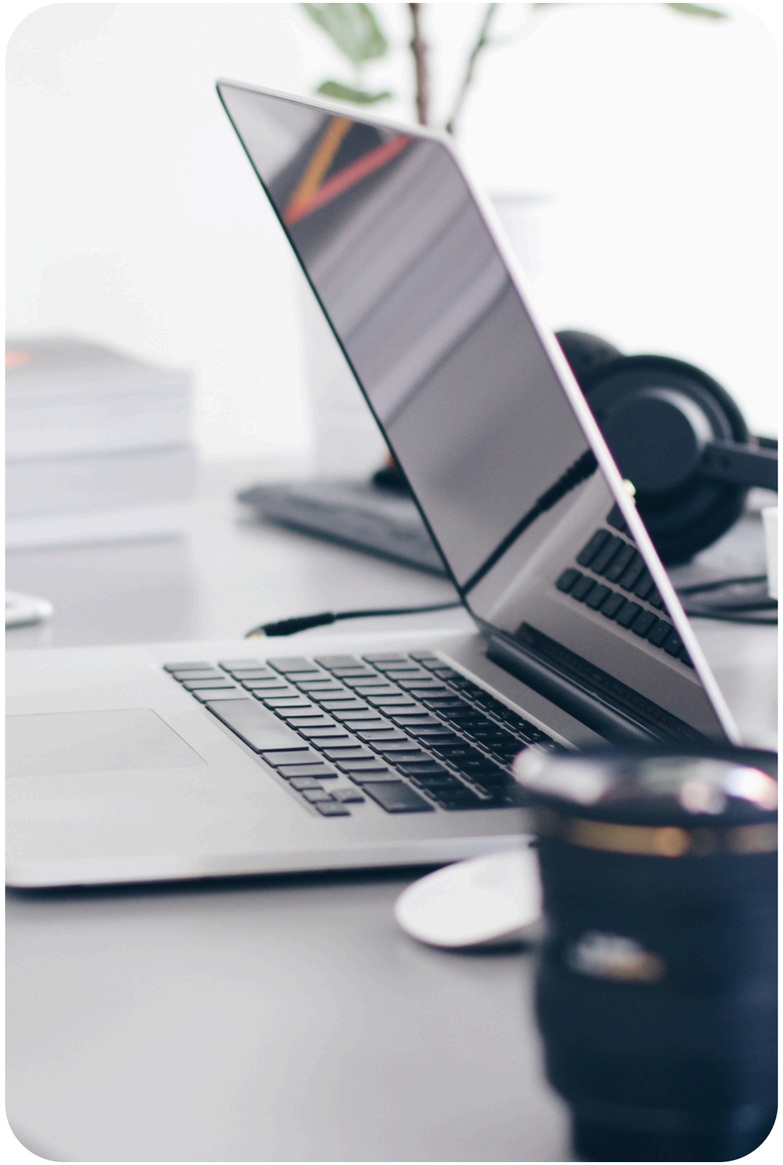

Thank you!

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