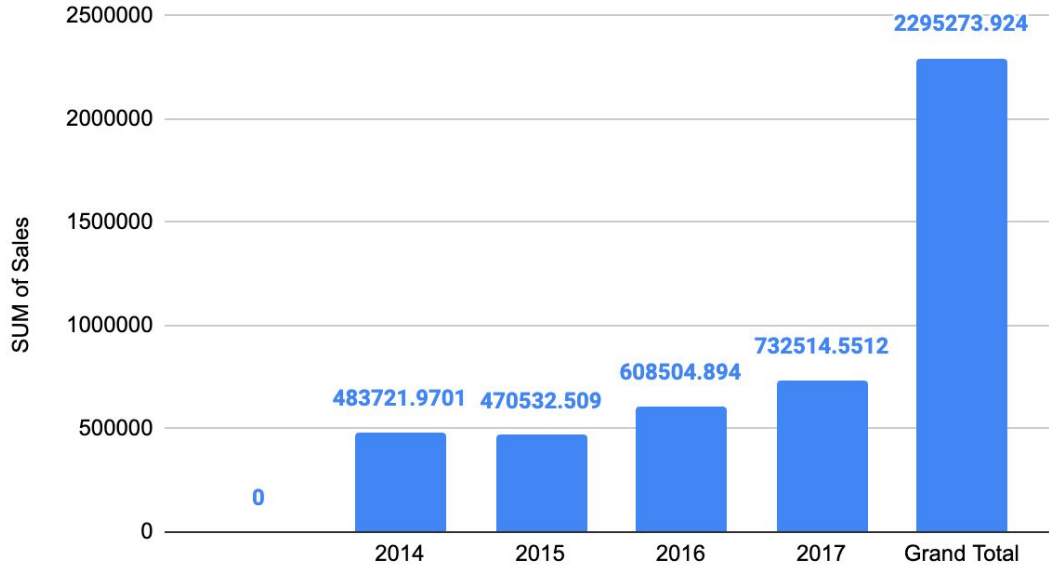# Superstore Sales Analysis & Data Visualisation

PART 1: Sales and Revenue Analysis

1.1 Total sales revenue for each year
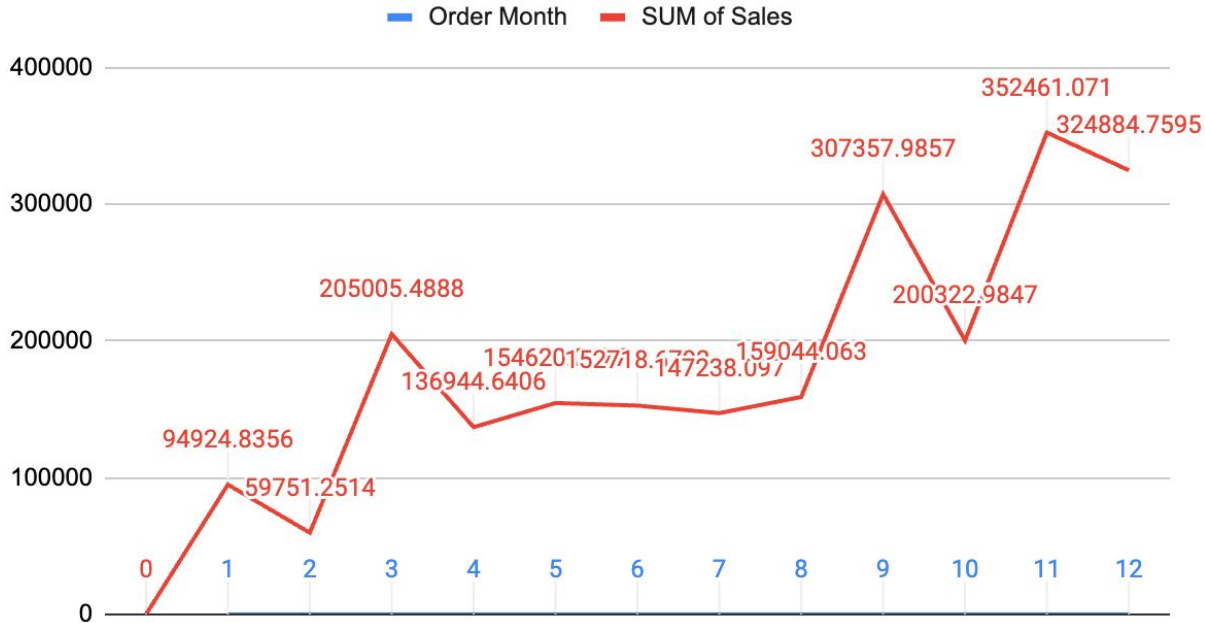
Total sales revenue for each year

1.2 Month with the highest total sales overall and patterns

November has the highest total sales overall. March is high that might reflect new financial year or promotions. There are peaks from October to December that might show holiday seasonality.
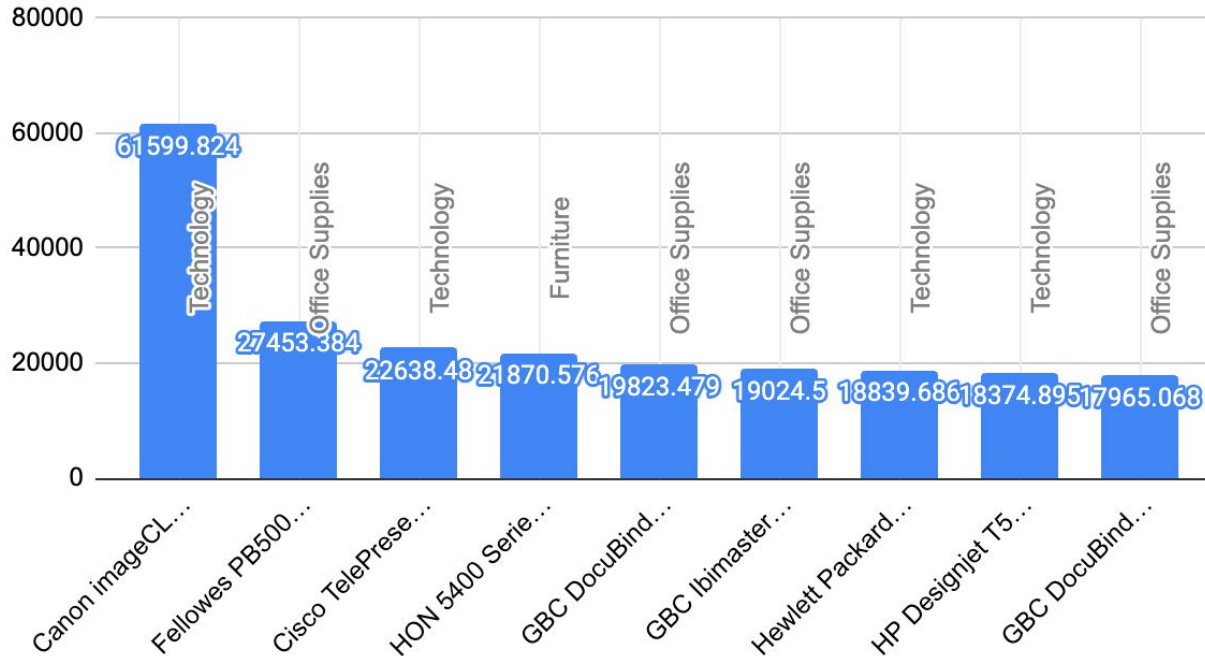

Month with the highest total sales

1.3 10 Products that generated most revenue

Most of the top selling products are from the Technology and Office Supplies categories, suggesting strong demand for high-value items like phones, chairs, and accessories.
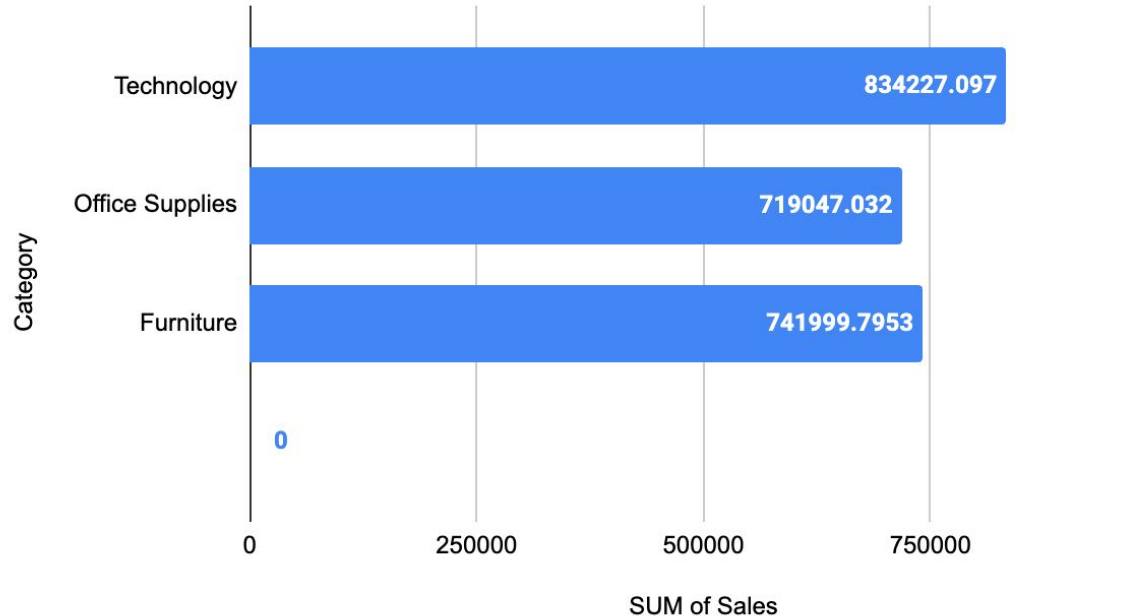

Top 10 Products that generated most revenue

1.4 Sales performance across the main product categories

Technology contributes the largest share of revenue by high-value items such as computers and accessories.

Sales performance across the main product categories

Category	SUM of Sales
Technology	834227.097
Office Supplies	719047.032
Furniture	741999.7953

1.5 Region that performs best

The West region shows the highest sales, likely due to higher population density and stronger customer base.
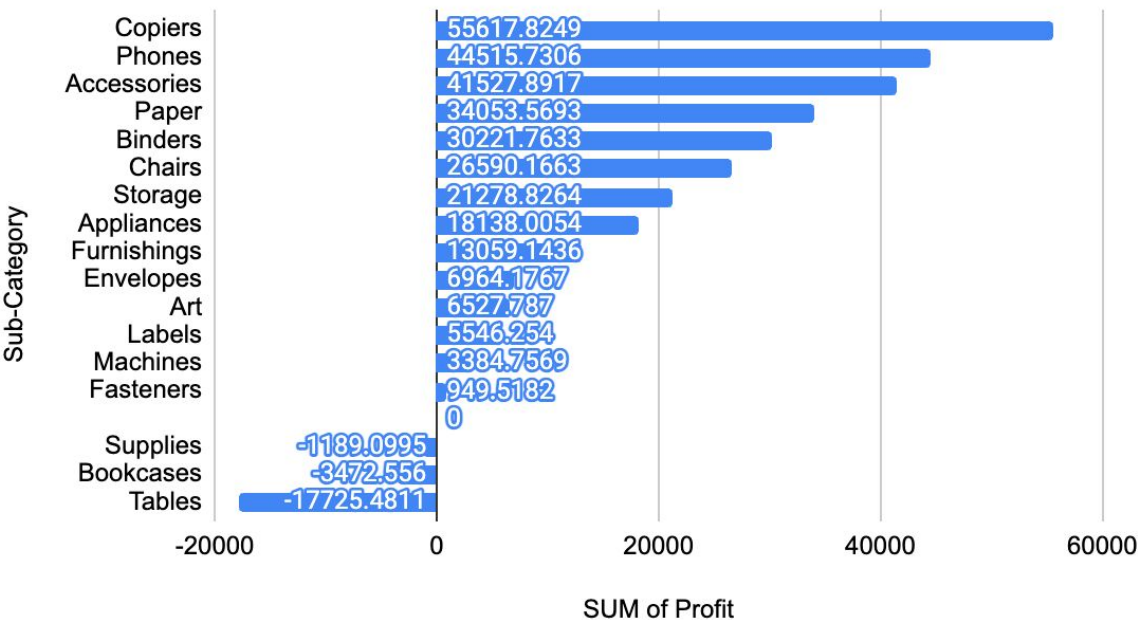
How Sales differ by Region
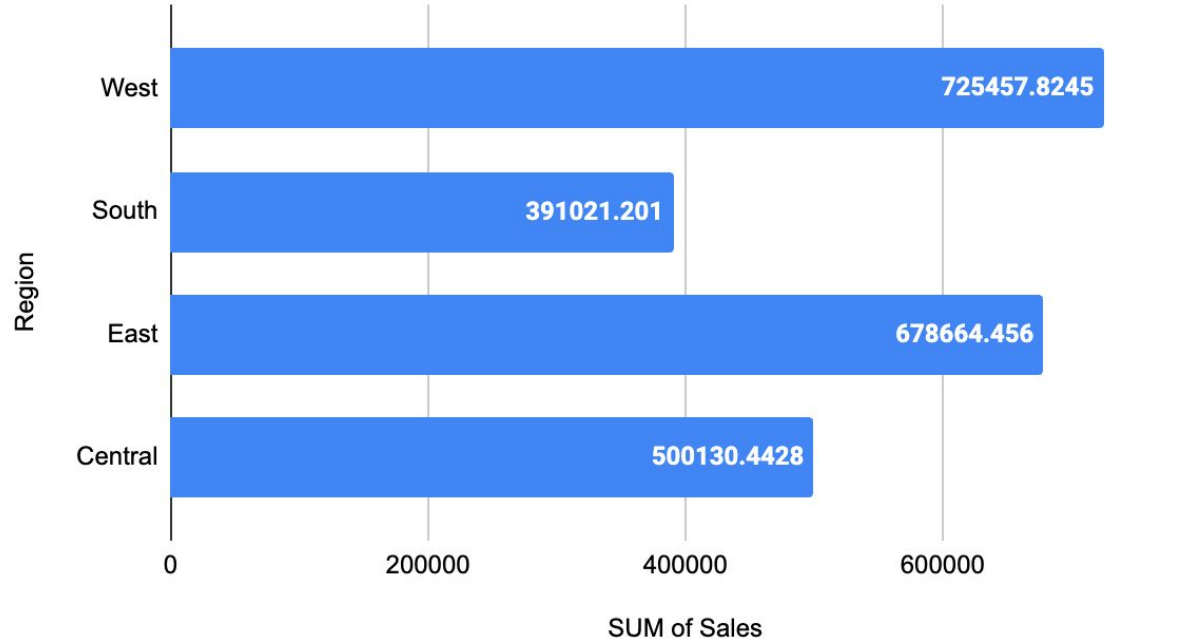
PART 3: Profitability Analysis

2.1 Product subcategories that are most and least profitable

Copiers and Phones subcategories generate the highest total profit, whereas Tables and Bookcases have lower profitability.

Sub-Categories that are most and least profitable

Sub-Category	SUM of Profit
Copiers	55617.8249
Phones	44515.7306
Accessories	41527.8917
Paper	34053.5693
Binders	30221.7633
Chairs	26590.1663
Storage	21278.8264
Appliances	18138.0054
Furnishings	13059.1436
Envelopes	6964.1767
Art	6527.787
Labels	5546.254
Machines	3384.7569
Fasteners	949.5182
	0
Supplies	-1189.0995
Bookcases	-3472.556
Tables	-17725.4811

2.2 Average profit for each product

Technology has the highest average profit suggesting high-value items are sold at good margins. Office Supplies have lower, indicating competitive pricing or low volume products
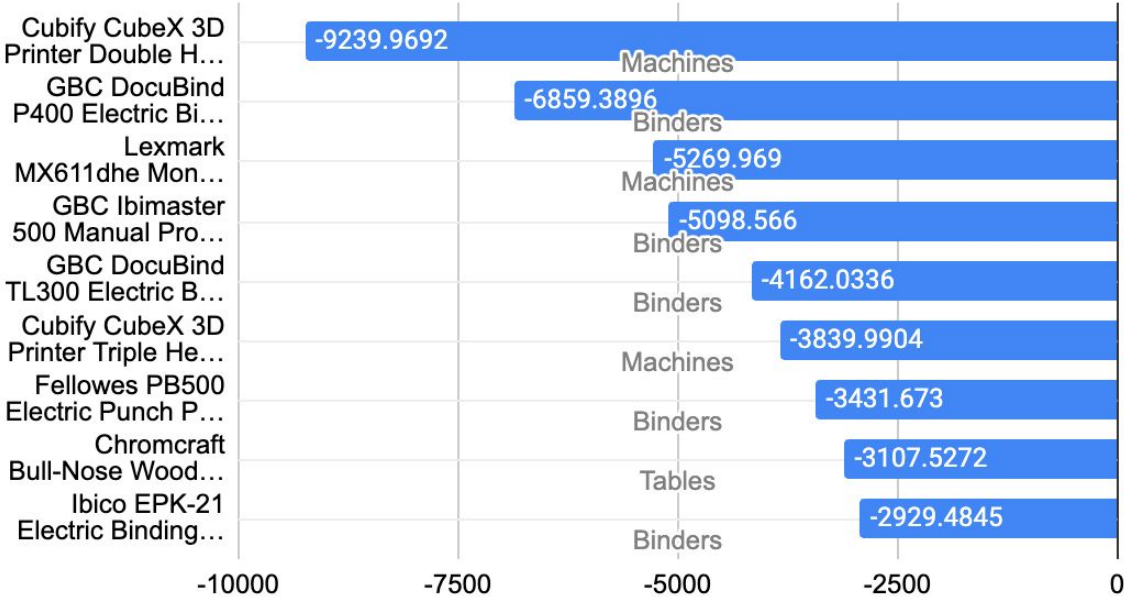
Average Profit for each category
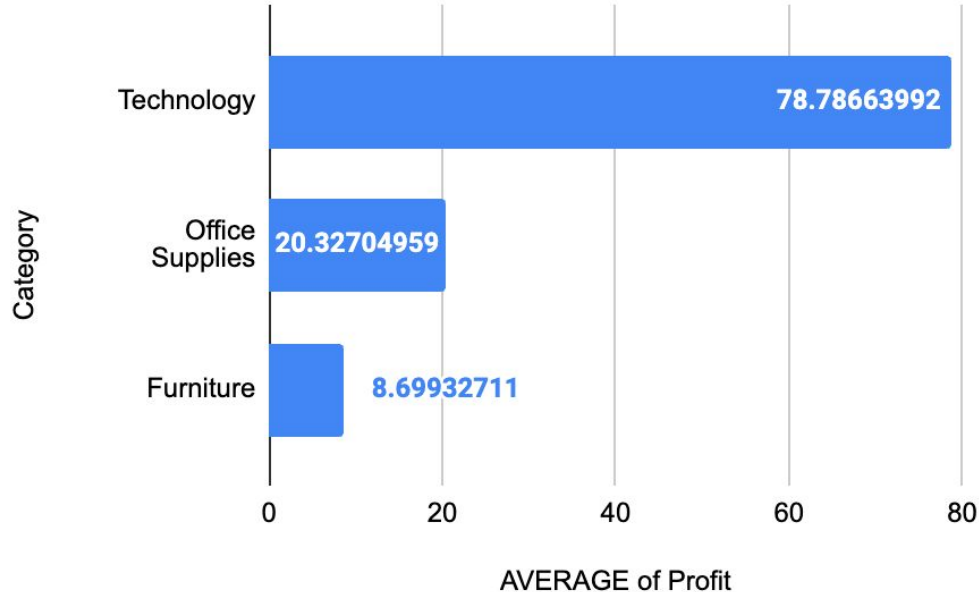
2.3 Products that generate losses

Machine, Binders and Tables generate losses. High Discounts, Deep discounts reduce selling price but costs stay the same. Example: If a product costs R500 to buy and you sell it at a 30% discount, the profit margin disappears.

Products consistently generating losses

Product	Category	Value
Cubify CubeX 3D Printer Double H…	Machines	-9239.9692
GBC DocuBind P400 Electric Bi…	Binders	-6859.3896
Lexmark MX611dhe Mon…	Machines	-5269.969
GBC Ibimaster 500 Manual Pro…	Binders	-5098.566
GBC DocuBind TL300 Electric B…	Binders	-4162.0336
Cubify CubeX 3D Printer Triple He…	Machines	-3839.9904
Fellowes PB500 Electric Punch P…	Binders	-3431.673
Chromcraft Bull-Nose Wood…	Tables	-3107.5272
Ibico EPK-21 Electric Binding…	Binders	-2929.4845

Axis: -10000   -7500   -5000   -2500   0

2.4 Relationship between Discount rates and Profit.

Negative slope shows that higher discounts reduce profit


Relationship between Discount rates and Profit
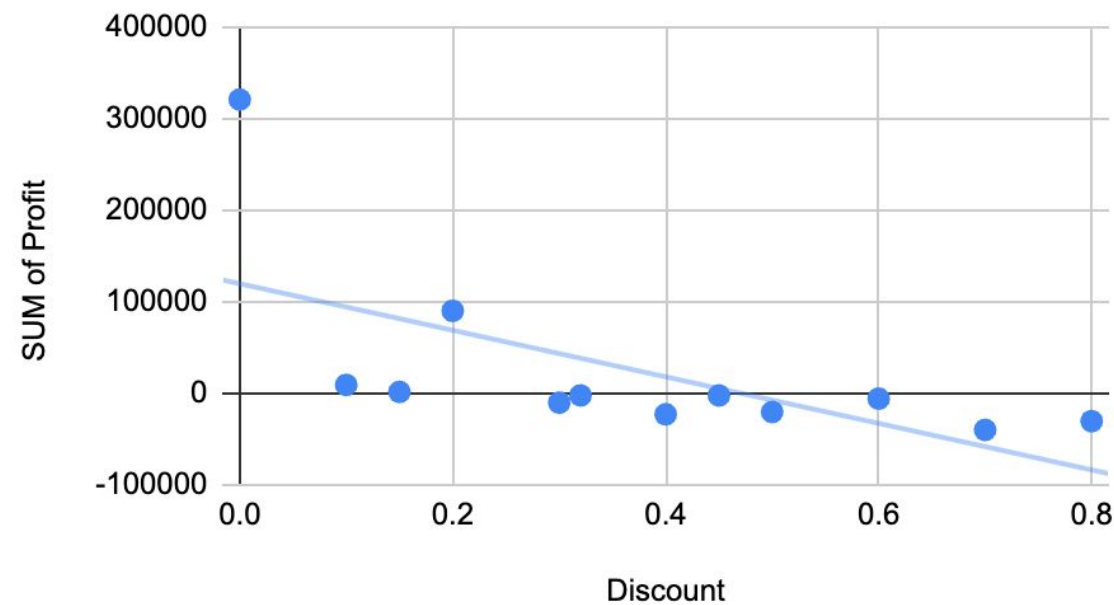
Discount	SUM of Profit
0.8	-30539.0392
0.7	-40075.3569
0.6	-5944.6552
0.5	-20506.4281
0.45	-2493.1111
0.4	-23057.0504
0.32	-2391.1377
0.3	-10369.2774
0.2	90030.748
0.15	1418.9915
0.1	9029.177
0	320885.4172
	0
Grand Total	**285988.2777**

2.5 Customer generating the highest total profit

Consumer customers generate the highest profit, likely due to large orders and less price sensitivity. Corporate segment contributes less profit.

Customer generating the highest total profit

Segment	SUM of Profit
Consumer	134017.0232
Corporate	91902.4945
Home Office	60068.76
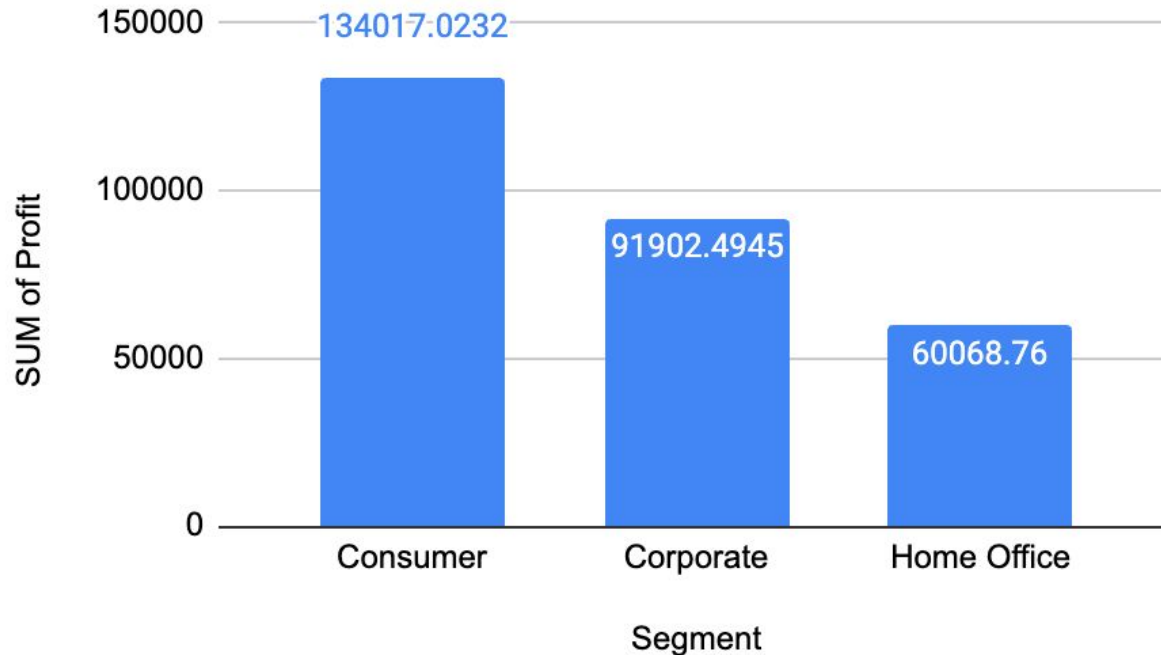
PART 3: Customer Behaviour Analysis

3.1 Top 20 customers based on total sales.
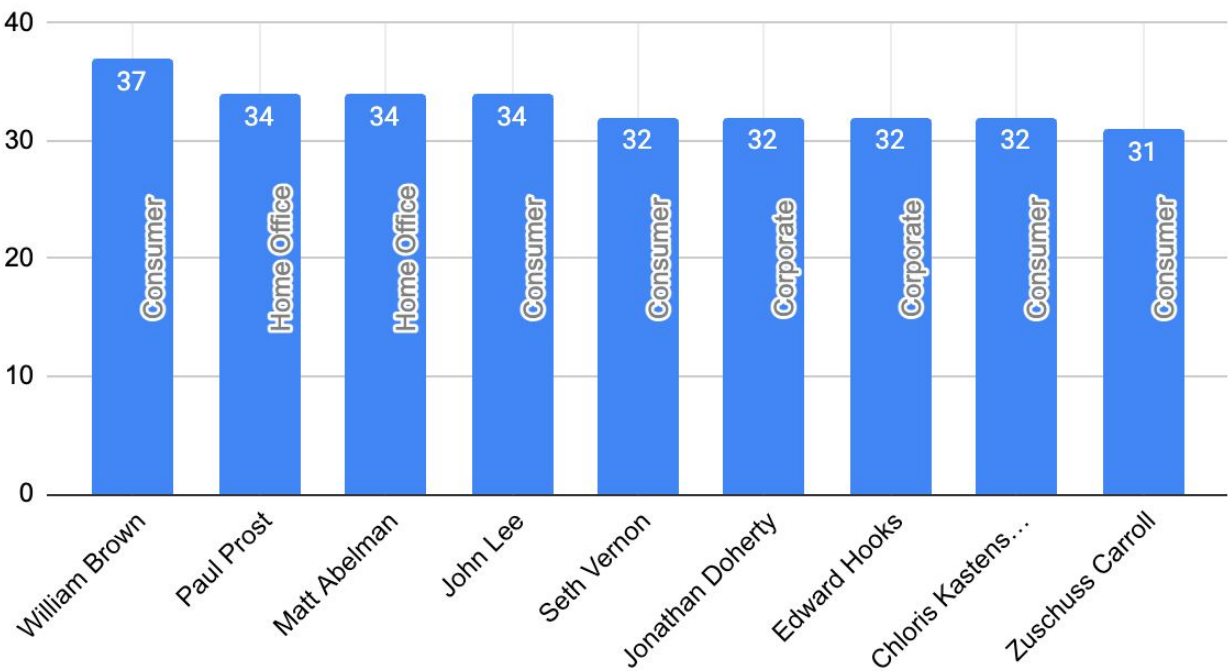

Top 20 customers based on total sales by Region

Top 20 customers based on total sales by Segment
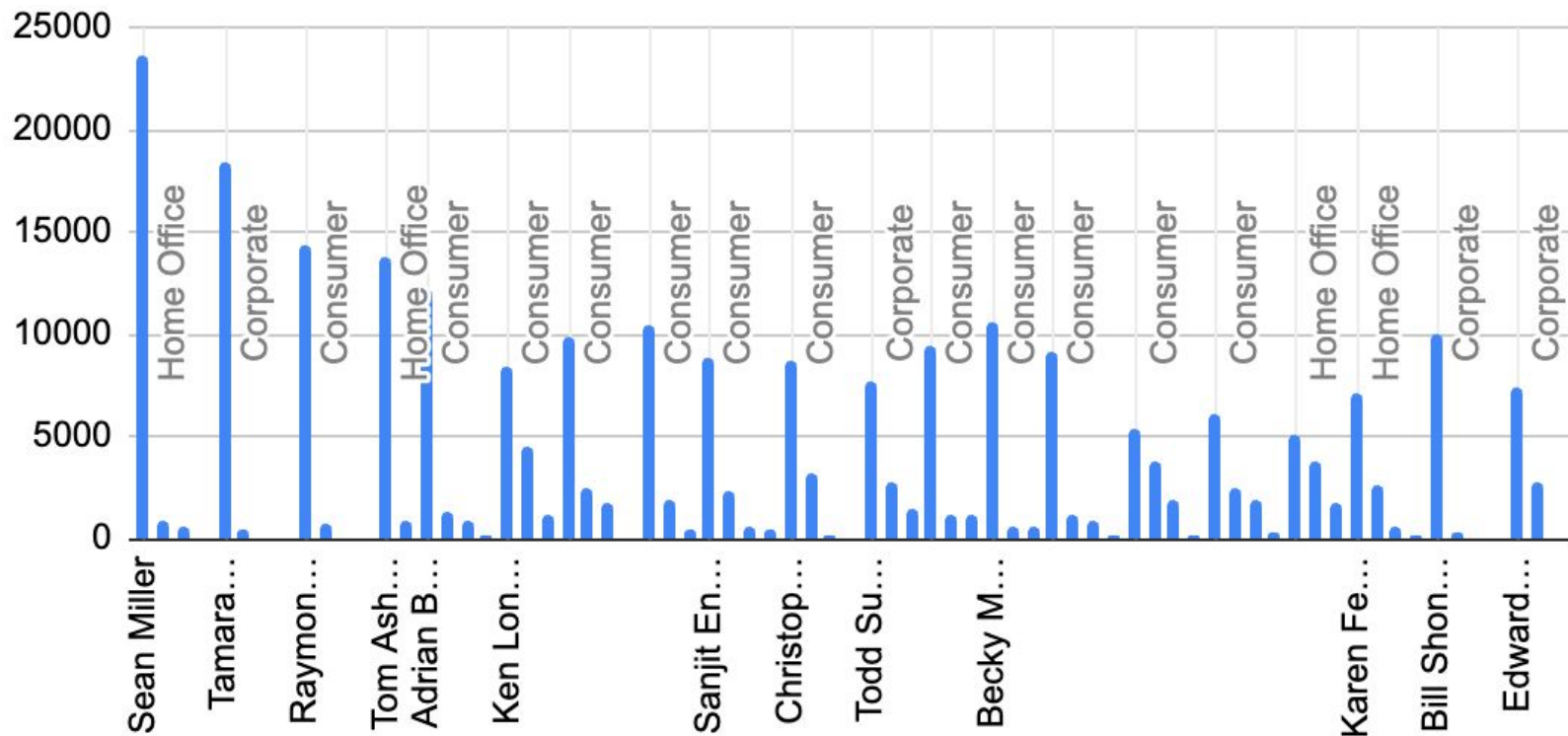
3.2 Customers who have placed multiple orders

Many customers, especially in the Consumer and Corporate segments, place multiple orders that shows a clear indication of strong customer loyalty and sustained engagement.

Customers who have placed multiple orders

| Customer	Orders	Segment
William Brown	37	Consumer
Paul Prost	34	Home Office
Matt Abelman	34	Home Office
John Lee	34	Consumer
Seth Vernon	32	Consumer
Jonathan Doherty	32	Corporate
Edward Hooks	32	Corporate
Chloris Kastens...	32	Consumer
Zuschuss Carroll	31	Consumer

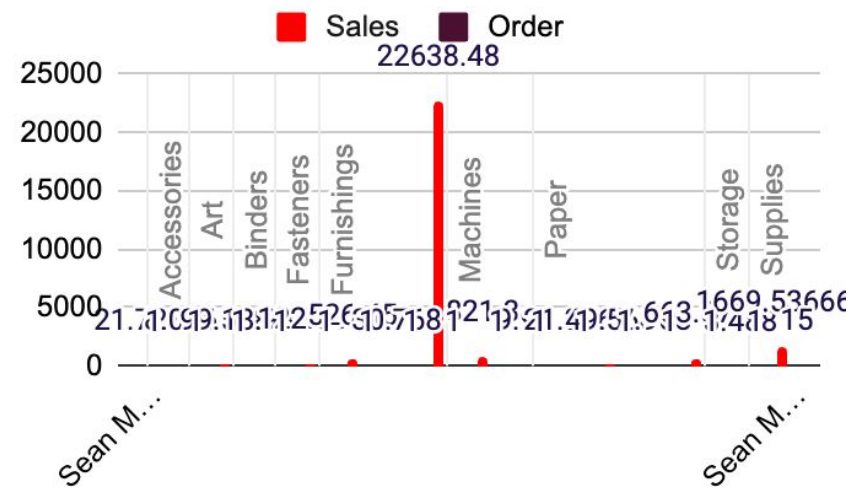# 3.3 Region with the highest count of unique customers

West region has the most unique Customers and highest sales. Used Count Unique to remove duplicates per region(tells how many different customers bought in each region).
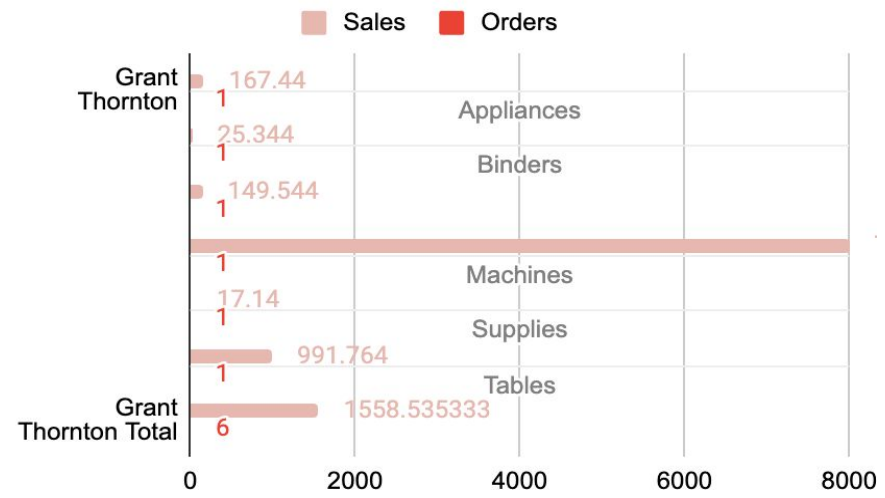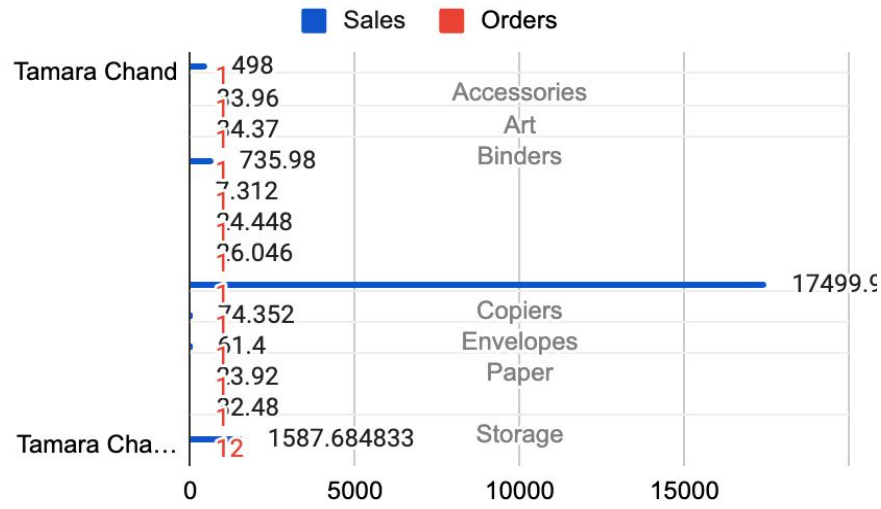
Number of Customers per region
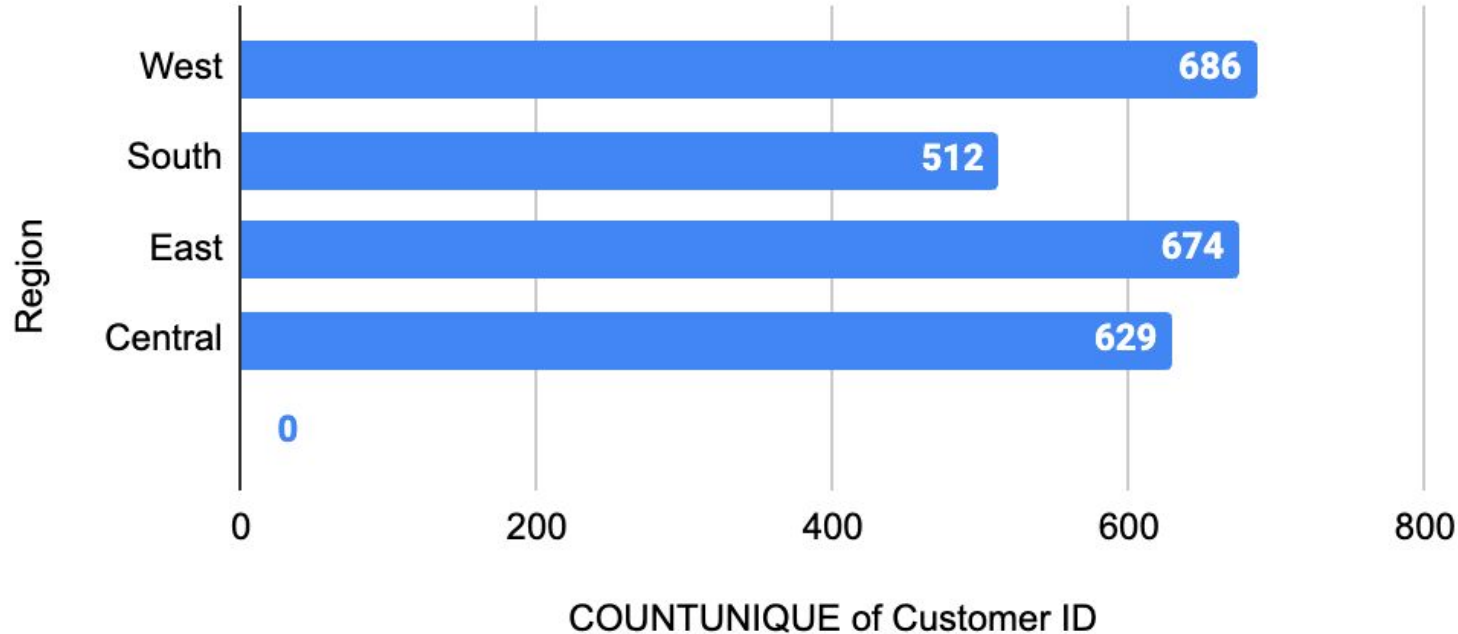
3.4 Average Order value for each Customer

Mitch has less number of orders but has the highest Average of sales ,this means Mitch tends to buy expensive in fewer transaction such customers are strategically valuable despite their lower transaction frequency, as they contribute disproportionately to overall revenue.

3.4

Left chart — Tamara Chand (Sales and Orders):

Category	Value
Tamara Chand	498
	1
Accessories	23.96
	1
Art	24.37
	1
Binders	735.98
	1
	7.312
	1
	24.448
	1
	26.046
	1
	17499.9
	1
Copiers	74.352
	1
Envelopes	61.4
	1
Paper	23.92
	1
	32.48
	1
Storage	
Tamara Cha...	1587.684833
	12

Right chart — Grant Thornton (Sales and Orders):

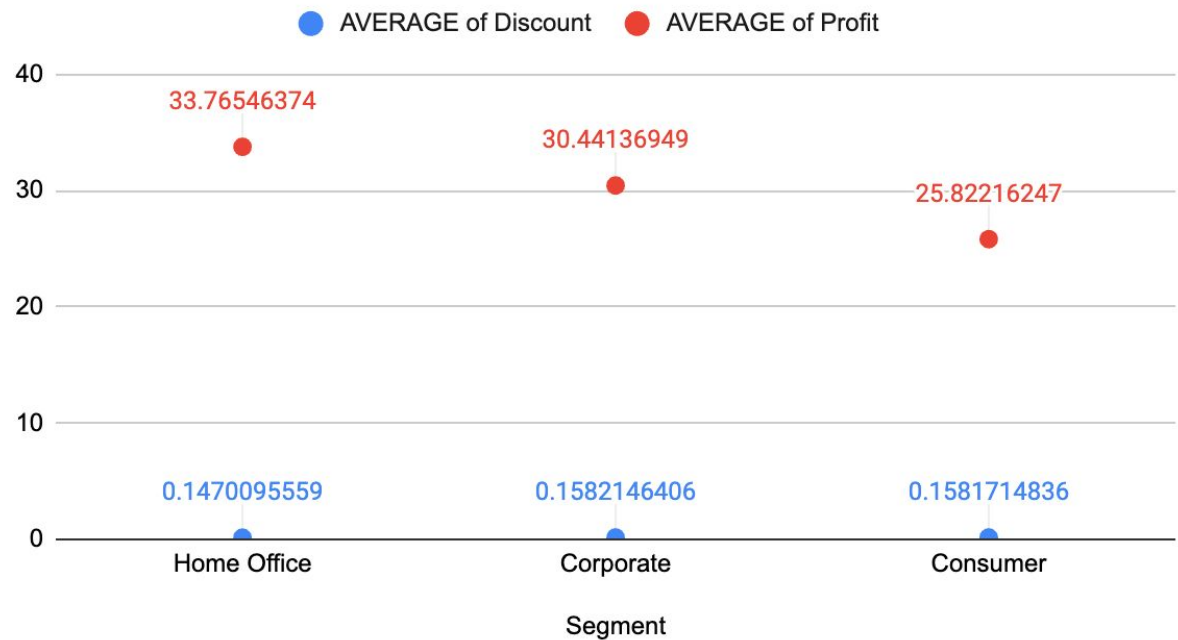| Category	Value
Grant Thornton	167.44
	1
Appliances	25.344
	1
Binders	149.544
	1
Machines	(≈8000)
	1
Supplies	17.14
	1
Tables	991.764
	1
Grant Thornton Total	1558.535333
	6

3.5 Effect of Discounting across different segments

Corporate segment experiences higher average discounts, which appear to reduce profit margins. Home office receive lower discounts but remain the most profitable overall.

Effect of Discounting across different segments

● AVERAGE of Discount   ● AVERAGE of Profit

| Segment	AVERAGE of Profit	AVERAGE of Discount
Home Office	33.76546374	0.1470095559
Corporate	30.44136949	0.1582146406
Consumer	25.82216247	0.1581714836

Segment

PART 4: Shipping And Delivery Analysis

4.1 Most frequently used shipping mode

Standard Class is the most frequently used shipping mode, We think it's because it offers the best balance between cost and delivery time. Customers and businesses may prefer it to save on shipping expenses, especially for non-urgent deliveries.
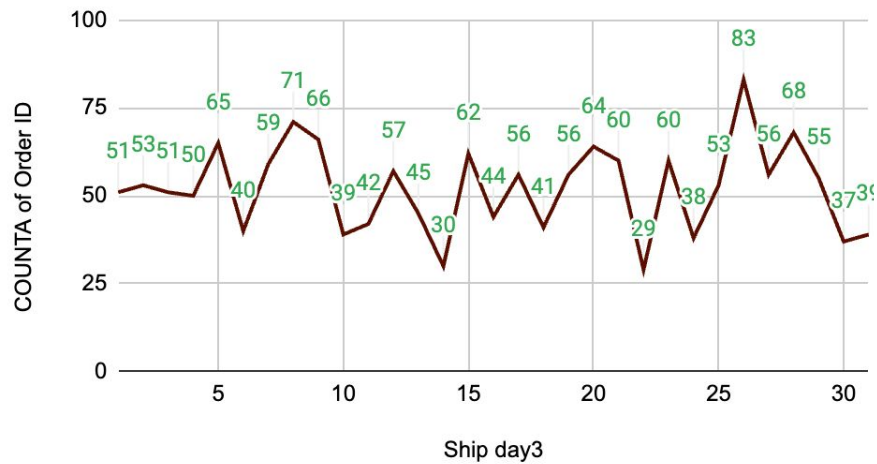
Most frequently used shipping mode

Same Day
5.4%

First Class
15.4%

Second Class
19.5%

Standard Class
59.7%
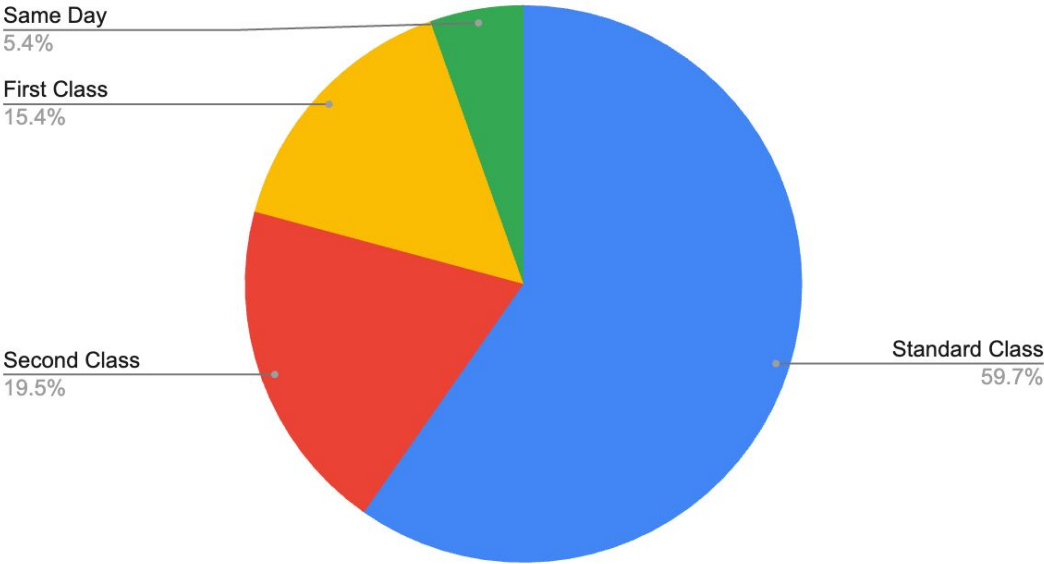
4.2 Shipping time varies significantly by region

Across all regions, orders tend to be high during the first two-thirds of the month (days 1–20) and drop toward the end of the month (days 25–31)

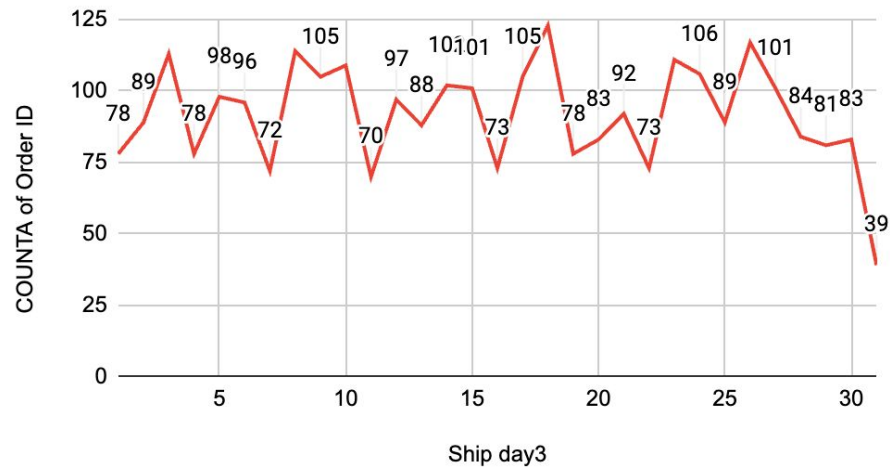
Shipping time varies significantly(South)

Shipping time varies significantly (Central)

4.2
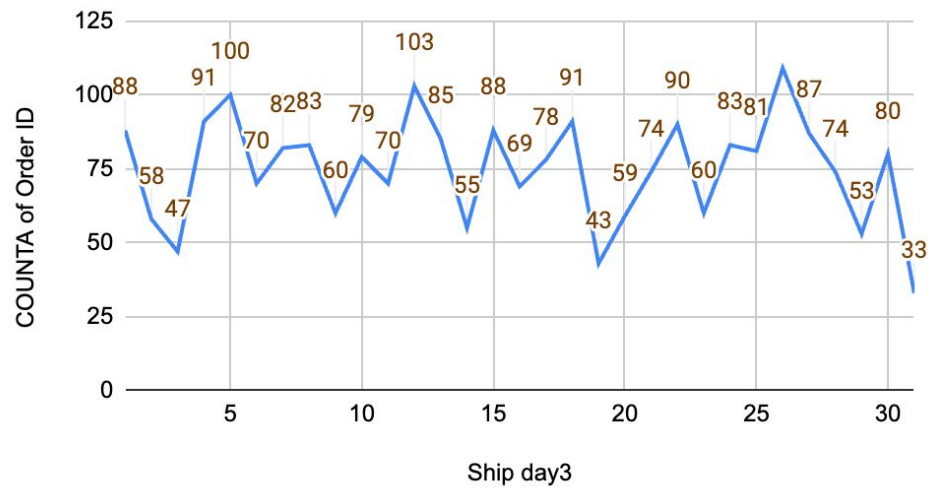
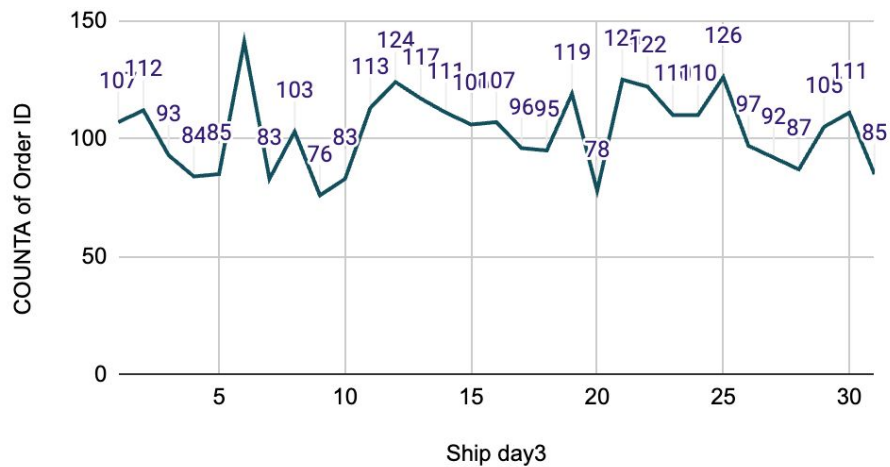Shipping time varies significantly (East)

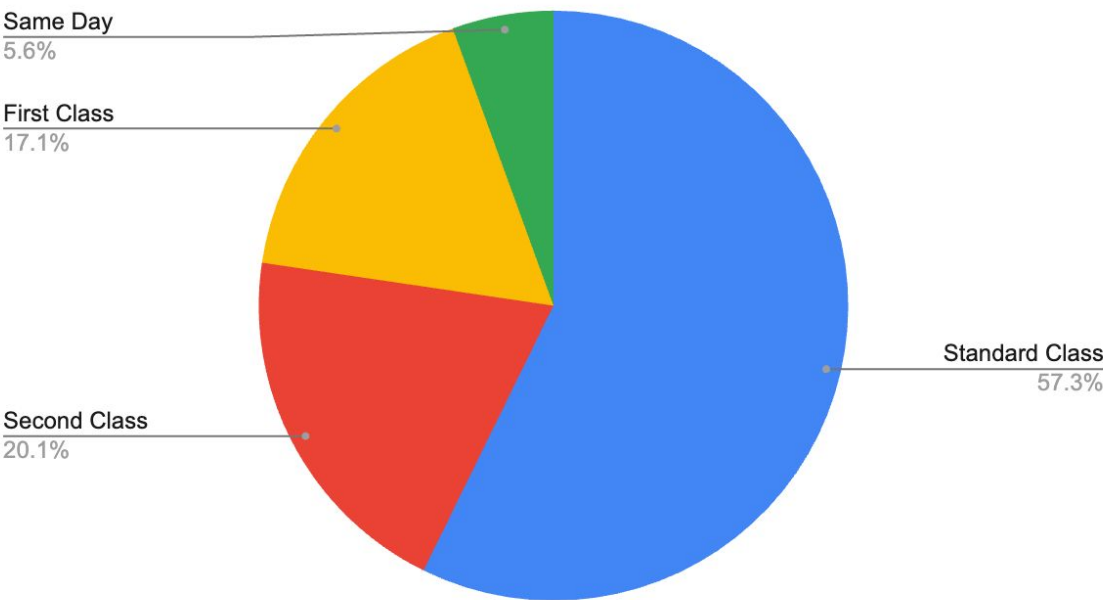

Shipping time varies significantly (West)

4.3 Shipping mode associated with the highest total profit

Standard Class has the highest total profit , We think it's because it offers the best balance between cost and delivery time.

Shipping mode associated with the highest total profit

Same Day
5.6%

First Class
17.1%

Second Class
20.1%

Standard Class
57.3%

PART 5: Product and Order trends

5.1 Seasonal Patterns in sales for different categories

Seasonal Pattern-There is a clear sales increase starting from September, peaking in November and December across all product categories.March also shows a noticeable spike possibly due to start-of-year office restocking or quarterly budgets.

Category Trends-Technology peaks sharply in November (131134.841), the highest of all likely due to holiday season promotions, year-end bonuses, or business upgrades.Furniture and Office Supplies also rise during November–December, suggesting overall year-end purchasing behavior.

Seasonal Patterns in sales for different categories
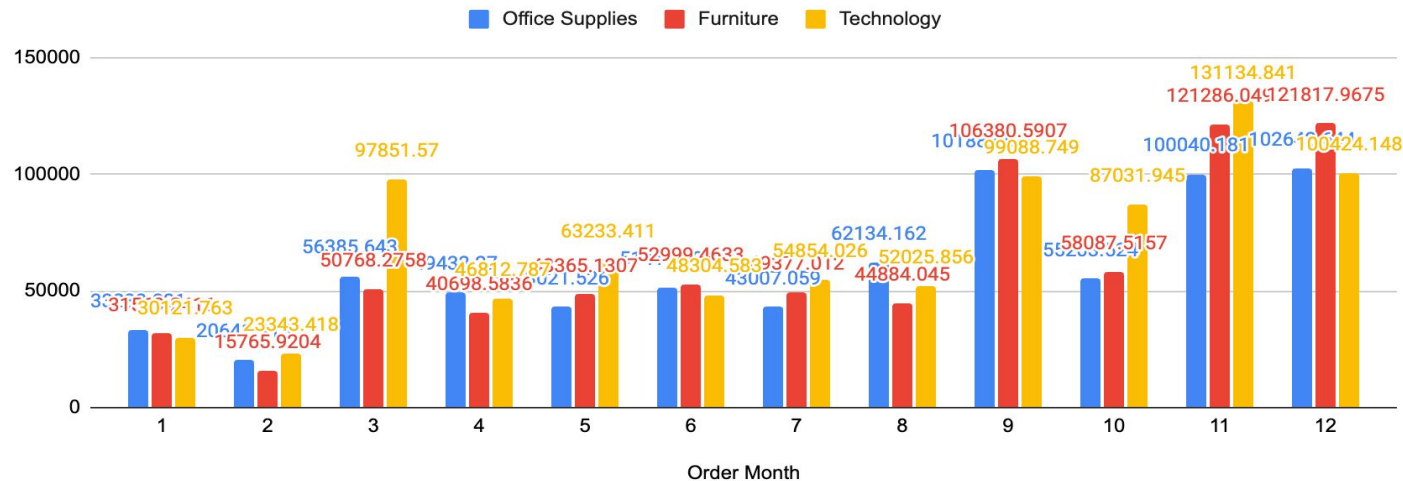
5.2 Average quantity ordered per product

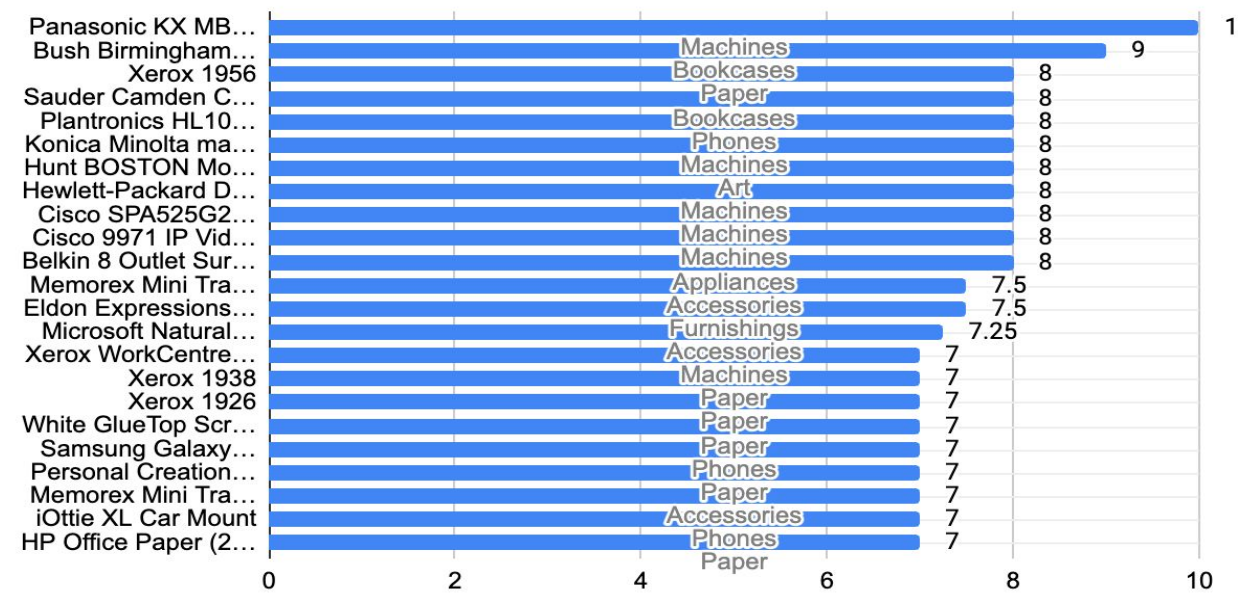Products in the Machines and Bookcases categories have the highest average order quantities, implying they're often purchased in bulk by business customers.Meanwhile, Paper are more frequently purchased overall, but in smaller quantities, indicating regular restocking behavior.

Average quantity ordered per product

| Product	Category	Value
Panasonic KX MB...	Machines	1
Bush Birmingham...	Bookcases	9
Xerox 1956	Paper	8
Sauder Camden C...	Bookcases	8
Plantronics HL10...	Phones	8
Konica Minolta ma...	Machines	8
Hunt BOSTON Mo...	Art	8
Hewlett-Packard D...	Machines	8
Cisco SPA525G2...	Machines	8
Cisco 9971 IP Vid...	Machines	8
Belkin 8 Outlet Sur...	Appliances	8
Memorex Mini Tra...	Accessories	7.5
Eldon Expressions...	Furnishings	7.5
Microsoft Natural...	Accessories	7.25
Xerox WorkCentre...	Machines	7
Xerox 1938	Paper	7
Xerox 1926	Paper	7
White GlueTop Scr...	Paper	7
Samsung Galaxy...	Phones	7
Personal Creation...	Paper	7
Memorex Mini Tra...	Accessories	7
iOttie XL Car Mount	Phones	7
HP Office Paper (2...	Paper	7

5.3 Average amount sales per order

The data shows that average sales per order are highest for technology and office equipment, while basic supplies have lower sales values.This implies that typical customer purchasing behavior differs by segment , businesses tend to place fewer but higher-value orders, while individual consumers make smaller, more frequent purchases that sustain ongoing sales activity.
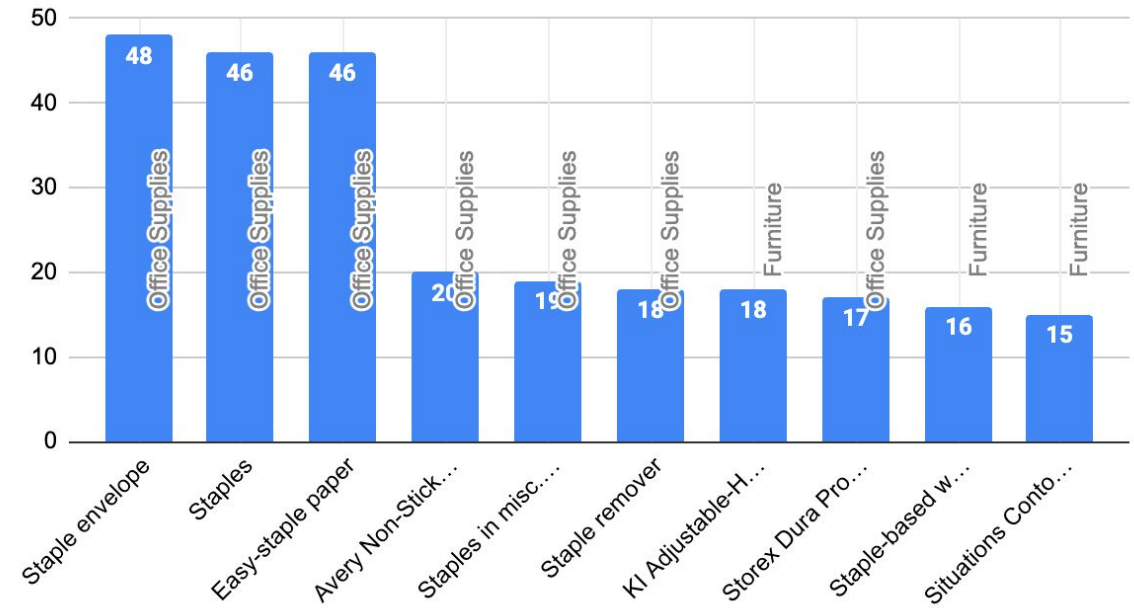

Average amount sales per order
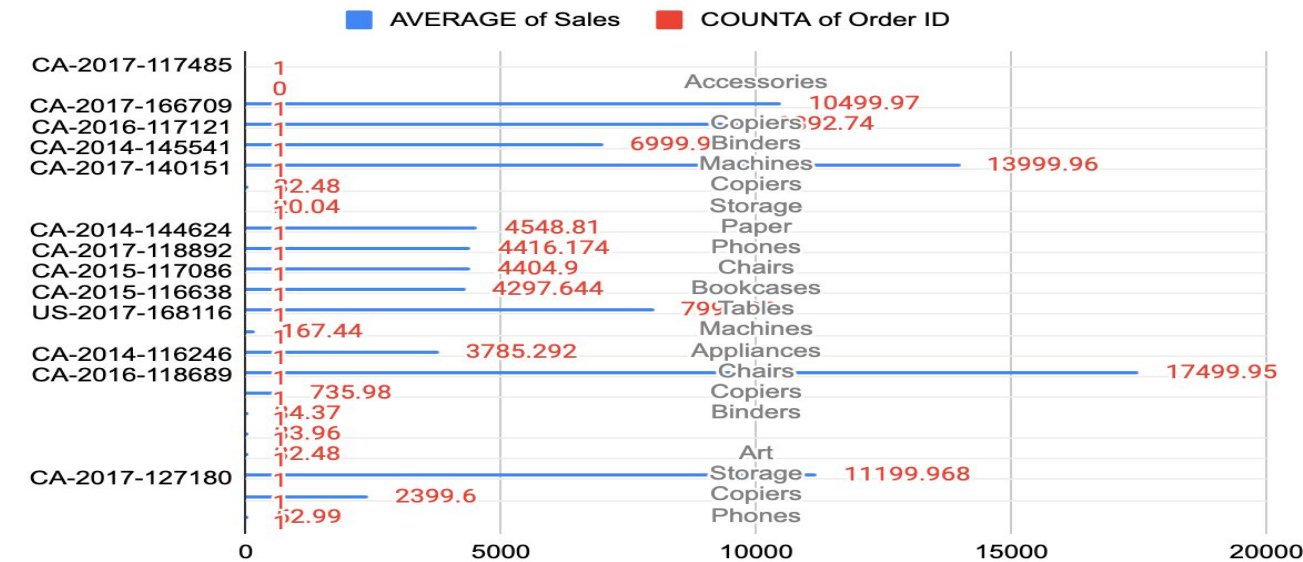
5.4 Most frequently purchased products

Products like Staples are the most frequently purchased, likely because they are low-cost essentials used regularly in offices.

Most frequently purchased products

5.5 Certain products that are commonly purchased together

Tables and Chairs

Papers, Binders, Storage, Machines, Supplies and Copiers

Furnishing and fasteners

5.6 Analysing whether regions show preferences for certain categories

Across regions, Technology products generate the highest revenue, especially in the East and South, despite lower purchase counts showing customers in these areas buy high-value tech items.The West region balances between Furniture and Technology, indicating a mix of corporate and home-office buyers.Office Supplies sell the most in quantity everywhere, but they contribute less to total revenue, We think it's due to lower prices per item.

Analysing how regions show preferences for certain categories

- COUNTA of Quantity
- SUM of Sales

West	Office Supplies	1897 — 220853.249
	Furniture	707 — 252612.7435
	Technology	599 — 251991.832
East	Office Supplies	1712 — 205516.055
	Furniture	601 — 208291.204
	Technology	534 — 264857.197
Central	Office Supplies	1422 — 167026.415
	Furniture	481 — 163797.1638
	Technology	417 — 169306.864
South	Office Supplies	995 — 125651.313
	Furniture	332 — 117298.684
	Technology	291 — 148071.204