



Global Superstore Sales and Product Analysis

Data Analysis and Insights using SQL and Tableau

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Goals for Analysis



Profitability

Analyze the overall profitability of the superstore and trends in different market segments and regions around the world.



Shipping

Calculate the shipping delay in different countries.



Top Products

Find the best-selling products and product sub-categories to optimize supply.

Explored Questions

01

Which regions are the most and least profitable? What are the best-selling products in the US?

02

Which products and product categories are most profitable?

03

Which market segments produce the most sales and profit?

04

How efficient is the shipping process for different shipping classes?

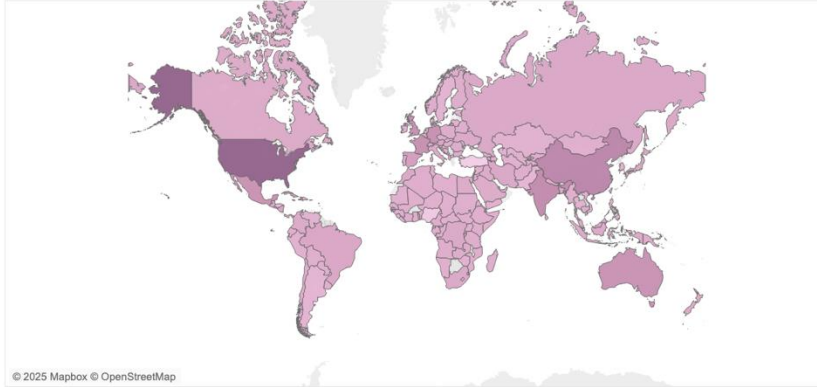
Regional Profitability

Which regions are the most and least profitable?
What are the best-selling products in the US?



Regional Profit Summary

Profit in Each Country



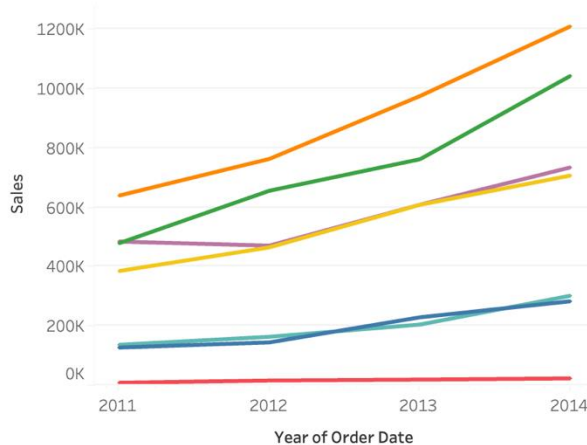
Regional Profit Breakdown

Market	Profit	Sales	Profit Ratio
US	286,397	2,297,201	1,202
EU	372,830	2,938,089	1,102
APAC	436,000	3,585,744	765
LATAM	221,643	2,164,605	637
Canada	17,817	66,928	95
Africa	88,872	783,773	-659
EMEA	43,898	806,161	-710

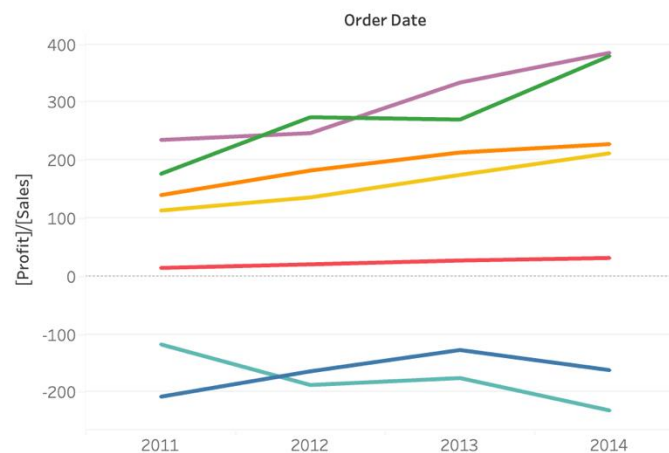
Market

- Africa
- APAC
- Canada
- EMEA
- EU
- LATAM
- US

Sales Trend by Region Over Time



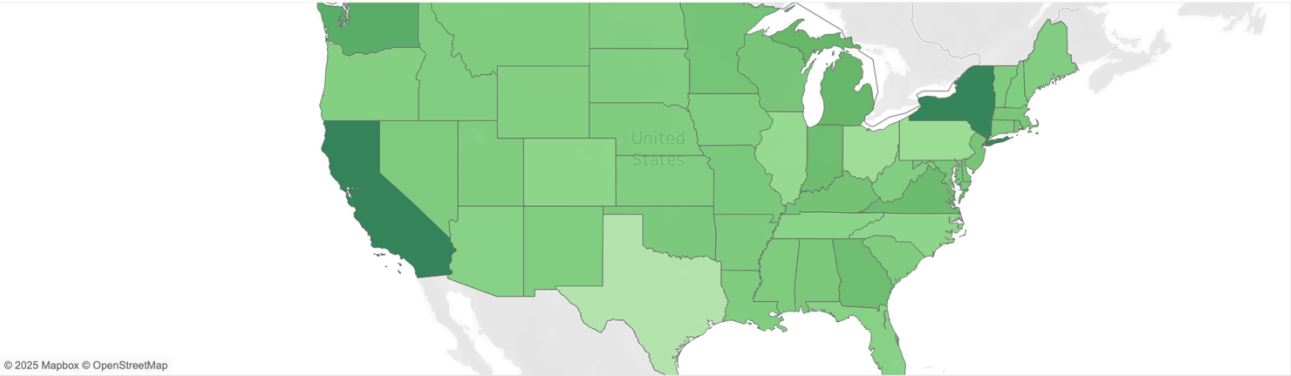
Profit Ratio Trend Over Time



- The United States market has been steadily increasing in profitability since 2012
- The European market increased by a profit ratio of 120 in 2014, while the APAC market slowed down

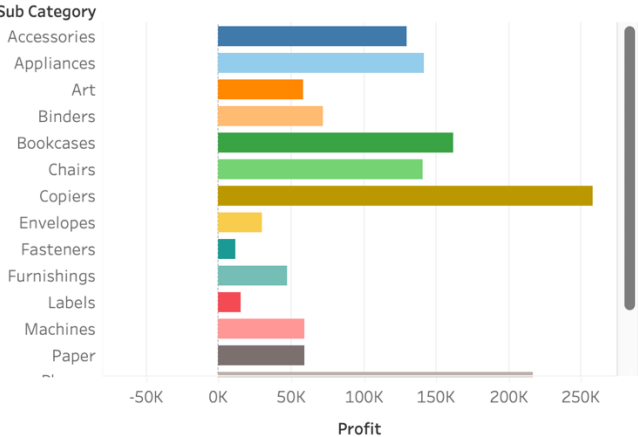
United States Profitability Summary

US States Profitability



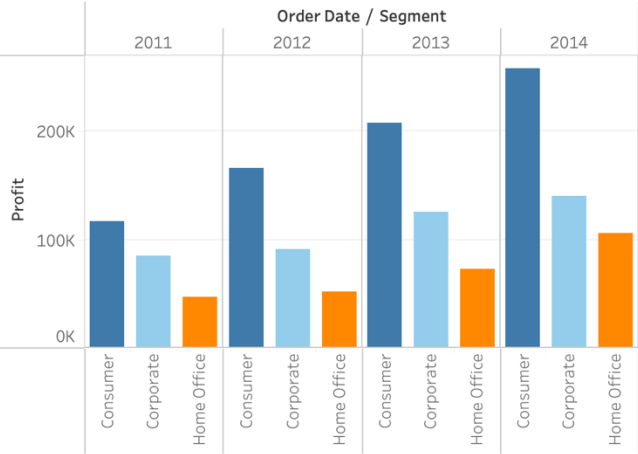
- California and New York are the most profitable, largely due to major contributing cities, New York City and Los Angeles

US Profit by Product Sub-Category



- Copiers is, by far, the most profitable product category

US Yearly Profit by Market Segment



- The Consumer market segment produces the most profit each year

Other Regional Profit Insights

LATAM has a high percentage of customers, but their sales and profit ratio are around average

Market	Percent_of_Customers
APAC	21.451%
LATAM	20.070%
EU	19.497%
US	19.485%
EMEA	9.805%
Africa	8.943%
Canada	0.749%

APAC has the highest percent of profit, yet its profit ratio is third best

Market	Percent_of_Profit
APAC	29.711%
EU	25.407%
US	19.517%
LATAM	15.104%
Africa	6.056%
EMEA	2.991%
Canada	1.214%

New York City and Los Angeles have the most sales, as expected

City	Total_Sales
New York City	256,368
Los Angeles	175,851
Seattle	119,541
San Francisco	112,669
Philadelphia	109,077
Houston	64,505
Chicago	48,540
San Diego	47,521
Jacksonville	44,713
Springfield	43,054
Detroit	42,447
Columbus	38,706
Newark	28,576
Columbia	25,283
Lafayette	25,036
Jackson	24,964
San Antonio	21,844
Burlington	21,668
Arlington	20,215
Dallas	20,132

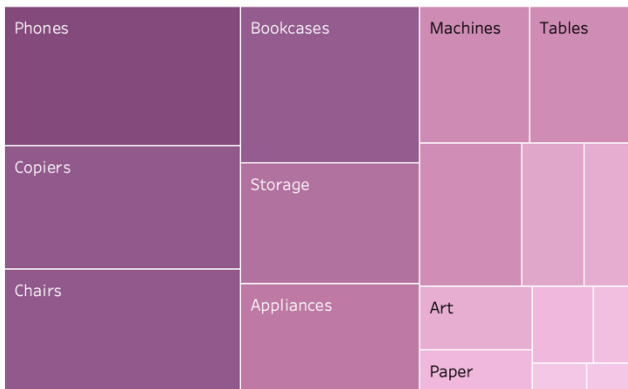
Product Performance

What product category produce the most profit?
Do the best-selling products have the highest profit? How do discounts affect profit?

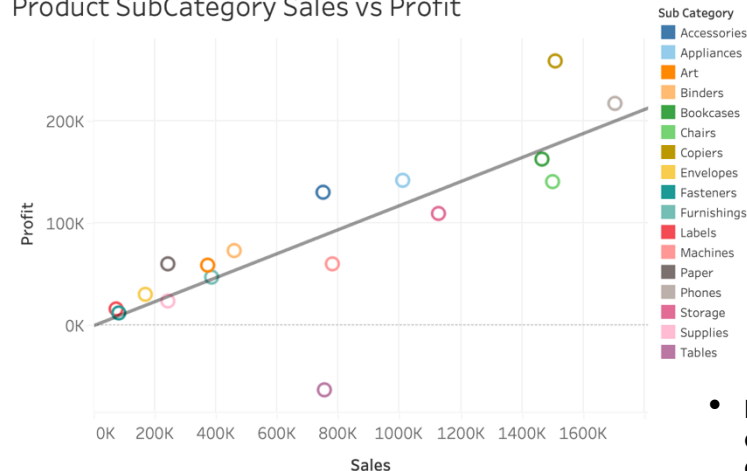


Product Performance Summary

Sales by Sub-Category

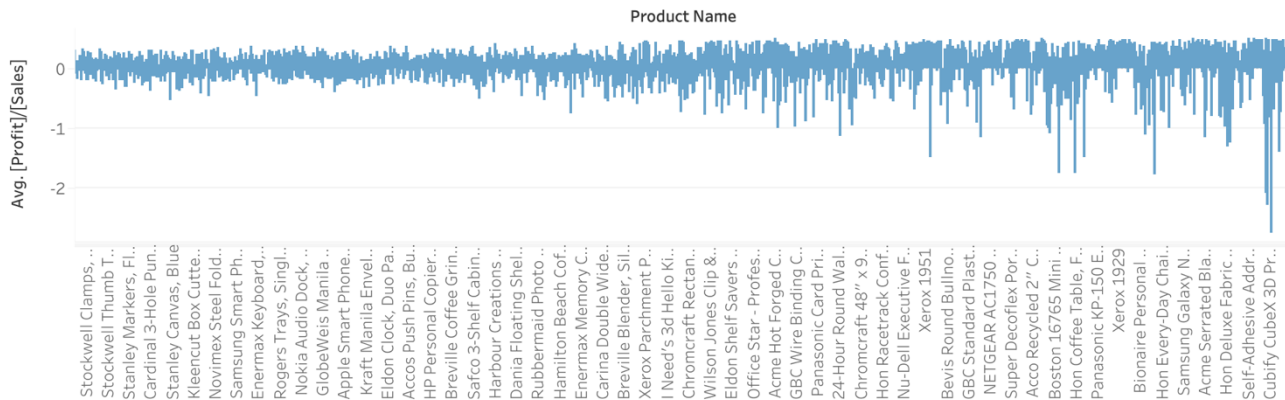


Product SubCategory Sales vs Profit



- Bookcases and chairs are top sellers, but they should be more profitable considering the number of sales they have

Profit Margin per Product



- Phones have the most sales, but copiers are the most profitable
- Although tables accrue almost \$800k in sales, they are the least profitable product category

Other Product Performance Insights

This index tab has highest quantity of sales, likely due to its inexpensive price

Product_Name	Category	SubCategory	Amount_Sold
Cardinal Index Tab, Clear	Office Supplies	Binders	92

The categories with the lower discounts tend to have a higher profit margin

SubCategory	Profit_Margin	Avg_Discount
Paper	0.1968	0.11
Labels	0.1199	0.12
Envelopes	0.0898	0.13
Accessories	0.0871	0.12
Copiers	0.0717	0.12
Art	0.0657	0.12
Fasteners	0.0563	0.14
Furnishings	0.0544	0.15
Supplies	0.0435	0.13
Phones	0.0421	0.15
Chairs	0.0248	0.16
Bookcases	0.0149	0.15
Storage	0.0130	0.14
Tables	-0.2420	0.29
Machines	-0.0435	0.17
Appliances	-0.0018	0.14
Binders	-0.0013	0.18

The Canon copier brings in the most profit by a wide margin. Phones are also highly profitable

Product_Name	Total_Profit
Canon imageCLASS 2200 Advanced Copier	\$15,679.96
Cisco Smart Phone, Full Size	\$7,262.35
Motorola Smart Phone, Full Size	\$6,307.56
Hoover Stove, Red	\$5,123.23
Sauder Classic Bookcase, Traditional	\$4,937.97
Apple Smart Phone, Cordless	\$4,606.24
Canon Wireless Fax, Laser	\$4,241.14
Cisco Smart Phone, with Caller ID	\$3,803.08
Hewlett Wireless Fax, High-Speed	\$3,626.07
Hewlett Packard LaserJet 3310 Copier	\$3,623.94

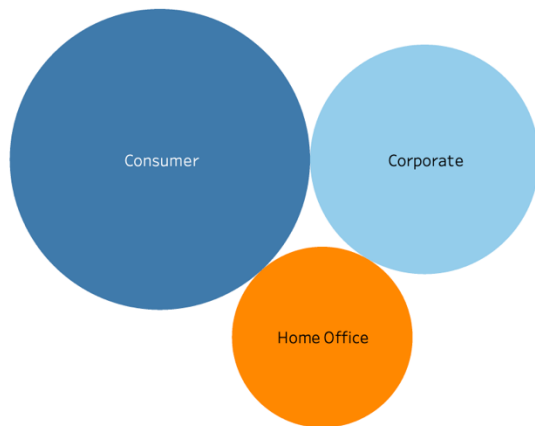
Customer Segment Analysis

What segments are most profitable? Which products sell the best in each segment?



Customer Segment Analysis

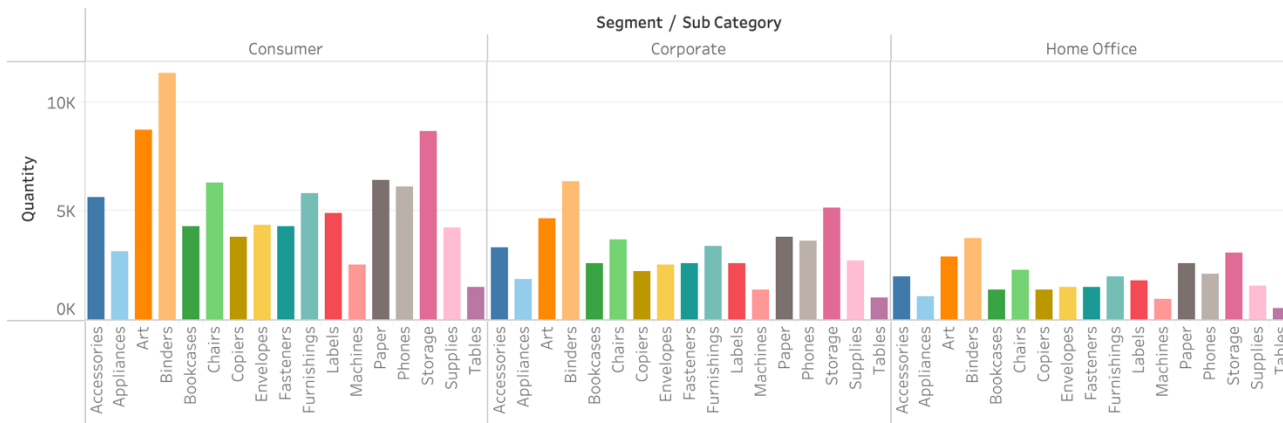
Size of Each Market Segment (customer count)



Profit and Sales by Segment

Segment	Profit	Sales	[Profit]/[Sales]
Consumer	749,240	6,507,949	1,232
Corporate	441,208	3,824,698	707
Home Office	277,009	2,309,855	494

Most Popular Product Categories by Segment



- The consumer market segment has the most customers

- Binders are the most frequently purchased item in terms of quantity. Due to its cheap price, they produce low amounts of sales and profit

- The consumer market segment produces the most profit, sales, and thus the highest profit ratio

Other Customer Segment Insights

Consumer continues to be the most profitable market segment year after year.

Segment	OrderYear	Total_Profit
Consumer	2011	\$117,337.49
Corporate	2011	\$84,746.94
Home Office	2011	\$46,856.38
Consumer	2012	\$165,799.19
Corporate	2012	\$90,556.70
Home Office	2012	\$51,059.39
Consumer	2013	\$208,427.73
Corporate	2013	\$125,707.94
Home Office	2013	\$72,799.56
Consumer	2014	\$257,675.36
Home Office	2014	\$106,293.85
Corporate	2014	\$140,196.75

Home Office has the highest profit margin because it doesn't offer large discounts

Segment	Profit_Margin	Avg_Discount
Home Office	0.0529	0.1409
Consumer	0.0464	0.1436
Corporate	0.0458	0.1429

Although Consumer is the most profitable market segment, Corporate brings in more revenue per order

Segment	Avg_Order_Value
Corporate	\$247.89
Home Office	\$247.23
Consumer	\$245.42

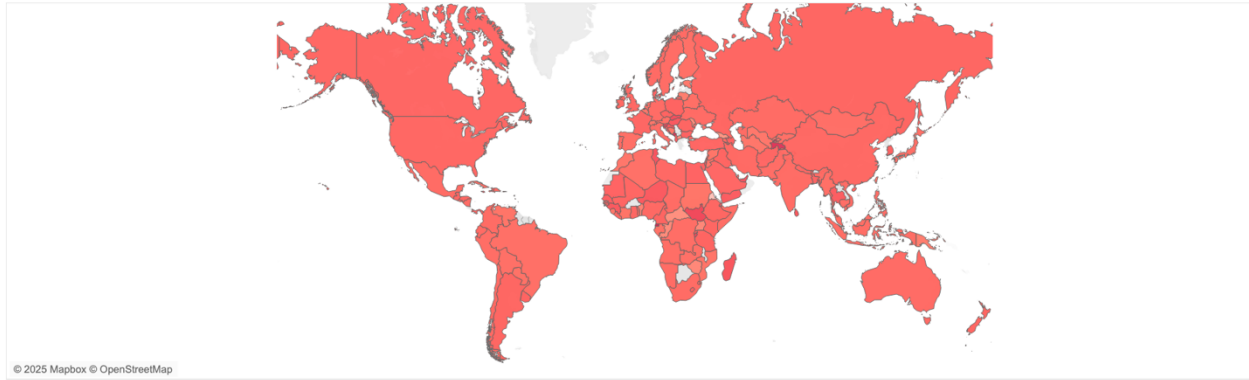
Shipping Delay Analysis

Which countries and regions have the longest shipping delays? Are there any products that have longer delays than others?

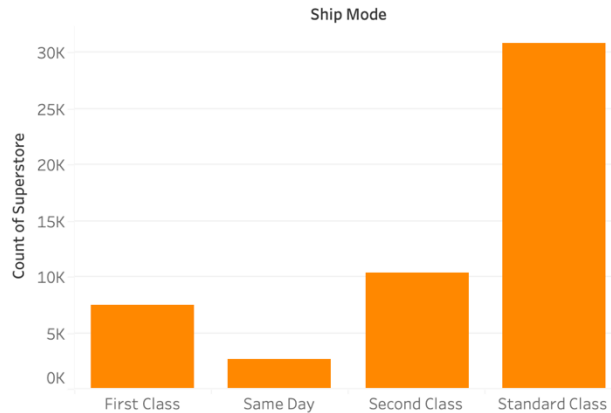


Shipping Delay Summary

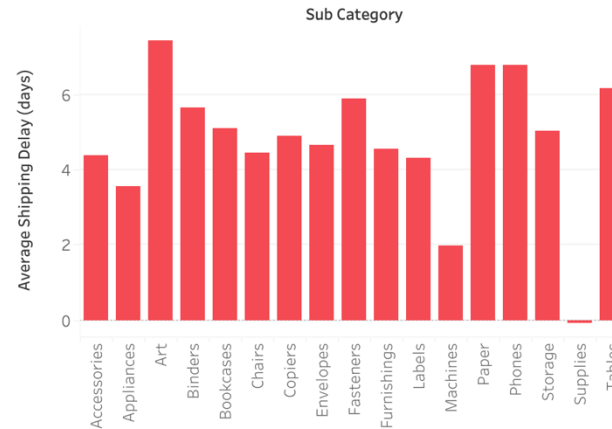
Longest Shipping Times by Country



Most Common Shipping Modes



Average Shipping Delay by SubCategory



- Art has the longest shipping delay possibly due to its unique items and special shipping requirements

- The Asia-Pacific region tends to have the lowest shipping times. The US and Europe generally ship products quickly too
- Most customers use standard class shipping

Other Shipping Delay Insights

Shipping delay decreased sharply in 2013, but noticeably increased again in 2014

OrderYear	Shipping_Delay
2011	6.48 days
2012	6.34 days
2013	3.01 days
2014	5.20 days

Low priority orders generate the least profit as their shipping delays are the longest

Order_Priority	Profit	LongDelay_Percentage
Medium	\$1,368,676.88	31.58%
Low	\$102,013.91	47.87%
High	\$705,663.74	28.67%
Critical	\$192,333.62	28.28%

Europe struggles the most with shipping products on time (within a week)

Market	percentage_ontime
Canada	60.16%
Africa	53.70%
EMEA	52.79%
APAC	52.70%
US	52.62%
LATAM	52.43%
EU	51.39%



Takeaways and Recommendations

Takeaways and Recommendations

Discounting is Decreasing Profit

The corporate and consumer market segments have higher discounts, on average, than the home office segment. If discounting is slightly decreased, the consumer and corporate segments will be more profitable.

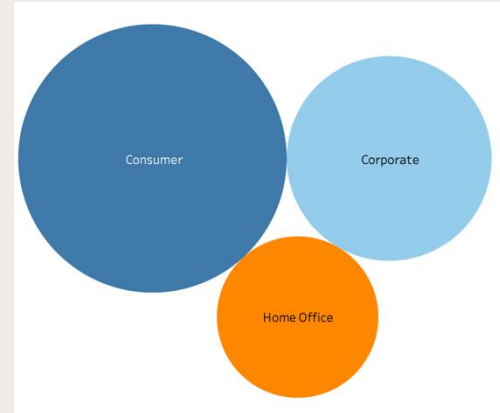
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Offer Loyalty Bundles

The home office market segment has the highest profit margin per product, but it is the smallest market segment, thus having the lowest quantity of orders. Offering loyalty bundles and other promotions will increase the number of orders, which in turn, will increase total profit from the segment.

Customer Count:

Consumer: 818
Corporate: 476
Home Office: 296



Takeaways and Recommendations

Profit is Concentrated

Copiers and phones make up a large amount of profit for the superstore. These product groups should see increased marketing and inventory levels to maximize total revenue.

SubCategory	Total_Profit	Percent_of_Profit
Copiers	\$258,567.55	17.620%
Phones	\$216,717.01	14.768%
Bookcases	\$161,924.42	11.034%
Appliances	\$141,680.59	9.655%
Chairs	\$140,396.27	9.567%
Accessories	\$129,626.31	8.833%
Storage	\$108,461.49	7.391%
Binders	\$72,449.85	4.937%
Paper	\$59,207.68	4.035%
Machines	\$58,867.87	4.012%
Art	\$57,953.91	3.949%
Furnishings	\$46,967.43	3.201%
Envelopes	\$29,601.12	2.017%
Supplies	\$22,583.26	1.539%
Labels	\$15,010.51	1.023%
Fasteners	\$11,525.42	0.785%
Tables	\$-64,083.39	-4.367%

Low Profit Products

Fasteners, labels and supplies are producing under 2% of total profit for the superstore. Reduce discounts or hold less inventory for these product groups. Tables are losing money for the superstore, so severely cutting discounts or discontinuing the product group should be considered.

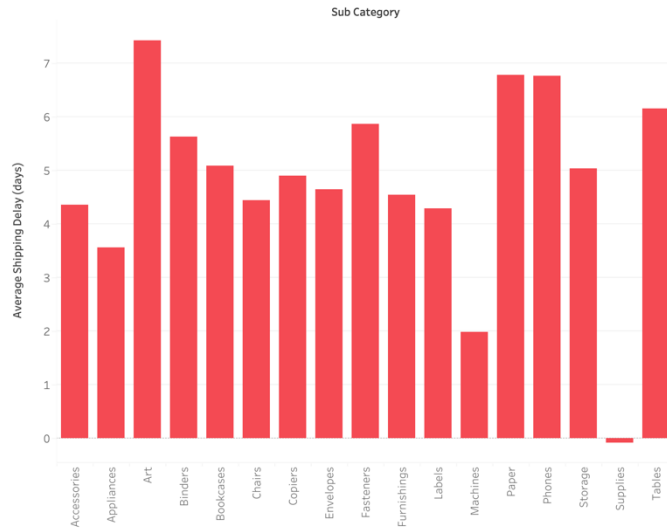
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Takeaways and Recommendations

Long Shipping Delays

Art, Paper, and Phone categories have the longest shipping delays. Warehousing and stock levels should be investigated. Consider using 3PLs and regional stock options.

Average Shipping Delay by SubCategory



Additional Links

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