

Story Draft

Summary of Returns Analysis	Sales&Returns Correlation	Return Rate by Category	Return Rate by Customer	Return Rate by State	Return Rate by Time Periods	Return Rate by Category over Month	Return Rate by category over state	Demonstration of Dashboard 1	Demonstration of Dashboard 2	Conclusion
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-The Project is to prepare an analysis of the Superstore to arrive at the root cause of the high returns of the orders placed and how to reduce the volume of the orders returned.

-Returns can be measured by Return rate, Total number of Returns and Total Cost of Returns.

-However I have considered Return rate for my analysis as it measures the frequency of returns precisely which inturn is helpful in understanding the quality of the product and customer service, which is the main aspect of the analysis.

-Total number of returns as a measure is useful if the data is smaller as it can provide simple count of the returns.

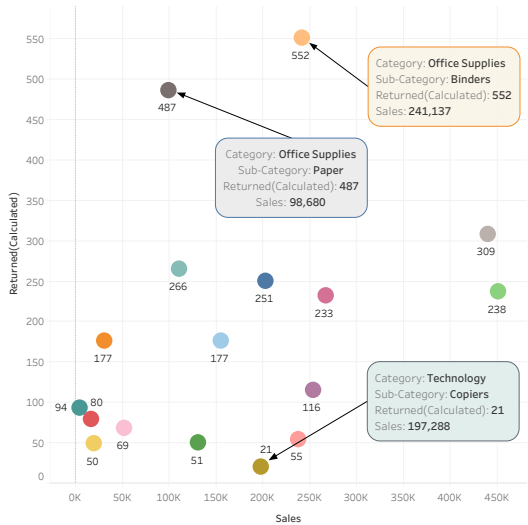
-Total Cost of returns is an important measure to asses the financial impact on the business but considering the limitations of the data provided it was not a best idea to consider this measure for the analysis.

Root Cause of Retuns:

Several factors are to be taken into consideration for the highest return rate. But the most relevent ones according to my analysis are Category,Geographycal, and Time period. Detailed visualization is shown to prove the point in the next several worksheets.

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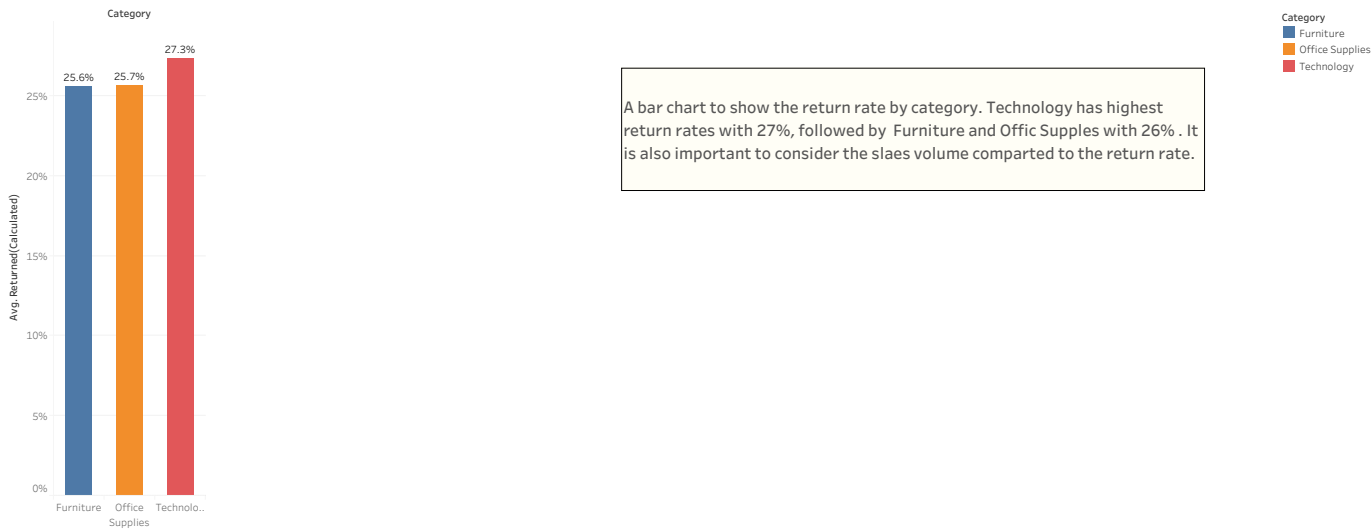


Here is a scatterpolt which shows the correlation between sales and returns, aggregated by product sub-category. At a glance one might find high returns with higehr number of sales. However there are some outliers where the returns are higher compared to sales volume for example "Paper". For sub-category "Copiers", return rate is very minimum in comparision with the sales volume(check Annotations). Returns not necessacerily correlates with sales all the time.

Category	All
Sub-Category	All
Sub-Category	Accessories
Sub-Category	Appliances
Sub-Category	Art
Sub-Category	Binders
Sub-Category	Bookcases
Sub-Category	Chairs
Sub-Category	Copiers
Sub-Category	Envelopes
Sub-Category	Fasteners
Sub-Category	Furnishings
Sub-Category	Labels
Sub-Category	Machines
Sub-Category	Paper
Sub-Category	Phones
Sub-Category	Storage
Sub-Category	Supplies
Sub-Category	Tables

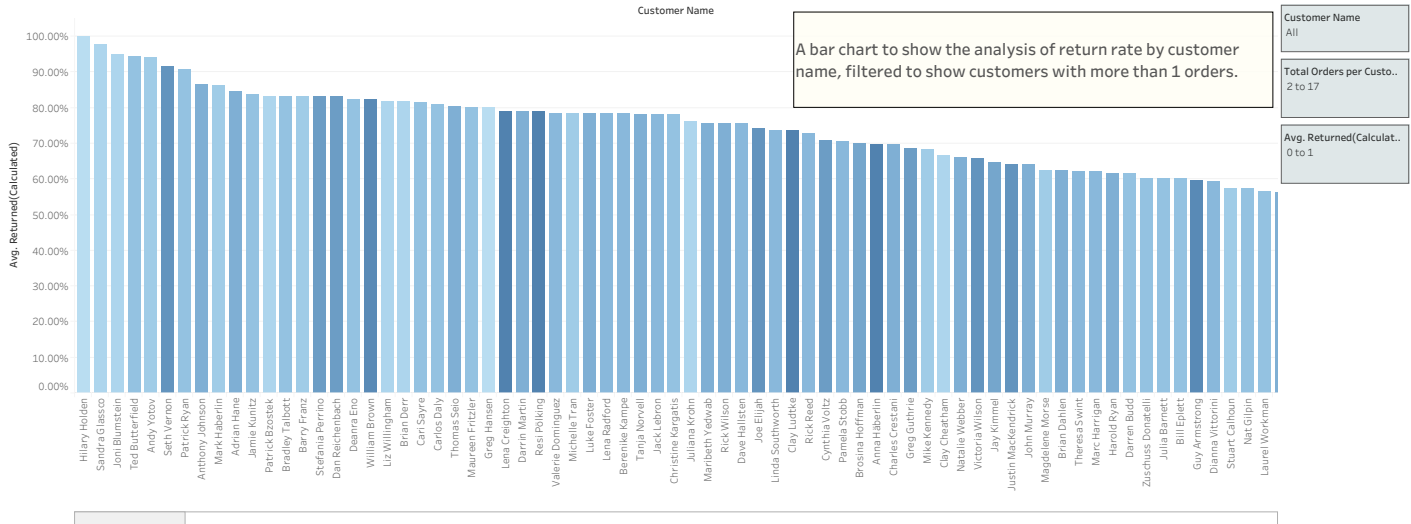
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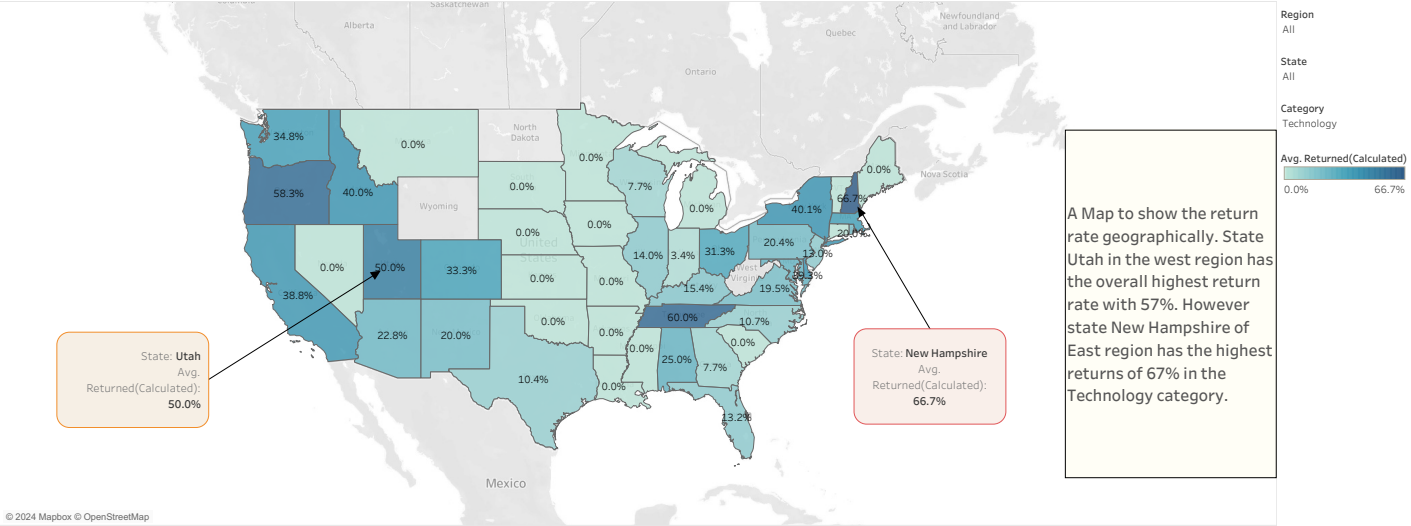
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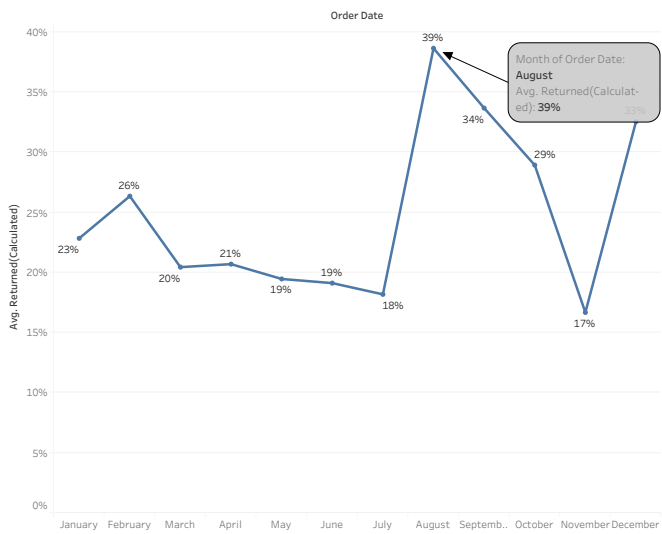
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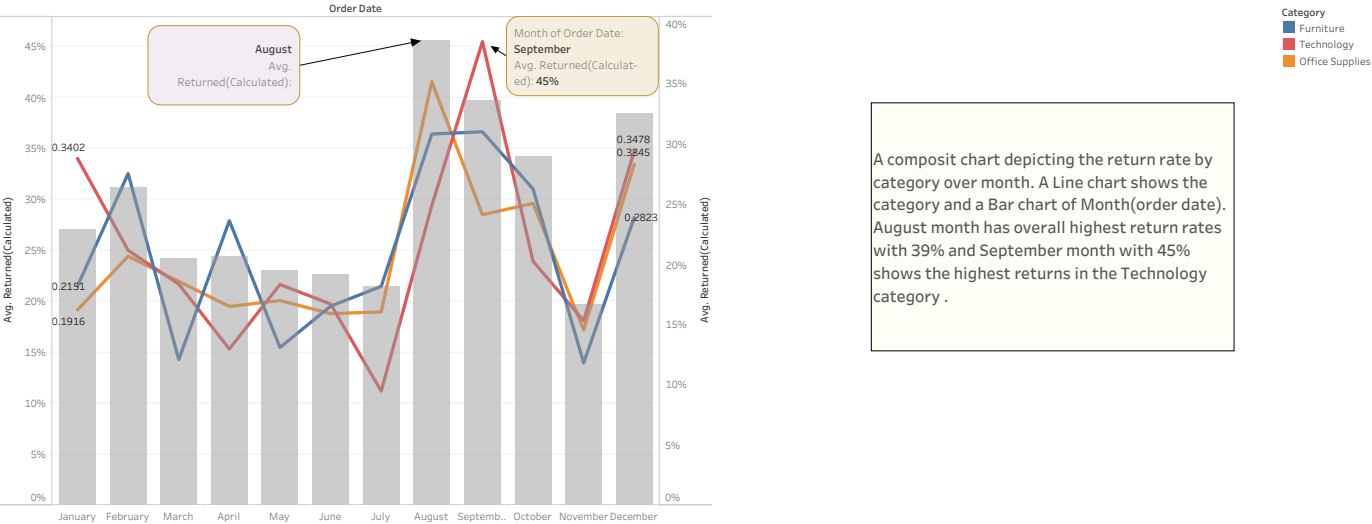
Avg. Returned(Calculated)
0 to 1

Month of Order Date
All

A Line chart representaion of return rate by Month(Order date). Noticable changes in return rates throughout the year with high peaks during August, September and December.

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State	Category		
	Furniture	Office Su...	Technolo...
Utah	40.0%	60.3%	50.0%
California	45.4%	46.8%	38.8%
Oregon	29.6%	42.5%	58.3%
Tennessee	31.1%	35.4%	60.0%
Colorado	29.2%	40.4%	33.3%
Mississippi	0.0%	47.2%	0.0%
Massachusetts	24.4%	37.1%	34.6%
Washington	31.7%	33.8%	34.8%
New York	29.1%	22.5%	40.1%
New Hampshire	37.5%	0.0%	66.7%
Arizona	20.7%	29.6%	22.8%
Delaware	10.5%	24.6%	39.3%
Montana	0.0%	33.3%	0.0%
Ohio	23.7%	18.2%	31.3%
Maryland	28.6%	16.7%	25.0%
Idaho	28.6%	0.0%	40.0%
Wisconsin	16.7%	19.4%	7.7%
North Carolina	16.7%	14.7%	10.7%
Oklahoma	0.0%	23.3%	0.0%
Texas	6.7%	16.4%	10.4%
Illinois	9.0%	14.8%	14.0%
New Mexico	25.0%	8.0%	20.0%
Pennsylvania	16.1%	8.2%	20.4%
Georgia	24.3%	9.8%	7.7%
Florida	12.6%	9.3%	13.2%
Michigan	3.9%	15.3%	0.0%
Kentucky	22.2%	4.5%	15.4%
Virginia	21.7%	1.5%	19.5%
Rhode Island	11.8%	0.0%	20.0%

A composit chart to represent the return rate by category over State. Utah shows high return rate in overall category segment, where as New Hampshire has high return rate in the Technology category followed by Tennessee and Oregon.

Category
All

State
All

Avg. Returned(Calculated)
0.0% 66.7%

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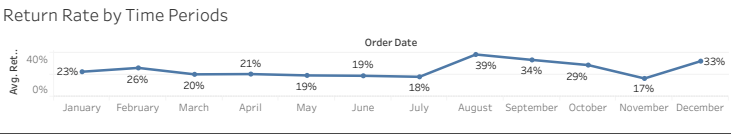
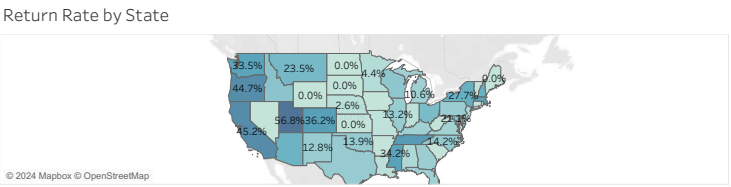
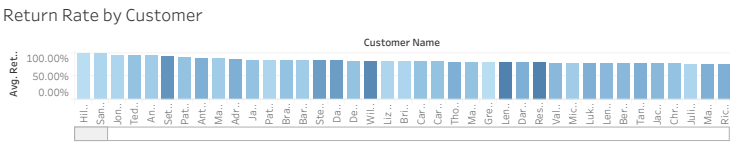
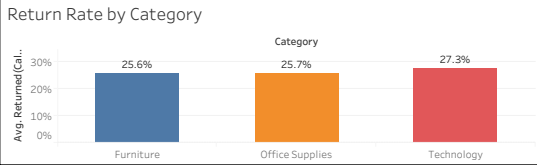
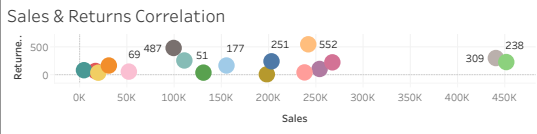
Dashboard 1 : Returns Analysis

The visualizations are to understand the different causes of the returns.

- Scatt Plot: Sales & Returns Correlation(Top Left)
- Bar Chart: Return rate by Category(Bottom Left)
- Bar Chart: Return rate by Customer(Top Right)
- Map: Return rate by State(Middle Right)
- Line Chart: Return rate by Time Period(Bottom Right)

Filters: Average returned(calculated) field with colour highlight is shown.

Category, sub-category, State and Month of order date single dropdown filters to show specific insights into each dimension.



Avg. Returned(Calculated)

0.0% 56.8%

Category

All

Sub-Category

All

State

All

Month of Order Date

All

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Dashboard 2 : Composite Charts

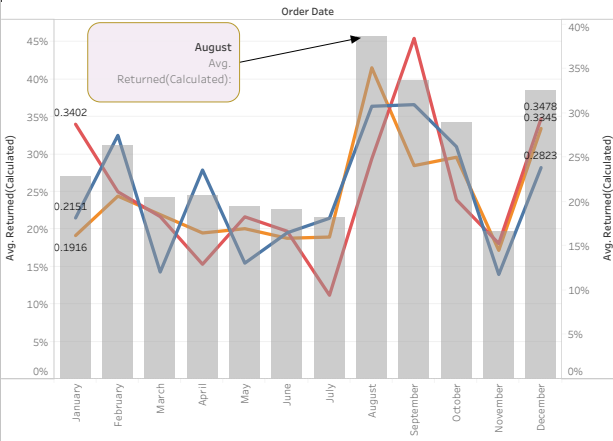
Two composite chartas were created to depict the analysis.

1. Return rate by Category over Month(Order date): A Line chart of Category which includes Furniture, Technology and Office Supplies. A Bar chart of all the months.

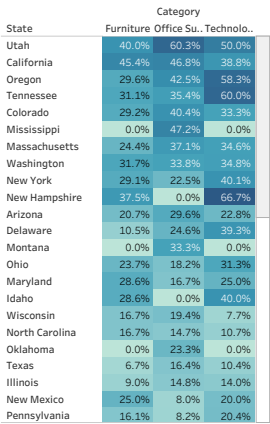
2. Return rate by Category over State: A Square area chart with Highlight table is easy to determine the data points by contrasting colour from light to dark representing the lowest to highest return rates by category across all the states.

Filters were shown at the right corner of the dashboard, which provides easy insights into the analysis by focusing on the single view of the data or by excluding data from the view.

Return Rate by Category over Month(Order Date)



Return Rate by State/Category



Category

- Furniture
- Technology
- Office Supplies

Avg. Returned(Calculated)

0.0% 66.7%

State

All

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Conclusion:
With the demonstraion of the dashboard analysis we can come to a conclusion that the root cause of returns can be contributed by many factors like Category, location, time period and customers, etc.

Suggestions:
After identifying the root cause of the returns, it is important to look into each factor closely to reduce the returns which inturn hellps to increase the profits of the superstore.
Here are a few suggestions to consider
*The main reasons for high returns could be poor quality of the producs.
*Collaborating with vendors to ensure no compromise on the quality of the products.
*Accurate website description of the products also plays major role. Transparency is very important for customers to build trust.
*Building brand based on customer satisfaction will help in long run.
*Discontinuing products with 100% returns across the states should be taken into consideration.
*Regional product preferences should be taken into consideraion to reduce the return rates.
*Further research into the analysis based on month factor would be helpful to reduce returns during that time period.
*Restricted time frame of the returns can be taken into consideration.
*Conducting serveys provides pulse of the customer.