# Final Analysis



Superstore is currently suffering from a high number and rate of returns.

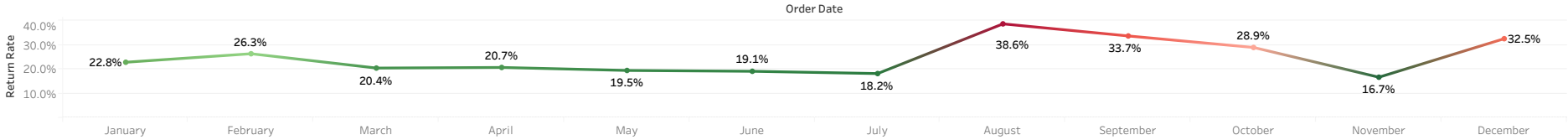
The key contributing factors to these returns are:

1. Increased returns in the late summer ("Back to School") season.
2. Increased returns in the western region of the country.
3. Increased returns from potentially faulty Technology.

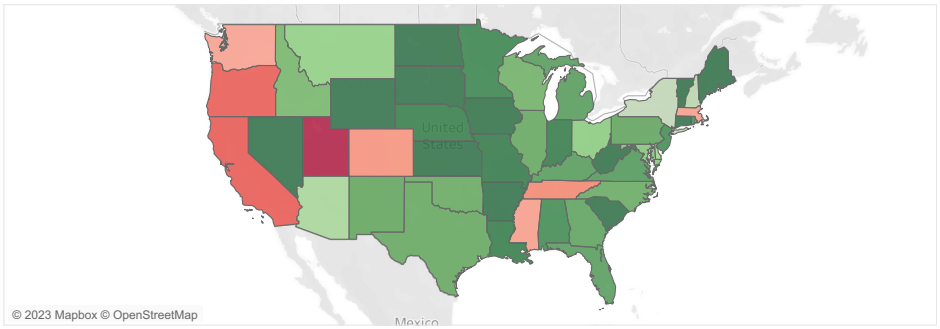
The following analysis will dive into the root causes behind these factors and suggest a plan of action for Superstore moving forward to mitigate these risks to their business.

Please refer to the full dashboard for this presentation here: https://public.tableau.com/views/SuperstoreReturnRateAnalysis/SuperstoreReturnRateAnalysisPt_1?:language=en-US&:display_count=n&:origin=viz_share_link

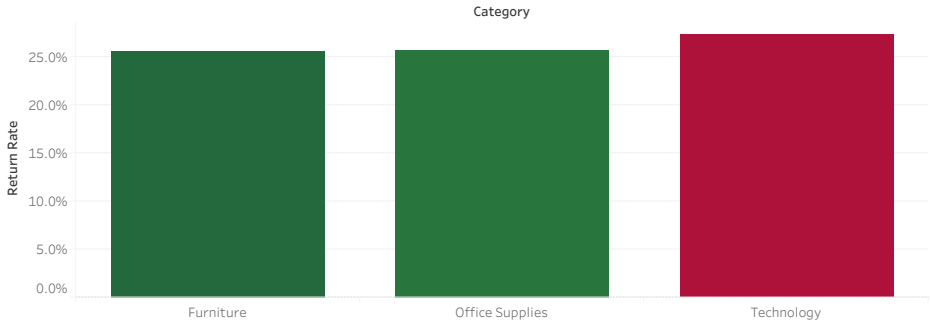
## (2.5) Return Rate by Month




## (2.4) Return Rate by State




## (2.2) Return Rate by Category



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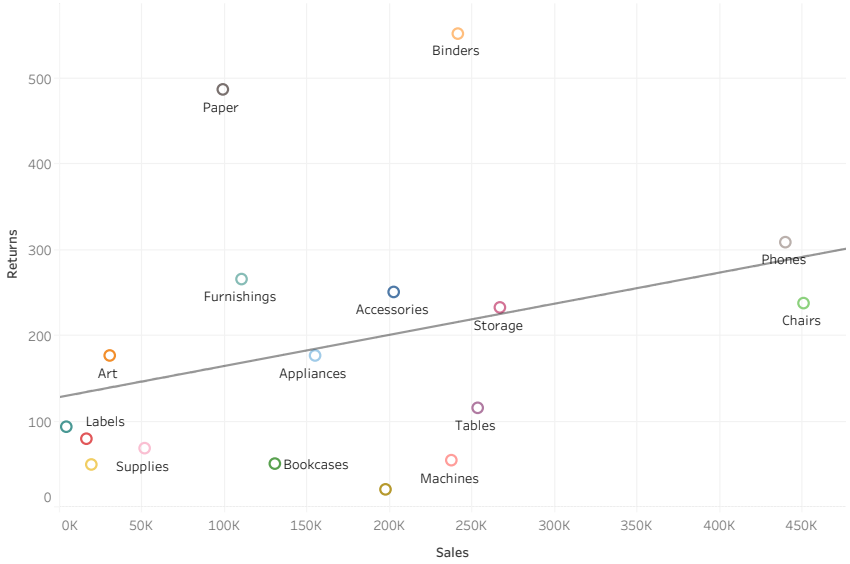
Returns can be measured in different ways, each of which has their place.

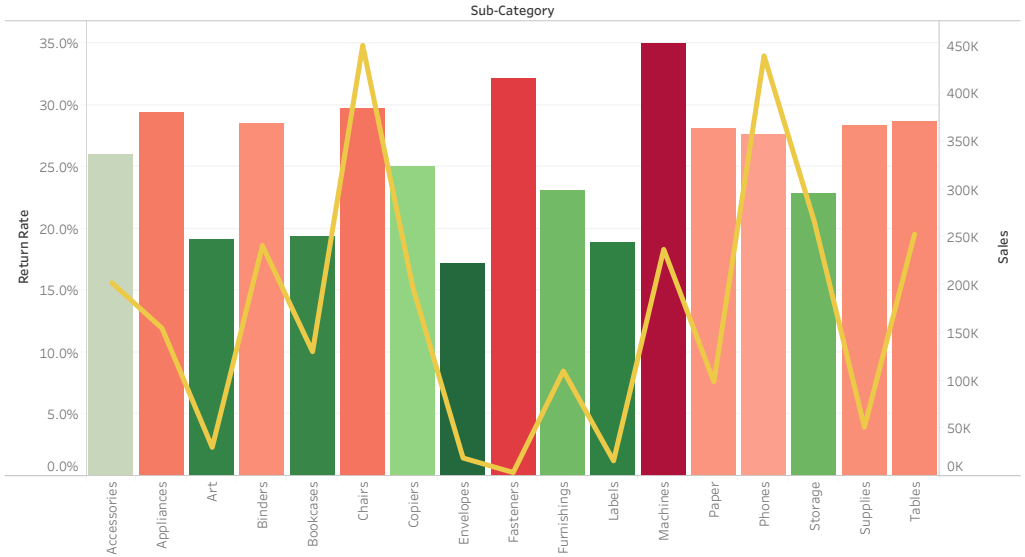
1. *Total cost of returns* can give insight into the overall health of the business through the financial impact of returned items, but doesn't clearly reveal how many returns are being processed.
2. *Total number of returns* can show the true volume of returned items, but doesn't specify how that number relates to the total sales being processed, too.
3. *Return rate* models the percentage of returns in relation to the number of orders, but can be skewed by outliers in the number of orders (particularly, very low order numbers).

The following analysis generally utilizes the *return rate* as the preferred metric of analysis because allows for comparisons between many different variables that are potentially contributing to high returns.

## (2.1) Total Sales vs Total Returns




## (2.6c) Return Rate and Total Sales by Subcategory



# Final Analysis



## (2.1) Total Sales vs Total Returns

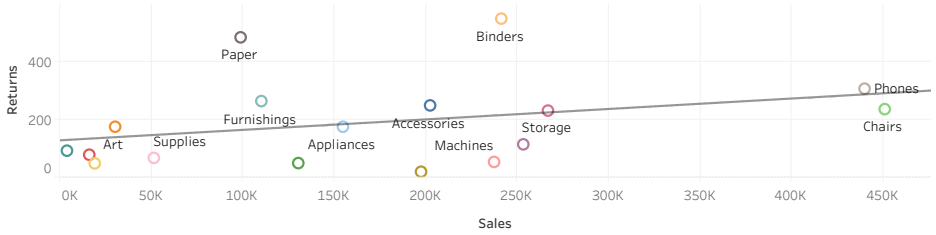



Chart (2.1) is a scatterplot comparing total sales against total returns for each subcategory. This chart shows that there is a slight but imprecise correlation between sales and returns. While the trendline is generally positive, it is not a reliable metric.

## (2.2) Return Rate by Category

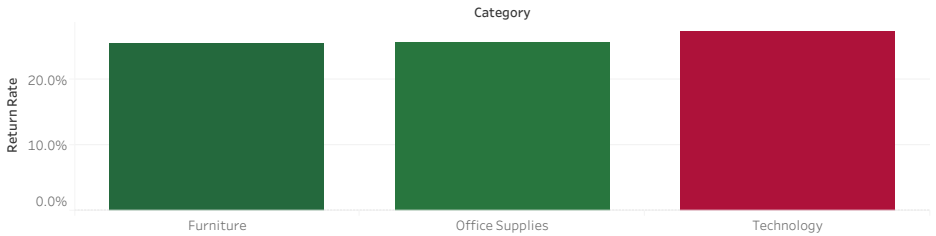



Chart (2.2) is a bar chart showing return rate by product category. This chart reveals little correlation between the two variables, but there is a slight uptick in returns for the Technology category, which will be explored further.

## (2.5) Return Rate by Month

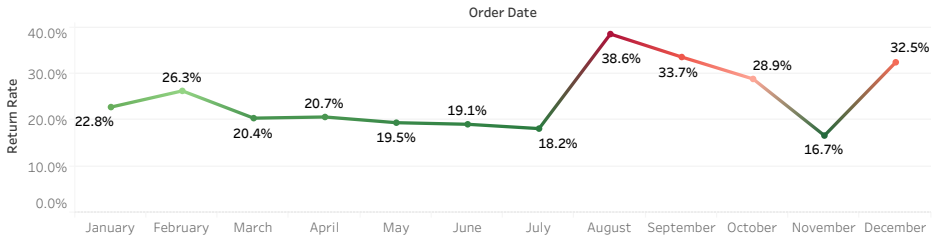



Chart (2.5) is a line chart showing the return rate by month of order date. This chart clearly lays out a spike in returns during the "Back to School" and holiday seasons, with the first half of the year having a nearly constant 21% return rate, and the back half a stunning 30% return rate.

# Final Analysis



## (2.3) Return Rate by Customer


Chart (2.3) is a bar chart showing the return rate by customer. Customers with only one order were filtered from the chart to reduce the number of outliers. This chart reveals that there are a few customers with a wildly high rate of return, with the average for the top 50 being about 80% (far and away above the overall average of about 20%). Despite this, the return rate by customer doesn't reveal any possible improvements Superstore could make, as these values are idiosyncratic to each individual customer.

## (2.4) Return Rate by State

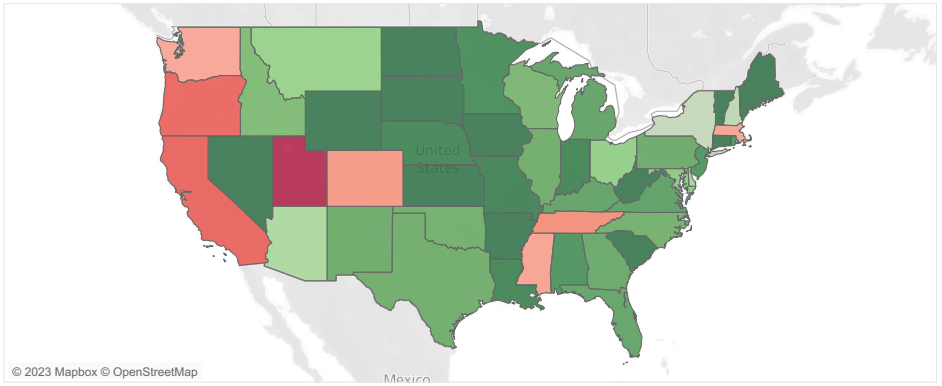



Chart (2.4) is a map chart showing the return rate by state. This chart shows that the central, southern, and eastern regions of the country have fairly low return rates (about 16% overall) while the western region has an alarmingly high return rate (about 41%!).

# Final Analysis



## (2.6a) Return Rate and Total Sales by Month

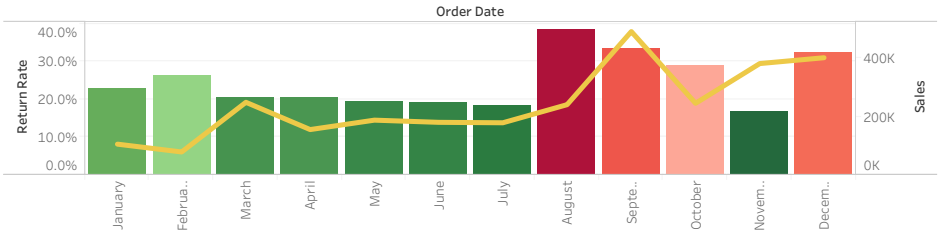



Chart (2.6a) is a composite chart, comprised of a bar chart showing the return rate by order month and a line chart showing the total sales by order month. This chart reveals a strong correlation between sales and returns over the course of the year, with increased activity for both sales and returns in the later half of the year.

## (2.6b) Return Rate and Total Sales by Region

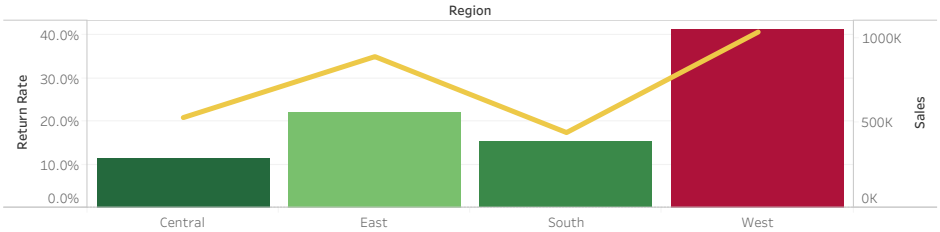



Chart (2.6b) is a composite chart, comprised of a bar chart showing the return rate by region of the country and a line chart showing the total sales by region. This chart shows a strong correlation between sales and returns based on the order region, with the highest of both sales and returns in the western region of the country.

## (2.6c) Return Rate and Total Sales by Subcategory

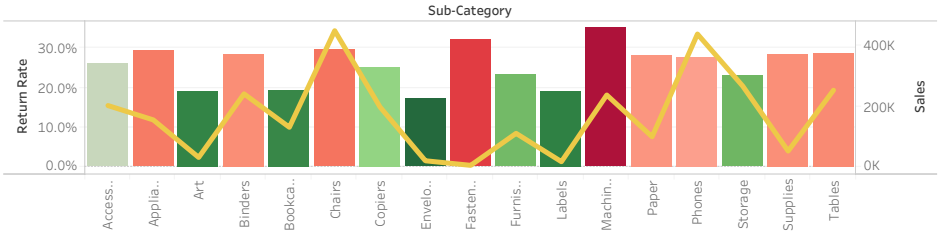
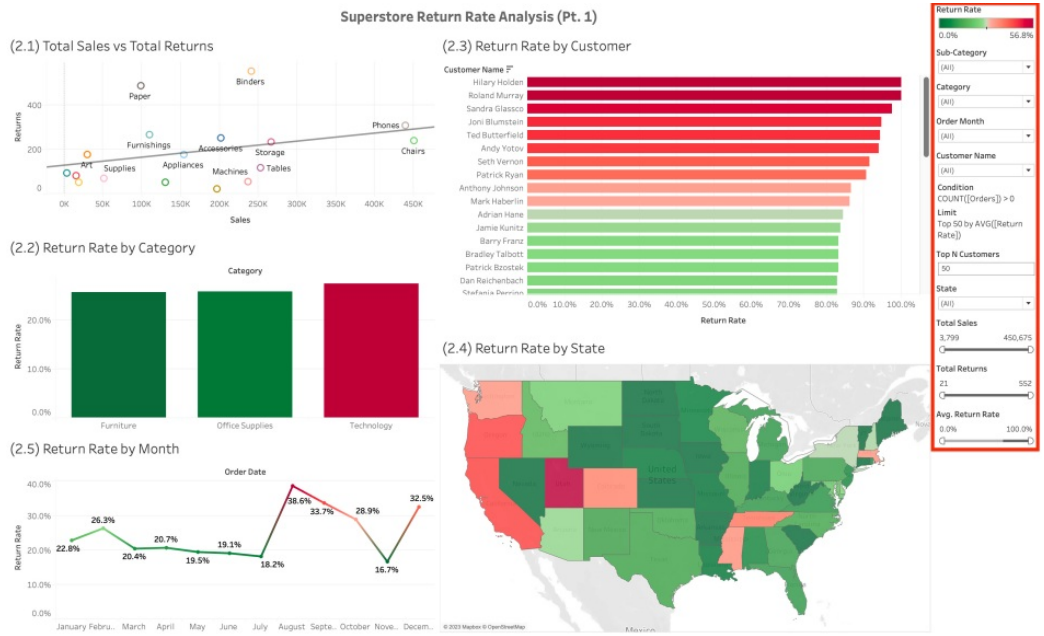



Chart (2.6c) is a composite chart, comprised of a bar chart showing the return rate by product subcategory and a line chart showing the total sales by subcategory. This chart shows a light, but not overly-conclusive, correlation between sales and returns based on the subcategory, but does reveal a disparity for the top two returned subcategories (machines and fasteners). The relatively low sales compared to returns for those categories show there must be something wrong with those products that should be looked into.

# Final Analysis






Please refer to the full dashboard here: https://public.tableau.com/views/SuperstoreReturnRateAnalysis/SuperstoreReturnRateAnalysisPt_1?:language=en-US&:display_count=n&:origin=viz_share_link

Using the dashboard in this workbook to extract conclusions about Superstore's return rate issues is as simple as narrowing the scope of the data with the filters shown above, highlighted in a red box. Each filter (except for the "Customer Name" filter) is configured to affect each chart in the dashboard, so you can find detailed information about the sales and returns of each subcategory, category, order month, and order state. The "Top N Customers" parameter also allows for seeing a different number of customers with the most returns, e.g. the top 10 or the top 200. It's set to top 50 by default.

# Final Analysis



Now that the root causes for Superstore's return rate issues have been found, the next steps to take involve digging deeper into each root cause and taking some action to resolve the issues.

1. Pay extra mind to all of the customers in the West region. Try sending out customer surveys after they place orders to see if there's anything that can be improved with the western Superstores.

2. The back-to-school and holiday seasons are extra busy times for Superstore, so employees may need extra assistance and guidance during these times to ensure mistakes that result in returns stop happening as often.

3. Drill down into the products within the Technology category, and particularly within the Machines subcategory. There must be certain products that are frequently breaking or becoming defective within a short period of time. Consider discontinuing sale of those products.