

Retruns Story

Summary	Relationship between total sales and total returns	R ..
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This presentation aims at studying the root causes of superstore returns through addressing the following questions :

- What is the relationship between total sales and total returns.
- Which category has the highest return rates and which subcategory that causes that high return rate in each category.
- How does return rate change across months and weeks.
- Is there a particulare day that has a peak of return.
- Which state that causes the highest return rate and in which category.

The presentation also includes appendix that shows returns per customer.

During this study we used two measures to understand the return rates :-

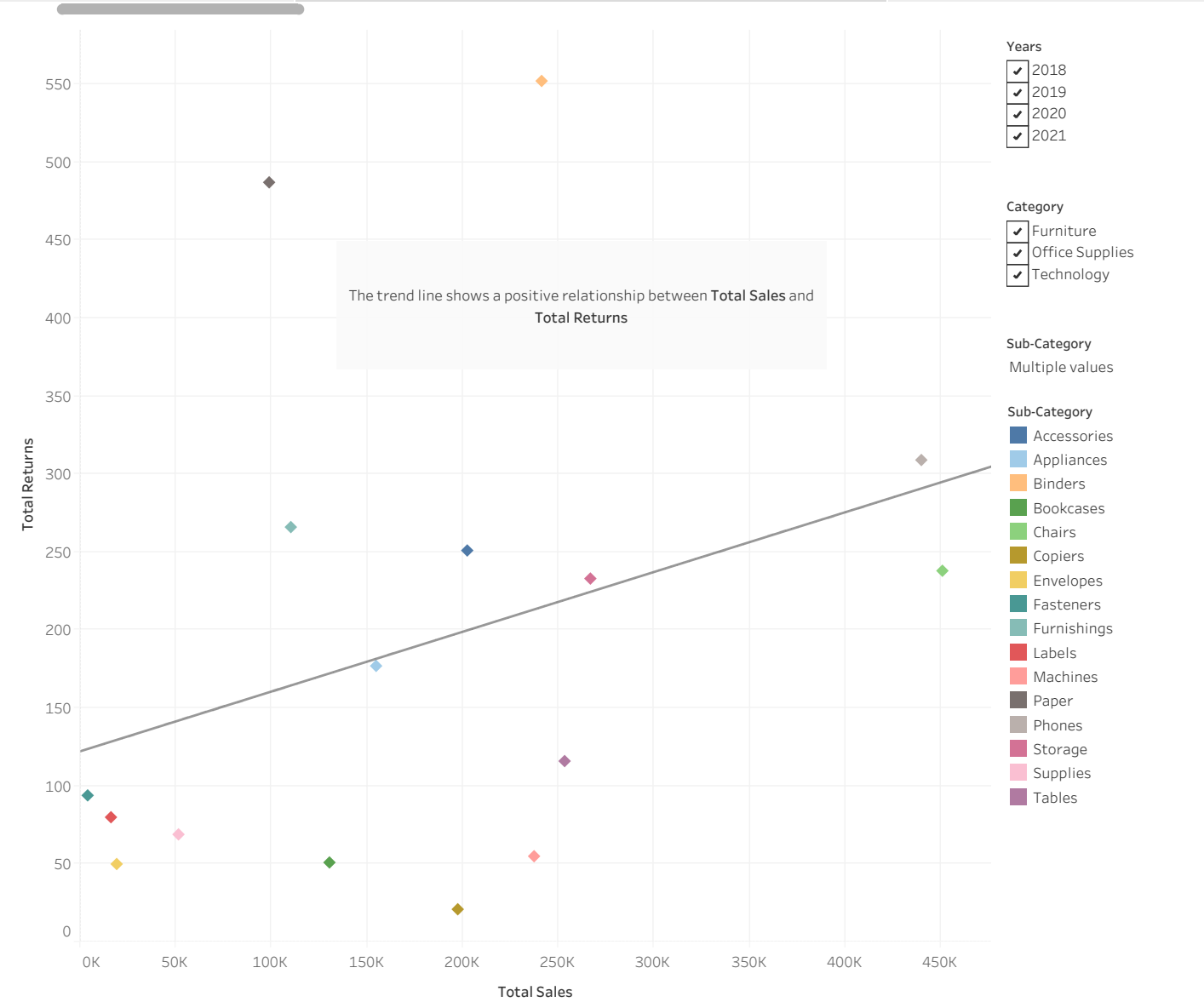
- 1- Total returns.
- 2- Avergare returns " Return Rate"

The category, sub-category and years dropdown filter provides the ability to filter to segment by any combination of the three filters.

After studying the **return rates** to figure out what are the root cuases of returns we were able to highlight the following:

- 1- **Machines, Fastners and Chairs** respectively have the highest impact on return rates. a further research could be performed to figure out why are these three items are most likely to be returned.
- 2- Across the months of the year; **August, September & October** generates high rates of returns.
- 3- By looking at the data from **weekdays** prespective we found that **Thursday, Friday & Saturday** respectively have the highest impact on return rates.
- 4- Utah, California and Orego states have the highest return rates.

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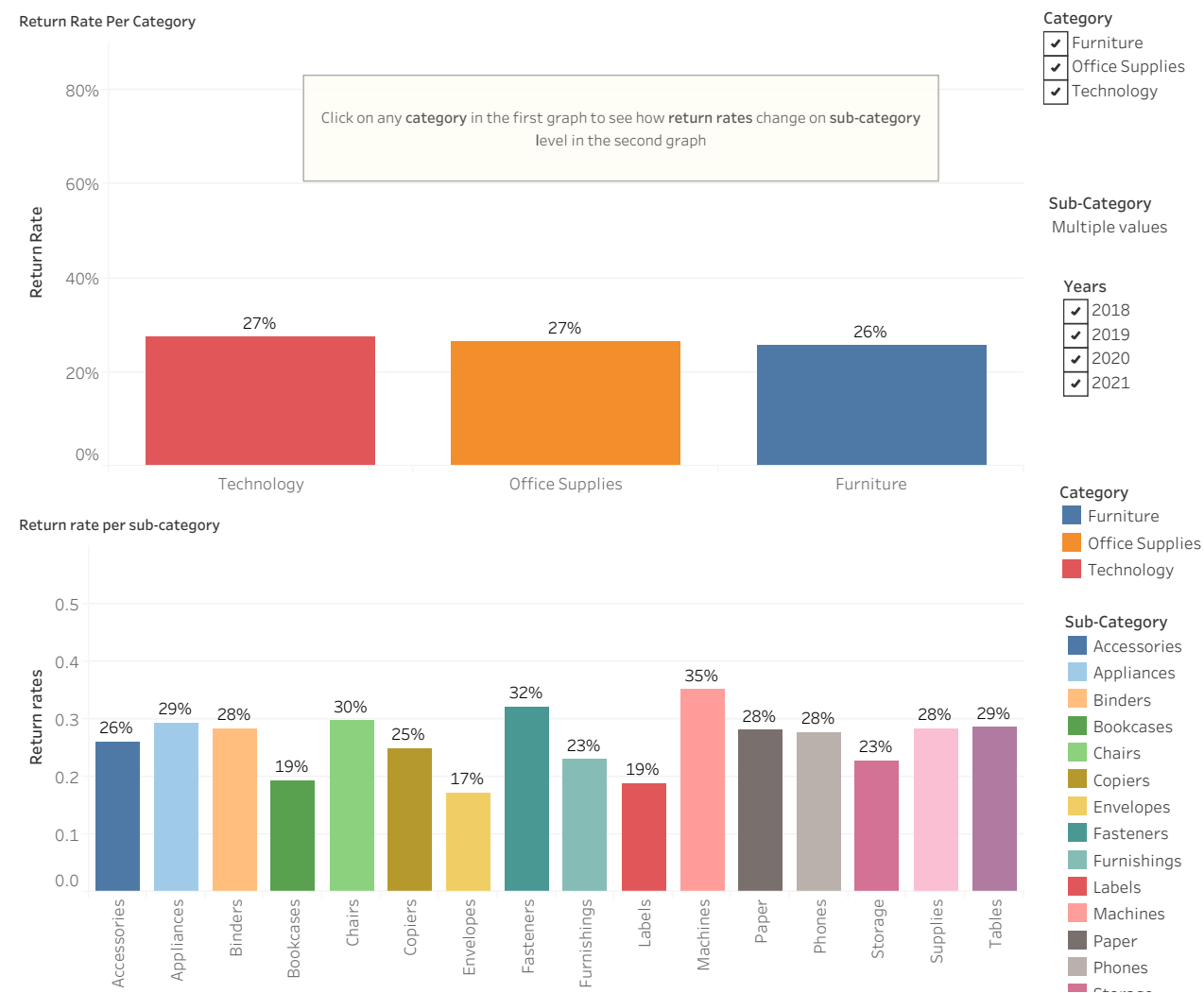


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Relationship between total sales and total returns

Return rate per category & sub-category

How the return rates change over time " return rates per month"



Click on any category in the first graph to see how return rates change on sub-category level in the second graph

Return Rate

Technology

Office Supplies

Furniture

27%

27%

26%

Return rate per sub-category

Category

Furniture

Office Supplies

Technology

Sub-Category

Accessories

Appliances

Binders

Bookcases

Chairs

Copiers

Envelopes

Fasteners

Furnishings

Labels

Machines

Paper

Phones

Storage

Supplies

Tables

Return rates

Accessories

Appliances

Binders

Bookcases

Chairs

Copiers

Envelopes

Fasteners

Furnishings

Labels

Machines

Paper

Phones

Storage

Supplies

Tables

26%

29%

28%

19%

30%

25%

17%

32%

23%

19%

35%

28%

28%

23%

28%

29%

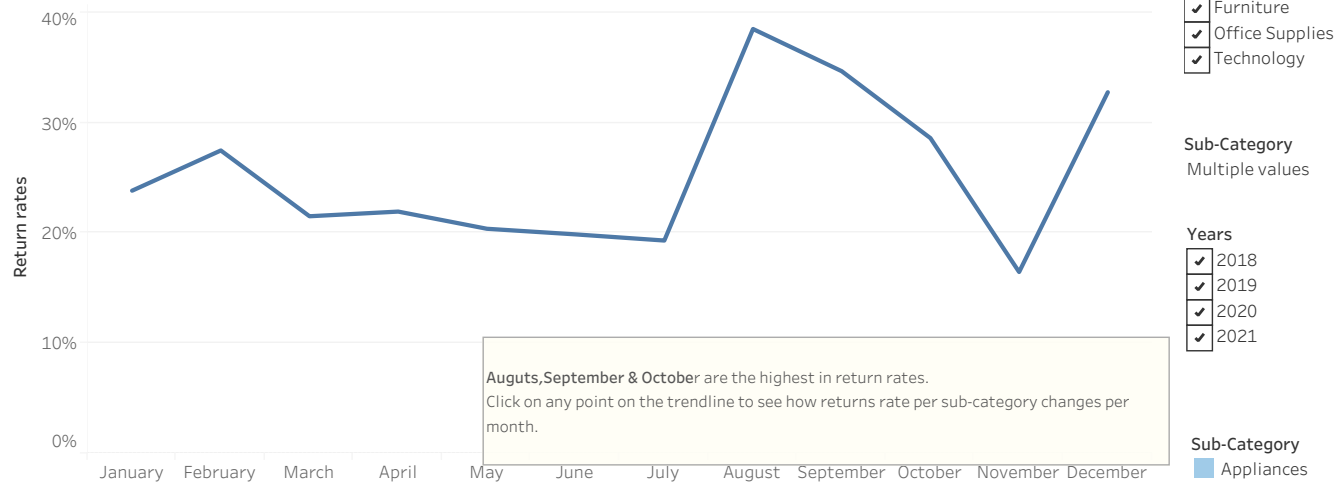
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Return rate per category & sub-category

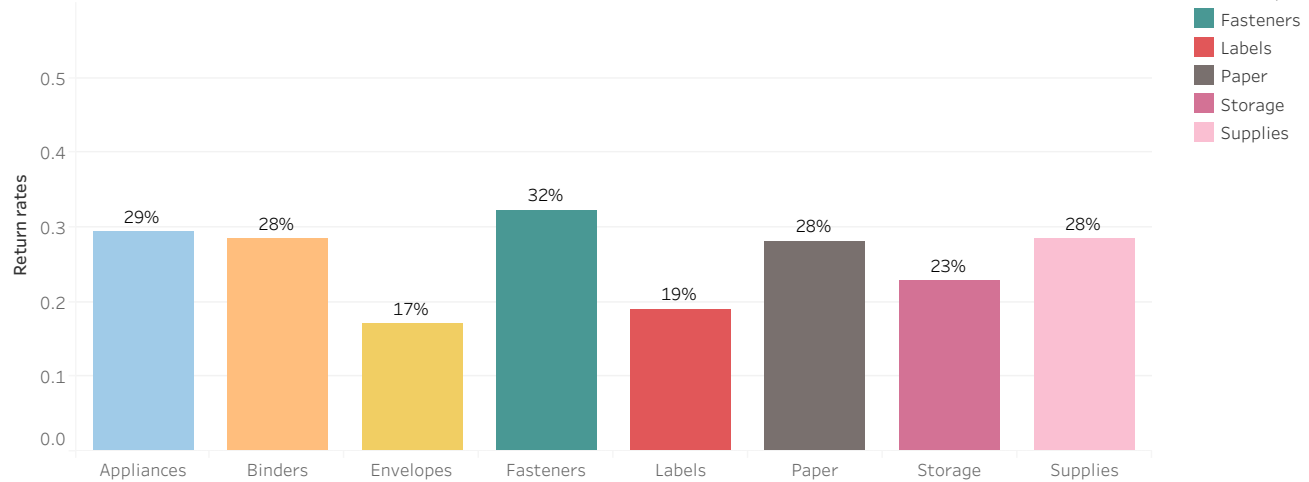
How the return rates change change over time " return rates per month"

How the return rates change change over time " return rates per week"

Return rate Per Month



Return rate per sub-category

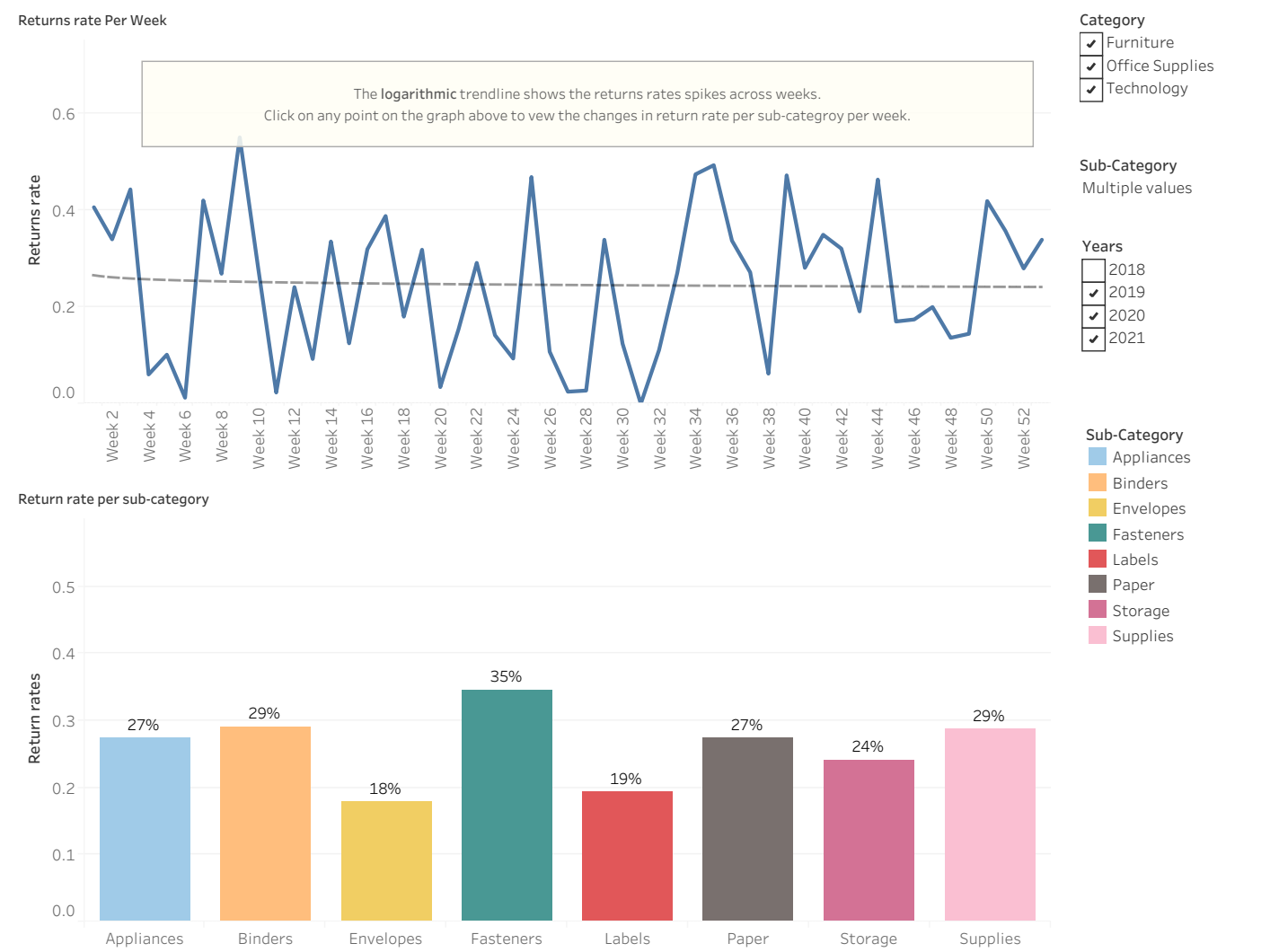


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How the return rates change change over time " return rates per month"

How the return rates change change over time " return rates per week"

% of day return of total week & % of day sales of total week

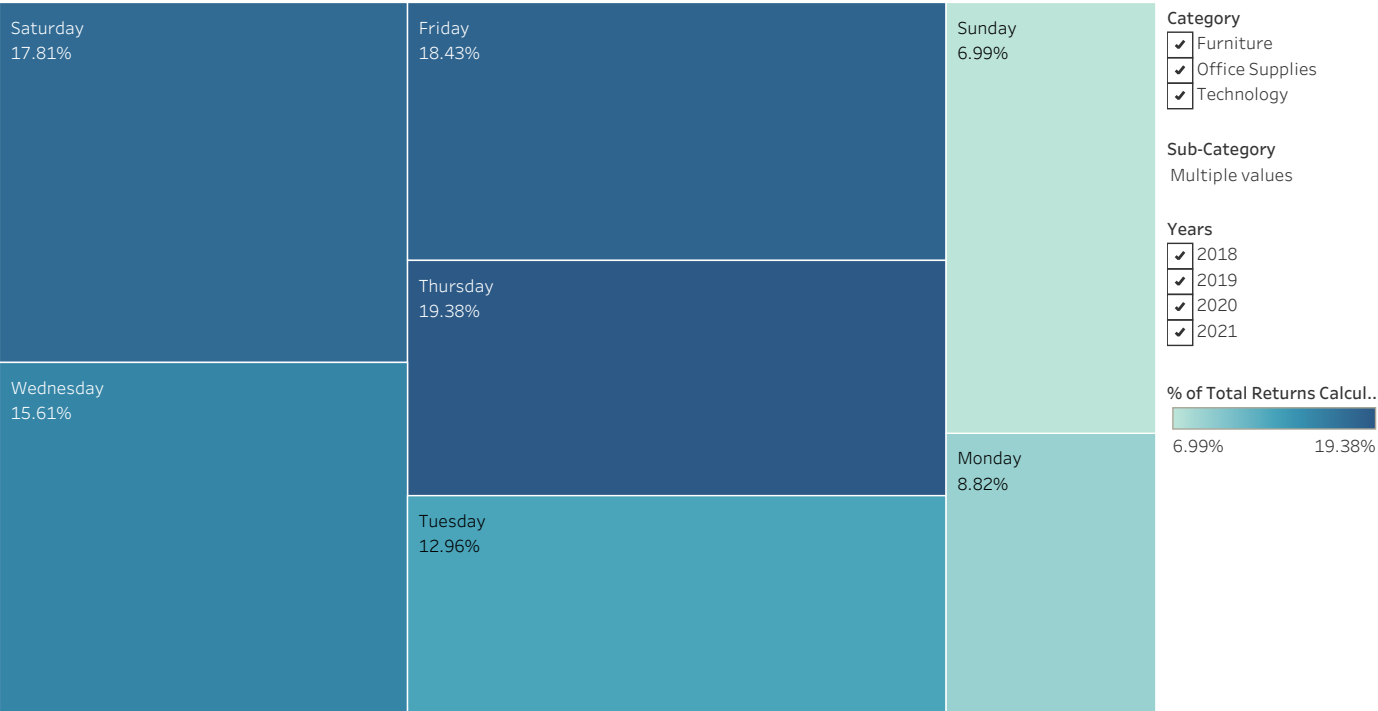


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How the return rates change change over time " return rates per week"

% of day return of total week & % of day sales of total week

Return rates per category and subcategory across weekdays

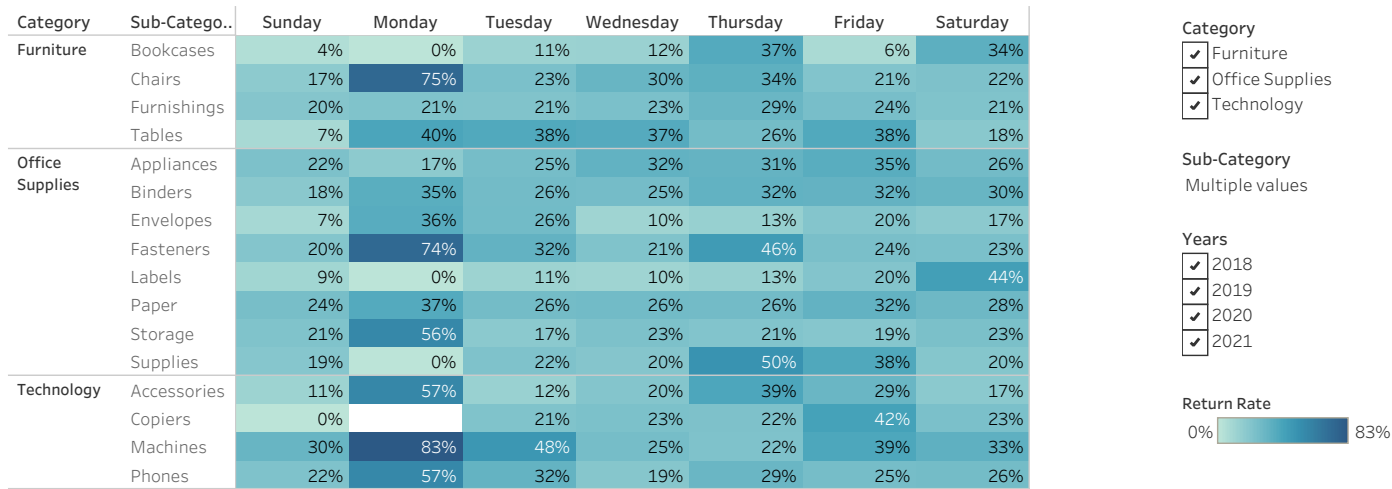


The heatmap shows the % of day returns of total week returns indicated in color range, whereas the sqaure size shows the % of day sales of total week sales. The graph also validates the insight we concluded from the frist graph that there is a positive relationship between sales and returns.

Hoover over the chart to view the return rater per sub-category for each weekday

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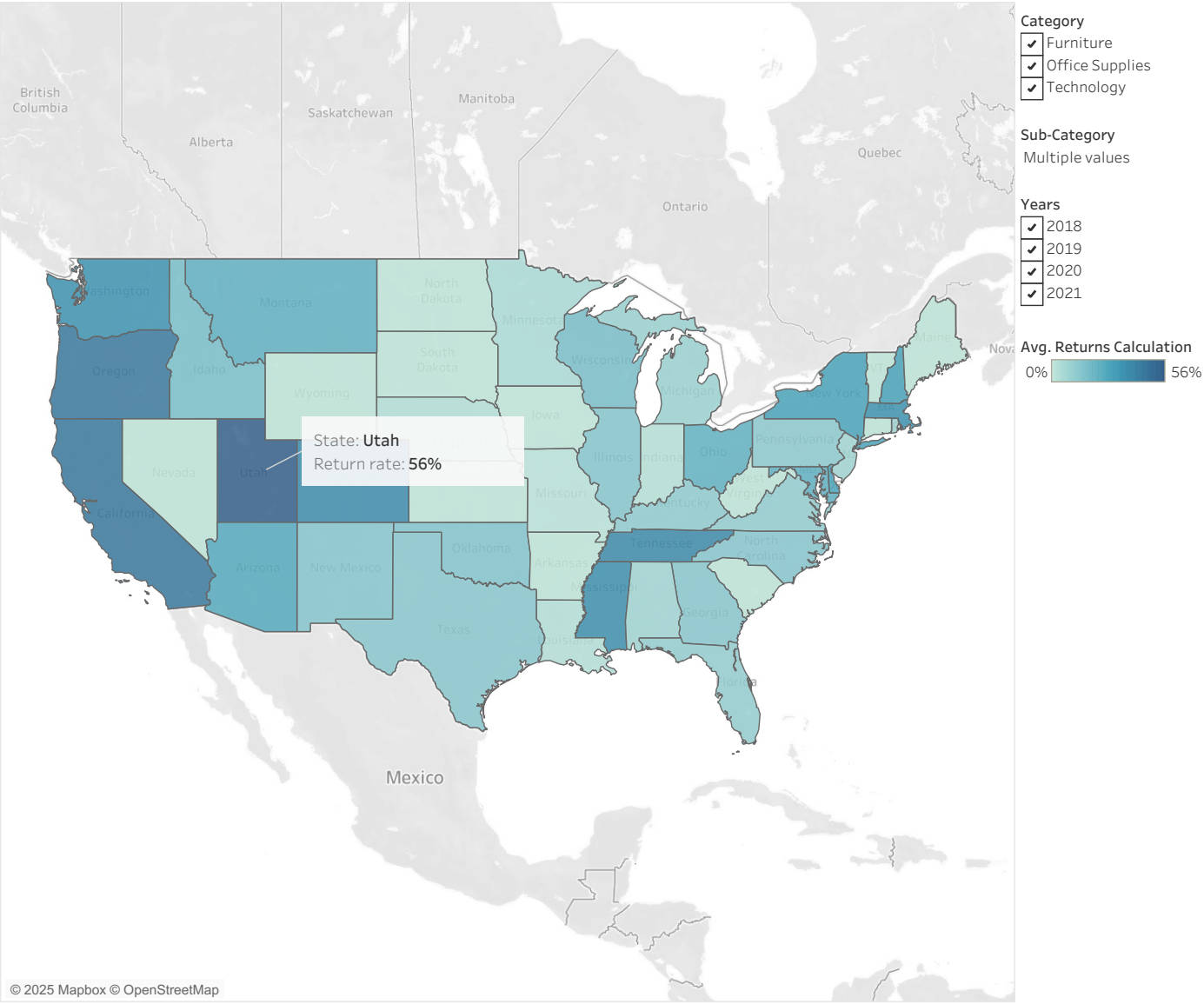
% of day return of total week & % of day sales of total week	Return rates per category and subcategory across weekdays	Return rates per state
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Overall, highest return rates take place on Mondays. Machines, Chairs and Fasteners respctively have the highest return rates on Monday. Use the filtiers on the right hand side to segmemt by any combination of the tree filters

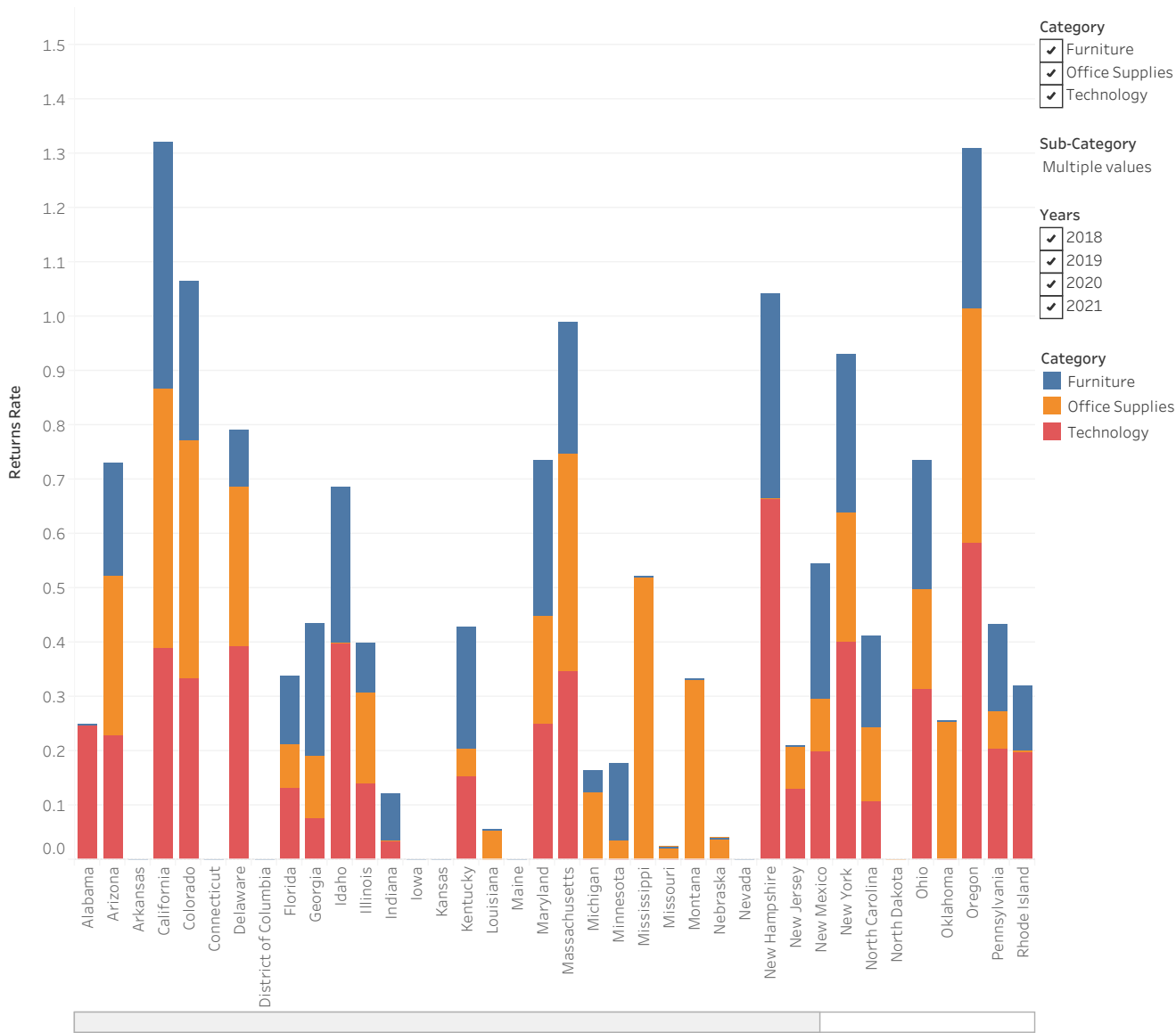
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Return rates per category and subcategory across weekdays	Return rates per state	Return rate per category across states
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Retruns Story

Return rates per state	Return rate per category across states	Appendix - Return rates per customer
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R	Return rate per category across states	Appendix - Return rates per customer
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