TASK-5: BUSINESS ANALYTICS ON SUPERSTORE DATA

ANALYSIS REPORT

Problem Overview :

Perform 'Exploratory Data Analysis' on the provided dataset 'SampleSuperstore' You are the business owner of the retail firm and want to see how your company is performing. You are interested in finding out the weak areas where you can work to make more profit. What all business problems you can derive by looking into the data? You can choose any of the tool of your choice (Python/R/Tableau/PowerBI/Excel).

Methodology:

To complete this task I used Tableau as a tool for Analysis. The Sparks Foundation has provided us a Dataset named as SampleSuperstore in csv format for analysis task.
In order to complete the task First I upload the Dataset in the Tableau Desktop tool then plot the various graphs for Analysis and the generated following outcomes:

Analysis Insights:
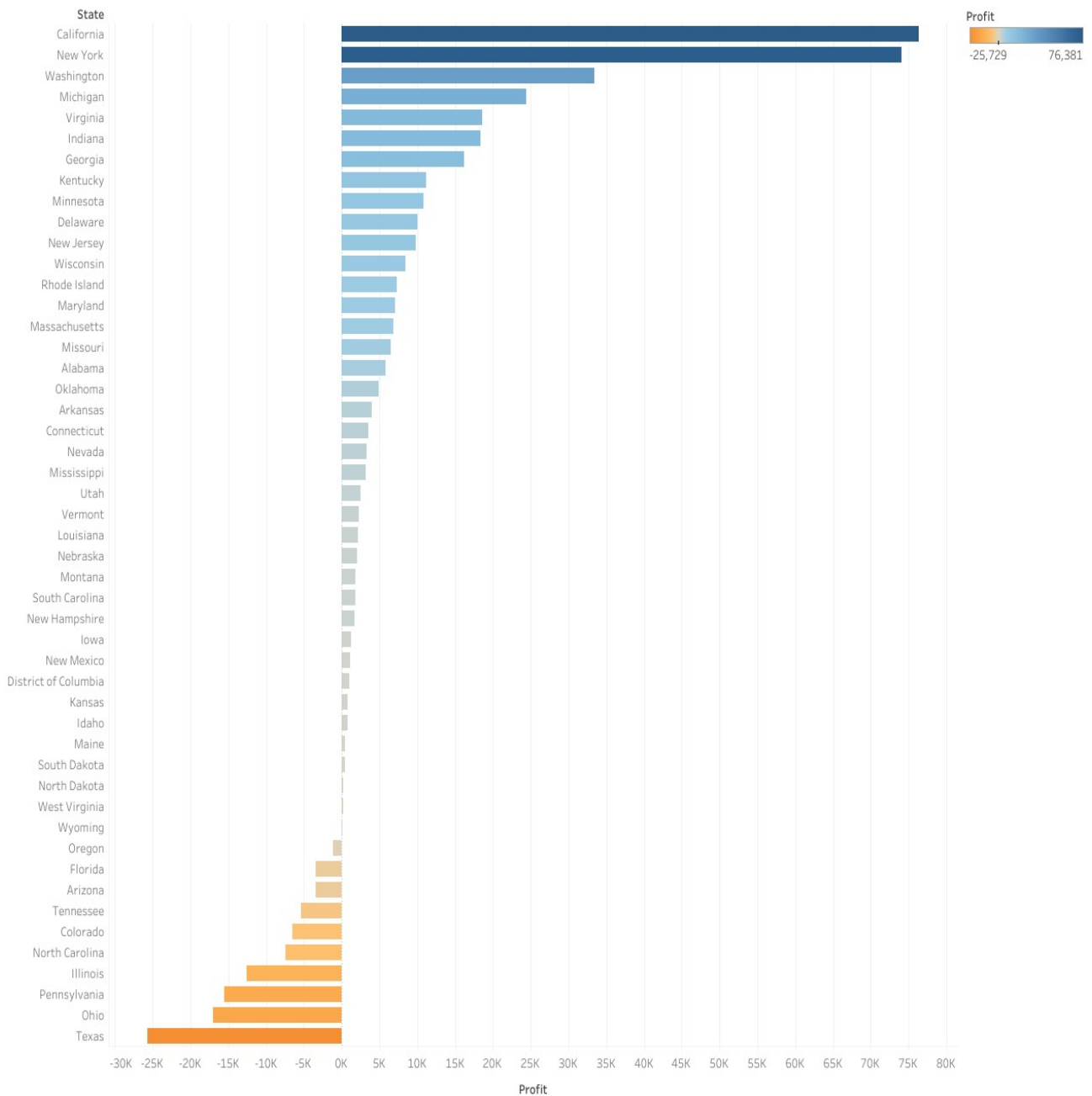

Statewise Profit Report
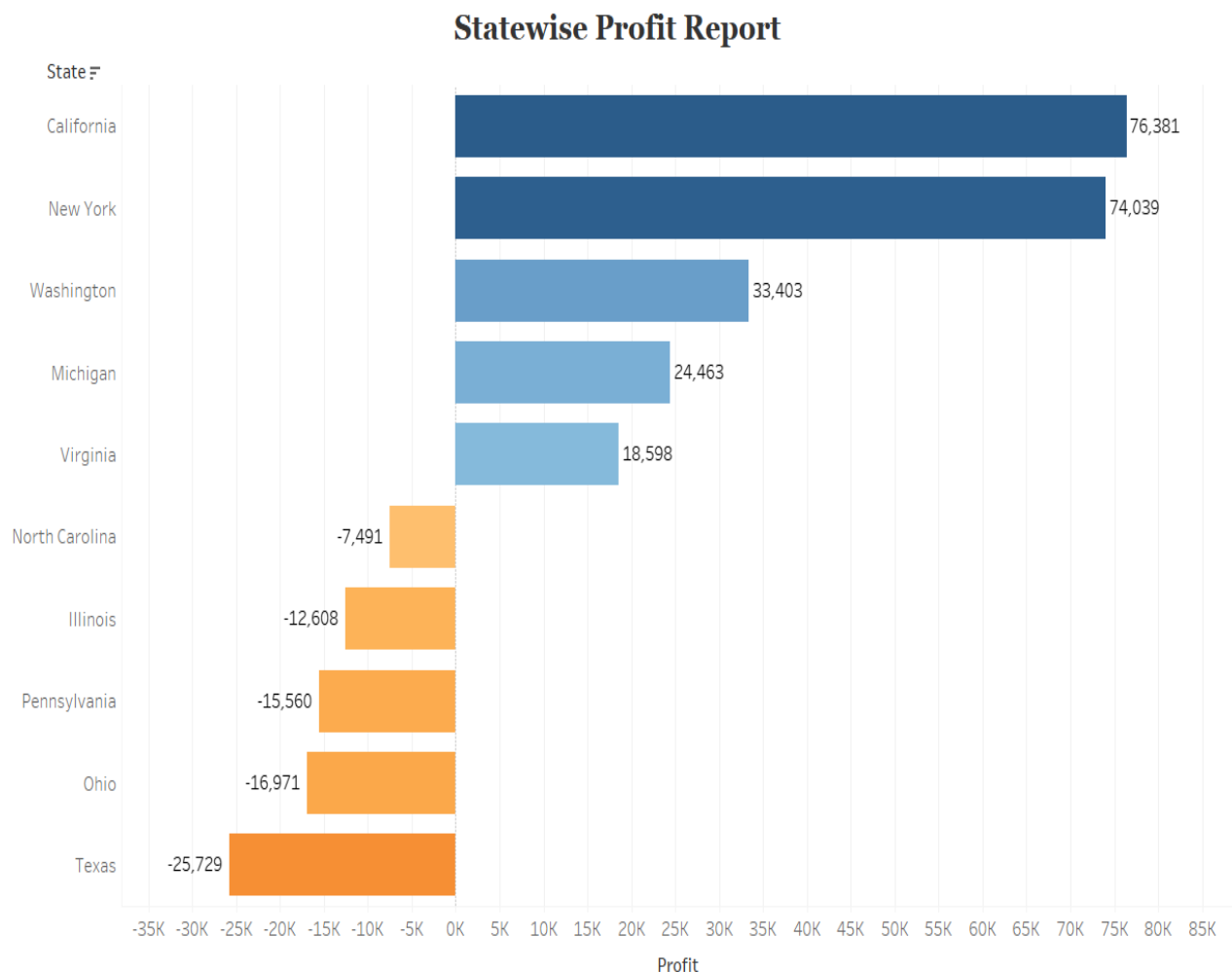
Figure-1:

The top 5 performing states: California, New York, Washington, Michigan, Virginia.

The worst 5 performing states: Ohio, Texas, Illinois, North Carolina and Pennsylvania.
Where the California is the top performer with a profit of $ 76,381, whereas Texas is on the bottom with a loss of $ 25,729.

State wise_profit

State	
California	
New York	
Washington	
Michigan	
Virginia	
Indiana	
Georgia	
Kentucky	
Minnesota	
Delaware	
New Jersey	
Wisconsin	
Rhode Island	
Maryland	
Massachusetts	
Missouri	
Alabama	
Oklahoma	
Arkansas	
Connecticut	
Nevada	
Mississippi	
Utah	
Vermont	
Louisiana	
Nebraska	
Montana	
South Carolina	
New Hampshire	
Iowa	
New Mexico	
District of Columbia	
Kansas	
Idaho	
Maine	
South Dakota	
North Dakota	
West Virginia	
Wyoming	
Oregon	
Florida	
Arizona	
Tennessee	
Colorado	
North Carolina	
Illinois	
Pennsylvania	
Ohio	
Texas	

Profit: -25,729 — 76,381

-30K -25K -20K -15K -10K -5K 0K 5K 10K 15K 20K 25K 30K 35K 40K 45K 50K 55K 60K 65K 70K 75K 80K

Profit

Category wise sale and profit

Sales

2,297,201

Category
- Furniture
- Office Supplies
- Technology

Figure : Category wise Pie plot for sales

The slices of pie giving us clear visual for each category's sales portion.
Technology has maximum sales overall while Furniture covers very less part of whole sale.
Office Supplies lies in between them.
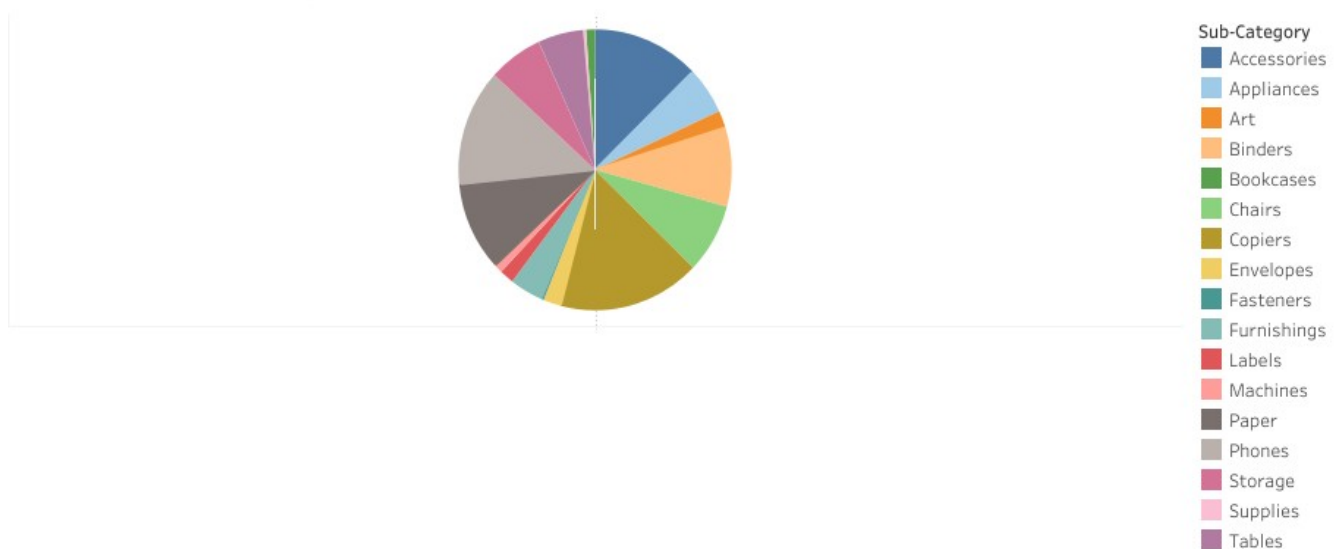
Profit distributuion by sub-categories

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

Figure :Product wise Profit Distribution

The above plot illustrates clearly that Accessories,Copiers,Binders,Phones,Paper and Chairs
 covers large portion of total pie/Profit.
Where as Art, Envelopes, Machines and Labels are performing poorly. They are not giving as much
profit, so we need to focus on these products more to increase their profits.
To increase our overall profit we can increase the sales of top 5 products which are the most
profitable.

Quantity on ship_mode for segments
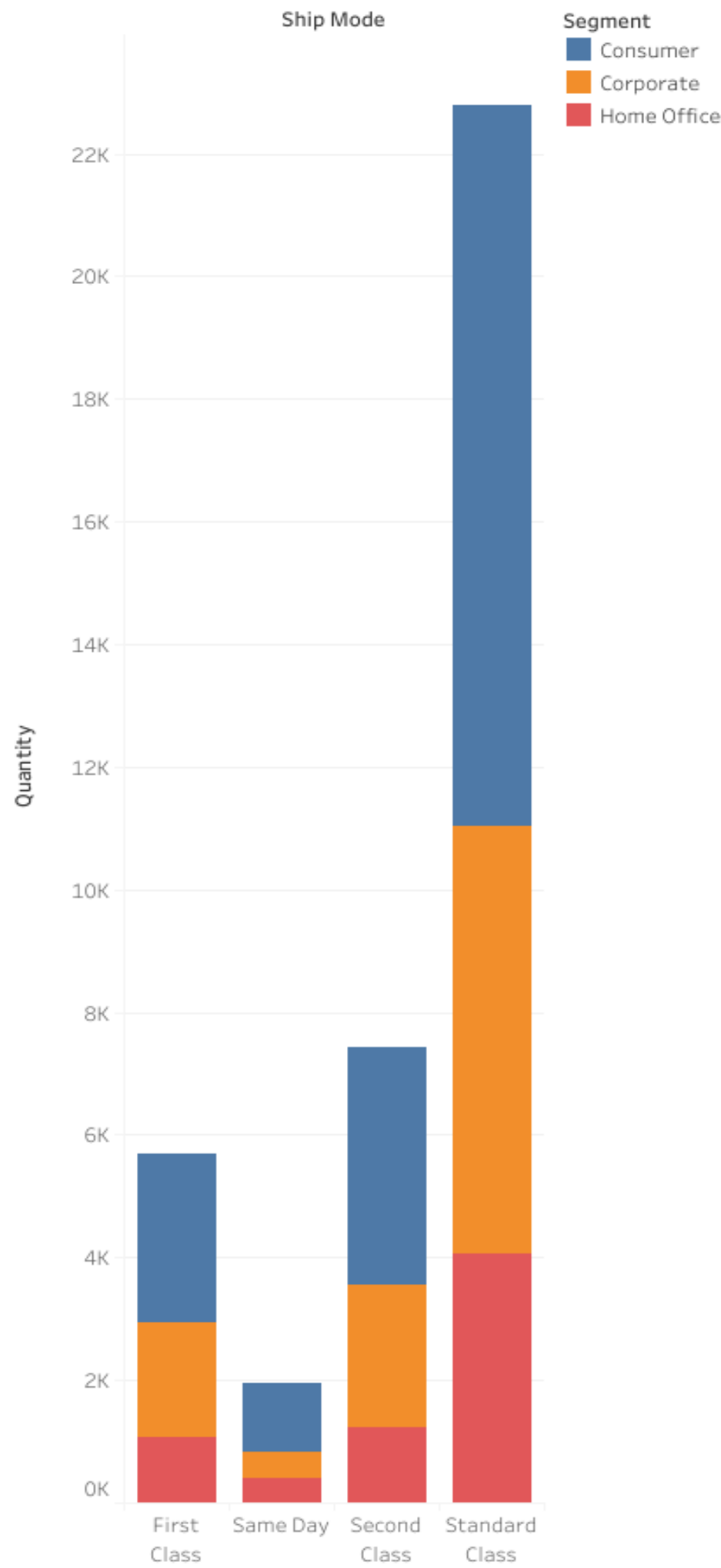
Figure-2:
We ship our maximum quanity by standard mode and we rarely ship the product on the same day as we some places are distant.
The first class mode is oftrn used to ship to the customers segment most.And wwe shipping maximum quantity via any mode to the customer segment.So we need to provide good service to this segment even with the standard mode of shipping.only less customers care about early delivery.
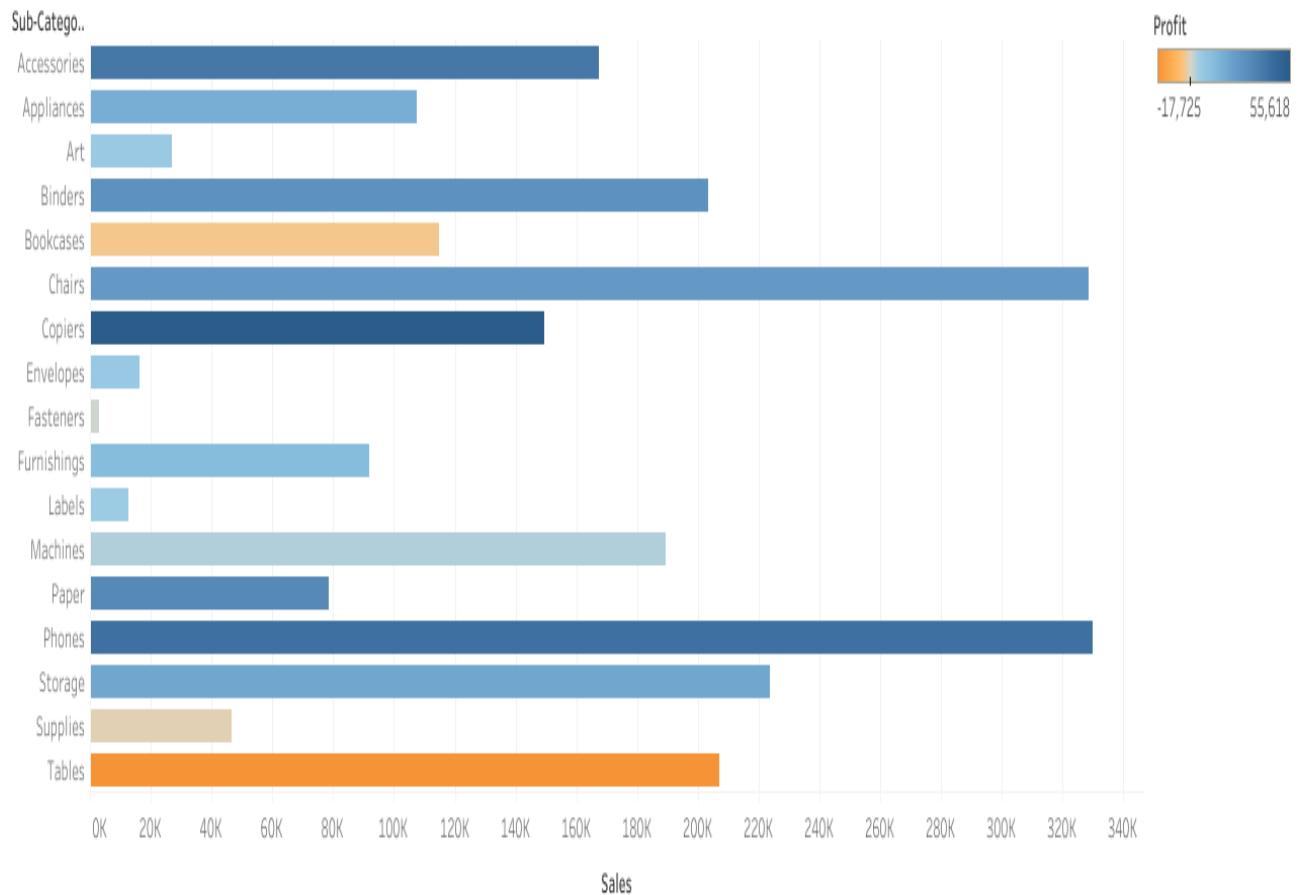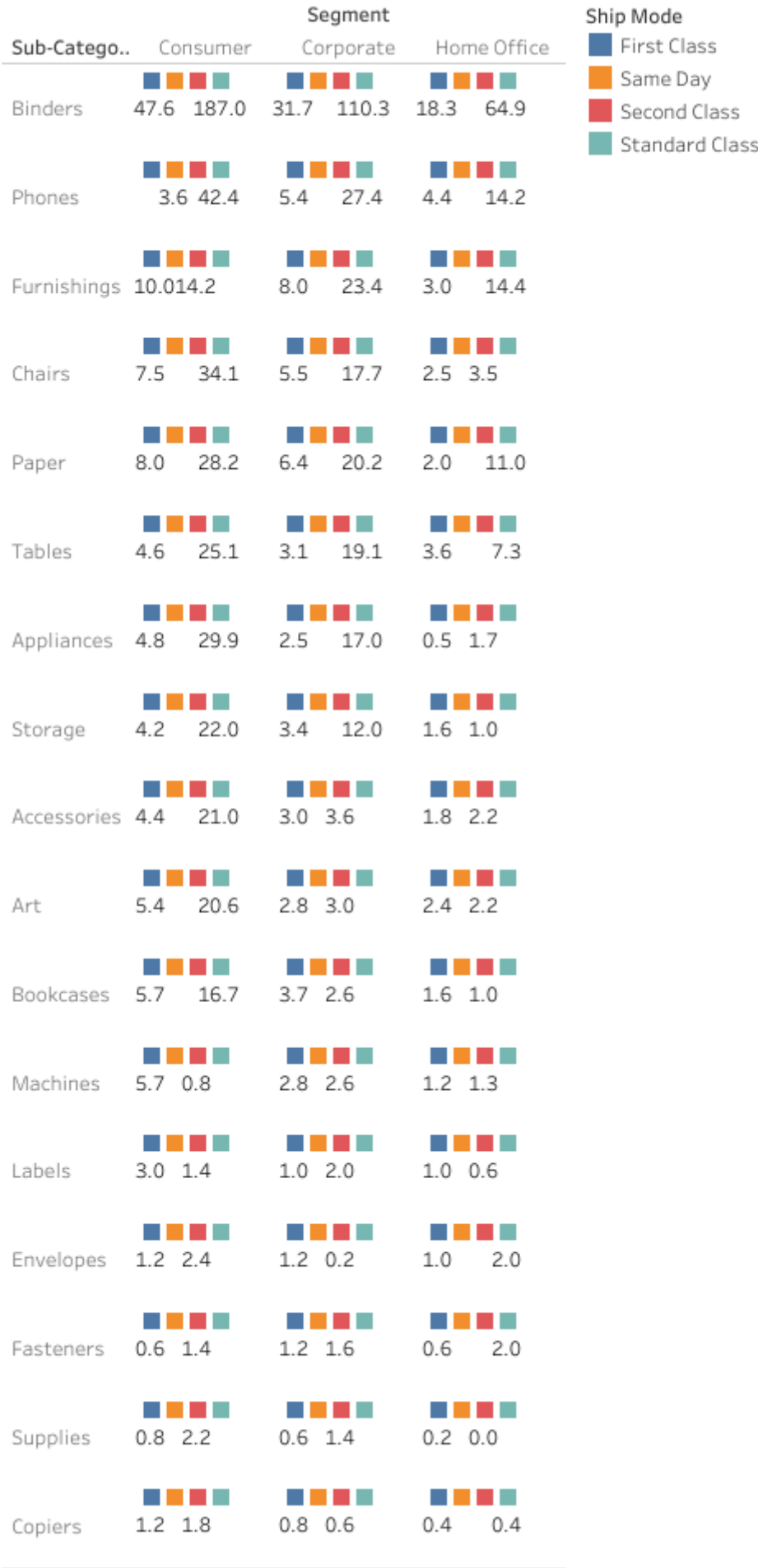

Figure : Sales/Profit on each product

Maximum profit is we are getting for phones and sales too.Tables are giving us loss while its sale is above 200k.
Top selling products are : Phones, Chairs, Storage, Binders,Tables and Accessories.
Top Profitable products : Phones, Accessories, Copiers,Chairs and Binders.

Profit on Discount on items

Sub-Catego..	Consumer	Corporate	Home Office
Binders	47.6 187.0	31.7 110.3	18.3 64.9
Phones	3.6 42.4	5.4 27.4	4.4 14.2
Furnishings	10.0 14.2	8.0 23.4	3.0 14.4
Chairs	7.5 34.1	5.5 17.7	2.5 3.5
Paper	8.0 28.2	6.4 20.2	2.0 11.0
Tables	4.6 25.1	3.1 19.1	3.6 7.3
Appliances	4.8 29.9	2.5 17.0	0.5 1.7
Storage	4.2 22.0	3.4 12.0	1.6 1.0
Accessories	4.4 21.0	3.0 3.6	1.8 2.2
Art	5.4 20.6	2.8 3.0	2.4 2.2
Bookcases	5.7 16.7	3.7 2.6	1.6 1.0
Machines	5.7 0.8	2.8 2.6	1.2 1.3
Labels	3.0 1.4	1.0 2.0	1.0 0.6
Envelopes	1.2 2.4	1.2 0.2	1.0 2.0
Fasteners	0.6 1.4	1.2 1.6	0.6 2.0
Supplies	0.8 2.2	0.6 1.4	0.2 0.0
Copiers	1.2 1.8	0.8 0.6	0.4 0.4

The figure shown above shows the profit on discount for products based on the shipping mode for each segment.We are giving 3.6k$ discount on Phones on same day delivery for customers.And so on.

Category wise sales in each region
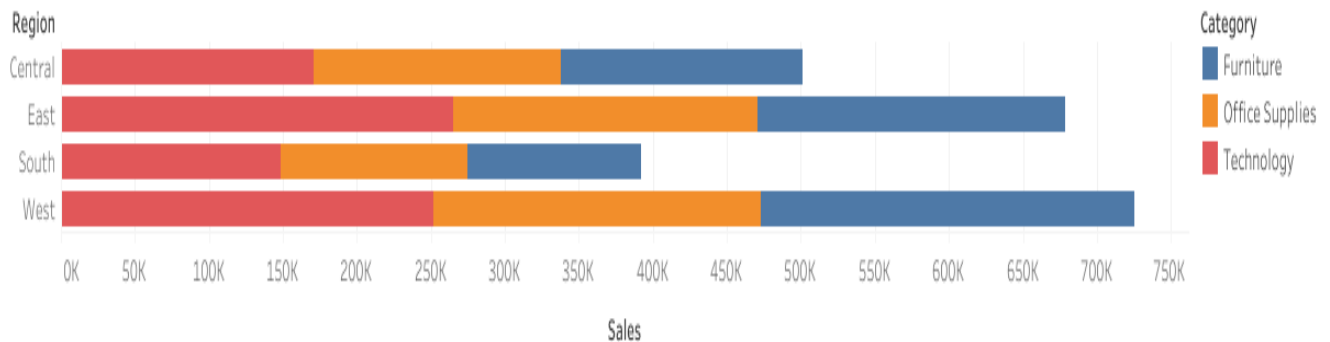
The above graph is showing the sales in each region respective of each category.
Our sale is maximum in West and East regionsfor each category.
In south region we have minimum sale with highest for technology among all categories for this region.

Figure : States Performance by their Sales and Profit

In terms of Sales-Profit Ratio Ohio is the worst performing states with a loss of 21.69% followed by Colorado and Tennessee with loss of 20.33% and 17.42% respectively. Whereas the District of Columbia shows the best performance in terms on sales-profit ratio with 36.98%.
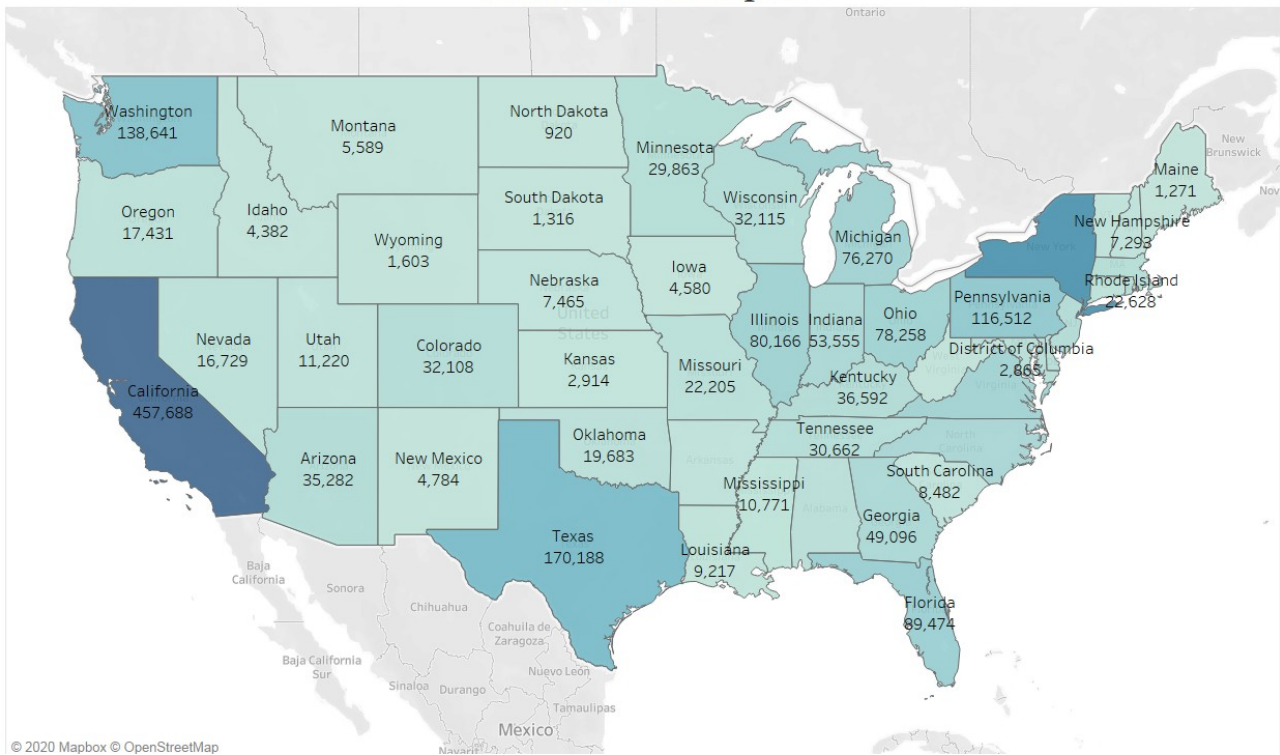
Statewise Sales Report

Figure : State wise Sales Report

The above Map of United States represents the sales of the superstores in different states of the country. Darker the area, higher the sale, observation based on this concept represents that the California followed by New York are the best performers in terms of Sales.
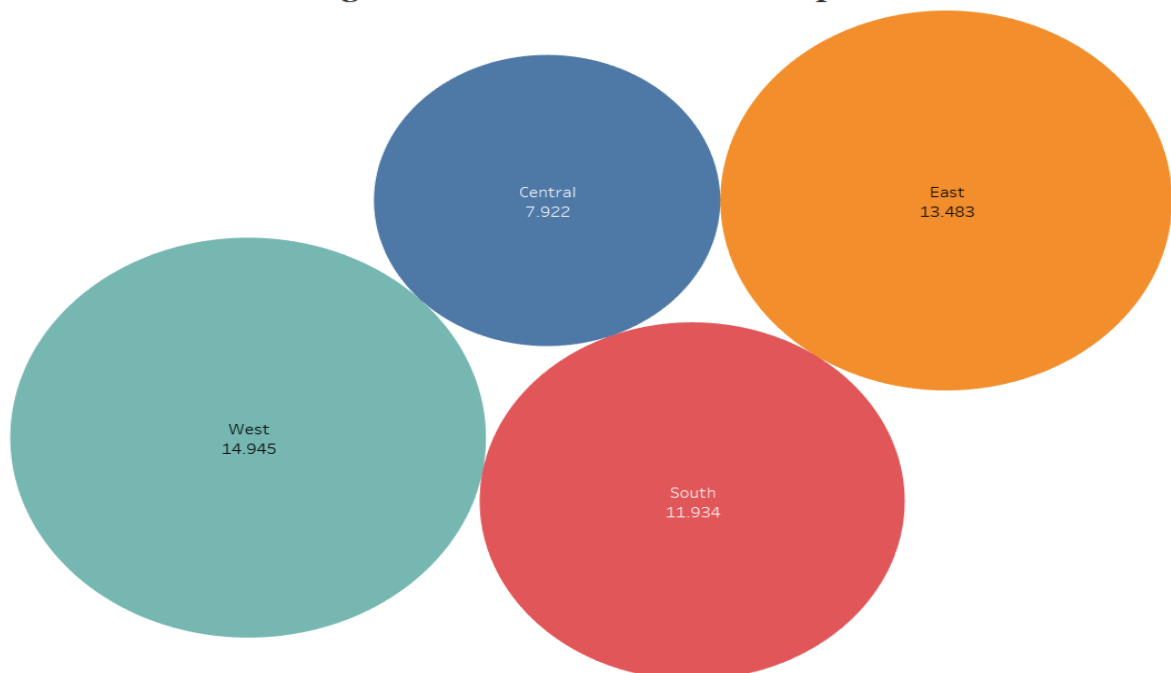
Regionwise States Profit Ratio Report

Figure : Region wise profit ratio

Referring to the above we can clearly say that Western and Eastern reason are performing far better than central and South region.

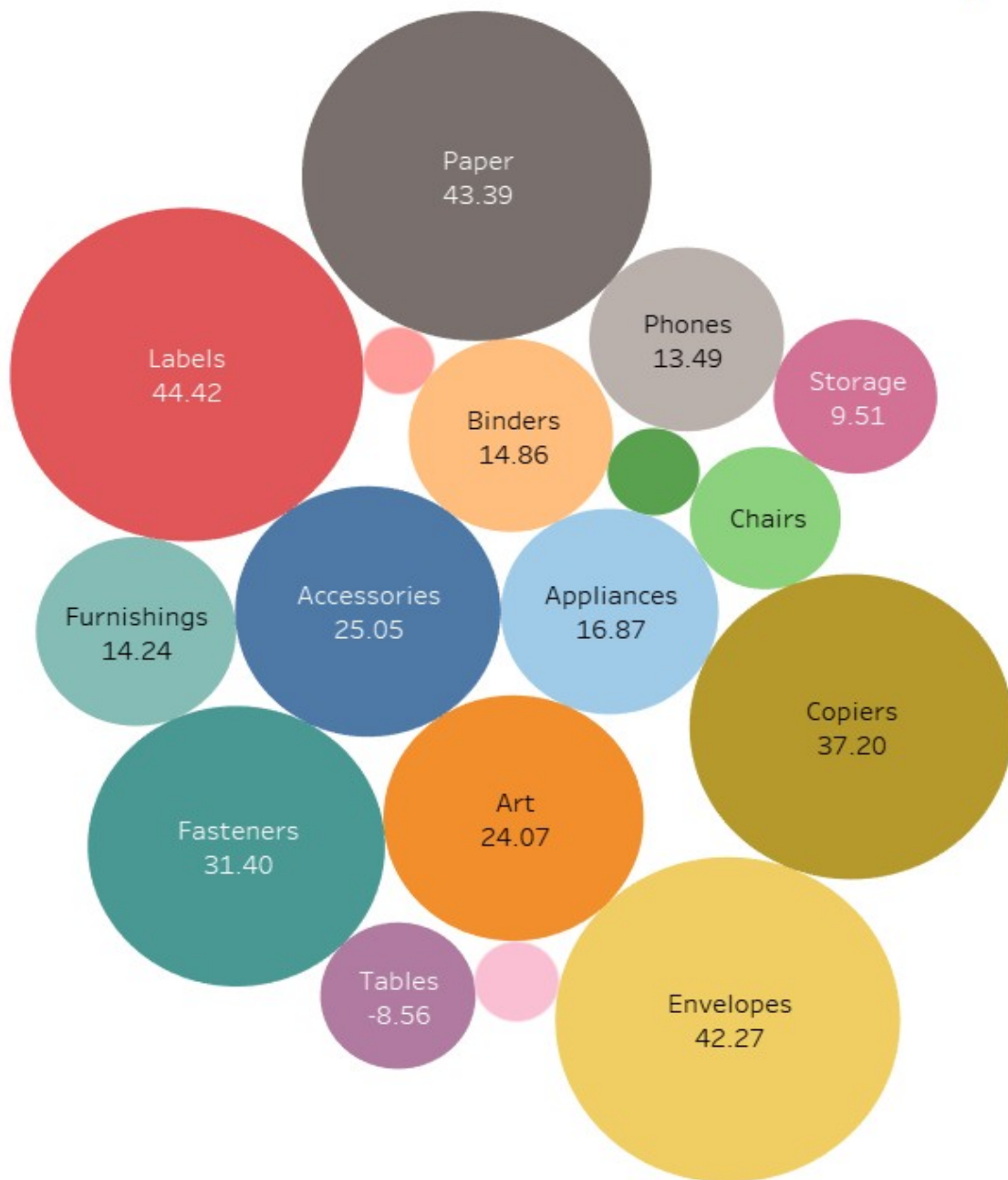# Productwise Profit ratio and their Sales report

Figure Product wise Profit Ratio

Larger the bubble, higher the profit, this is the main concept of this word bubble, which represent that Labels, Paper, Copiers, Envelopes and Fasteners are the best performer among the other products.
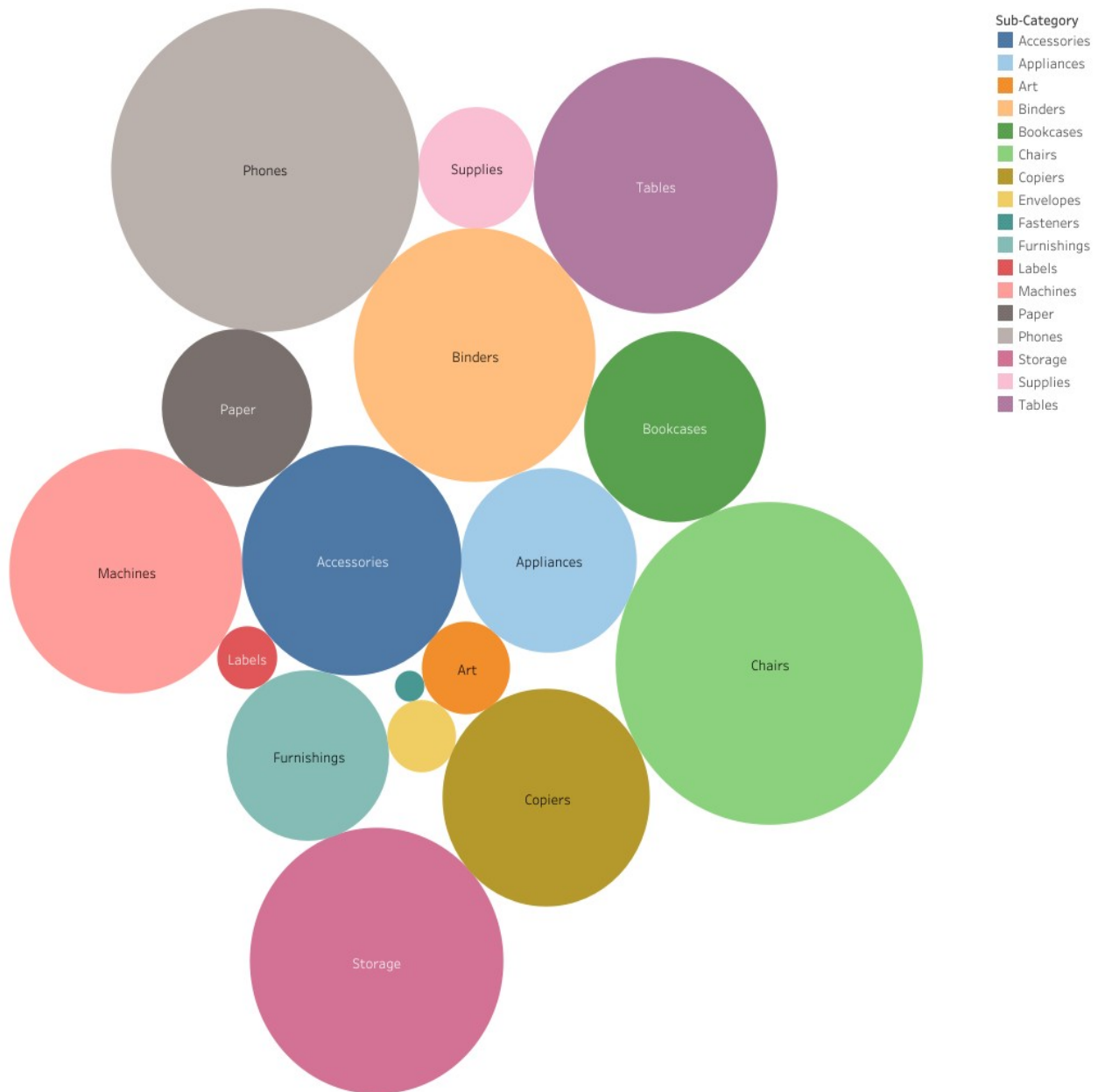
Items wise sales

Figure : Product wise Sales

Larger the bubble, higher the sale, this is the main concept of this word bubble, which represent that Phones, Chairs, Storage, Binders, Machines and Accdssories are the best selling items among all the products.

Conclusion:
1. Accessories, Arts , Appliances and Binders are performing good in terms of sales and profit ratio, so by putting some extra focus on these subcategories, we can improve their sales and thus this will ultimately help us to increase our profit.
2. Supplies, Bookcases and Tables showing a negative sales profit ratio, which means it's a loss making subcategories, So we have to focus more on these subcategories.
3. Central Region shows the lowest profit ratio among other regions and the two states i.e. Texas and Illinois are showing the big loss, which may be a reason of central region for being the last among all. Focus on these states can improve the overall profit of the region.
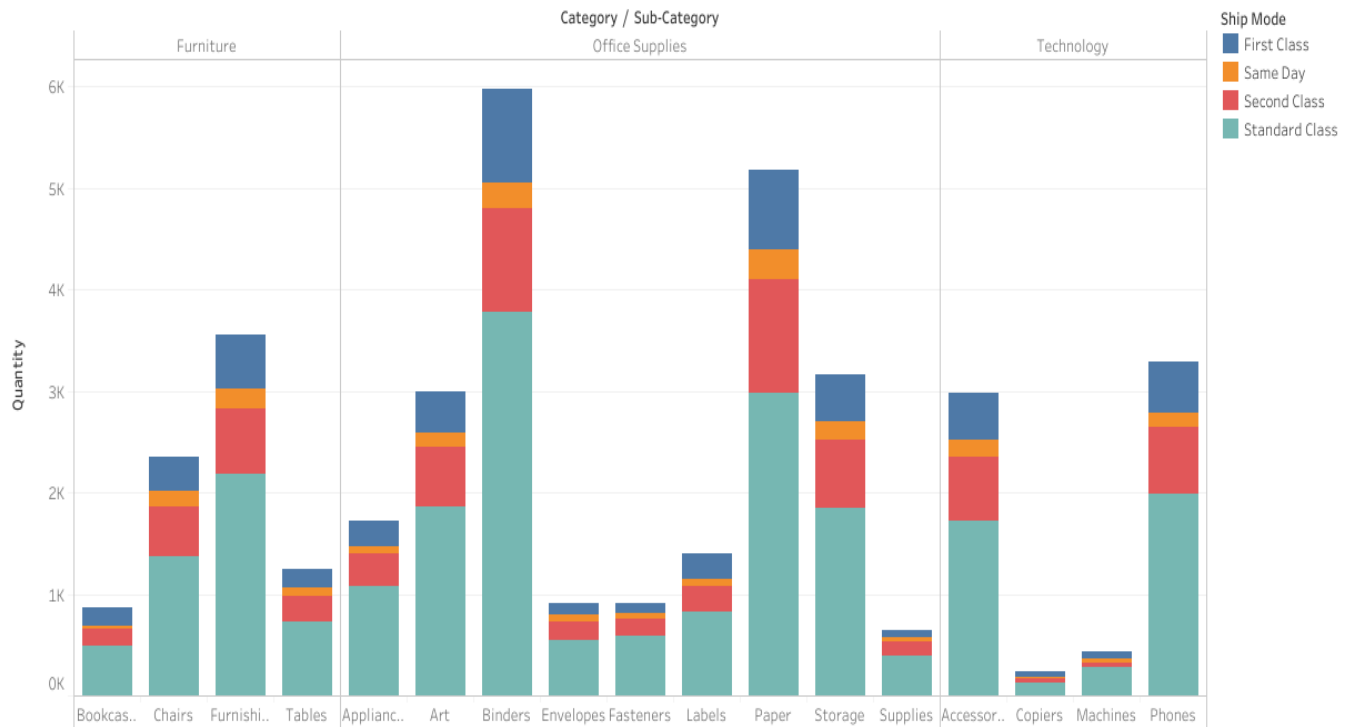
Figure : Products wise quantity via shipping mode

We are shipping maximum products via our standard mode and very less products on same day.

Binders are shipping in large quantity and those by Standard mode.

The overall products shipping in large quantity are : Binders, Paper, Furnishing parts, Phones,Storage,Accessories and Art.

The products ,shipping in small quantity : Copiers, Machines, Envelopes, Fasteners.

Additional Conclusion:

The same day delivery requires less discount hence more profit we get from this mode.So we need to focus more on delivering the product same day as much as possible.

The relation between quantity and profit is clearly saying that the more the shipping quantity the more profit is,we are getting.So we can increase the shipping quantity of Copiers , Labels , Machines , Envelopes and all the other similar products to earn more profit.