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Canada

To :Dr. Tom White, CEO

Superstore, Ltd

955 Oliver Rd., Thunder Bay, ON P7B 5E1

Canada

April 8, 2022

Re : Business Intelligence Report - Superstore, Ltd.

Dear Dr. White:

Thank you for providing me with the opportunity to evaluate your company's performance. In this report, I have analyzed the operation of superstore, different products sales and profit in different states and prediction of profit for next year. I hope that this information helps the company to make strategic decisions and increase the profit.

## **Part 1 : Region/ Product Category Sales Analysis**

### **1.1 What product categories are selling well and where?**

#### **Answer :**

Superstore is there in four regions namely central, east, south and west. Figure 1 depicts that technology products sales are the highest. Technology product sale value is \$831,892. It is followed by furniture with sales value (\$740,607) and office supplies (\$716,500). Technology products are selling well in east (\$263,654), west (249,428) and to some degree central (\$170,038) regions. Furniture products are more popular in west (\$251,610), east (\$208,269) and central

(163,797) region. Office supplies sales are well in west (\$218,529), east (205,370) and central (\$167,003) region.

## 1.2 What product categories are selling poorly and where?

**Answer :** Sales are not well in south region. South region sales for furniture, office supplies and technology are very low compared to other regions. South region sales for technology products, office supplies and furniture are \$148,772, \$125,598 and \$116,931 respectively.

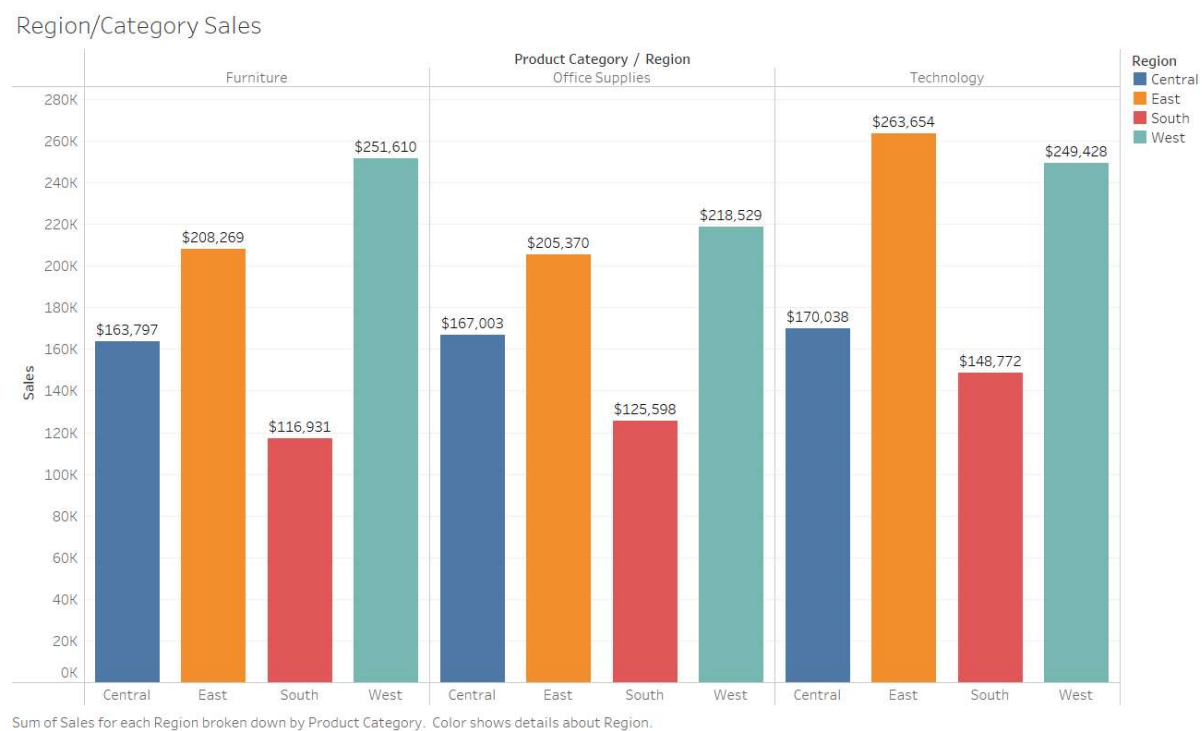


Figure 1. Region / Category Sales Analysis

## Part 2. Region / Product Sales Analysis.

### Questions

#### 2.1 What products are selling well and where?

##### Answer :

higher sales of subcategories based on different regions

No	product	Central	East	South	West	Total Sales
1	Phones	\$72,025	\$100,614	\$58,304	\$97,685	\$328,628
2	Chairs	\$85,230	\$96,260	\$45,176	\$100,889	\$327,557
3	Storage	\$45,930	\$71,612	\$35,768	\$68,676	\$222,987
4	Tables	\$39,154	\$39,139	\$43,916	\$84,754	\$206,966
5	Binders	\$56,900	\$53,483	\$37,030	\$55,878	\$203,291

As shown in figure 2, Phones product has the highest total sales (\$328,628), followed by Chairs (\$327,557), Storage (\$222,987) and Tables (\$206,966). As shown in figure 2, phones sales are the highest in east region. Phone sales are also well in central, south and west region. Phones Sales value in central, south and west region are \$85,231, \$58,304 and \$97,685 respectively. Chairs has its highest sales value in west region (\$100,889). Chairs sales are also well in East (\$96,261), Central (\$85,231) and South (\$45,176) region. Storage selling is the highest in East (\$68,676) region. Tables sales are well in west (\$84,754) region. Binder is selling well in Central and East region.

#### 2.2 What products are selling poorly and where?

##### Answer :

Lower sales of different sub-categories

Subcategory	Central	East	South	West	Total Sales
Fasteners	\$778	\$820	\$503	\$923	\$3,024
Labels	\$2,451	\$2,603	\$2,353	\$5,079	\$12,486
Envelops	\$4,637	\$4,376	\$3,346	\$4,118	\$16,476
Art	\$5,765	\$7,486	\$4,656	\$9,212	\$27,119
Supplies	\$9,467	\$10,760	\$8,319	\$18,127	\$46,674
Paper	\$17,492	\$20,041	\$14,140	\$26,360	\$78,033

This study from figure 2 indicates that Fasteners generate lowest volume of sales (\$3024), followed by Labels (\$12486), Envelops (\$16476), Art (\$27119), Supplies (\$46674) and Paper (\$78033). Fasteners product selling is very low in all regions. Fasteners sales are 778., 819, 503 and 923 in Central, East, South and West region respectively. The lowest sales of fasteners are 503 in South region. The lowest sales of Labels is \$2353 in south region. Labels selling is also low in Central (2451), West (5079) and East (2603) region. Moreover, Envelopes selling is lowest in South (\$3346) region. Sales for Envelopes are also low in Central (\$4637), East (\$4376) and West (\$4118) region. Considering Art, selling is lowest in South (\$4656) region. Sales for arts are also low in other regions. Art sales are 5765, 7486 and 9212 in Central, East and West region. Other low selling products are supplies and paper. Supply has its lowest sales in South region. Paper has its lowest sales in South region (14,140).

## 2.3 How consistent are the regions in terms of sales? (e.g., are the same products selling well/poorly in different regions?)

### Answer :

After analysis , There is comparison of same product sales for one region with other regions. One product Phones generate the largest volume of sale in the East(\$100,615) region. Phone is also selling well in other three regions. Its sales values are \$72,025, \$97,685 and \$58,304 in Central, West and South regions respectively. Chair subcategory selling values are well in Central (\$85,230), East (\$96,260) and West (100,889) region; however, chair sales are not that much well in south (\$45,176) region. Tables are selling poor in Central (\$39,154), East (\$39,139) and South (43,916); however, its sales are well in the west region. \$9467, \$10,760, \$8,318 and 18,127 are supplies sales values in the Central, East, South and West region. So, supplies sales are poor in all regions. Fasteners are selling poor in all regions. Fastener sales are \$778, \$819, \$503 and \$923 in Central, East, South and West region. Labels selling is also poor in four regions. Its values are \$2,451, \$2,602, \$2,353 and \$5,079 in Central, East, South and West region. Total sales of all products are highest in west (\$719,566) region. In central region, there are \$500,839 total sales. Total sales in East region are \$677,293. In south region, there are lowest total sales of all products.

Subcategory	Central	East	South	West	Total Sales
Phones	72,025	100,615	58,304	97,685	328630
Chairs	85,231	96,261	45,176	100,889	327557
Storage	45,930	71,613	35,768	68,677	221987
Tables	39,155	39,140	43,916	84,755	206966
Binders	56,900	53,483	37,030	55,879	203292
Machines	26,797	66,106	53,891	41,164	187959
Accessories	33,956	43,714	27,277	60,829	165776
Copiers	37,260	53,219	9,300	49,749	149528
Bookcases	24,157	43,819	10559	36,004	114540
Appliances	23,582	34,188	19483	30,154	107408

Furnishings	15,254	29,049	17279	29,962	91544
Paper	17,492	20,041	14140	26,360	78033
Supplies	9467	10,760	8319	18,127	46674
Art	5765	7,486	4656	9,212	27119
Envelopes	4637	4,376	3346	4,118	16476
Labels	2451	2,603	2353	5,079	12486
Fasteners	778	820	503	923	3024
Total Sales	500,839	677,293	391,301	719,566	

Region/Subcategory Sales

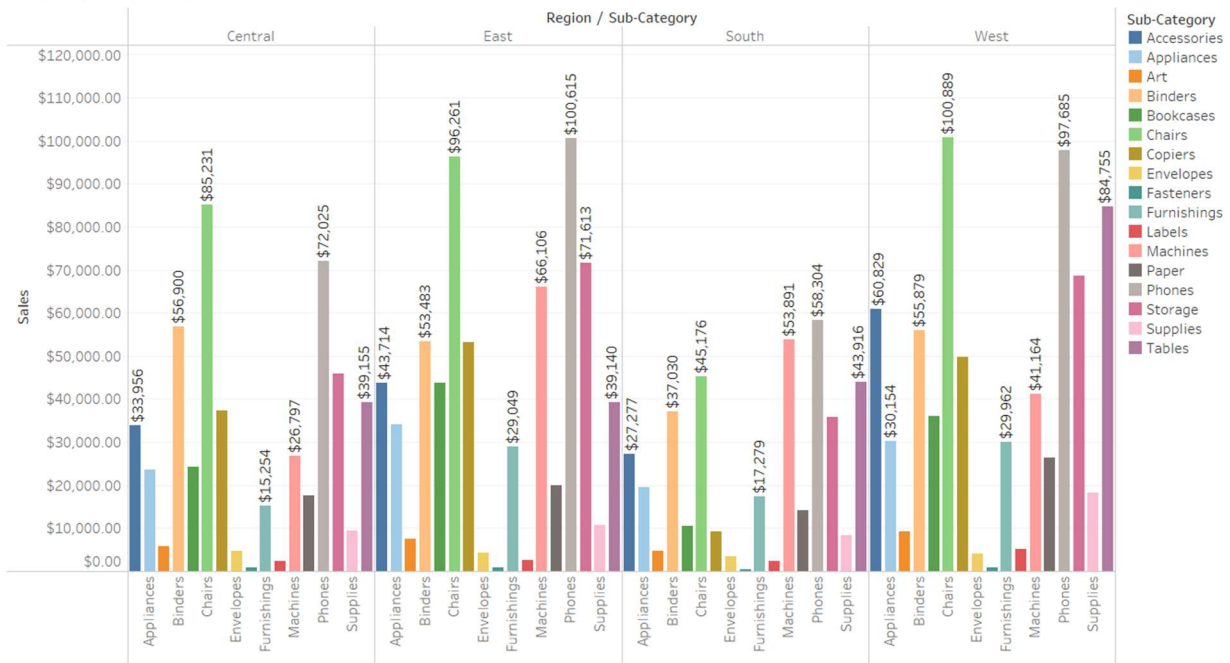


Figure 2. Region / Subcategory Sales Analysis

### **Part 3. Sales vs. Profit Analysis.**

#### **Questions 3.1**

**Sales managers usually assume that products that are selling well are always very profitable. In contrast, if sales of a particular product are low, it does not generate profit. Does this apply to Superstore? Is this assumption true?**

#### **Answer :**

Assumption of “selling is well are always profitable” is not true in the case of superstore. Chairs selling in central region is \$85,231 . its profit is 6,593. Copier sales in the central region is 37,260 and its profit is 15,609. Comparing these two cases, even though sales of chairs is higher than sales of copiers, profit of chairs is lower than profit of copiers. Therefore, this belief that if sales is high, then profit is high is not apply to superstore. This assumption is not true. Considering the second case, in East Region, phone sales are \$100,615 and its profit is \$12,315. In eastern region, Copier sales are \$53,219 and its profit is \$17,023. So in this case, comparing sales and profit of phone sales and copier sales in eastern region, although phone selling is more than copier selling, profit gain by copier is more than phone sales. Observing the third case for paper and machines in central region, although Machines sales(\$26,797) is more than paper sales(\$17,492), profit gained from Machine(\$-1,486) is lower than profit obtained by selling paper(\$6,972). In conclusion, although machine selling is well in central region compared to paper selling, profit obtained by machine and paper selling is negative amount (\$-1,486) and positive amount respectively. So that assumption made by sales manager is not true in case of superstore. After analysis, In southern region, Furnishing sales value is \$17,279 and its profit is \$3,431. Table sales in central region is \$43,916 and its profit is \$-4,623. By analyzing it, Although table sales are more than furnishing sales, profit obtained from table is in negative amount(\$-4,623.). To add to this, profit obtained by furnishing is positive(\$3,431). Hence, assumption is not true.

**3.2 For each region separately, identify products that need to be discontinued.**

## Answer :

If the profit obtained by product selling is negative, those items need to be discontinued.

For Central region after analyzing figure3, following products need to be discontinued in central region

No	Subcategory	Region	Sales	Profit
1	Bookcases	Central	\$24157	\$-1998
2	Appliances	Central	\$23582	\$-2639
3	Tables	Central	\$39155	\$-3560
4	Furnishing	Central	\$15254	\$-3906
5	Binders	Central	\$56900	\$-1009

As shown in figure 3, In central region, profit of bookcases, appliances, tables, furnishing and binders are \$-1998, \$-2639, \$-3560, \$-3906 and \$-1009 respectively. As profits are negative in central region, these items need to be discontinued.

For East region, following products need to be discontinued. These are negative profit in eastern region.

No	Subcategory	Region	Sales	Profit
1	Bookcases	East	\$43819	\$-1168
2	Supplies	East	\$10760	\$-1155
3	Tables	East	\$39140	\$-11025

In East region, profit of bookcases, supplies and tables are \$-1168, \$-1155 and \$-3560 respectively. So all these items need to be discontinued.

For south region, following products need to be discontinued. These profits are negative in south region.

No	Subcategory	Region	Sales	Profit
1	Machines	South	\$538921	\$-1439
2	Tables	South	\$43916	\$-4623

After analyzing figure 3, in South region, negative profit products are machines and tables. Their profit are \$-1439 and \$-4623 respectively. These items need to be discontinued as their profits are negative in south region.

For West region, following products need to be discontinued. These profits are negative in west region.

No	Subcategory	Region	Sales	Profit
1	Machines	West	\$41164	\$-1035
2	Bookcases	West	\$36004	\$-1647

Machines and bookcases are negative profit products. Their profits are \$-1035 and \$-1647 in west region so these items need to be discontinued from west region.

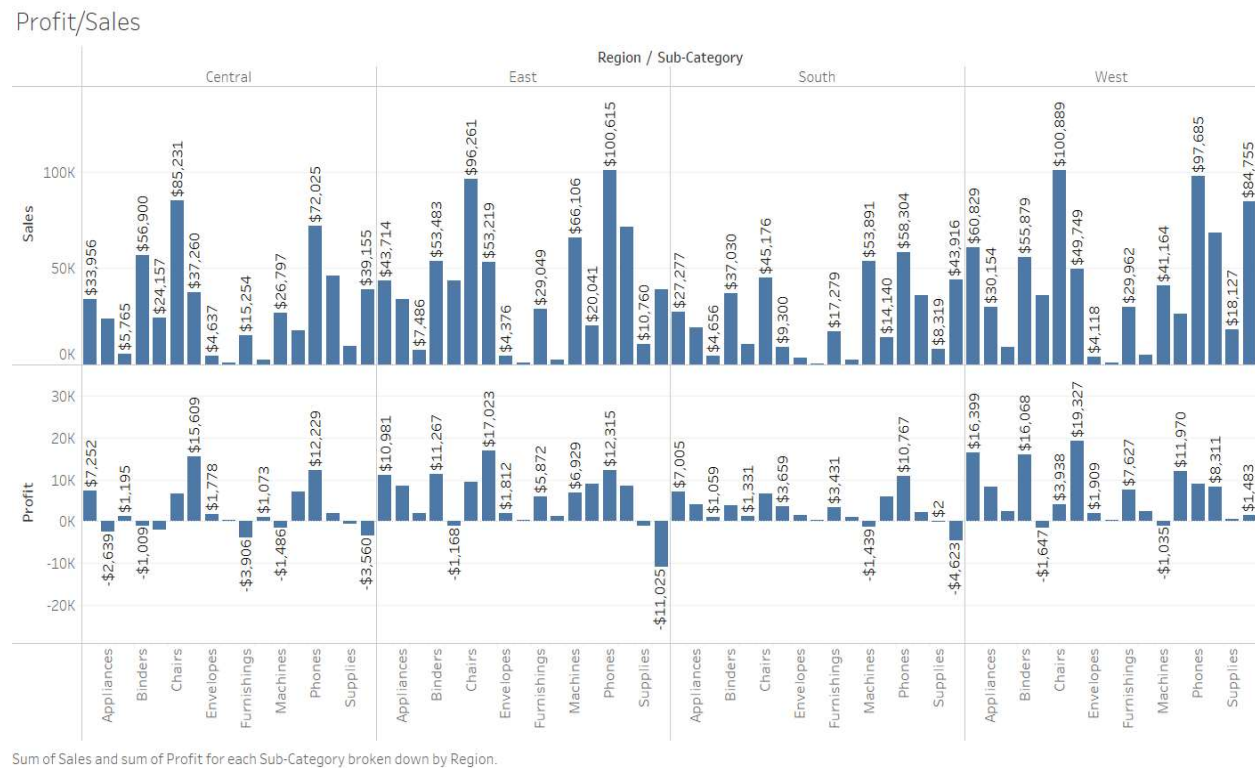


Figure 3. Sales vs. Profit Analysis



## Part 4. State/Product Analysis.

### Questions

**4.1 To maximize the overall profit, what products should be discontinued and where? Instead of listing all products that lose money, try to identify up to 5-6 products that lose the most money in certain states.**

**Answer :**

To maximize overall profit, the products whose profit are maximum negative in different regions, that need to be discontinued. After observing figures 4,5,6,7,8,9 and 10, the following analysis has been done. To maximize overall profit, following products need to be discontinued from respective states. Binders need to be discontinued from Texas as its profit is -\$14,671. So binder has maximum negative profit. Machines need to be discontinued from Ohio as its profit is -\$11,771. Appliances should be discontinued from Texas as its profit is -\$6,147. The profit obtained by tables selling is -\$4,536, so it should be discontinued from New York state. Tables need to be discontinued from Illinois state as its profit is -\$4,310. In Texas profit obtained by furnishing sales is -\$3,313 so it needs to be discontinued to maximize overall profit. Bookcases should be discontinued as its profit is -\$2,897.

Product	States	Profit
Binders	Texas	-\$14,671
Machines	Ohio	-\$11,771
Appliances	Texas	-\$6,147
Tables	New York	-\$4,536
Tables	Illinois	-\$4,310
Furnishings	Texas	-\$3,313
Bookcases	Pennsylvania	-\$2,897

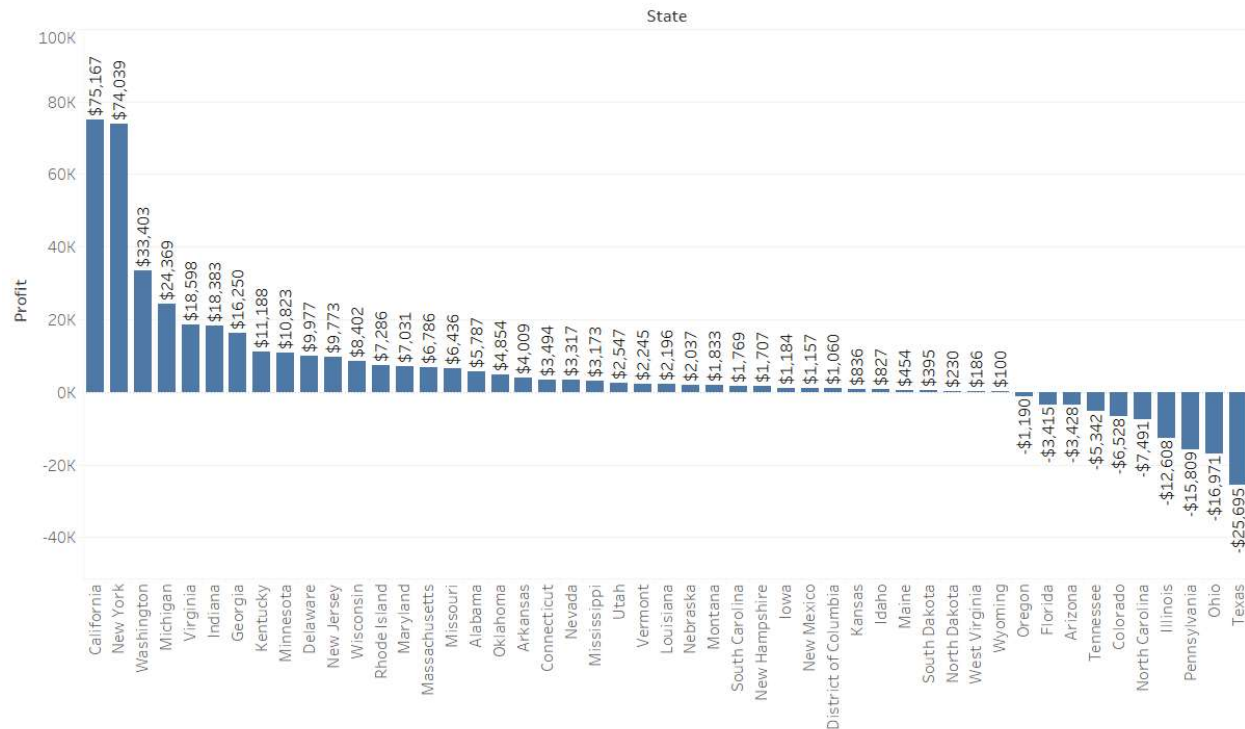
**4.2 Instead of completely discontinuing some underperforming products, can they be moved to the profitable locations? If so, which ones and where?**

**Answer :**

Yes, The products which are underperforming can be moved to profitable locations instead of discontinuing them.

Binders is an underperforming product in Texas state. its profit is \$-14,671, so it can be moved to another state New York which has \$11,096 profit. profit obtained by sales of appliances is \$-6,147 in Texas state which is negative, so it is also moved to profitable location california. California has \$6,970 profit by selling appliances. Profit obtained by machines sales is \$-11,771 in Ohio state, so the machine is generating profit in the negative therefore, it can be moved to a profitable location New York. Machine sales has \$17,320 profit in New York. Profit obtained by table selling in New York is \$-4,536. so it needs to move to a profitable location in Washington where profit from table sales is \$4,876. In Illinois, negative profit from the table is \$-4,310. So the table is underperforming in Illinois. it can be moved to Washington and Verginia where profit is \$4,876 and \$2,539 respectively. Profit earned from furnishing sales is \$-3,313 in Texas state so it is an underperforming product in Texas state. Therefore, Furnishing can be moved to a profitable location California where profit obtained from Furnishing is \$5597. Bookcases profit generated from sales is -2897 in Pennsylvania. Bookcases are an underperforming product so it can be moved to a profitable state which is California. The profit from Bookcases sales is \$1419 in California. So Yes, instead of discontinuing underperforming products, it should be move to profitable locations. Please see figure 4, 4.5, 4.6, 4.7, 4.8, 4.9 and 4.10.

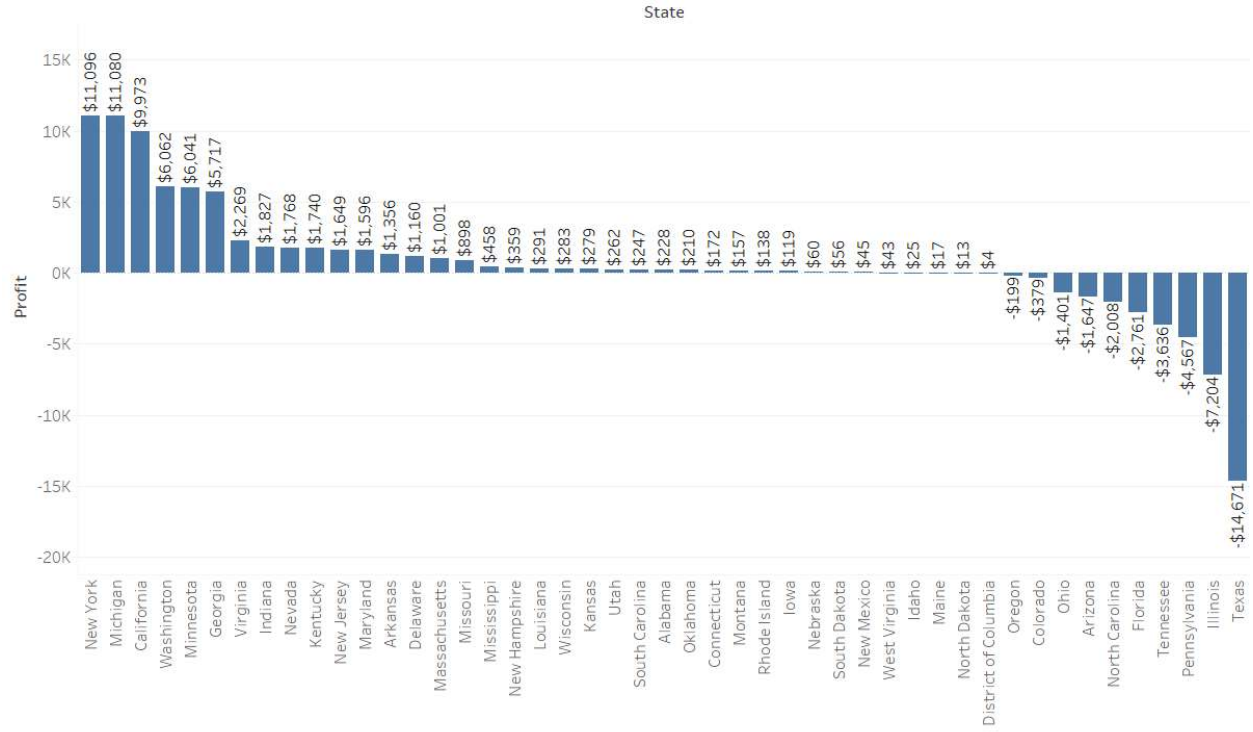
state/product analysis



Sum of Profit for each State. The data is filtered on Sub-Category, which keeps 17 of 17 members.

Figure 4: State/Product analysis for all subcategories in different states

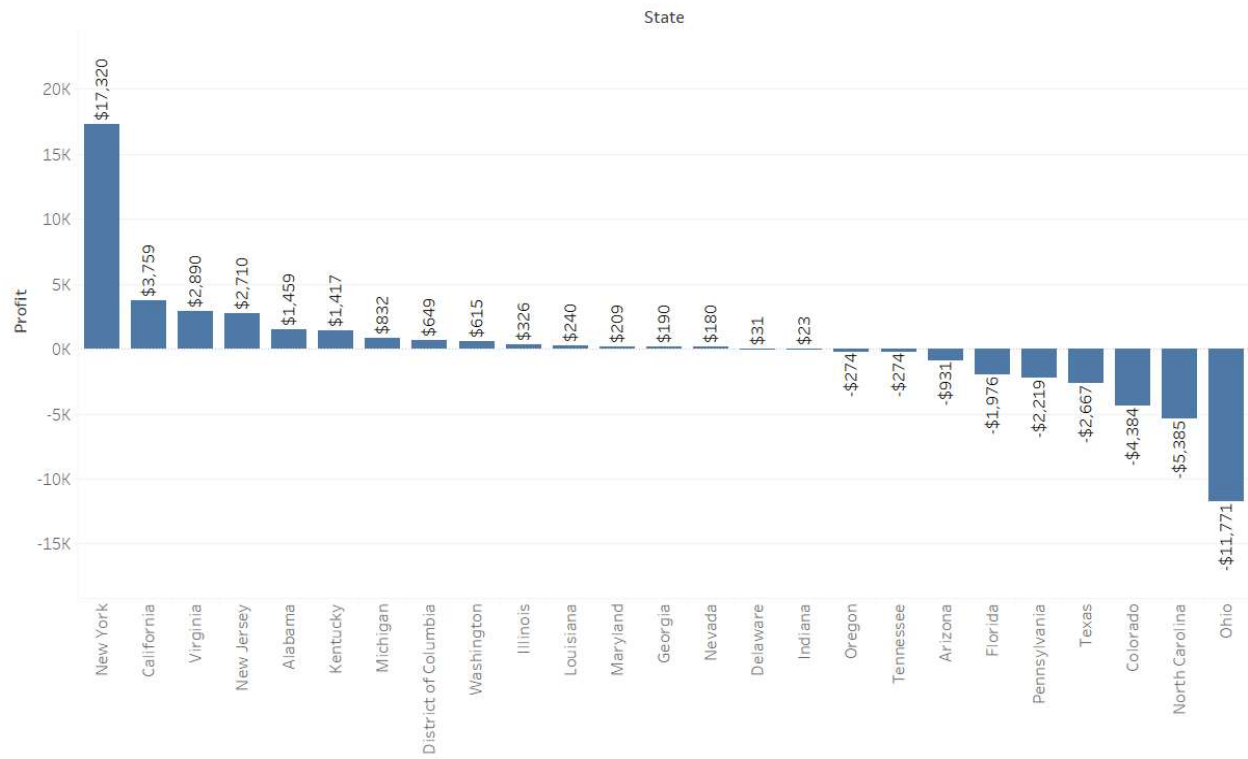
state/product analysis



Sum of Profit for each State. The data is filtered on Sub-Category, which keeps Binders.

Figure 4.1. state/product analysis for subcategory Binder in different states

## state/product analysis



Sum of Profit for each State. The data is filtered on Sub-Category, which keeps Machines.

Figure 4.2: state/product analysis for subcategory Machines in different states

## state/product analysis

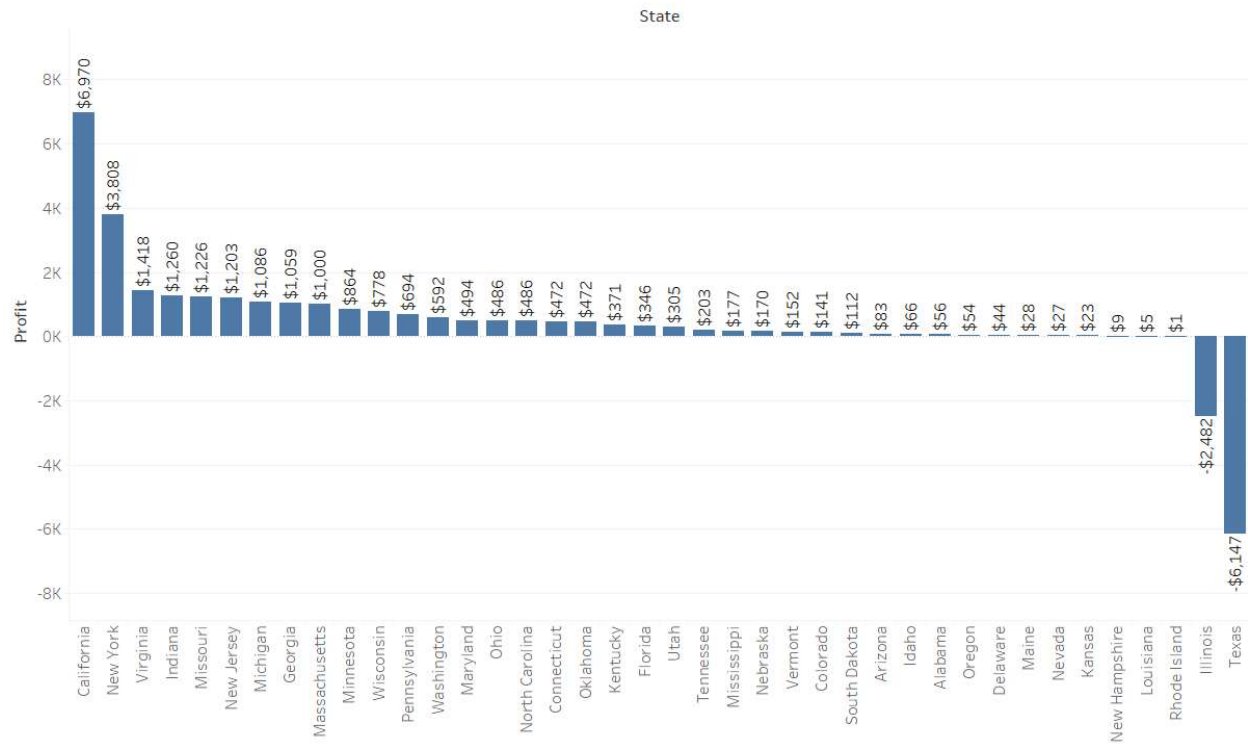
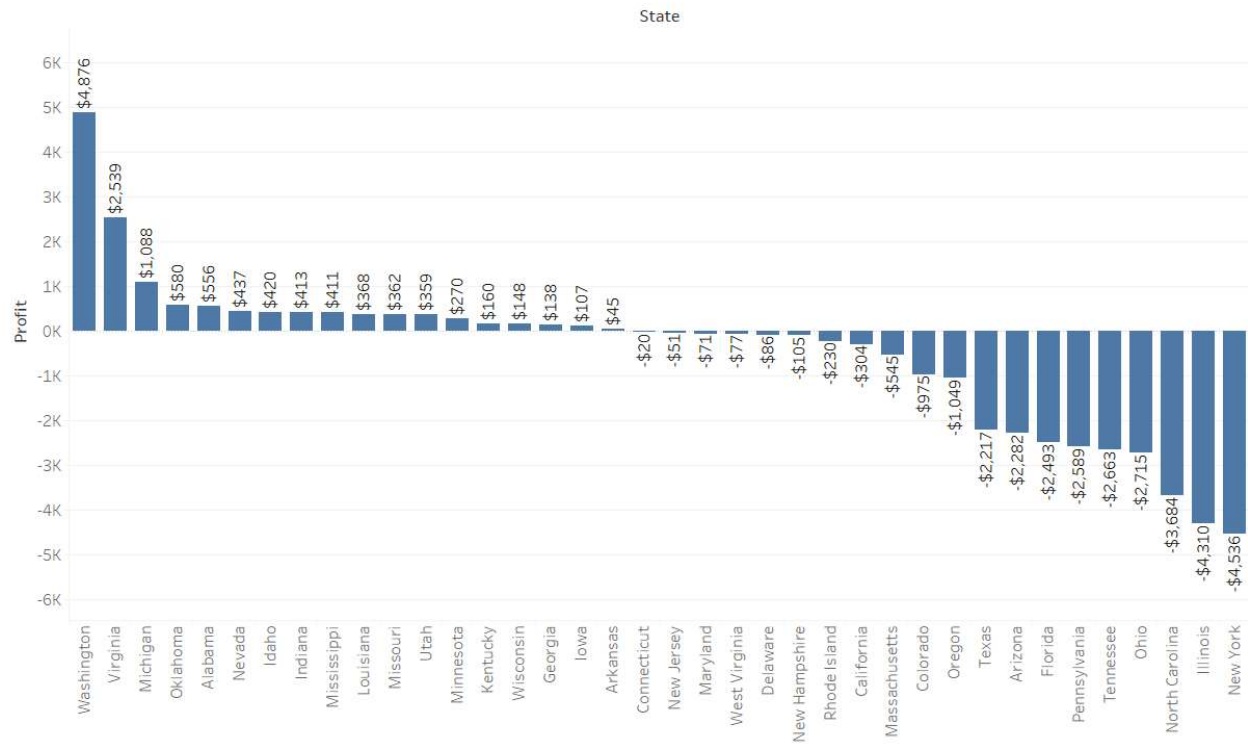


Figure 4.3: state/product analysis for subcategory Appliances in different states

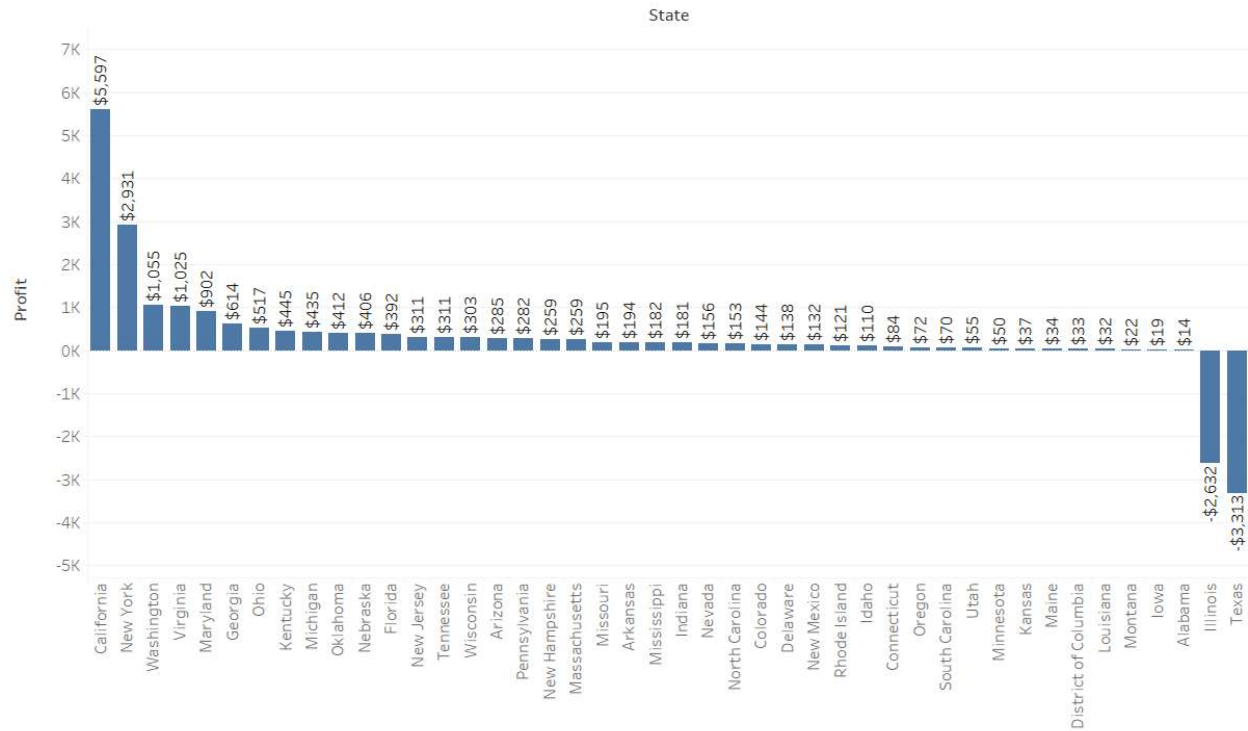
## state/product analysis



Sum of Profit for each State. The data is filtered on Sub-Category, which keeps Tables.

Figure 4.4: state/product analysis for subcategory Tables in different states

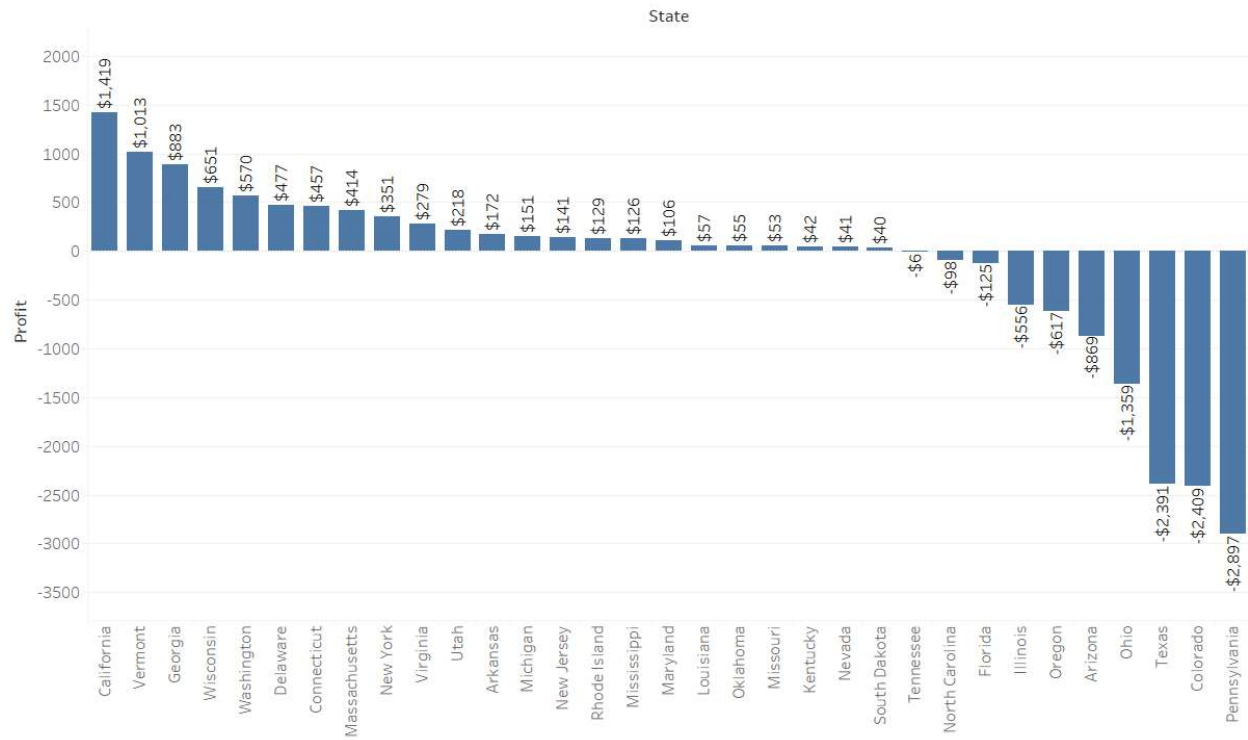
## state/product analysis



Sum of Profit for each State. The data is filtered on Sub-Category, which keeps Furnishings.

Figure 4.5 : state/product analysis for subcategory Furnishings in different states

## state/product analysis



Sum of Profit for each State. The data is filtered on Sub-Category, which keeps Bookcases.

Figure 4.6 : state/product analysis for subcategory Bookcases in different states



## Part 5. Longitudinal Analysis

### 5.1 Which quarter(s) is/are the most profitable?

#### Answer :

As shown in figure 5, the most profitable quarter is 2016 Q4 (Quarter 4, 2016). Profit for that quarter is \$38,026.

### 5.2 Which quarter(s) is/are the least profitable?

#### Answer :

As shown in figure 5, 2014 Q1( 2014 Quarter 1) is the least profitable. Its profit is around \$3,000(\$3,047).

Longitudinal Analysis



The trend of sum of Profit for Order Date Quarter.

Figure 5. Longitudinal Analysis

## Part 6 : Profit Forecast

### 6.1 What is going to happen to the profit in the next year?

**Answer :**

As shown in figure 6, profit for the next year is expected to increase to around \$11,500. By observing previous year profit, profit for next year would be increased. Actual profit is increasing year by year. To add to this, trend of actual profit line and estimated profit line is increasing. By observing figure 6, actual profit will be expected to be lower than the predicted profit results.

### 6.2 Is Superstore likely to be profitable in the future?

**Answer :**

Yes, superstore is likely to be profitable in the future. The reason is that, trend of profit line is increasing. so based on that I predict that profit will also be increased in the future. To add to this, the trend of estimated and actual profit line is increasing. So yes, superstore is likely to be profitable in the future.

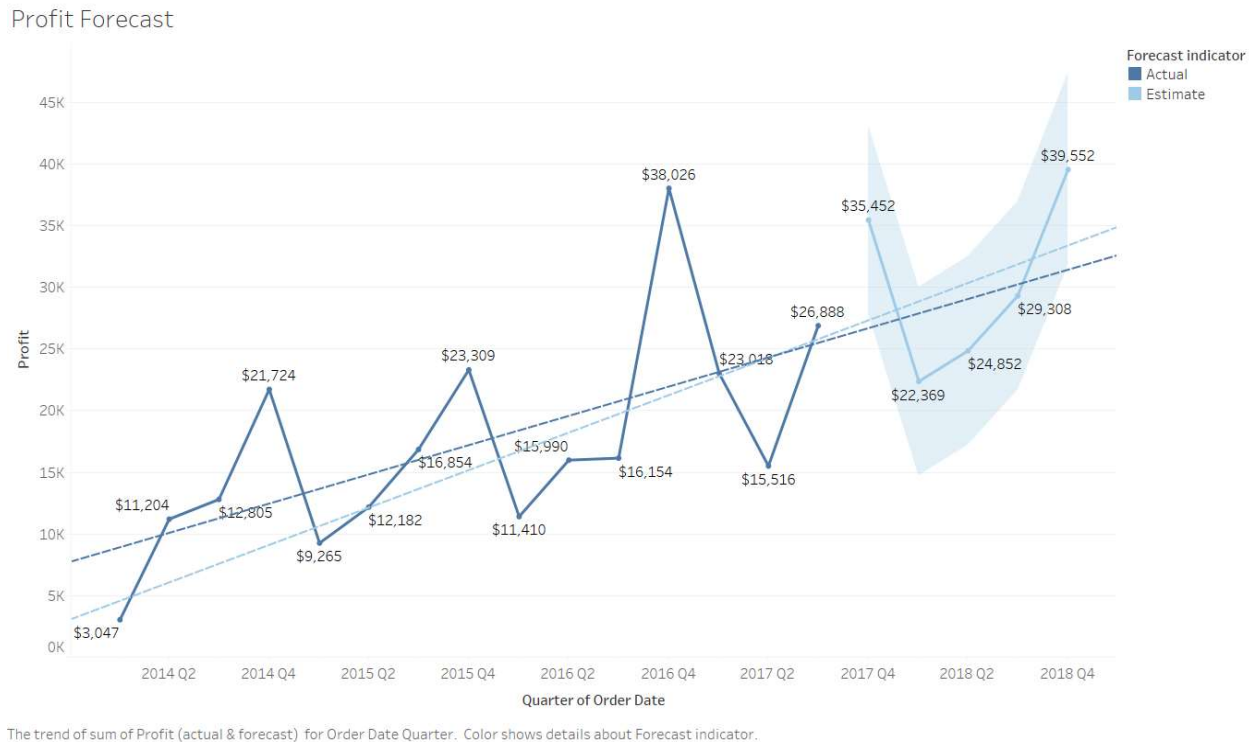


Figure 6 : Profit Forecast

Thank you for reviewing my report. I hope that this information will help your company to improve performance and increase profit. I am ready to solve your doubts if you have any unclear information.

Best regards,

Kolinben Rakeshkumar Sukhadia, Business Intelligent Officer