



# SUPERSTORE

Niithiya



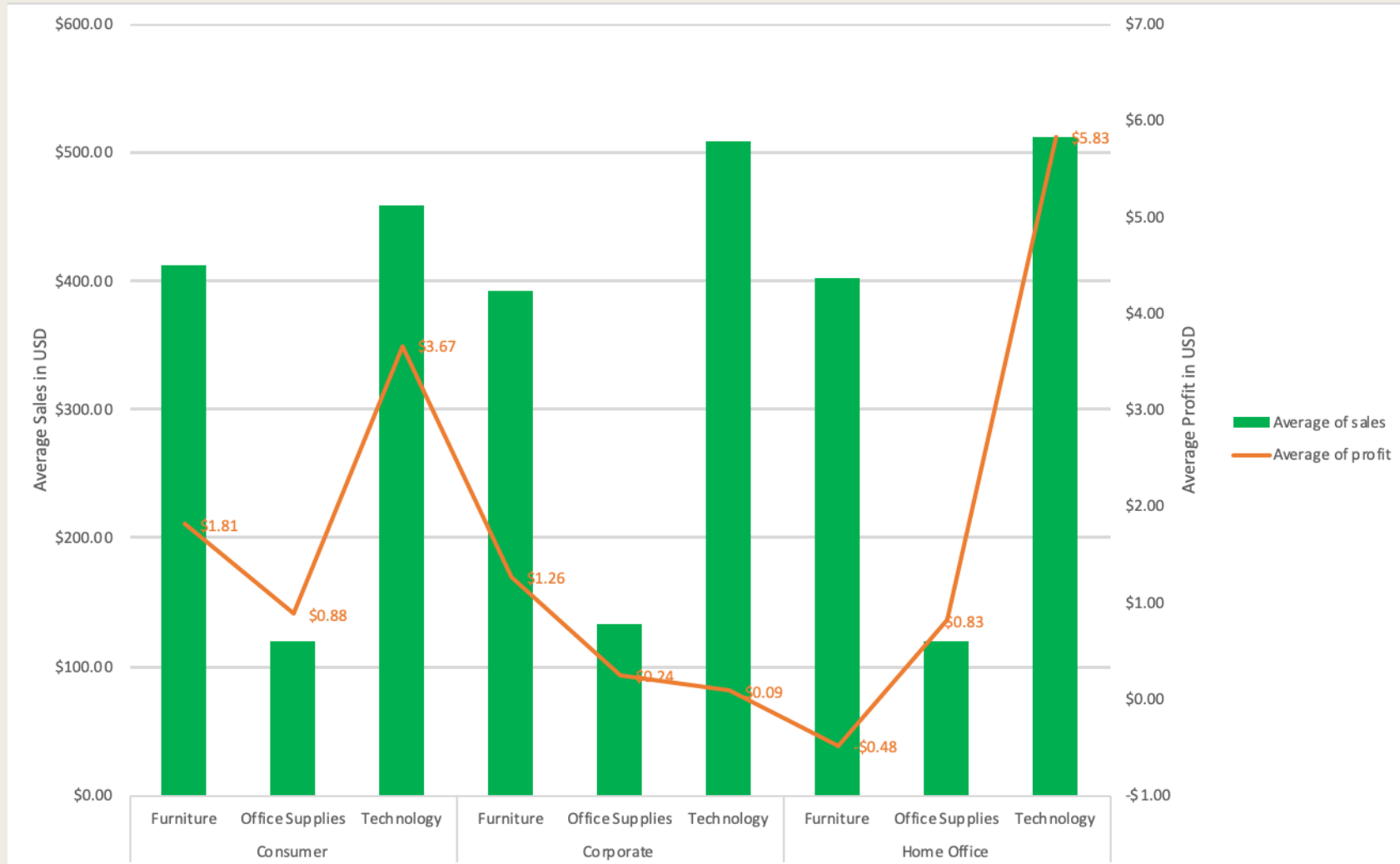
# PROBLEM STATEMENT

Superstore's Regional Director wants to understand about Superstore and the impact of returns on the profits of specific products in Furniture and Office — in the central United States in 2019. Conduct an analysis to make data-driven recommendations based on orders, product categories, and returns.

# GOALS

- Understanding company performance in terms of sales and profits by segments
- Understanding which state has the highest and lowest return rate
- Analyzing if shipping mode has an impact on returns
- Impact of returns on profits

# GOAL #1: Company performance in terms of sales and profits



# Insights

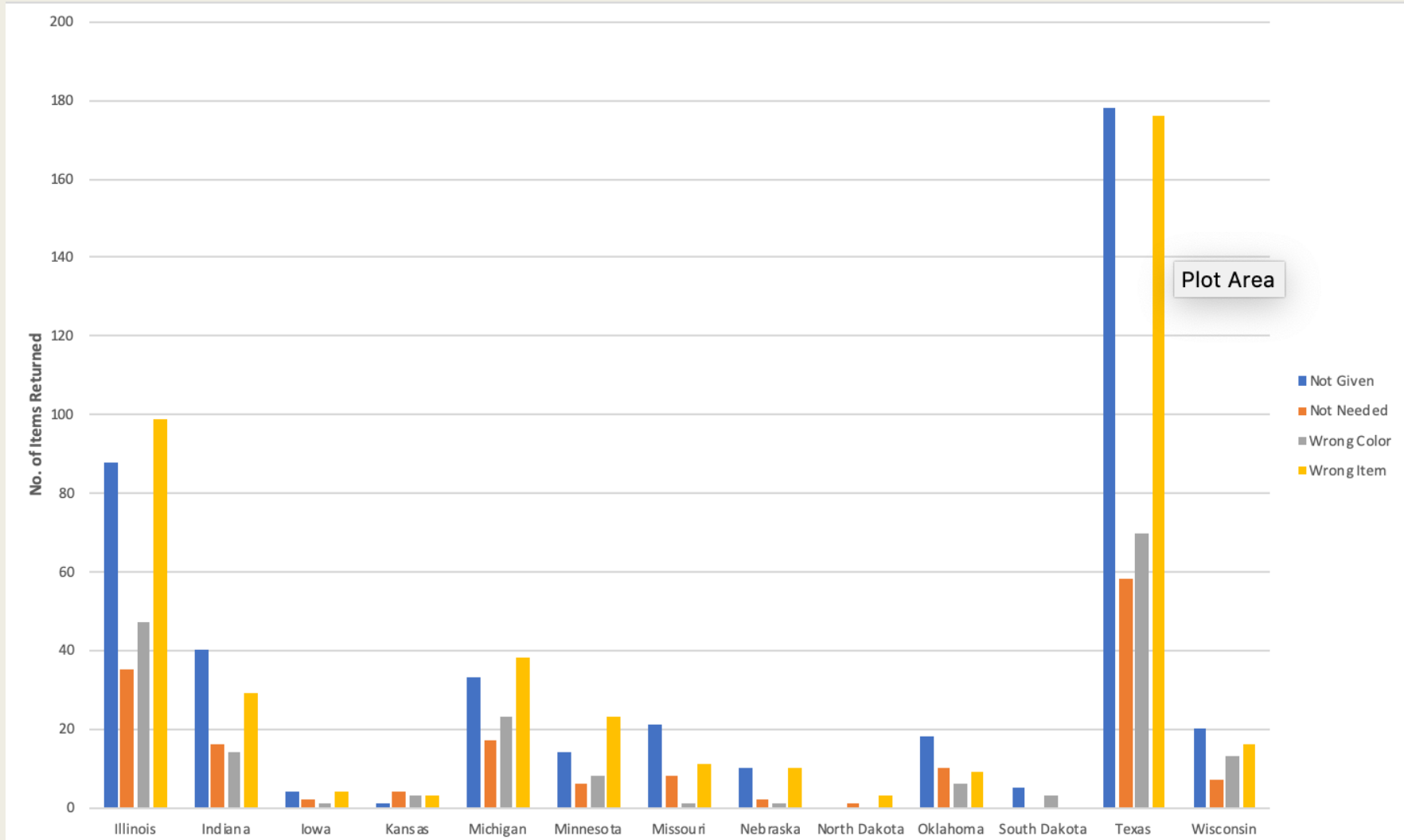
Row Labels	Average of sales	Average of profit
Consumer	\$242.59	\$1.60
Furniture	\$413.18	\$1.81
Office Supplies	\$120.02	\$0.88
Technology	\$458.78	\$3.67
Corporate	\$255.23	\$0.41
Furniture	\$393.34	\$1.26
Office Supplies	\$133.44	\$0.24
Technology	\$509.39	\$0.09
Home Office	\$251.67	\$1.54
Furniture	\$402.04	-\$0.48
Office Supplies	\$120.69	\$0.83
Technology	\$512.51	\$5.83
Grand Total	\$248.11	\$1.24

- Technology segment has the **highest** sales across all segments and high profit in consumer and home office segments; faces low profit in corporate segment.
- Office supplies segment is the **lowest** among all segments indicating a growing trend towards technology.

# Recommendation

- Possible indication of how customers' spending habits are increasingly shifting towards personal use and away from traditional office setting
- Superstore could perhaps move towards catering to consumers in a technology-oriented direction and reduce reliance on traditional office supplies in order to cut costs

# GOAL #2: Understanding Return Rates



# Insights

Count of reason_returned	Column Labels				
Row Labels	Not Given	Not Needed	Wrong Color	Wrong Item	Grand Total
✚ Illinois	88	35	47	99	269
✚ Indiana	40	16	14	29	99
✚ Iowa	4	2	1	4	11
✚ Kansas	1	4	3	3	11
✚ Michigan	33	17	23	38	111
✚ Minnesota	14	6	8	23	51
✚ Missouri	21	8	1	11	41
✚ Nebraska	10	2	1	10	23
✚ North Dakota		1		3	4
✚ Oklahoma	18	10	6	9	43
✚ South Dakota	5		3		8
✚ Texas	178	58	70	176	482
✚ Wisconsin	20	7	13	16	56
Grand Total	432	166	190	421	1209

- Based on the data according to the states, the highest returns is in Texas and lowest is in North Dakota, across all segments.
- Interestingly, the no. of wrong items that were the highest were in Texas.



# Recommendation

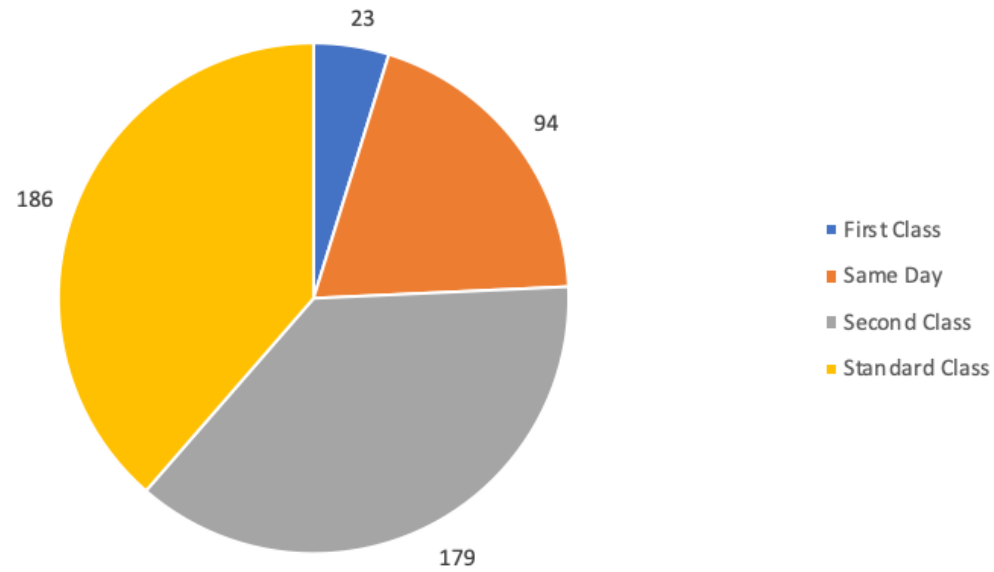
- Possible recommendation is that perhaps the staff in Texas needs more training to prevent such mistakes from occurring again

# GOAL #3: Understanding if shipping mode affects rate of returns

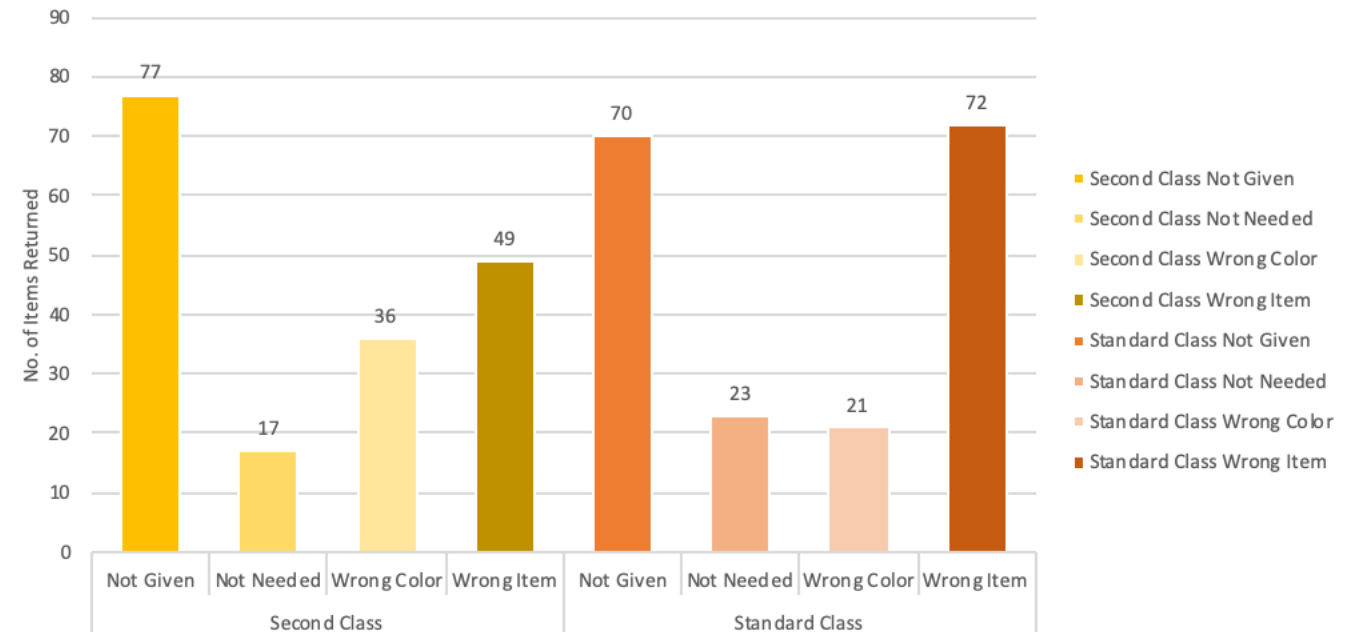
Count of sub_category	Column Labels												
Row Labels	Illinois	Indiana	Iowa	Kansas	Michigan	Minnesota	Missouri	Nebraska	North Dakota	Oklahoma	South Dakota	Texas	Wisconsin
<b>First Class</b>	<b>15</b>	<b>4</b>	<b>1</b>		<b>6</b>	<b>1</b>	<b>1</b>			<b>5</b>		<b>23</b>	<b>4</b>
Not Given	9	3			2	1				3		7	2
Not Needed	2		1									4	
Wrong Color	1	1			2					1		6	2
Wrong Item	3				2		1			1		6	
<b>Same Day</b>	<b>58</b>	<b>27</b>	<b>1</b>	<b>3</b>	<b>20</b>	<b>14</b>	<b>11</b>	<b>7</b>		<b>11</b>		<b>94</b>	<b>6</b>
Not Given	20	13		1	3	5	9	1		5		28	
Not Needed	7	2		1	3	1		2		4		12	1
Wrong Color	10	5		1	3	1				1		11	2
Wrong Item	21	7	1		11	7	2	4		1		43	3
<b>Second Class</b>	<b>81</b>	<b>33</b>	<b>6</b>	<b>3</b>	<b>41</b>	<b>14</b>	<b>15</b>	<b>6</b>	<b>1</b>	<b>17</b>	<b>3</b>	<b>179</b>	<b>21</b>
Not Given	26	13	3	1	10	6	6	3		6	1	77	9
Not Needed	8	3	1	1	3	1	6			1		17	2
Wrong Color	17	7			14	2		1		5	2	36	6
Wrong Item	30	10	2	1	14	5	3	2	1	5		49	4
<b>Standard Class</b>	<b>115</b>	<b>35</b>	<b>3</b>	<b>5</b>	<b>44</b>	<b>22</b>	<b>14</b>	<b>10</b>	<b>3</b>	<b>10</b>	<b>5</b>	<b>186</b>	<b>25</b>
Not Given	45	14	1	1	22	6	7	4		2	4	70	9
Not Needed	13	4		2	3	2	2	3		2		23	
Wrong Color	23	3	1		5	5				1	1	21	8
Wrong Item	34	14	1	2	14	9	5	3	3	5		72	8
<b>Grand Total</b>	<b>269</b>	<b>99</b>	<b>11</b>	<b>11</b>	<b>111</b>	<b>51</b>	<b>41</b>	<b>23</b>	<b>4</b>	<b>43</b>	<b>8</b>	<b>482</b>	<b>56</b>

# Highest Returns in Texas

Texas Count of Returns



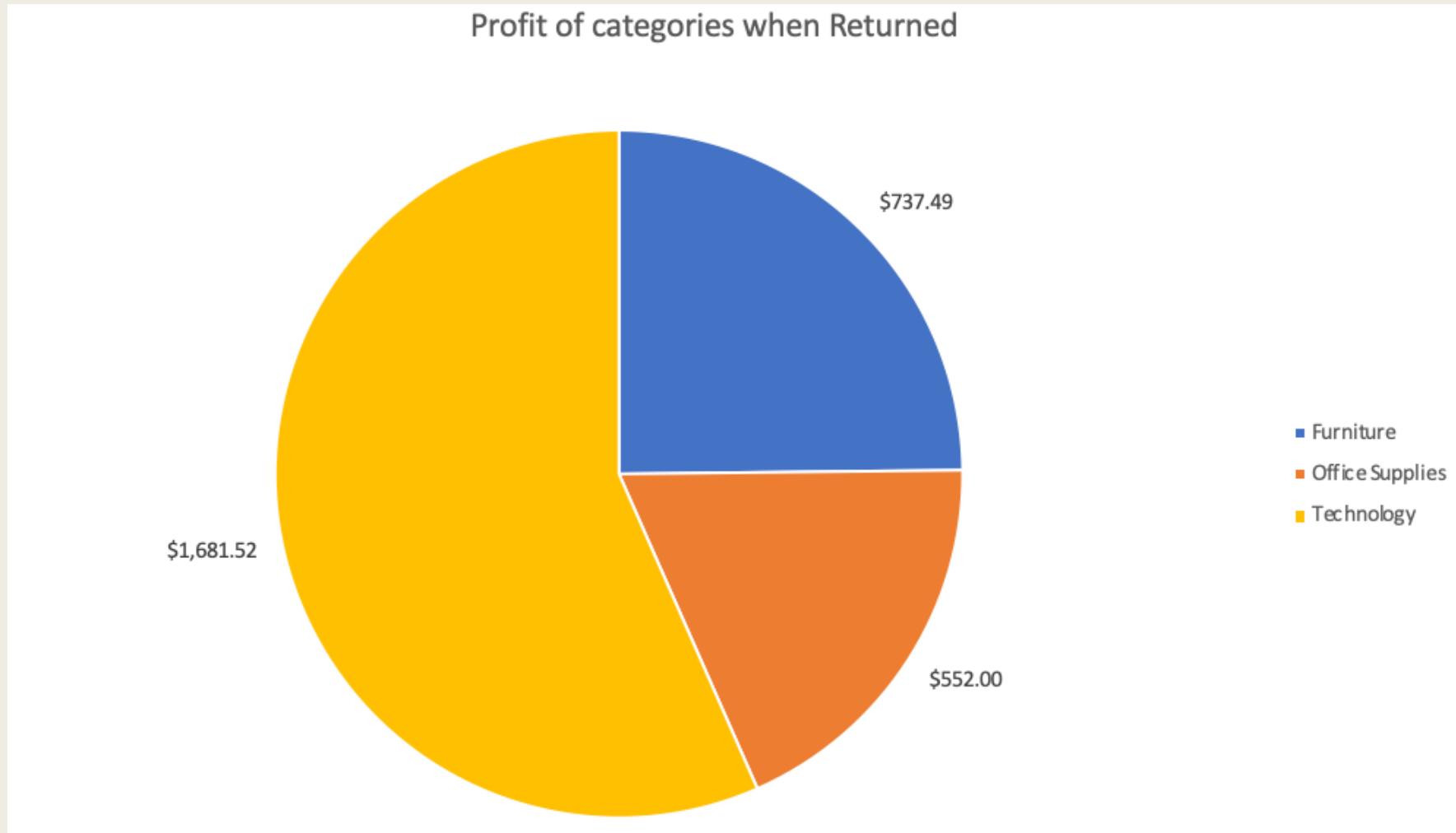
Texas No. of Returns in low-tier shipping modes



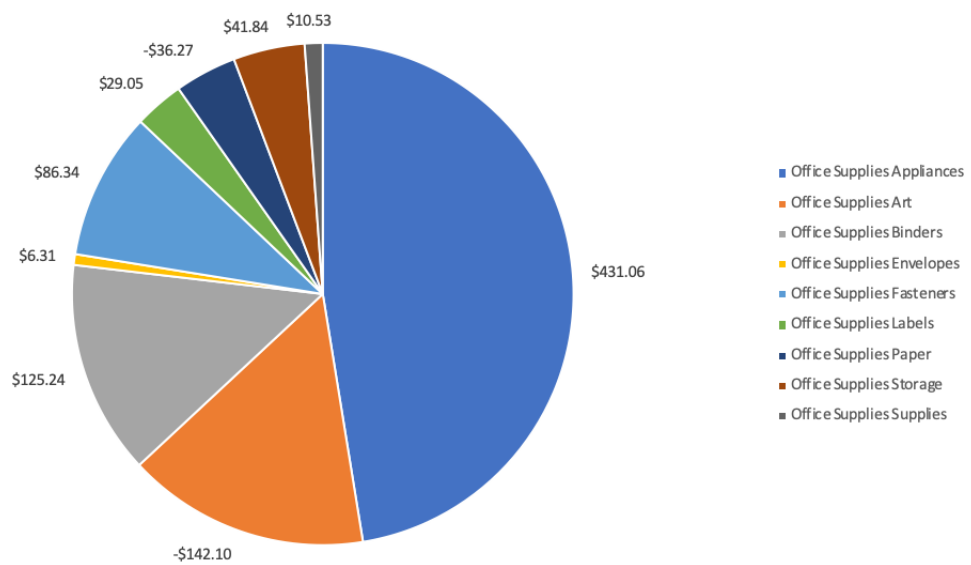
# Insights & Recommendation

- Largest number of returns in Texas (< 400+) and lowest number of returns in North Dakota (4)
- “Wrong item” and “Wrong Color” make up almost 50% of returns in Texas which tend to fall under Second Class and Standard Class shipping
- Customers who returned products and “did not give reasons” and stated “not needed” were about 49.7%
- Recommendation: Need to offer better shipping options as well as training of staff in handling Standard Class and Second Class shipping options in order to retain customers in Texas

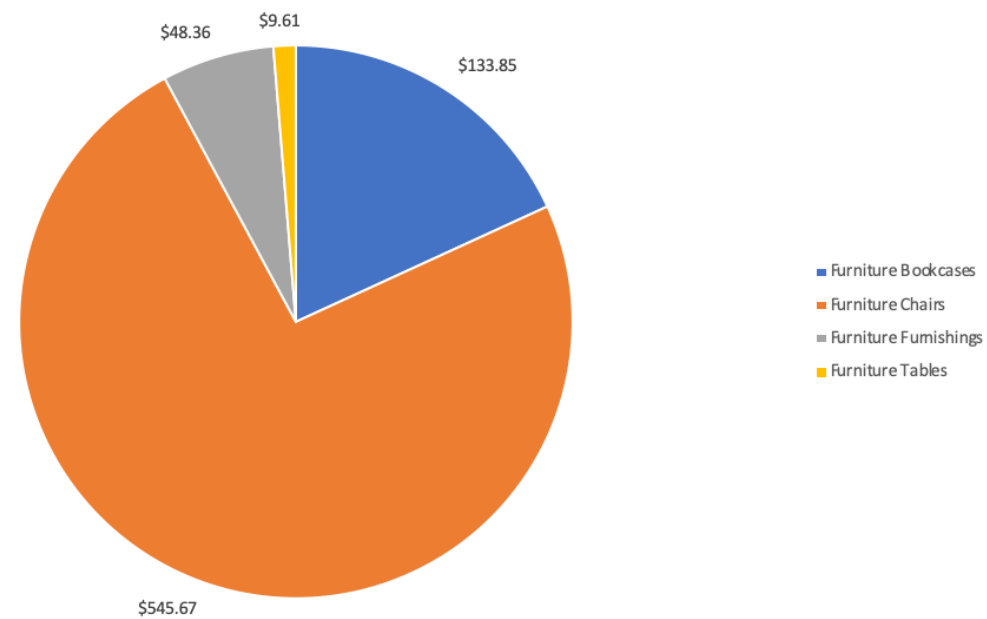
# GOAL #4: Impact of Returns on Profits



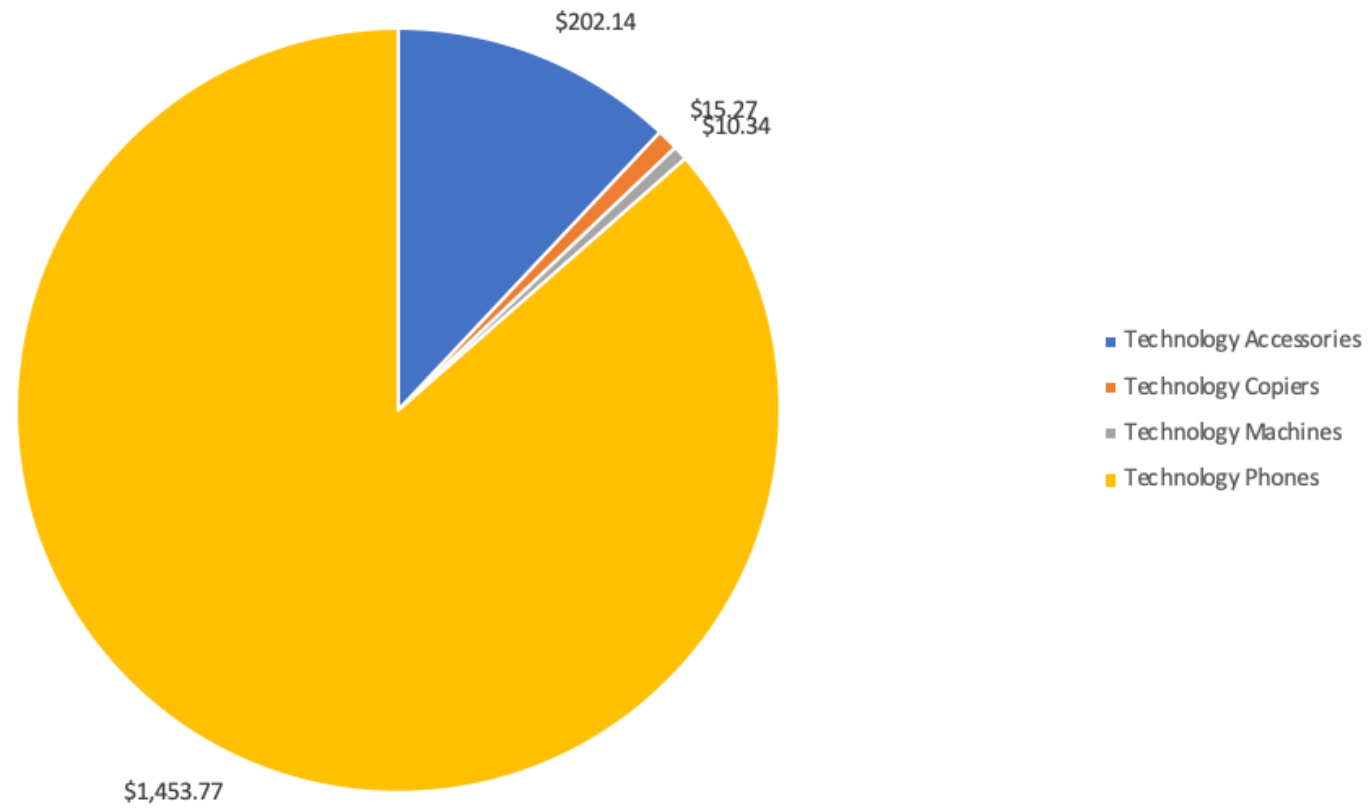
Profit of Office Supplies when Returned



Profit of Furniture when Returned



Profit of Technology segment when Returned



# Insights & Recommendation

- In the Furniture category, chairs incur highest loss of profit due to “wrong item” and reasons were “not given”.
  - *Recommendation: A need to look into the quality of our chairs and inspect our packaging process*
- In Technology, phones have the highest amount of profits but were returned often due to “wrong item” as one of the top reasons.
  - *Recommendation: Provide customers incentives such as free shipping since “wrong item” is a pertinent problem. In the meantime, provide our customers better user-friendly tracking experience on our website*
- Interestingly, in Office Supplies, **Art and Paper products** are already in the red for profits (-\$142.10) .
  - *Recommendation: Perhaps an indication that Paper products are not sustainable in the long run and the need to push up the unit cost for Art products*



# Future Plans

- Understanding discounts and how it is applied into sales
- Profit margin and its impact on the volume of sales
- Customers not specifying their reason for returning certain products and how that could impact sales