

# Case Study Project - Office Supplies

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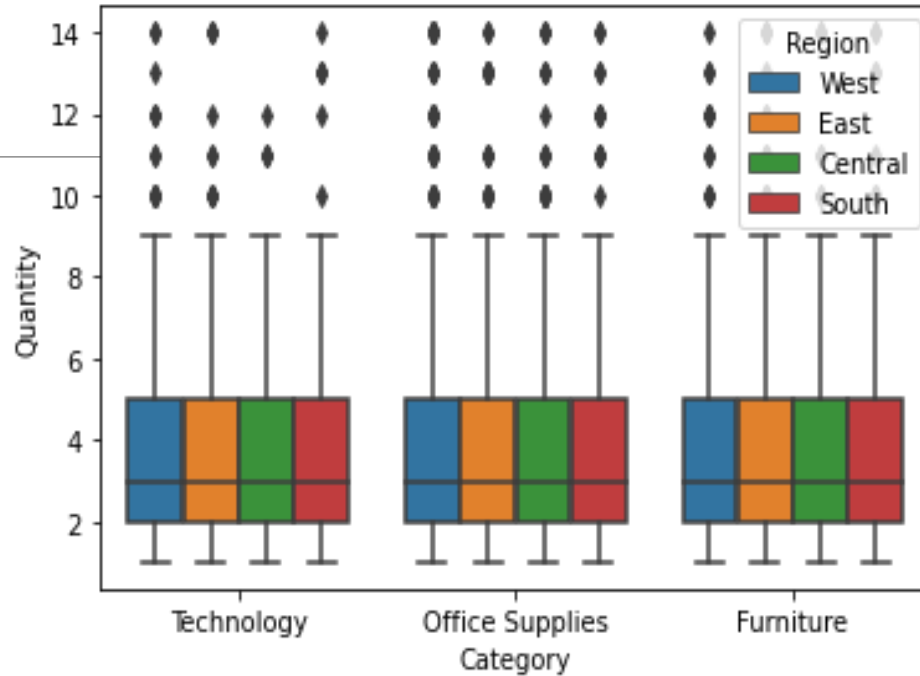
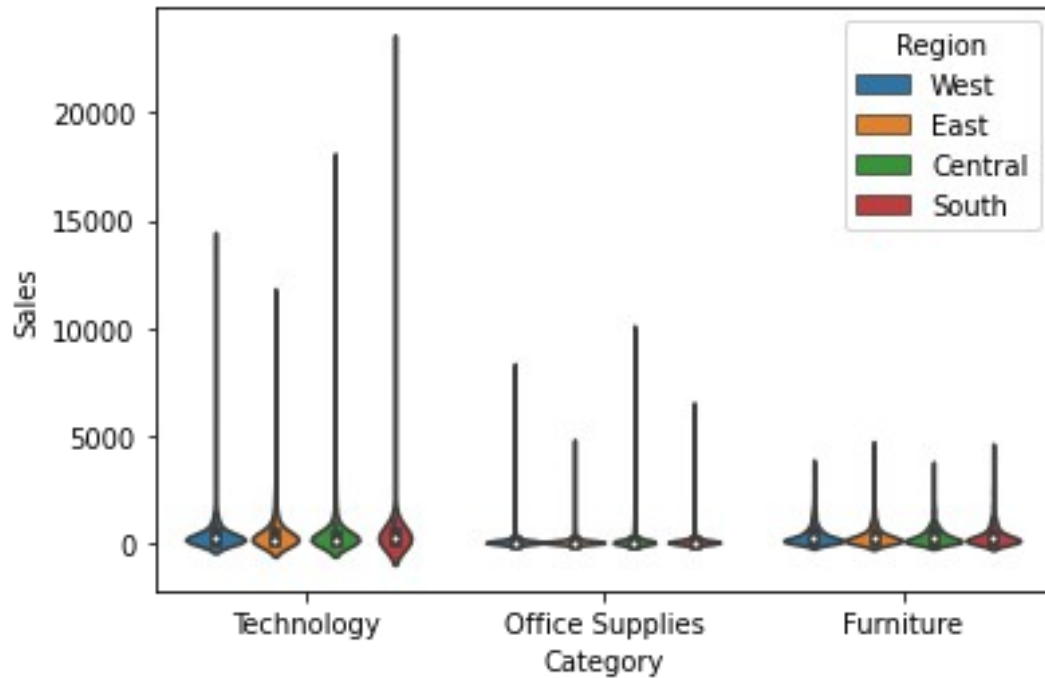
# An overview of the project and business goals

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Buisines case : Pens & Printers is a national office supplies chain specializing on office supplies products , lately the Head of Sales thinks that sending office supplies out of warehouses in four regions: East, West, South, and Central, leads to large amounts of unsold products in some locations

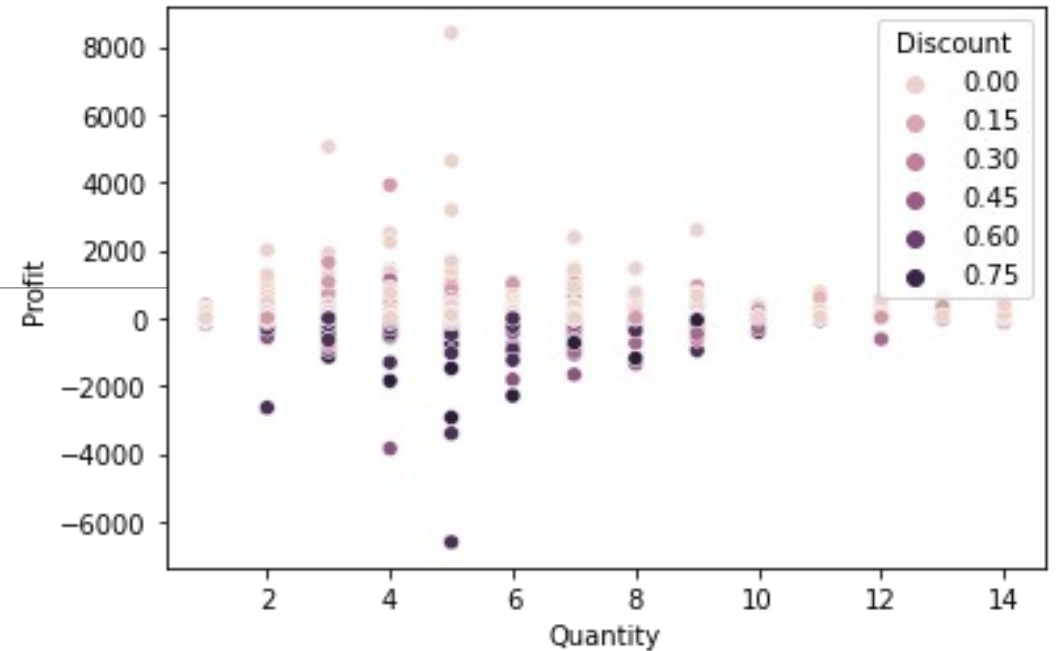
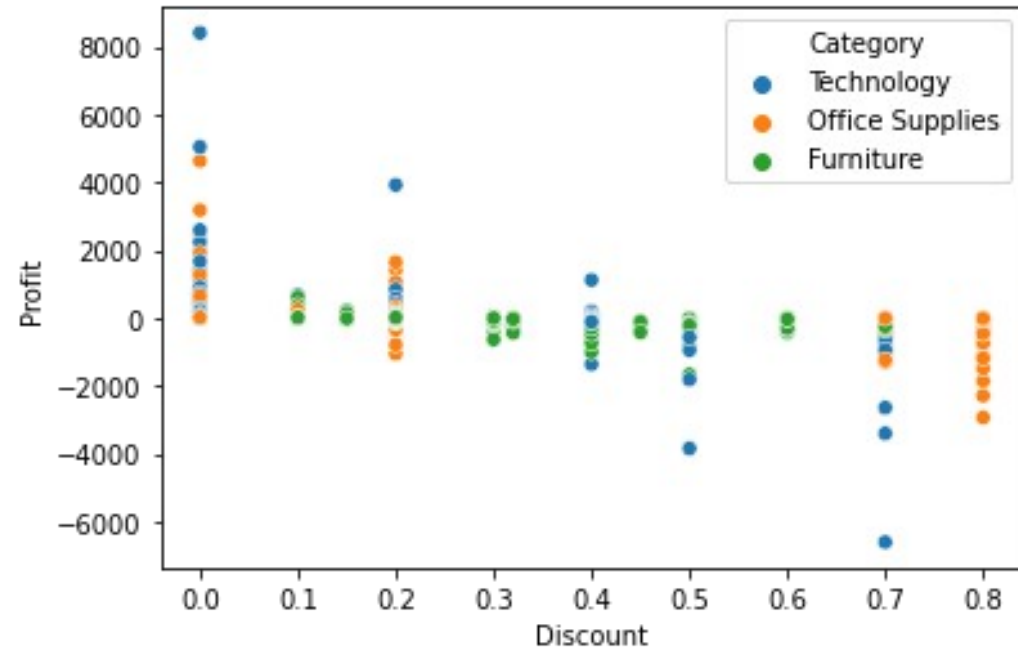
Projects and business goals : find it out if the claim of the Head of Sales is true or not and propose solutions if it was the case ,proposing some future actions to be taken

# key findings



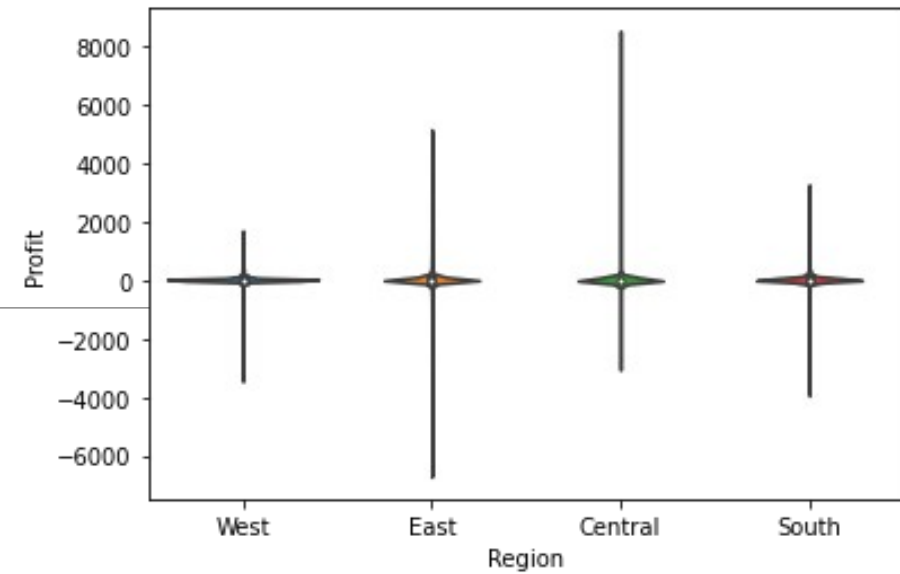
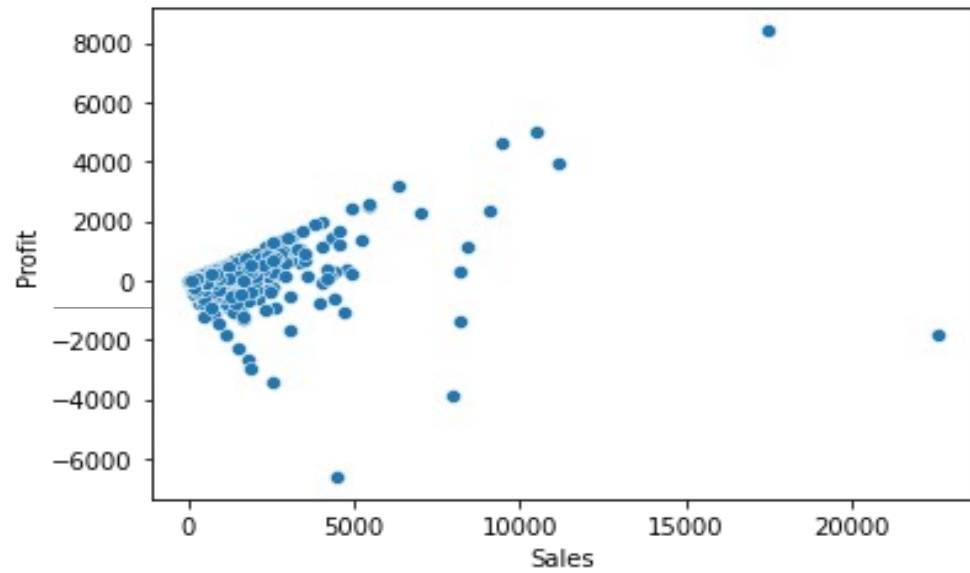
1 : On the first graph on the left, we can clearly see that sales are low in the office supplies and furniture category compared to technology.

2 : On the second graph, the quantity ordered in the four regions, including all categories, appears equal

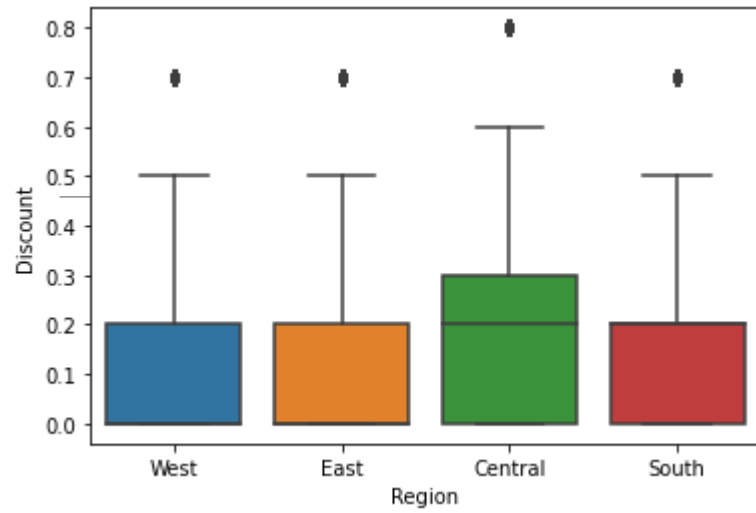


1 : In the first graph on the left, it is clear that profits are affected by the high discount for the office supplier category, even for the technology category

2: In the second graph, there is a large discount for an identical quantity ordered and we can see that the profits are affected by this action.



On this graph, there is a weak positif correlation between sales and profit and I think this is due to the intervention of many discounts.



Orders in the central region have more discounts than other regions.

# Customer Question

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1 : Are there products that do not sell as well in some locations?

Looking at the first few graphs, we can see that all categories are ranked equally across all regions, but the sales graph shows that only technology sales are good and the other two are weak, which makes the sales manager think that there is a large amount of unsold product.

2 : Are there any other patterns over time in each region that you can find in the data?

Profits are rather low in the Eastern region but high in the Central region. Technology sales in the Southern regions are also quite high compared to other regions.

## recommendations to the business for future work

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1 : try to lower the discount percentage to a maximum of 40% and it is available from 9 items at least and give more discounts to low selling areas.

2 : sales for both furniture and offices supplies category are low so I think there is no need to give first class and the same day shipments offers for those categories and give more time and resources for the technology category

```
supplies[supplies['Category']=='Furniture']['Ship Mode'].value_counts()  
✓ 0.3s
```

Standard Class	1248
Second Class	427
First Class	327
Same Day	119

Name: Ship Mode, dtype: int64

```
supplies[supplies['Category']=='Office Supplies']['Ship Mode'].value_counts()  
✓ 0.3s
```

Standard Class	3638
Second Class	1152
First Class	910
Same Day	326

Name: Ship Mode, dtype: int64