

Northwind Analysis

Northwind Database

Questions Being Evaluated

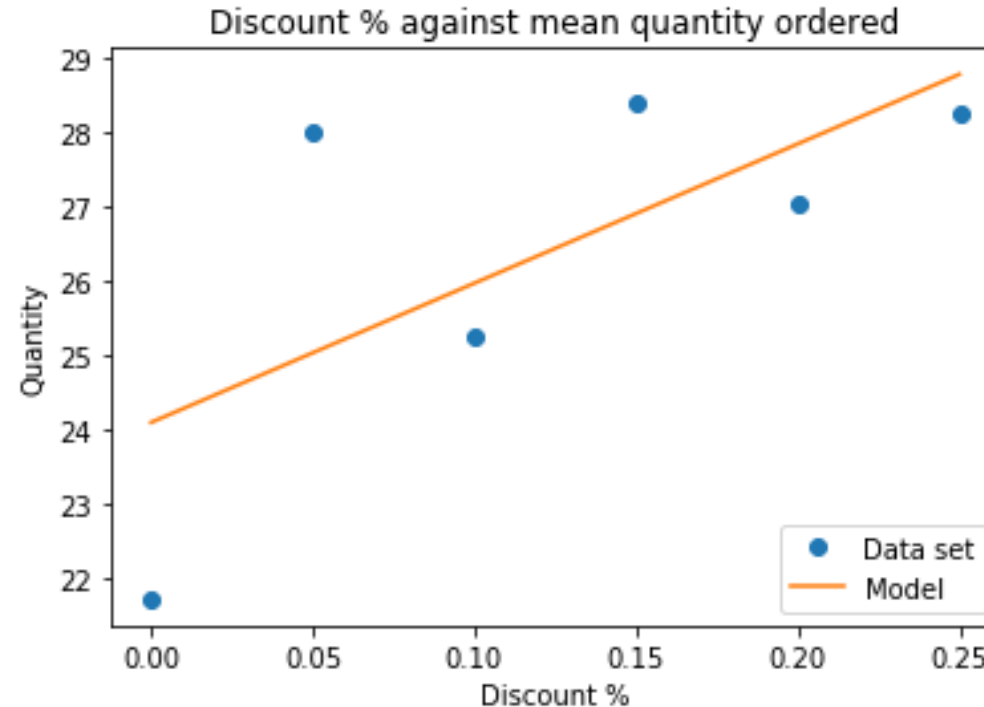
- 1 - "Do discounts have a statistically significant effect on the number of products customers order? If so, at what level(s) of discount?"
- 2 - "Does the holiday period (defined as November and December) have a statistically significant negative impact on the number of orders placed?"
- 3 – "Do lower priced items have statistically significant higher order volumes?"
- 4 – "Does mean order quantity vary by region by a statistically significant amount?"
- 5 – "Does increasing order quantity have a statistically significant correlation with increasing freight cost?"

Question 1:

"Do discounts have a statistically significant effect on the number of products customers order? If so, at what level(s) of discount?"

Conclusion:

There is a positive correlation between discount and order quantity.



Recommendation:

Discounting is an effective way of increasing order quantities, in the event of a business objective to increase sales quantity discounting would be an effective mechanism.

Further work:

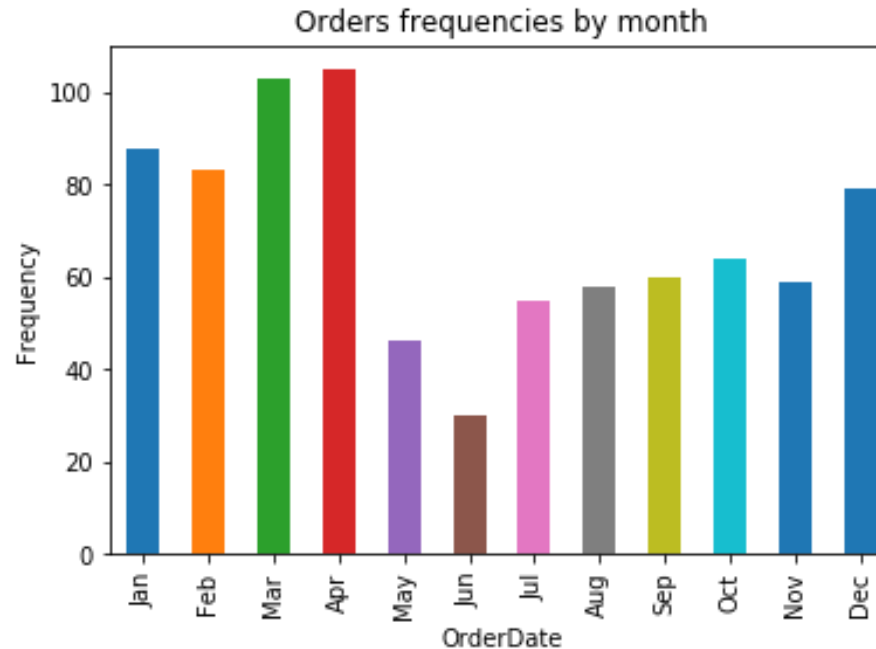
Establish effect on profitability.

Question 2:

"Does the holiday period (defined as November and December) have a statistically significant negative impact on the number of orders placed?"

Conclusion:

There is not a negative effect on the number of orders during the holiday season.



Recommendation:

If looking to stabilise demand there are other periods in the year which would have a greater effect than focusing on the holiday period.

Further work:

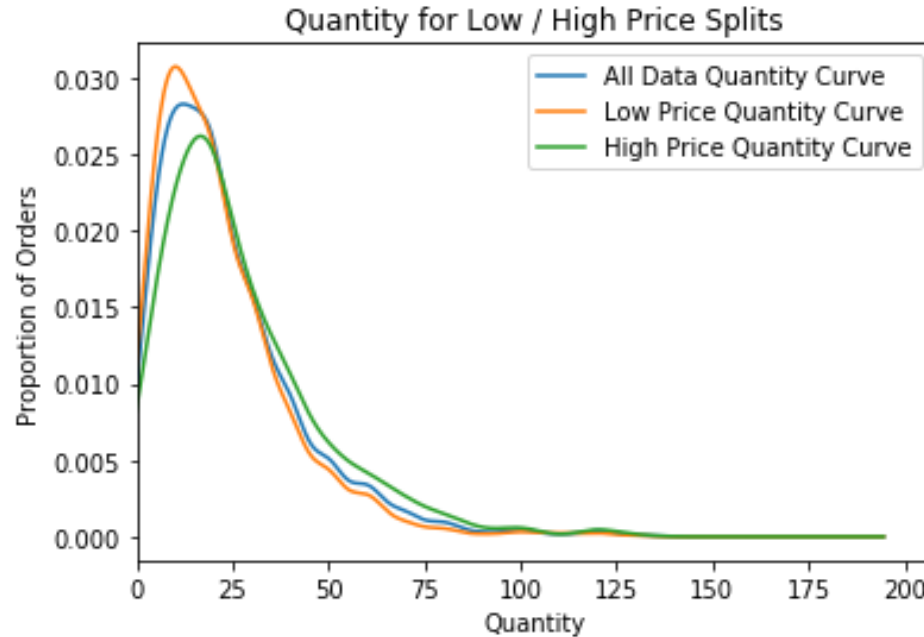
Establish driving factors of high and low order volumes.

Question 3:

“Do lower priced items have statistically significant higher order volumes?”

Conclusion:

There is a non-negligible correlation between decrease in item price and the increase in quantity ordered.



Recommendation:

In combination with work completed on discounting drive higher sales of high value goods with discounts.

Further work:

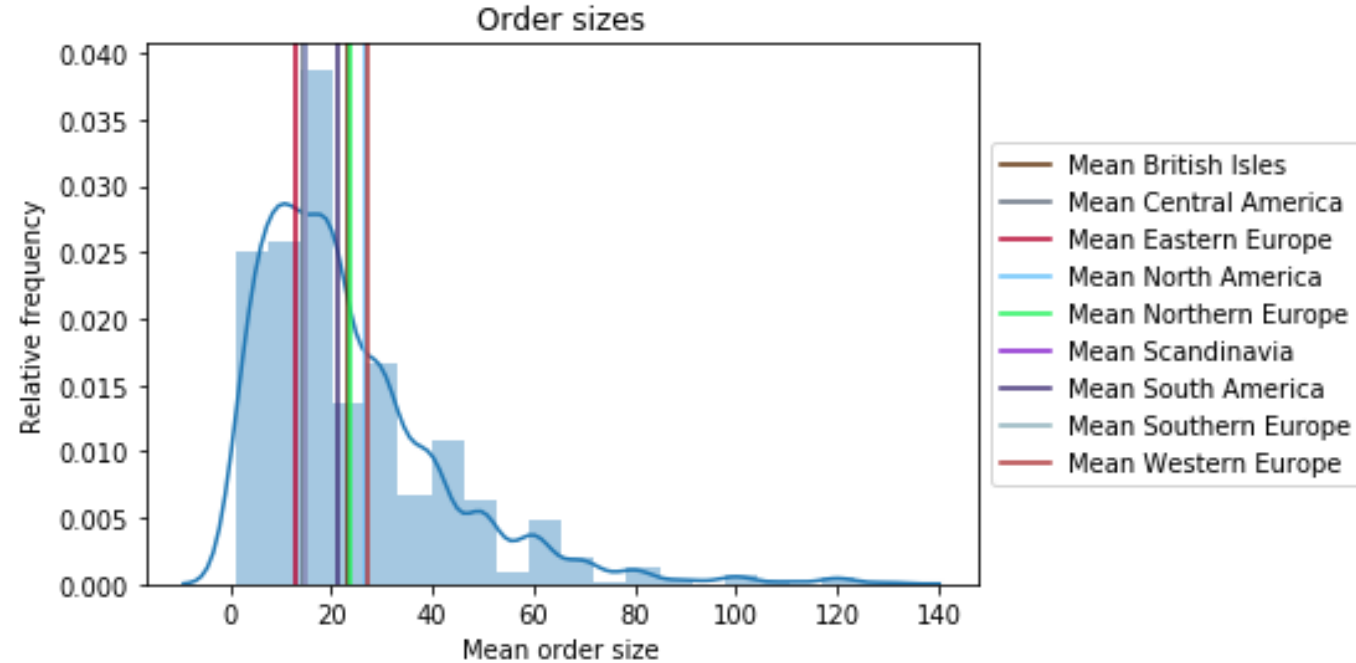
Increased detail in price breakdown beyond low/high

Question 4:

"Does mean order quantity vary by region by a statistically significant amount?"

Conclusion:

There is a non-negligible variation in the mean order size from different regions.



Recommendation:

Potential targeted regional promotions to improve order size in regions with lower mean order sizes.

Further work:

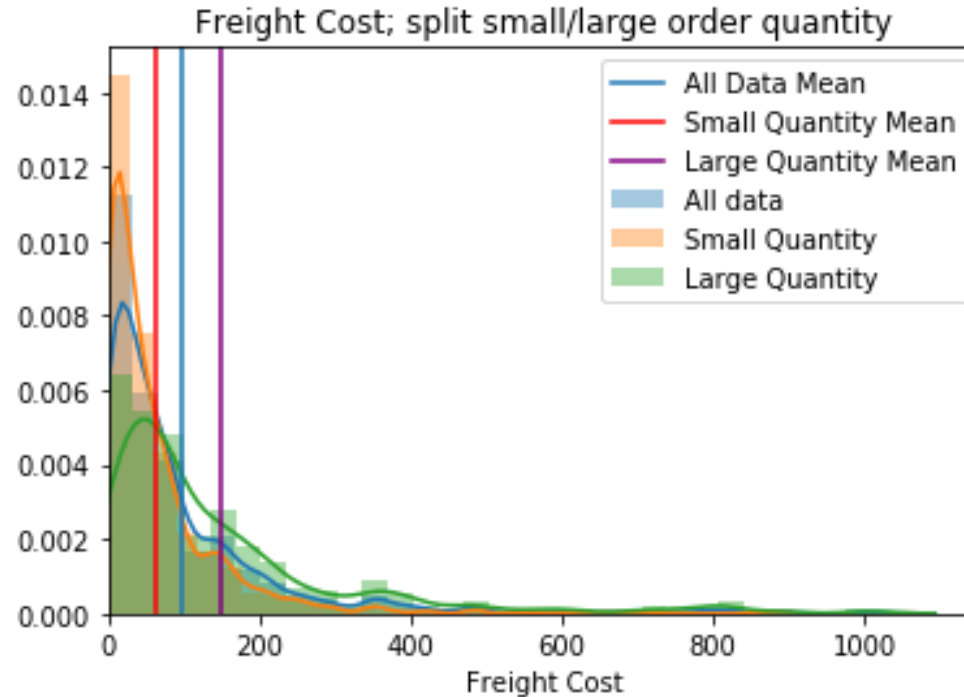
Establish if there are particular products which have regional variations in demand.

Question 5:

“Does increasing order quantity have a statistically significant correlation with increasing freight cost?”

Conclusion:

There is a non-negligible correlation between increase in order quantity and the increase in freight price.



Recommendation:

Ensure that freight prices are proportionate, the current variance in price per item is high.

Further work:

Establish if the freight price is linked to the order value and/or region ; disproportionately high freight prices could disincentives customers.