



NORTHWIND
COMPANY

RECOMMENDATIONS
FOR STAKEHOLDERS

Overview

THE NORTHWIND TRADING COMPANY



- Today's shareholders meeting data analysis agenda:
 - Approach
 - Statistical Tests Used
 - Hypothesis Tests & Findings
 - Company Stakeholder Key Takeaways



- Approach
 - Meaningful business driven hypothesis tests were created using the data provided by Northwind.
- There were three statistical metrics used:
 - Cohen's D, ANOVA test, and Student t-test.
- Statistically significant differences were found in two of the three hypothesis tests.



Hypothesis Tests & Findings

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- The following hypothesis tests were conducted:

- *Is there a statistically significant difference in having the top product vs. having a product in the top 5 bestselling products?*
- *Is there a statistically significant difference between the supplier's total profit and quantity ordered by customers?*
- *Does the price of the product change based on region?*



H_0 vs. H_A



Hypothesis Tests & Findings

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- *Is there a statistically significant difference in having the top product vs. having a product in the top 5 bestselling products?*
- **Null Hypothesis:** there is no difference in order quantity between top 5 products
- **Alternative Hypothesis:** there is a difference in order quantity between top 5 products
- **Results:** There is not a statistical significant difference between the top selling product and the remaining top four products. Having the most popular item does not matter.

Product Name	Quantity
Camembert Pierrot	1577
Raclette Courdavault	1496
Gorgonzola Telino	1397
Gnocchi di nonna Alice	1263
Pavlova	1158

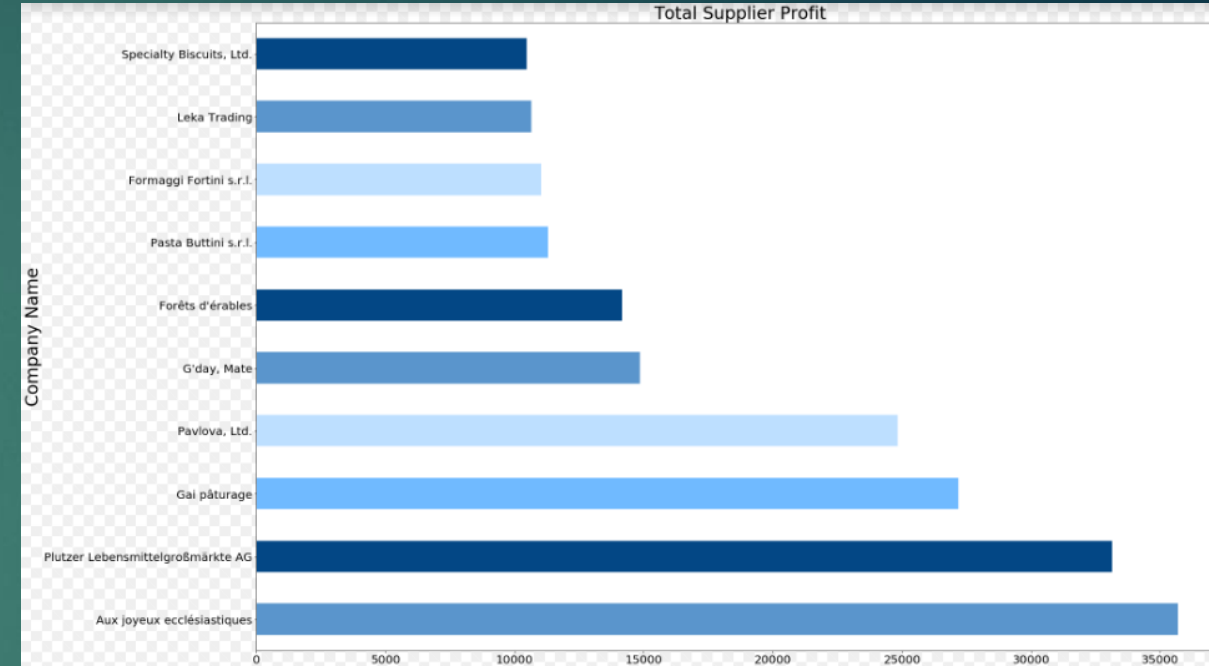


Hypothesis Tests & Findings

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- *Is there a statistically significant difference between the supplier's total profit and quantity ordered by customers?*
- **Null Hypothesis:** there is no difference between the suppliers quantity ordered and the total supplier profit
- **Alternative Hypothesis:** there is a statistical difference between the suppliers quantity ordered and the total supplier profit
- **Results:** There is a statistically significant difference between the total profit of a company and the quantity ordered



The above graph shows the top ten suppliers' profit.

The top three companies were:

1. Aux Joyeux 2. Plutzer. 3. Gal Paturage

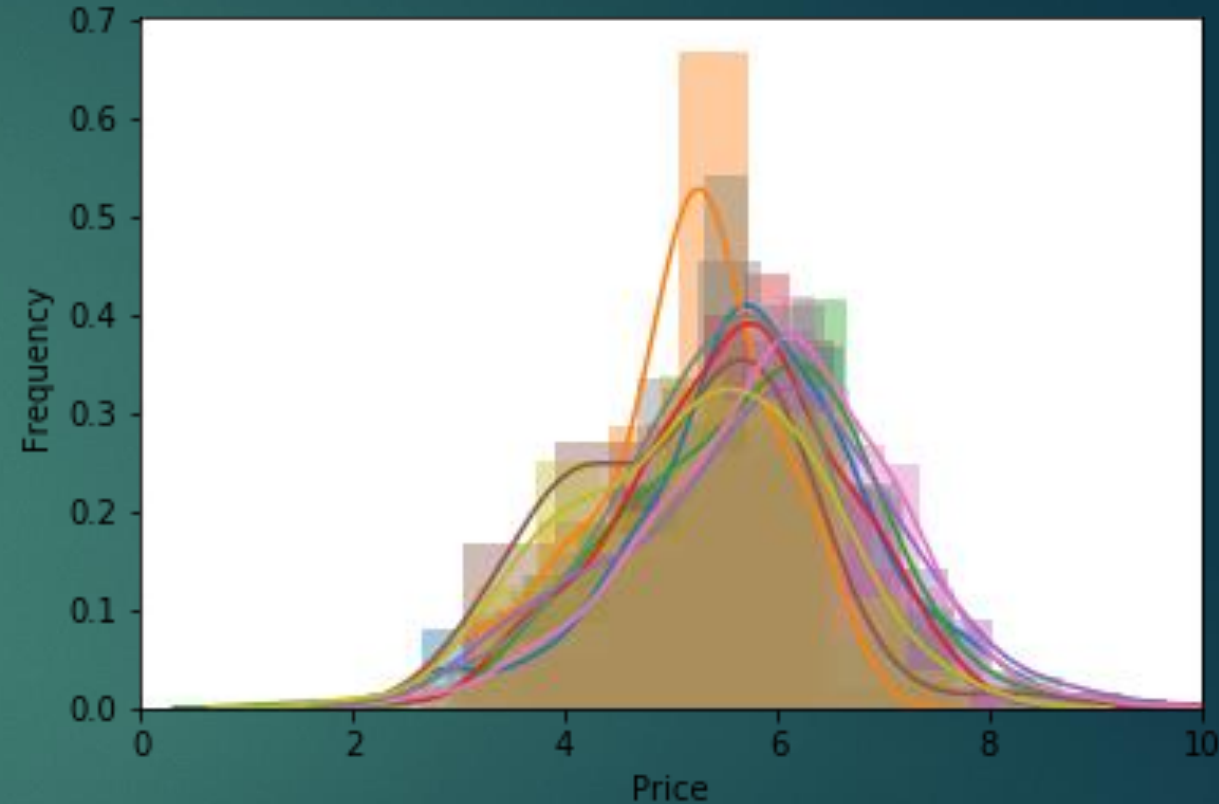


Hypothesis Tests & Findings

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- *Does the price of the product change based on region?*
- **Null Hypothesis:** there is no difference in the price of product throughout regions
- **Alternative Hypothesis:** there is a statistical difference between the price of products throughout regions
- **Results:** The price of the product will be priced differently across different regions.



Distribution of Price across regions

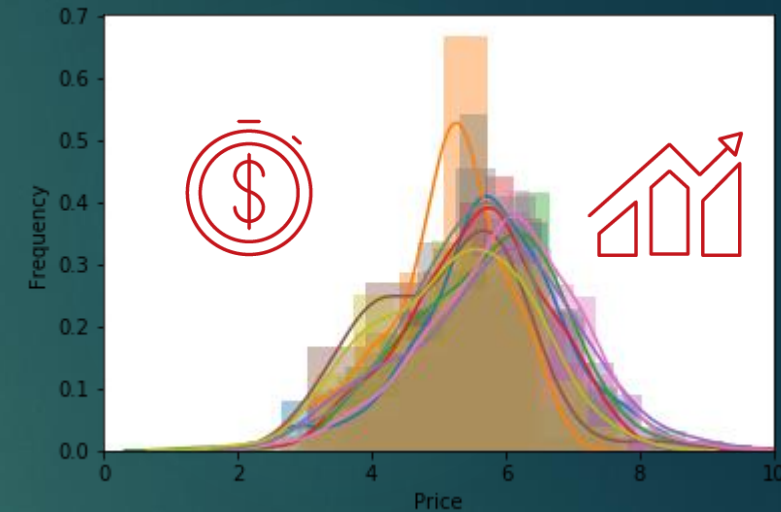


Key Takeaways

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- Company Stakeholder Key Takeaways:
 1. Do not focus on the number one selling product, instead push the top five products (may want to look into pushing the top 15 products)
 2. Be cautious of suppliers, be more selective and try to push the suppliers with the largest profits as they will sell the most goods.
 - Maybe something with look at the products the top supplier profiting are selling and push those products more
 3. Ensure all products are carefully priced in order for demand to be in line with their regions pricing market.





Thank You,
for your time!