



# Northwind Traders

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## Data Analysis and Hypothesis Testing

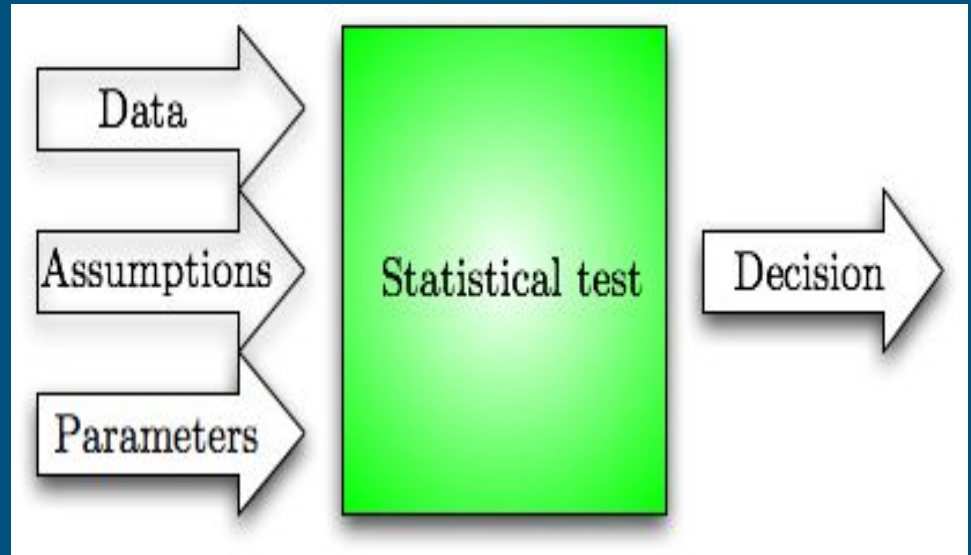
by Jonathan Bardey



# Methods Used

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- Independent two-sample t-test
- Welch's t-test
- ANOVA
- Tukey HSD



# 1. Discounts and Products Ordered

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- Discounts lead to an increase in the amount of product ordered.
- The level of discount is not significant.
- **Recommendation:** Offer more discounts and keep them low - 5% is enough!



## 2. Alcoholic vs Non-Alcoholic Beverages

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- Northwind makes ~6x as much revenue selling alcoholic beverages
- Quantity per order does not vary significantly
  - Customers
- **Recommendation:** Expand non-alcoholic beverage product line. More coffee varieties? Energy drinks?

# 3. Sales by Location

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- Seattle office makes 2.5x the revenue of the London office
- No significant difference in revenue on a per order basis between 2 centers
- **Recommendation:** Further study into limiting factors of sales in London



## 4. Shipping Costs

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- No significant difference in shipping costs between Northwind's 3 carriers.
- **Recommendation:** Keep the 3 carriers, negotiate for better rates



# Recap/Future Work

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1. 5% Discounts!
2. More non-alcoholic options
3. Boost London sales
4. Renegotiate shipping rates

Any Questions?

Thank You!