



Northwind Traders

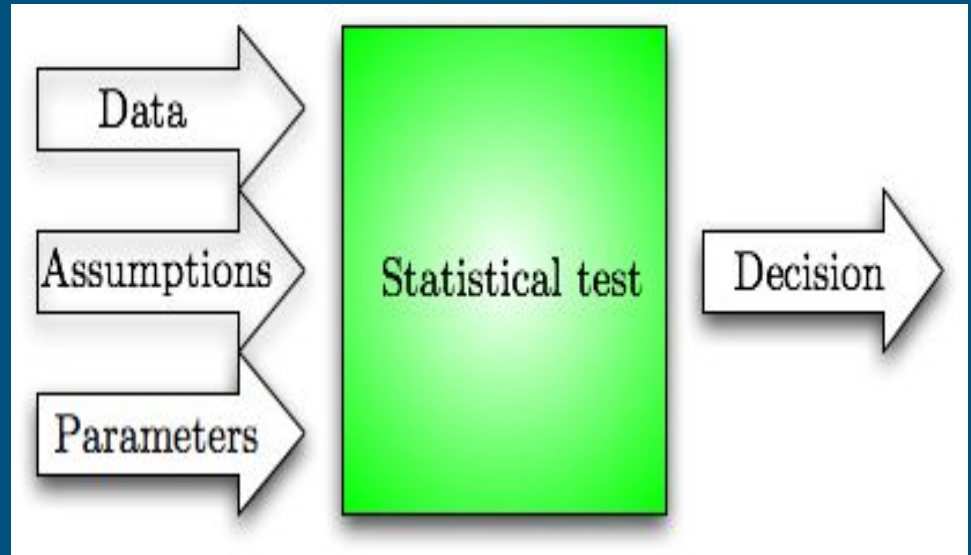
Data Analysis and Hypothesis Testing

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Methods Used

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



1. Discounts and Products Ordered

- 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



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

3. Sales by Location



- 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

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



Business Recommendations



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

Future Work

- Explore effects of discounts on revenue by product and region.
- Study sales by region and office - assess whether sales teams should be assembled in other cities
- Investigate shipping speeds by company/region to maximize efficiency

Any Questions?

Thank You!