

Northwind: Statistical Analysis

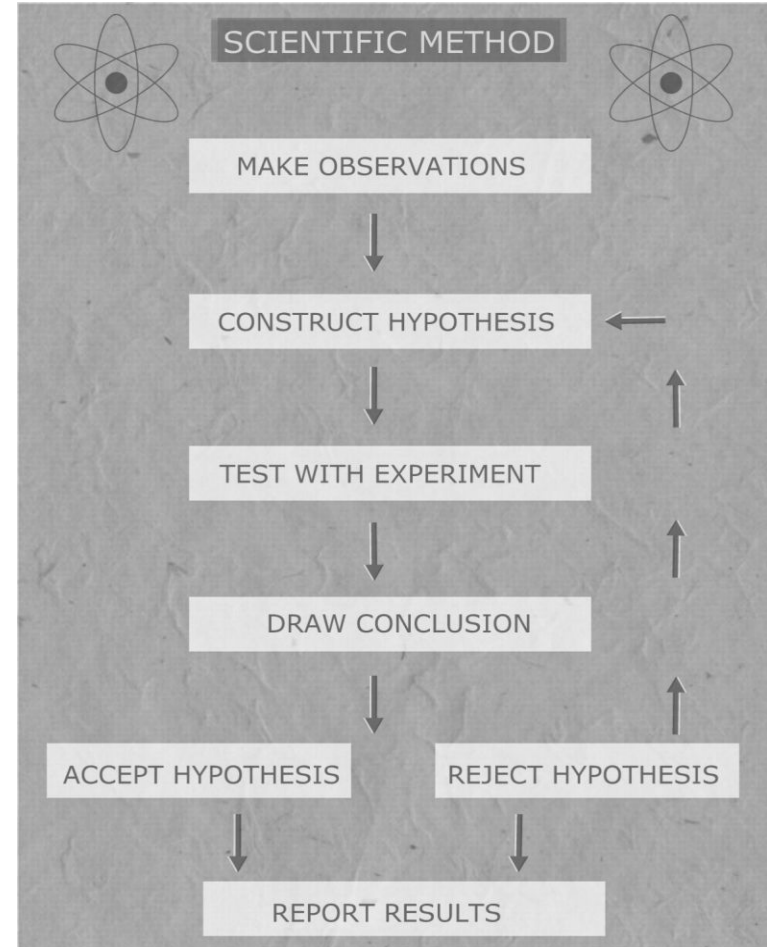
For: Northwind
By: JE Consulting

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The Method

Hypothesis Testing:

- Observe
- Hypothesis
- Experiment
- Analyze
- Conclusion
- Results



The Questions

Discounts:

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

Efficiency:

- Is the average order size in North America larger than international order sizes?

Employees:

- Does order size vary in a statistically significant way between Northwind employees?

Revenue:

- Does the average revenue per order differ in 2014 from 2012 & 2013?

The Tests

Are the distributions different?

- Two Sample T-Test
- Tukey Test
- ANOVA



The Results

Discounts:

- Discounts have a significant impact on the number of products ordered
- Significant at 5%, 15%, 20% & 25% discount levels

Efficiency:

- North American order sizes are significantly larger than international order sizes

Employees:

- No significant variation in the average size per order between Northwind employees

Revenue:

- Average revenue per order does not differ in 2014 from 2012 & 2013

Future Work

Discounts:

- ❖ Assess impact on revenue
- ❖ Quantify impact on revenue

Efficiency:

- ❖ What factors affect order size?
- ❖ Differences between domestic & international customers

Employees:

- ❖ Establish different employee KPIs
- ❖ Investigate new KPIs for statistical variations

Revenue:

- ❖ What factors affect revenue per order?
- ❖ Establish revenue per order KPIs that encourage growth per order

The End

Questions?