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# NorthWinds Sales Analysis

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# Method

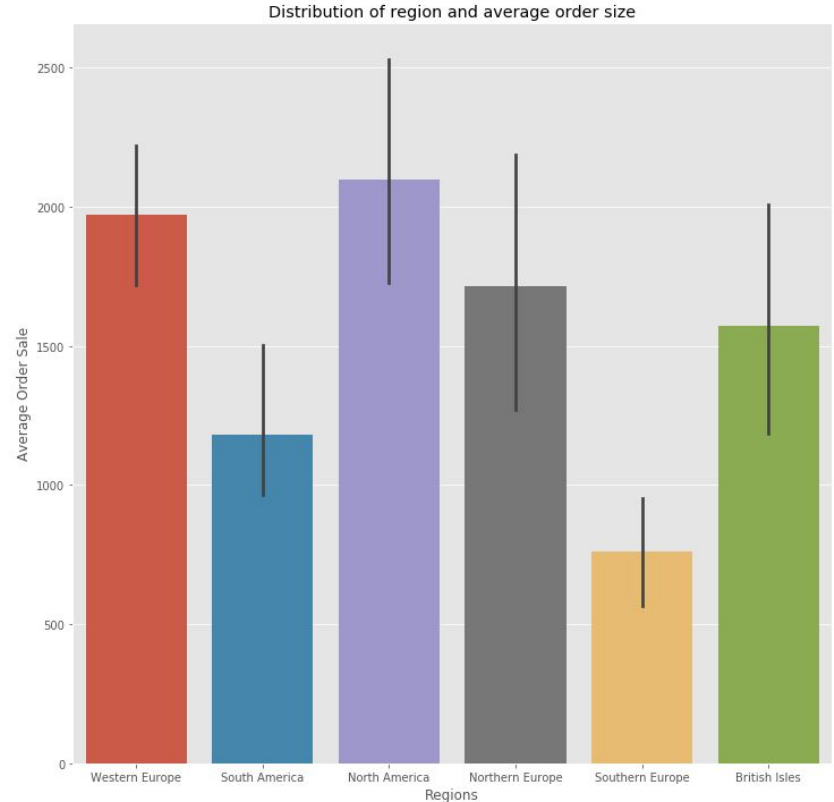
- Pulled queries from the company database regarding our orders, suppliers, customers, and products
- Cleaned and visualized Data at each part
- Grouped the analysis into four parts: Discounts, Customer Regions: Supplier Regions, and Sales Seasonality
- Used a combination of statistical tests (T-tests, MannWhitneys, ANOVAs, and TukeyHSDs) to see if there were any significant trends

# Do discounts affect the number of items in an order?

- Between discount vs. no discount, having a discount significantly increases the number of items in an order
- Discounts of .1 and .25 have the largest effect on the number of items in an order

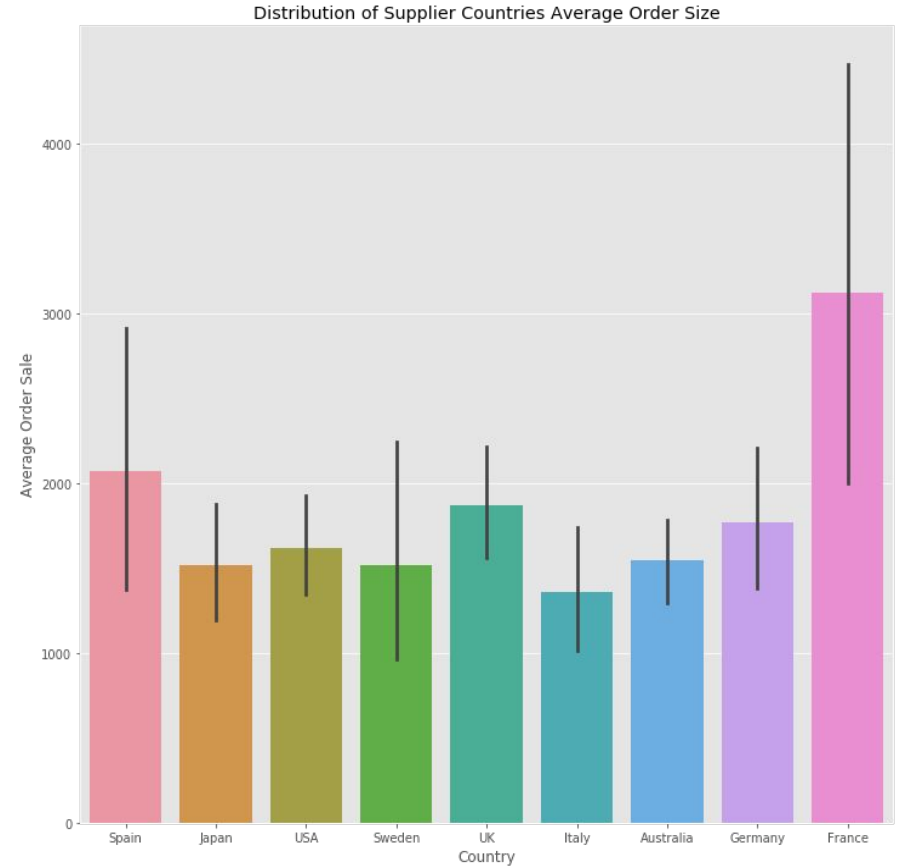
# Customer Regions

- North America and Western Europe have the largest average order size, while southern europe and south america have the smallest
- There is a significant difference between these two groupings of high and low



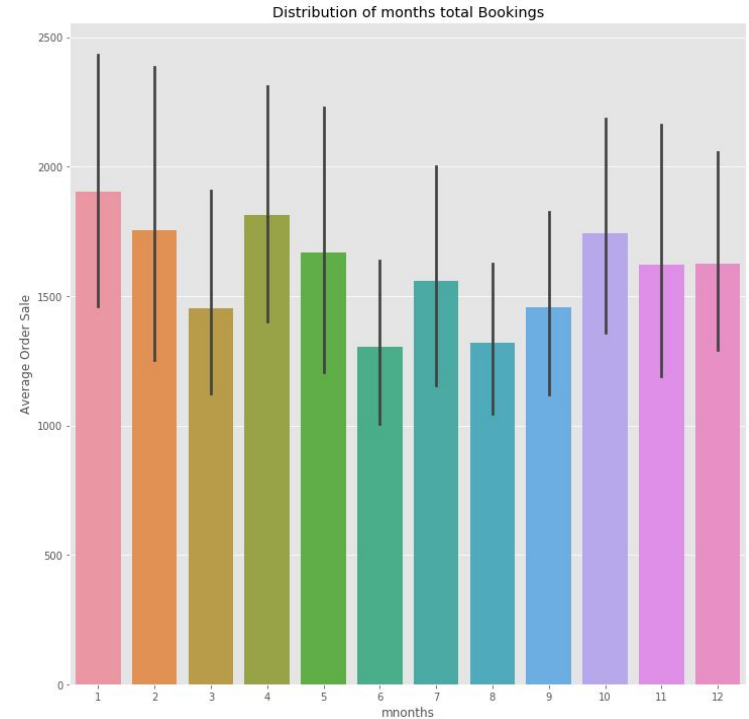
# Supply Regions

- France has a significantly larger average order size than any other region with the exception of Germany.
- Supplier companies have similar average order sizes, none of which differ significantly from each other.



# Sales Seasonality

- Looking across months, quarters, and days of weeks
- Visual trend of lower average order size in Q3 months, however not significant
- No trend in the day of the week in which the order was placed



# Recommendations

- Discounts drive larger quantity orders (especially those at a discount of 10% or 25%)
  - Moving away from less standard discount rates for simplicity.
- Further analysis on the cost effectiveness of distributing to regions where we are seeing much lower sales
- Case Study on what makes France a successful supplier - what are those companies doing right? What is the cost effectiveness of having suppliers in companies where we are seeing low sales?