Module 3 Project Executive Summary

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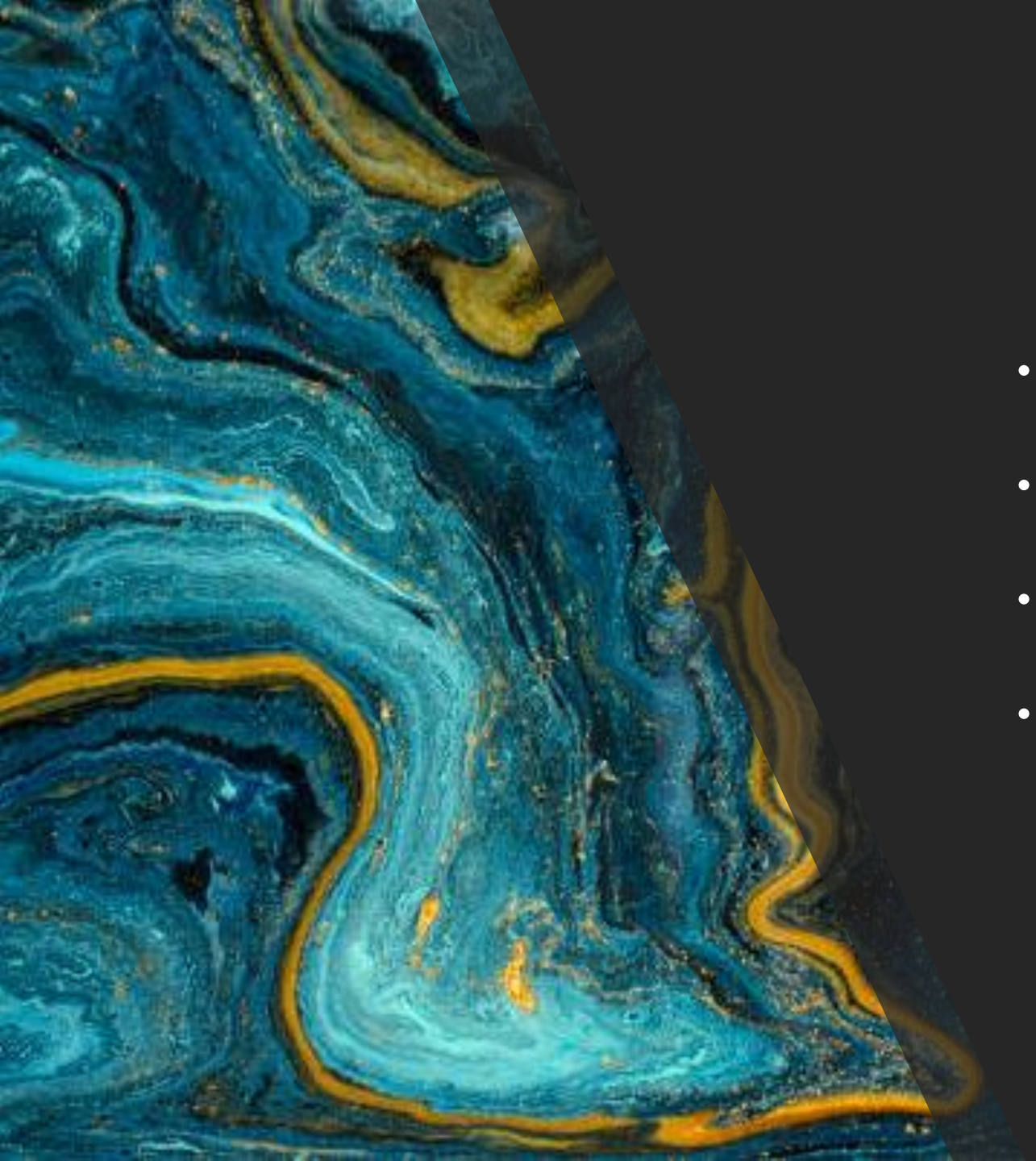
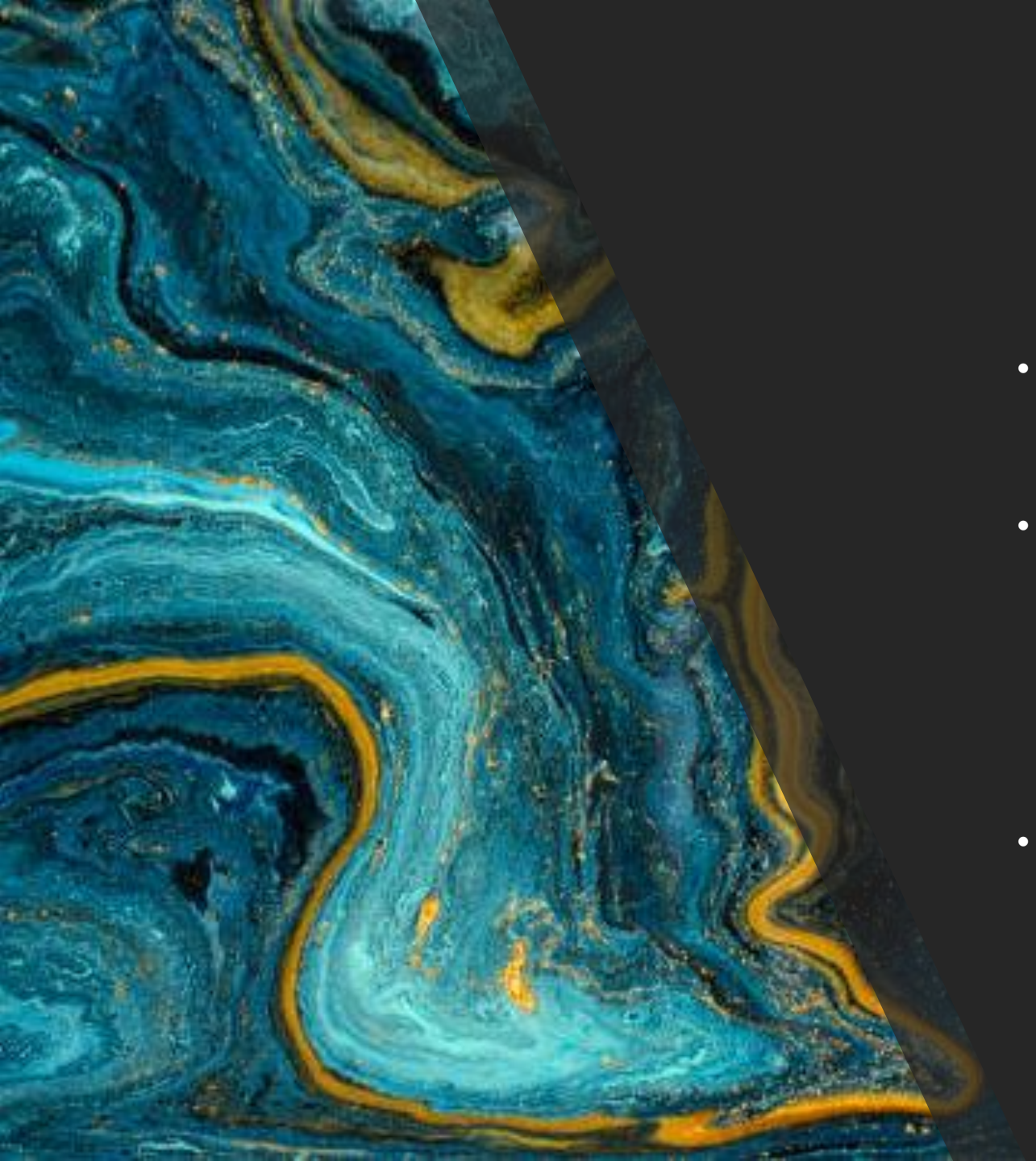
Part-time cohort 10/7/19



Target(s)

- Query the database to retrieve the necessary data to do a statistical analysis.
- Arrange the data in a useful manner using Python.
- Use hypothesis testing to verify any differences among the data.
- Find useful information to the company per the results



Scope/Database

- Microsoft Northwind SQL Database
  - Contains sales and product data for a fictional company
- Included:
  - General employee info (personal, location, clients)
  - Product info (prices, suppliers, categories)
  - Order info (prices, shipping, salesperson)
  - Customer info (personal, location, orders)
- Total of 13 tables!

Questions Tested (1)

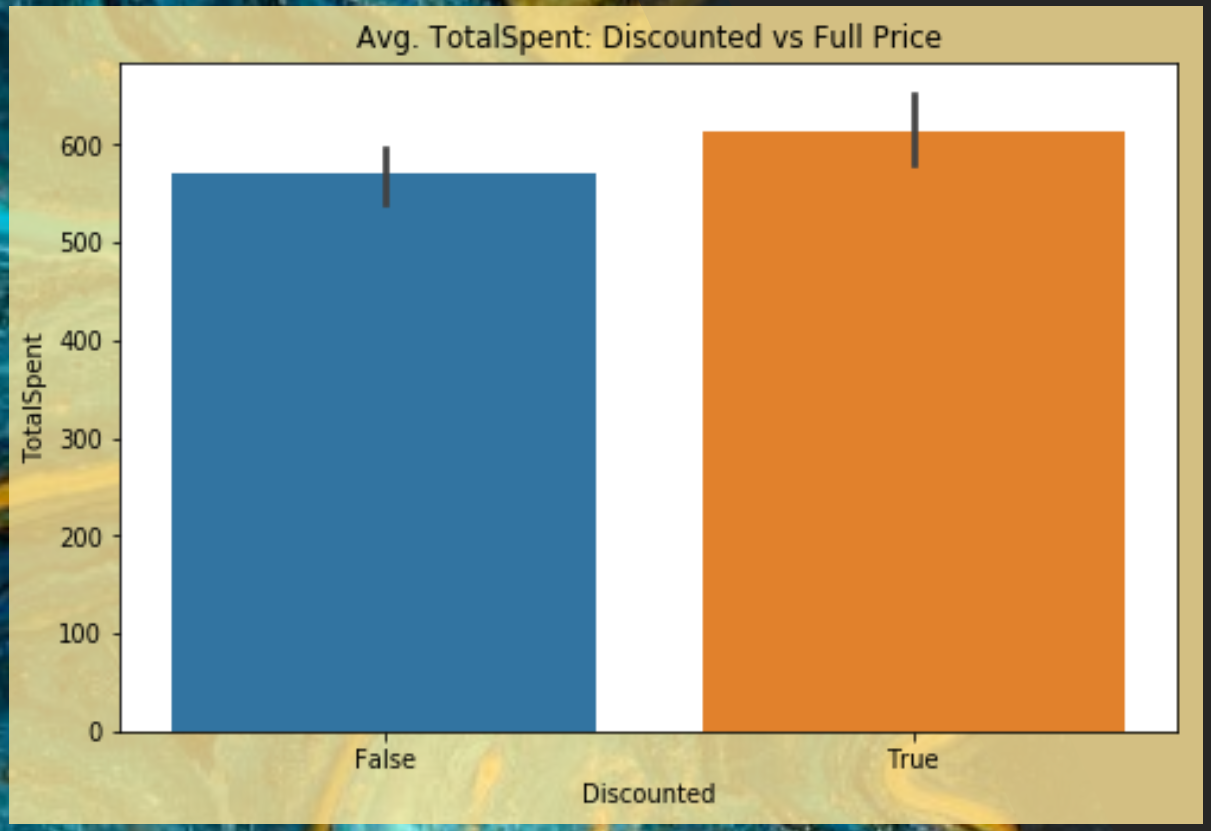
Does discount amount have a significant effect on the quantity of a product in an order? If so, at what level(s)?

Our test showed that with *95% confidence*, discounting an order **does** have an affect on how much is ordered in total.

Positively too!

The levels: 5%, 15%, 20%, 25%

Questions Tested (2)



Does discount amount have a statistically significant effect on the total amount spent in an order? If so, at what levels?

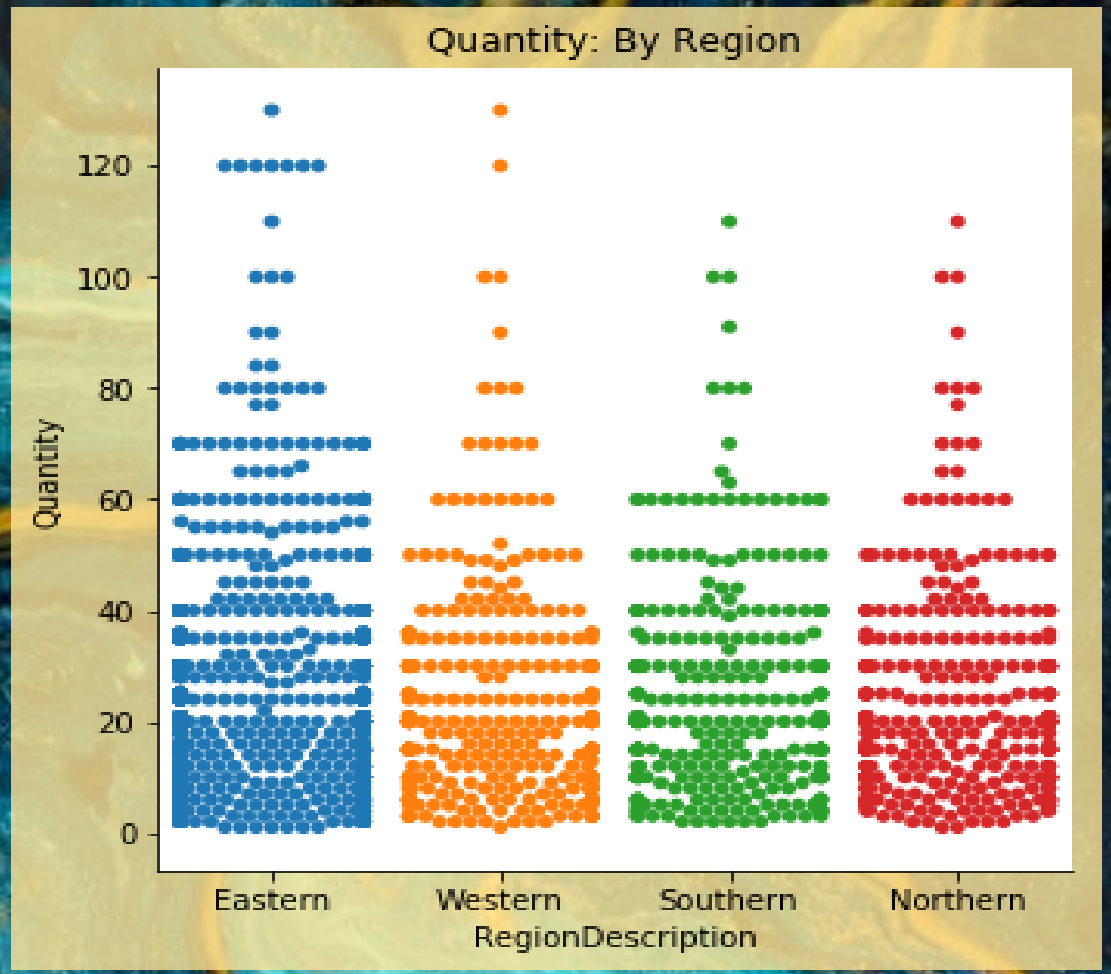
Our test showed that with *95% confidence*, discounting an order **does not** have an affect on how much is spent in total.

Questions Tested (3)

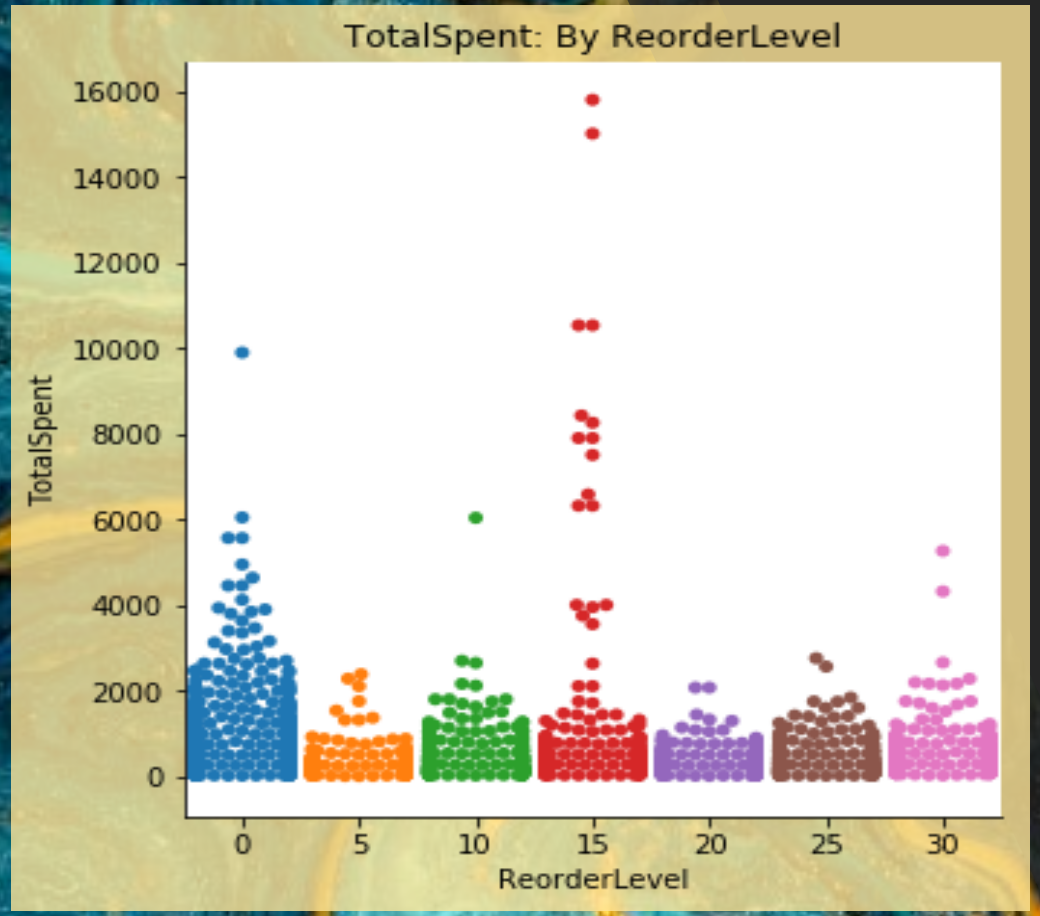
Does the region in which a product is sold have a significant effect on the quantity of a product in an order? If so, at what region buys the most?

Our test showed that with *95% confidence*, the purchasing region **does not** have an affect on how much is ordered in total.

Inter-regionally our test found the same result.



Questions Tested (4)



Does whether the company always keeps a product in stock have any significant effect on the total amount spent in an order? If so, is there any optimal level?

Our test showed that with *95% confidence*, always keeping an item in stock **does** have an affect on how much is spent in total on an order.

Items reordered at 0 and 15 units left proved to be significant.

Questions Tested (5a)

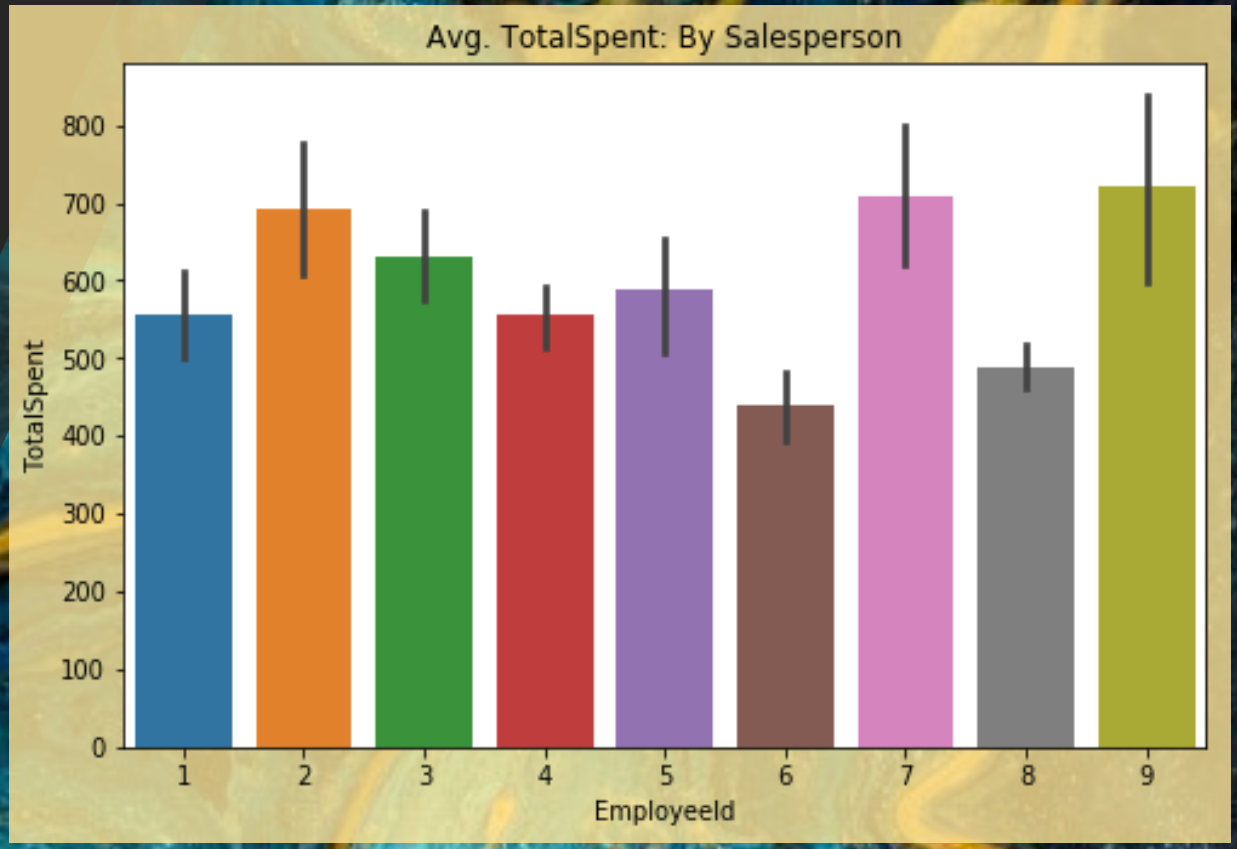
Does the sales representative making the deal have a significant effect on the quantity of product ordered? What about total spent?

Our test showed that with *95% confidence*, the corresponding sales rep **does not** influence how much is ordered in total.

Questions Tested (5b)

Does the sales representative making the deal have a significant effect on the quantity of product ordered? What about total spent?

Our test showed that with *95% confidence*, the corresponding sales rep **does** influence how much is spent in total.



Conclusions

- Q1: Given the levels we found, the company's policy surrounding discounts ***is*** allowing them to send out larger orders on average.

- Q2: Considering the discount itself, we cannot say that discounting orders has any effect on revenue generated.

- Q3: The data was unable to pinpoint any region that orders a *significantly* different amount of product than others. No need to segment greatly.

Conclusions

- Q4: There is something behind the revenue generated by products with a reorder level of 15 units and those without one. More analysis needed.

- Q5: Reliably the data shows ***no*** significance for sales rep on quantity ordered. However, there is ***some*** significance with respect to revenue.


Thank You!