

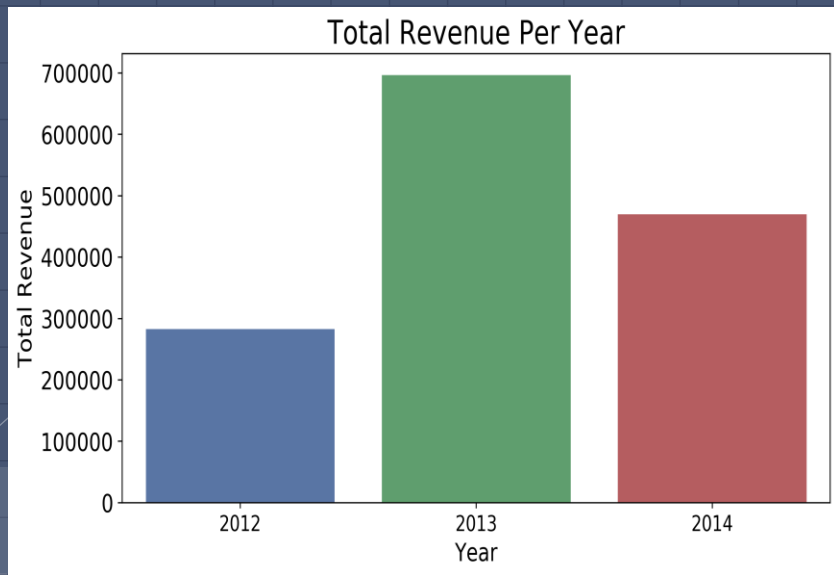
Exploring factors to increase sales

The background features a dark blue grid. A white line chart with circular markers is positioned in the upper half, showing a fluctuating trend that generally increases from left to right. Below the line chart, a bar chart with numerous vertical bars of varying heights is visible, rendered in a lighter shade of blue.

Yeonjoo Smith

Motivation: Total Revenue Change Over Years

- ▣ Finding factors that affect total revenue
 - ▣ Total spending per order
 - ▣ Quantity per order
 - ▣ Customer retention rate
 - ▣ Orders per client in a year
- ▣ Suggestion
 - ▣ Discounts

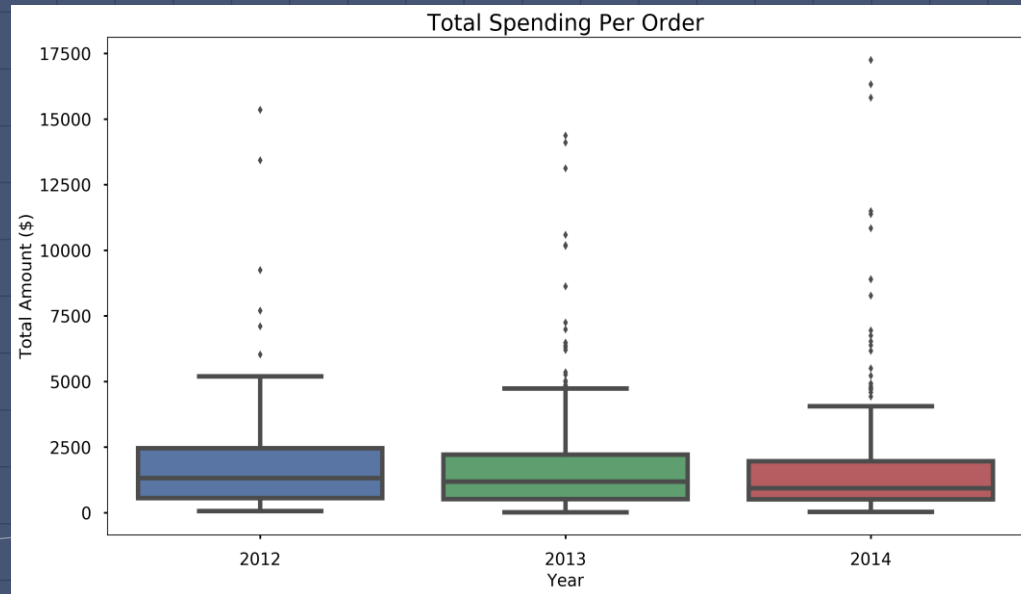


Total Spending per Order:

Do customers spend more/less per order?

- Average spending per each order
 - In 2012:\$1862
 - In 2013:\$1707
 - In 2014:\$1740
- Statistical testing* result:
Not significant

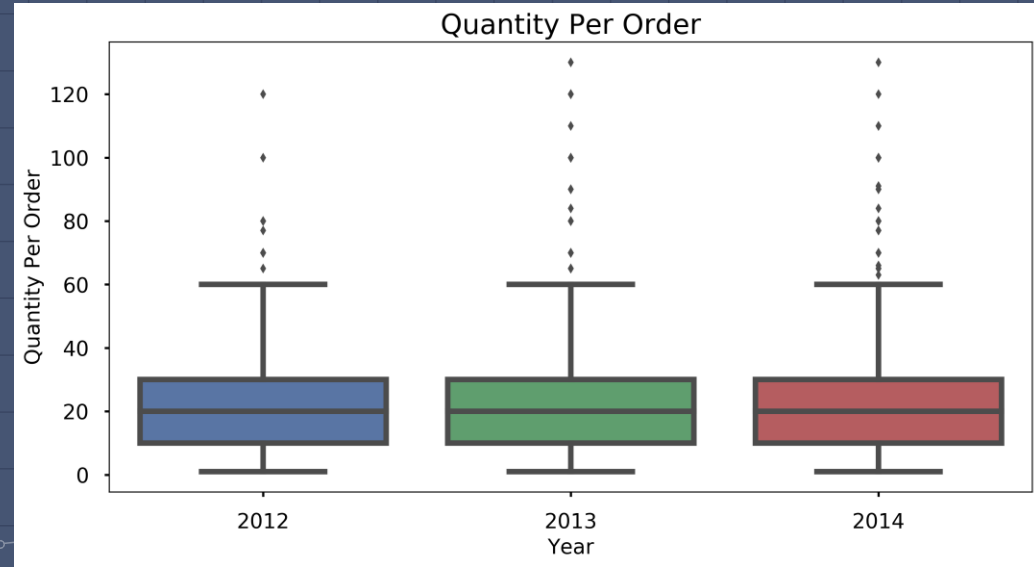
Amount of spending per order stayed consistent!



*:ANOVA test

Quantity per Order: Do customers order more/less quantity of a product per order?


- Average quantity per each order
 - In 2012: 23.66 units
 - In 2013: 24.07 units
 - In 2014: 23.5 units
- Statistical test* result:
 - Not significant



Amount of quantity per order stayed consistent!

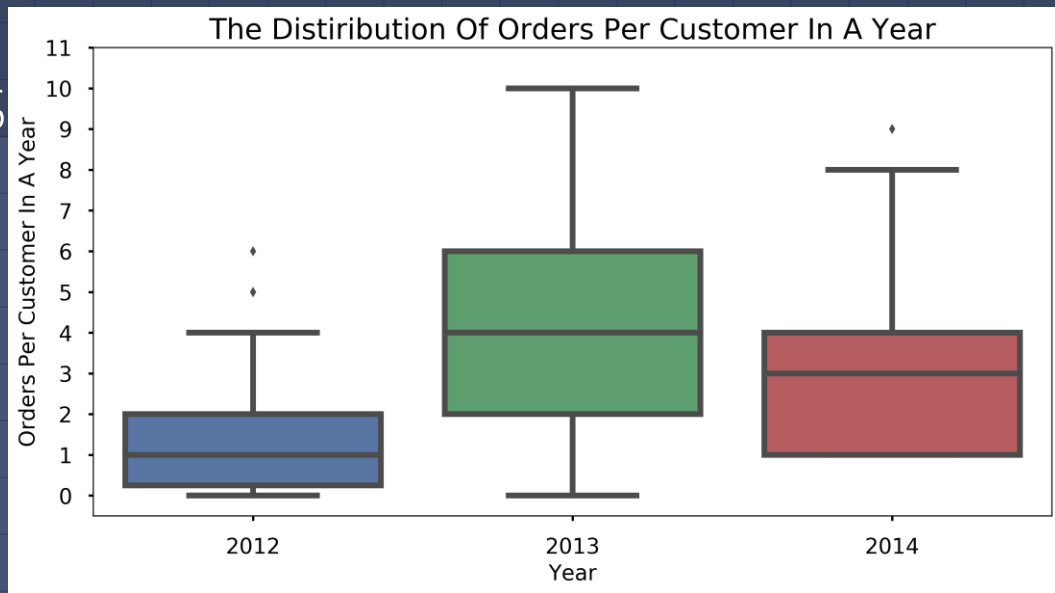
*:ANOVA test

New Customers and Retention Rate

- New customers:
 - In 2013: 19
 - In 2014: 1
 - Retention rate:
 - In 2013: 98%
 - In 2014: 100%
- Answer for rapid revenue increase in 2013!
- AWESOME!
But... What about the decrease in revenue for 2014?
- 

Frequency of Orders

- ▣ Average orders per client in a year
 - ▣ In 2012: 1.73 times
 - ▣ In 2013: 4.69 times
 - ▣ In 2014: 3.33 times
- ▣ Statistical test 1 * result: **SIGNIFICANT!!**
- ▣ The order frequency has changed!



- ▣ Change from 2013 to 2014: Statistical test2** result:



Customers shopped less frequently in 2014!

*:ANOVA test, **:Welch's t-test

Do discounts make people buy more in general?

□ Average quantity per order:

□ 0%:21.72 units

□ 5% :28 units

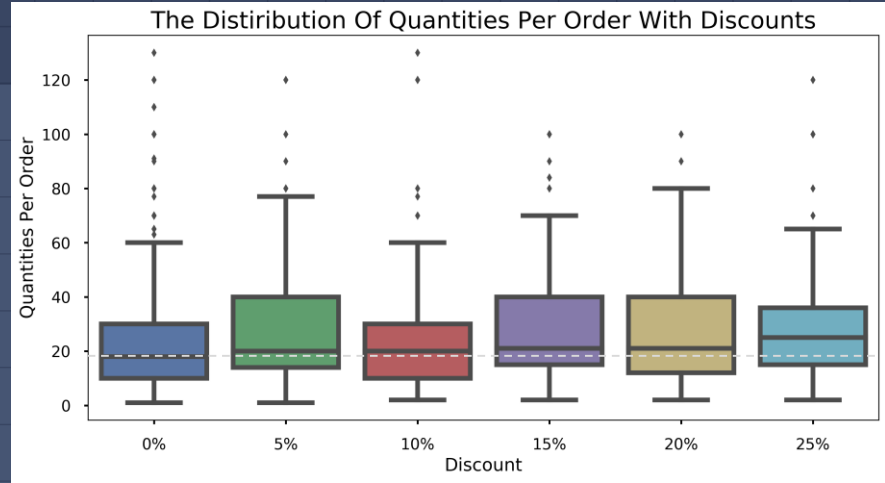
□ 15%:28.38 units

□ 25%28.24 units

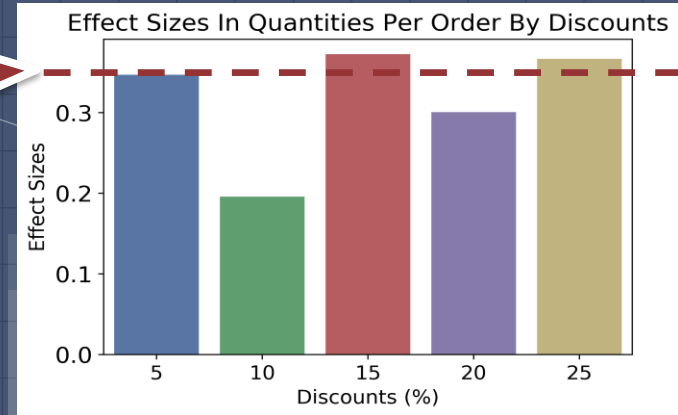
□ Statistical test* result:
- SIGNIFICANT !!

**The quantity per order
increase with ANY discount!!**

*:ANOVA test

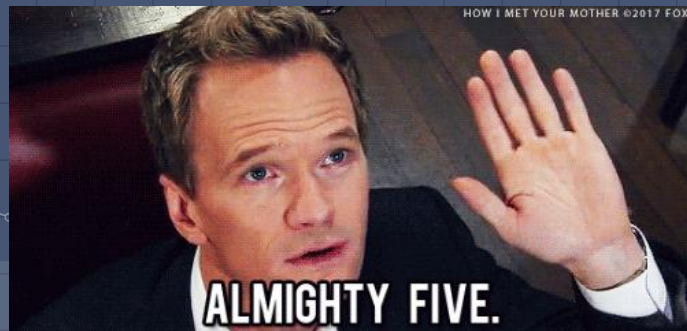


14% would
order 6
more!



Summary

- ▣ Total revenue increase in 2013
 - Increase of new customers in 2013 👍
- ▣ Total revenue decrease in 2014
 - Insignificant:
 - ✓ Total spending per order
 - ✓ Quantity per order
 - ✓ 100% retention rate 😊
 - **Significant:**
 - ✓ **Frequency of orders per customer**
- ▣ Suggestion: Discount
 - Quantity in a order increase with discounts
 - Give 5% discount



Suggestions for further investigation

- ▣ Factors that drive new clients in 2013
- ▣ Ideas for increasing frequency of orders such as coupons or events
- ▣ Factors that lower order counts
 - Shipping process time
 - Sales divided into category
 - Sales divided into different regions





Thanks!