According to our findings, the distribution of customers according to the number of years is positively skewed because a greater proportion of customers with fewer years of participation are concentrated till 5 years, and the number of customers declines as the number of years grows from 6 through 20 years. Therefore, we can claim that the customer engagement in our sale events are declining through time.

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To understand the sales patterns across different states, I also perform a geographical analysis based on the states where our customers reside. According to geographical representation of the numbers of sales per state, customers in California purchase 1870 times which is the maximum purchase. On the other hand, customers in Vermont purchase 28 times which is the least. Regional differences in sales are indicated by the significant disparity in the number of purchases made in Vermont and California. Vermont seems to have a lesser level of consumer interaction, whereas California looks to be a large market for our items.

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# What makes the customers in Calfornia want to purchase more?

# Are the approaches effective?

# Is it depend on the numbers of visited times to our website?

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According to the visualization, customers engagement is at a significant level in the email approach. However, we got most of our revenue from customers who received both an email and a call.

The number of site visits does not impact the revenue of the company very much.

However, the sales strategies surely have significant impact on the customer engagement in California. So, I want to know if there is any difference for all 50 states in the dataset.

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As we see here, the sales methods definitely affect our revenue and the customer engagement across all states. Interestingly, the customers who received both email and call used more money on our products but they did not surpass the number of customers who received only email and their revenue.

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What does the spread of the revenue look like overall? And for each method?

The Boxplot chart shows that the revenue distribution has a median value near to but less than 100.00. The interquartile range indicates an approximate concentration of revenues per customer between 50.00 and 100.00. The revenues greater than about 180.00 or near 190.00 become outliers.

When exploring the revenue distribution by each method, we may see the disparities through their medians or even their spread. The Email + Call technique stands out due to its larger distribution and higher median, which is roughly 190.00. The Call technique is distinguished by its small spread and low median of around 50.00. The Email sales approach plays an intermediate role, with a narrow spread and a higher median than the Call method, about 90.00.

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Was there any difference in revenue over time for each of the methods?

The analysis of revenue over time for each approach shows that the Call type sales method grows steadily. In the case of the Email approach, the data show a steadily growing oscillation. However, the Email + Call approach produces a greater increase in income, which is always higher than the Email and Call methods.

According to our findings, the Email + Call approach has the potential to significantly improve our company's income. Customers who received simply an email, on the other hand, desire to participate in our marketing events the most, and their revenue is nearly half that of the Email + Call method. If we want to enhance the income of our company, we must boost customer engagement using the Email + Call method. The Call method takes the most time (30 minutes) but generates the least income of the three. This strategy, I feel, requires a lot of human labor and time but is not financially efficient. On the other hand, the Email approach requires less effort and generates a lot of income. Lastly, the Email + Call strategy persuades many clients to spend more money than other methods. However, client involvement was lower than in the other two approaches, but we still made a good profit. We should keep using the Email and Email + Call approaches. To increase income, we must utilize customer engamgement using the Email + Call strategy.

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Business Metric to consider

As we discussed above, we should consider the number of customers who receieved both an email and a call spent a lot of money on our products. However, this approach does not get over the email approach. In my point of view, if we approach the customers with the email and call method in the upcoming sales, the company revenue can increase and this approach can surpass the email approach. For now, we will consider Average Revenue per User (ARPU) of these two approaches based on the available data.

Average Revenue per User (Email): 188.73

Average Revenue per User (Email + Call): 547.77

As we can see, the average revenue from Email + Call approach is higher than Email approach. Thus, we should focus the Email + Call approach to increase the revenue of our company.