ABC Call Volume Trend Analysis Project

Project Description:

A Customer Experience (CX) team plays a crucial role in a company. They analyse customer feedback and data, derive insights from it, and share these insights with the rest of the organization. This team is responsible for a wide range of tasks, including managing customer experience programs, handling internal communications, mapping customer journeys, and managing customer data, among others.

The advertising business is highly competitive, with many players bidding large amounts of money to target the same audience segment. This is where the company's analytical skills come into play. The goal is to identify those media platforms that can convert audiences into customers at a low cost.

We will be provided with a dataset that spans 23 days and includes various details such as the agent's name and ID, the queue time (how long a customer had to wait before connecting with an agent), the time of the call, the duration of the call, and the call status (whether it was abandoned, answered, or transferred).

In this project, I'll be using my analytical skills to understand the trends in the call volume of the CX team and derive valuable insights from it.

Approach:

I went through the Excel data provided by the Trainity ABC Call Volume Trend Analysis project and understood that there were columns related to the Call Features in the dataset. Further, I understood the columns and their respective constraints to do the analysis. I was given a set of questions to solve as part of the analysis. By using the Microsoft Excel, I did solve the queries and provided the result as expected.

Tech-Stack Used:

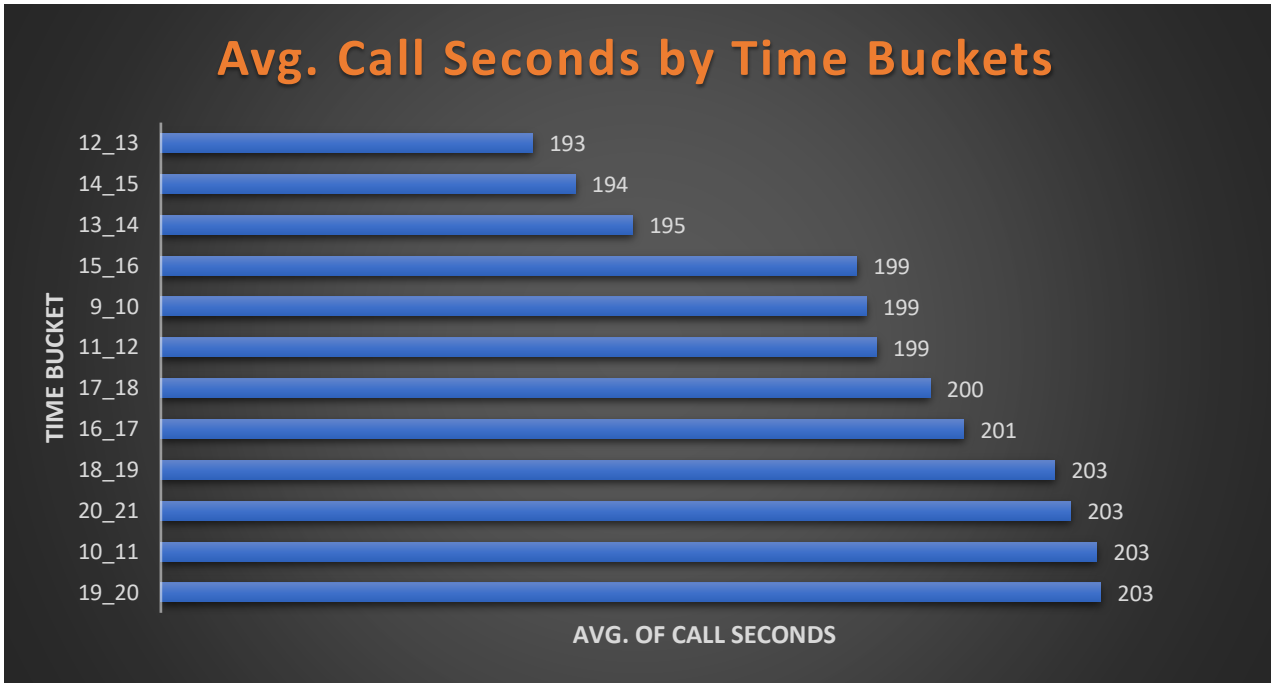
Microsoft Excel 2021 – To answer the queries with the help of Excel formulas in the tool.

Insights:

Task A – Average Call Duration:

What is the average duration of calls for each time bucket?

Consider the columns Time Bucket, Call Status and Call Seconds. Convert the columns into a pivot chart and used a bar chart to show the average of call seconds in each time bucket whose call status is answered.

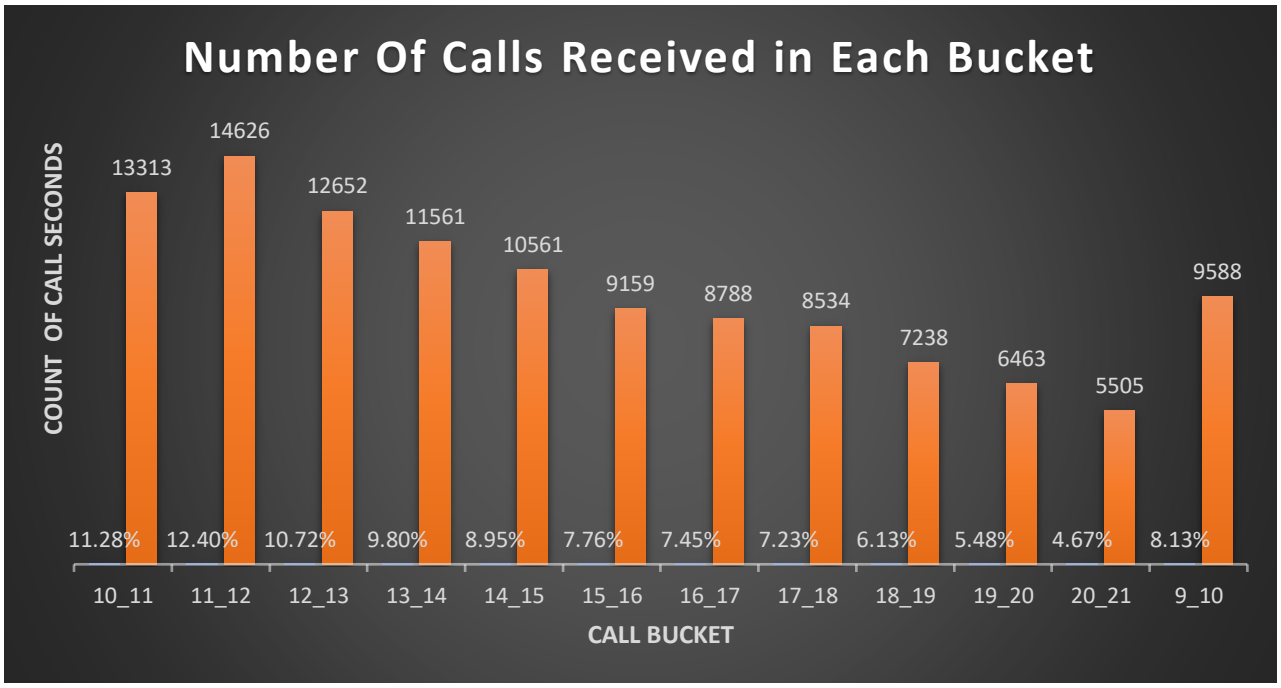


From the above chart it is evident the time bucket from **18pm – 21pm** have a greater number of customers who answer the call.

Task B – Call Volume Analysis:

Can you create a chart or graph that shows the number of calls received in each time bucket?

For this analysis, I have considered the columns Time Bucket and Call seconds for the comparison. I used the Column chart to find out the relationship between them.



Found the Column chart, it is clear that the time bucket **11am -12pm** is having a greater number of calls with count **14626** when compared with other time buckets.

Task C – Manpower Planning:

What is the minimum number of agents required in each time bucket to reduce the abandon rate to 10%?

Used the columns Call Status, call seconds and customer phone number to find out the percentage of calls being answered, abandoned and transferred. Found out the below stats:

Answered: **70%**

Abandoned: **29%**

Transferred: **1%**

Took the columns Time Buckets, call seconds and found the percentage of call seconds which contribute to the time buckets. Took the data for January 1 and found the below stats:

For January 1	
Sum of call seconds	**676664**
Sum per hour	187.96
Total agent for 60%	38
Agents required for 90%	57

Row Labels	Count of Call Seconds (s)	Agents Required
10_11	11%	6
11_12	12%	7
12_13	11%	6
13_14	10%	6
14_15	9%	5
15_16	8%	4
16_17	7%	4
17_18	7%	4
18_19	6%	3
19_20	5%	3
20_21	5%	3
9_10	8%	5

As per the above table we can add a total of 57 agents to reduce the abandon rate from 30% to 10%.

Task D – Night Shift Manpower Planning:

Propose a manpower plan for each time bucket throughout the day, keeping the maximum abandon rate at 10%.

Considered the columns Call Status and Date & Time for the analysis. Converted the columns into a Pivot Table and found out the total count of calls which were abandoned, answered and transferred.

Answered: **82452**

Abandoned: **34403**

Transferred: **1133**

Avg. Daily Call	5130
Night Calls 30%	1539
Additional Hours Required	77
Additional Agents Required	15

From the above stats, we could see that we need 15 additional agents for the time buckets in the night time for attending the call.

Night Time Bucket	Call Distribution	Time Distribution	Agent Required
9pm - 10pm	3	10	1.5
10pm - 11pm	3	10	1.5
11pm - 12am	2	15	1
12am - 1am	2	15	1
1am - 2am	1	30	0.5
2am - 3am	1	30	0.5
3am - 4am	1	30	0.5
4am - 5am	1	30	0.5
5am - 6am	3	10	1.5
6am - 7am	4	7.5	2
7am - 8am	4	7.5	2
8am - 9am	5	6	2.5
Total	30		15

This is the split of the 30 Agents who can be added in the time bucket so that there can be agents who can answer to the query in the night time as well.

Result:

Through this project I was able to understand the Pivot Tables being used in the Excel which can be used to find the Correlation and various charts on how to use them. I got used to the Excel Pivot tables and how to convert the Raw Data into meaningful insights. And the steps which I used are – cleansing the data and using the formulas and pivot table to create the chart for the analysis and also learnt how to convert the data into a visualized chart so that the insights can be drawn within seconds by seeing the graphs instead of searching the whole data.

As a result, we could summarize as:

1. **The time bucket from 18pm – 21pm have a greater number of customers who answer the call.**
2. **The time bucket 11am -12pm is having a greater number of calls with count 14626 when compared with other time buckets.**
3. **A total of 57 agents to reduce the abandon rate from 30% to 10%.**
4. **30 Agents who can be added in the time bucket so that there can be agents who can answer to the query in the night time as well.**

I have achieved the end result and I think I have contributed my full support into the Analysis. I hope this project helps the Analysis and it achieves what it was tend to achieve.

Hyperlink for the Excel sheet:

Trainity ABC Call Volume Analysis Excel File