ABC Call Volume Trend Analysis

Project Description:

A customer experience (CX) team consists of professionals who analyse customer feedback and data and share insights with the rest of the organization. Typically, these teams fulfil various roles and responsibilities such as: Customer experience programs (CX programs), Digital customer experience, Design and processes, Internal communications, Voice of the customer (VoC), User experiences, Customer experience management, Journey mapping, Nurturing customer interactions, Customer success, Customer support, Handling customer data, Learning about the customer journey.

Approach:

Considering the given data set of customer Experience (CX) Inbound calling team for 23 days. Data includes Agent_Name, Agent_ID, Queue_Time [duration for which customer have to wait before they get connected to an agent], Time [time at which call was made by customer in a day], Time_Bucket [for easiness we have also provided you with the time bucket], Duration [duration for which a customer and executives are on call, Call_Seconds [for simplicity we have also converted those time into seconds], call status (Abandon, answered, transferred).

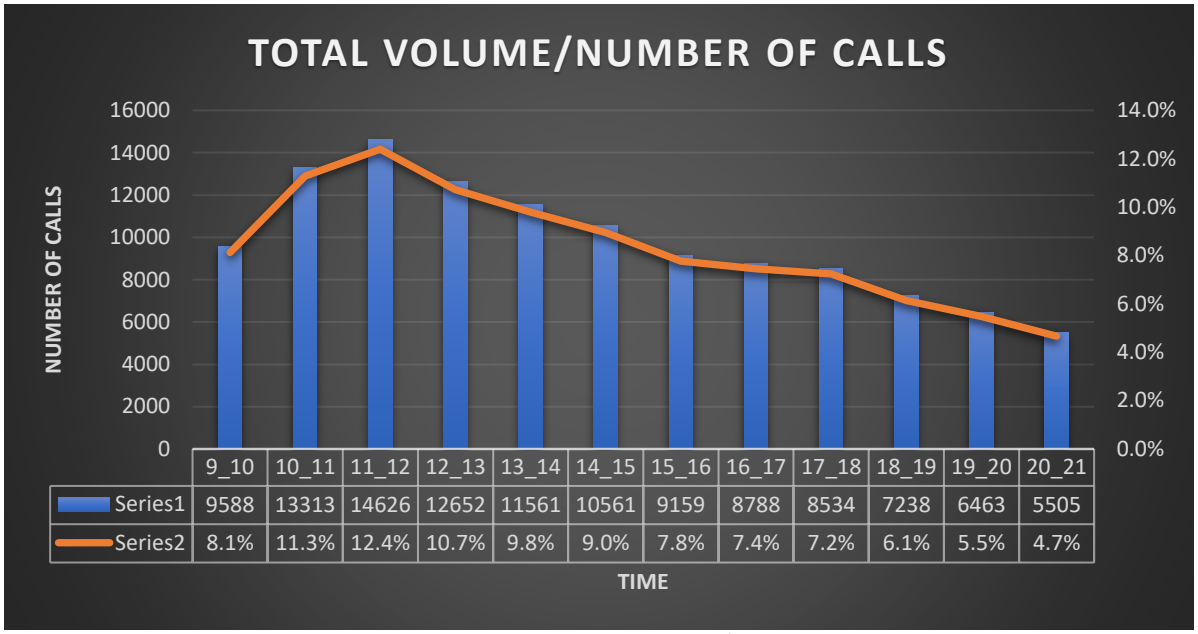
- Dropping the columns which was not needed and removing the null points (if required).

- Calculating the average call time duration for all incoming calls received by agents (in each Time_Bucket). We can conclude that the average call time duration for all answered calls is 198.6 sec

Call_Status	answered
Row Labels	**Average of Call_Seconds (s)**
10_11	203.3
11_12	199.3
12_13	192.9
13_14	194.7
14_15	193.7
15_16	198.9
16_17	200.9
17_18	200.2
18_19	202.6
19_20	203.4
20_21	202.8
9_10	199.1
Grand Total	**198.6**

fig(a): Snippet from excel sheet

- Show the total volume/ number of calls coming in via charts/ graphs. From the below graph we can see that the series1 refers to time buckets and the series2 refers to percentage of count of time.



Chart(a): **Number of calls v/s Time.**

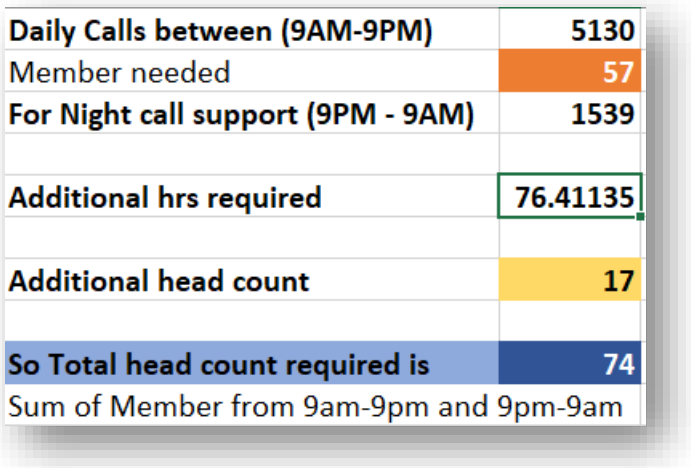
- Manpower plan required during each time bucket [between 9am to 9pm] is found to be 5130 persons (on an average), to reduce the abandon rate to 10%. (i.e. we have to calculate minimum number of agents required in each time bucket so that at least 90 calls should be answered out of 100), the calculation consist of requirement like, agent working hours per day is 9, agent on-floor work hrs is 7.5, days an agent work in a week is 5. Considering all these aspects (the calculation is pasted below) we need 57 members per day to reduce the abandon rate to 10%.

Row Labels	abandon	answered	transfer	Grand Total
01-Jan	684	3883	77	4644
02-Jan	356	2935	60	3351
03-Jan	599	4079	111	4789
04-Jan	595	4404	114	5113
05-Jan	536	4140	114	4790
06-Jan	991	3875	85	4951
07-Jan	1319	3587	42	4948
08-Jan	1103	3519	50	4672
09-Jan	962	2628	62	3652
10-Jan	1212	3699	72	4983
11-Jan	856	3695	86	4637
12-Jan	1299	3297	47	4643
13-Jan	738	3326	59	4123
14-Jan	291	2832	32	3155
15-Jan	304	2730	24	3058
16-Jan	1191	3910	41	5142
17-Jan	16636	5706	5	22347
18-Jan	1738	4024	12	5774
19-Jan	974	3717	12	4703
20-Jan	833	3485	4	4322
21-Jan	566	3104	5	3675
22-Jan	239	3045	7	3291
23-Jan	381	2832	12	3225
Total number of calls	1496	3585	49	5130
Precentage	29%	70%	1%	

Time taken on an average to answer a call (Considering analysis 1)	**198.6** seconds
Total time required to answer 90% of calls (hrs) (on an average number of calls attended by agent	**254.7293904** x 198.6 x 90% / 3600)
Total working time required by a person per day (total time 90% / 4.5 (total time spent on call))	**57**

fig(b): Snippet of calculation

- Let's say customers also call this ABC insurance company in night but didn't get answer as there are no agents to answer, this creates a bad customer experience for this Insurance company. Suppose every 100 calls that customer made during 9 Am to 9 Pm, customer also made 30 calls in night between interval [9 Pm to 9 Am]. To solve this using the previous calculation we have found out that the extra members required are 17. Hence we need 57 (members in normal time) + 17 (members in night time) = 74 members in total per day.



Daily Calls between (9AM-9PM)	**5130**
Member needed	**57**
For Night call support (9PM - 9AM)	**1539**
Additional hrs required	**76.41135**
Additional head count	**17**
So Total head count required is	**74**
Sum of Member from 9am-9pm and 9pm-9am	

fig(c): Snippet of calculation

Tech-Stack Used:

Microsoft Excel

Insights:

While doing the analysis the main thing is to understand the given database, extracting them accordingly and finding out the output was the agenda, the knowledge on excels by getting trained on advanced concepts helped me a lot in clearing all the errors and implementing it helped me to improve my knowledge towards the subject.

Call_Volume_Trend_Analysis_Project_9.xlsx

Excel file (The file is also in the drive link)

From the above file, I was able to find answers for each and questions asked, I was able to get the data from the data set given and exported those output's and I was able to build a visualization for easy understanding.

Result:

Each case study made me understand the concepts even deeper and in the more elaborating way.