ABC Call Volume Trend

Project description:

In this project, we are providing you with a dataset of a 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

Approach:

Downloaded the dataset and had a quick view of set of columns provided in the dataset. Read the problem statements and started analysing the data by using some excel in built functions and pivot tables

Tech stack used:

Microsoft Excel 2021

Insights:

Got the understanding of real data of customer calls and also got to know about how companies analyse using customer call data and improvise their experience. While doing this project I brushed up some excel functions and understood how those simple functions and formulas will help in real data analysing.

Results:

Analysed the data, solved the tasks and reported in this document. Following are the results of the problem statements

Task 1:

Calculate the average call time duration for all incoming calls received by agents (in each Time_Bucket

Solution:

I used **SUBTOTAL** function for this problem to find out average calls in each time bucket
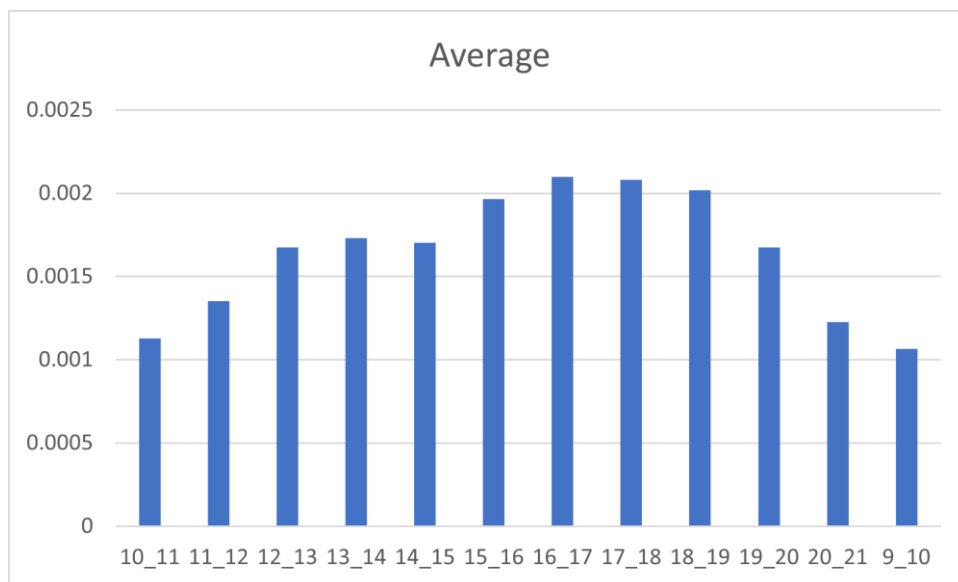
Formula:

=SUBTOTAL(1,H2:H117989)

1 ———▶ Average

Then I filtered out time bucket and found the results

Time_Bucket	Duration(hh:mm:ss)	C
10_11	00:00:00	
	00:01:37	

11_12	00:03:53
11_12	00:00:00
	00:01:57

12_13	00:04:04
12_13	00:02:03
	00:02:25

13_14	00:03:05
13_14	00:00:33
	00:02:30

14_15	00:04:52
14_15	00:04:54
	00:02:27

15_16	00:02:32
15_16	00:01:38
15_16	00:02:51
	00:02:50

16_17	00:02:09
16_17	00:03:31
16_17	00:08:52
16_17	00:02:10
16_17	00:00:49
	00:03:01

17_18	00:00:30
17_18	00:02:19
17_18	00:03:34
	00:03:00

18_19	00:05:19
18_19	00:02:00
18_19	00:06:14
	00:02:54

19_20	00:00:00
19_20	00:03:32
	00:02:25

20_21	00:01:48
20_21	00:01:13
20_21	00:01:22
	00:01:46

| 9_10	00:01:24
9_10	00:00:40
9_10	00:00:52
9_10	00:02:01
9_10	00:05:58
	00:01:32

Distribution of Average duration of call with respect to time buckets

Task 2:

Show the total volume/ number of calls coming in via charts/ graphs [Number of calls v/s Time]. You can select time in a bucket form (i.e. 1-2, 2-3, …..)

Solution:

I used pivot charts for this problem to solve. I added Time buckets in row labels and Count of customer phone no in Values section to find No of calls vs time chart

No of Calls
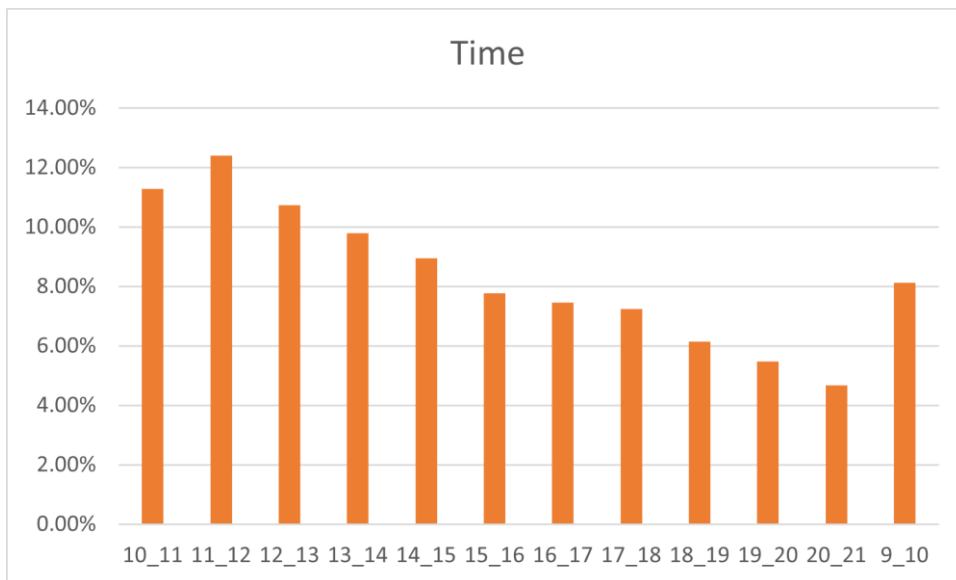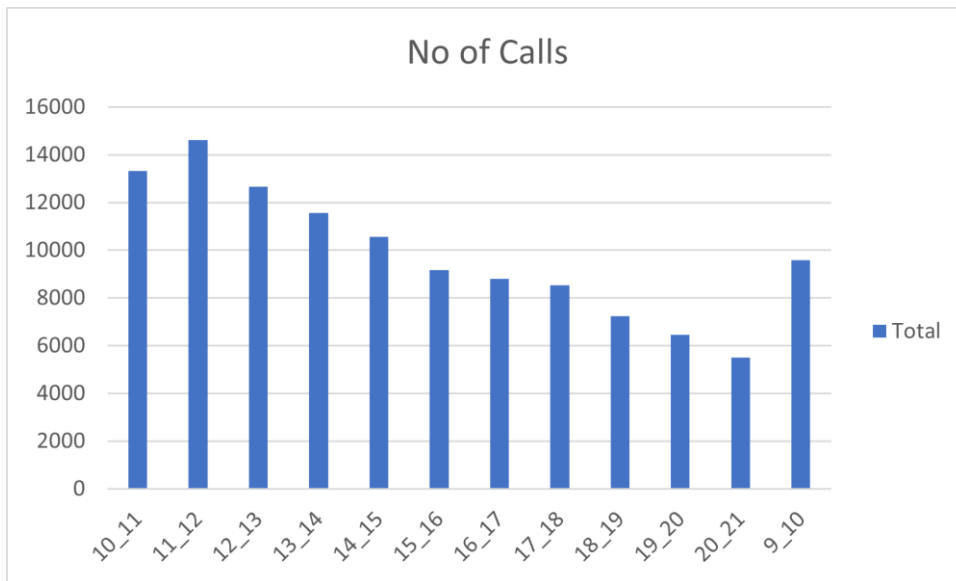
Time

Task 3:

As you can see current abandon rate is approximately 30%. Propose a manpower plan required during each time bucket [between 9am to 9pm] to reduce the abandon rate to 10%. (i.e. You have to calculate minimum number of agents required in each time bucket so that at least 90 calls should be answered out of 100.)

Solution:

Manpower calculation

First I calculated the average time for answered calls using pivot tables

It came as 198.6 seconds which is 70% answered

To make it 90% answered, then the time requirement will be (=90/70*198.6) which is approximately 255 seconds

Man power required = 255/4.5 which is 57

4.5 is the no of hours each worker actually work per day in the company

Answer: **57** more men needed

Task 4:

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] and distribution of those 30 calls are as follows:

Solution:

Call volume during 9AM to 9PM is 5130

It is said that 30% of day time calls come during night, therefore 0.3*5130 =1539

We have to make the calls answered by 90%, therefore (0.9*1539*198.6/3600) gives 76.4 hours

198.6 is the average time taken for answered calls

Finally, 76.4/4.5 is approximately 17

Answer: **17** more men needed at night to answer 90% of customer calls

Call_Status	answered					
Row Labels	**Average of Call_Seconds (s)**	**Sum of Duration(hh:mm:ss)**				
10_11	203.33	14.99				
11_12	199.26	19.74				
12_13	192.89	21.06		Time for ans calls		198.62
13_14	194.74	19.90		Time for 90% ans calls		255.3721
14_15	193.68	17.87		.		
15_16	198.89	17.86		Man power required		57
16_17	200.87	18.25				
17_18	200.25	17.62				
18_19	202.55	14.53		Call volume daily		5130
19_20	203.41	10.78		Night calls		1539
20_21	202.85	6.74		Hours needed		76.42011
9_10	199.07	10.20				17
Grand Total	**198.62**	**189.55**				