

# **ABC Call Volume Trend Analysis**

## **Advanced Excel**

For our final 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 customers have to wait before they get connected to an agent], Time [time at which a call was made by a 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).

A customer experience (CX) team consists of professionals who analyze customer feedback and data and share insights with the rest of the organization. Typically, these teams fulfill 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.

In this project, we have got different questions and insights to answer by using our knowledge of advanced excel.

### **Project Approach Used**

This project is completely based on Microsoft Excel and its advanced and statistical functions. Raw data was provided in Microsoft Excel itself.

### **Tech Stack Used**

From data cleaning, to delivering the results Microsoft Excel was used. For sharing the insights Microsoft Word was used.

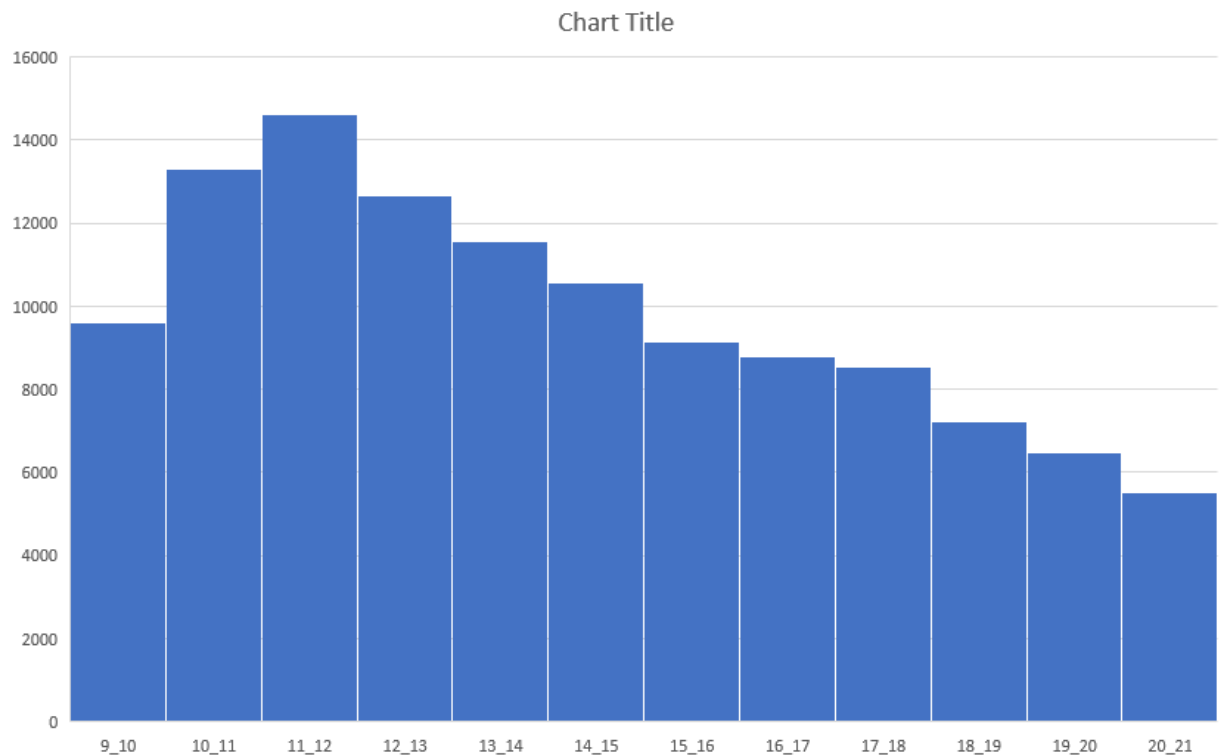
# Project Insights

- **Case Study Objectives:**

1. Calculate the average call time duration for all incoming calls received by agents (in each Time\_Bucket).

Row Labels	Average of Call_Seconds (s)
12_13	191.15
14_15	191.95
13_14	193.30
15_16	195.86
17_18	197.88
16_17	198.29
11_12	198.66
9_10	198.74
18_19	200.12
19_20	202.48
20_21	202.52
10_11	202.59
<b>Grand Total</b>	<b>196.96</b>

2. How the total volume/ number of calls coming in via charts/ graphs [Number of calls v/s Time].



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

	10_11	11_12	12_13	13_14	14_15	15_16	16_17	17_18	18_19	19_20	20_21	9_10
Count of Ringing	13313	14626	12652	11561	10561	9159	8788	8534	7238	6463	5505	9588
No. Of Calls/Day	579	636	550	503	459	398	382	371	315	281	239	417
Emp. Req.(100% calls answered)	72	79	69	63	57	50	48	46	39	35	30	52
90% Call Volume	521	572	495	452	413	358	344	334	283	253	215	375
Emp. Req.(90% calls answered)	65	72	62	57	52	45	43	42	35	32	27	47

How many employees do we need to keep the abandon rate to 10% can be easily calculated by calculating how many calls we receive daily on average and then by dividing it by the total number of employees we can get how, now we have how many calls an employee answers in a day and further dividing it to the total working hour of an employee we can get how many calls an employee answers on an average in a time bucket.

Now whatever number of calls we receive in a time bucket we can divide to the number of calls answered by an employee in a time bucket we can get how many employees we need to keep the abandon rate to 0%. By calculating its 90% we can get our answer.

**Refer to the excel workbook for a practical explanation.**

4. Let's say customers also call this ABC insurance company at night but didn't get an answer as there are no agents to answer, this creates a bad customer experience for this Insurance company. Suppose for every 100 calls that the customer made from 9 Am to 9 Pm, a customer also made 30 calls in the night between interval [9 Pm to 9 Am], and the distribution of those 30 calls are as follows:

Distribution of 30 calls coming in night for every 100 calls coming in between 9am - 9pm (i.e. 12 hrs slot)											
9pm - 10pm	10pm - 11pm	11pm - 12am	12am - 1am	1am - 2am	2am - 3am	3am - 4am	4am - 5am	5am - 6am	6am - 7am	7am - 8am	8am - 9am
3	3	2	2	1	1	1	1	3	4	4	5

Now propose a manpower plan required during each time bucket in a day. The maximum Abandon rate assumption would be the same 10%.

Distribution of 30 calls for every 100 incoming calls during 9PM - 9AM												
	9_10	10_11	11_12	12_1	1_2	2_3	3_4	4_5	5_6	6_7	7_8	8_9
	3	3	2	2	1	1	1	1	3	4	4	5
% of calls	10%	10%	7%	7%	3%	3%	3%	3%	10%	13%	13%	17%
Total Actual calls	154	154	103	103	51	51	51	51	154	205	205	256
Emp Required	19	19	13	13	6	6	6	6	19	26	26	32

In our previous question, we got to know how many calls an employee can answer on average. To know how many employees are required in each time bucket between 9 PM to 9 Am; We can easily divide that number by the number of calls received in a time bucket.

**Refer to the excel workbook for a practical explanation.**

## RESULTS

After running all the formulas in Microsoft Excel we answered all the questions asked by the hiring department.

In the making of this report, we used our Microsoft Excel knowledge in a real-world example.

## DRIVE LINK

<https://drive.google.com/drive/folders/1tk6jKHpyKUfn86blXt3xBbRyn-oVZoI?usp=sharing>