ABC CALL VOLUME TREND ANALYSIS

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PROJECT DESCRIPTION

- This project is about "**ABC Call Volume Trend Analysis**"for a given data set.
- The dataset consist of a Customer Experience (CX) Inbound calling team for 23 days. Data includes Agent_Name, Agent_ID, Queue_Time , Time , Time_Bucket Duration , Call_Seconds , call status (Abandon, answered, transferred).
- In order to enhance the experience and satisfaction, we have been asked to solve customers' problems and helping them achieve success using our product or service.
- our focus on solving customers' problems and helping them achieve success is driven by our commitment to providing a superior customer experience. By putting our customers first and working together to overcome any challenges they may face, we can create long-lasting relationships that benefit both our customers and our business.

APPROACH

01 UNDERSTANDING THE DATA SET

02 EXAMINE THE DATA SET

03 PROVIDING INSIGHTS FOR THE PROBLEM

TECH STACK USED

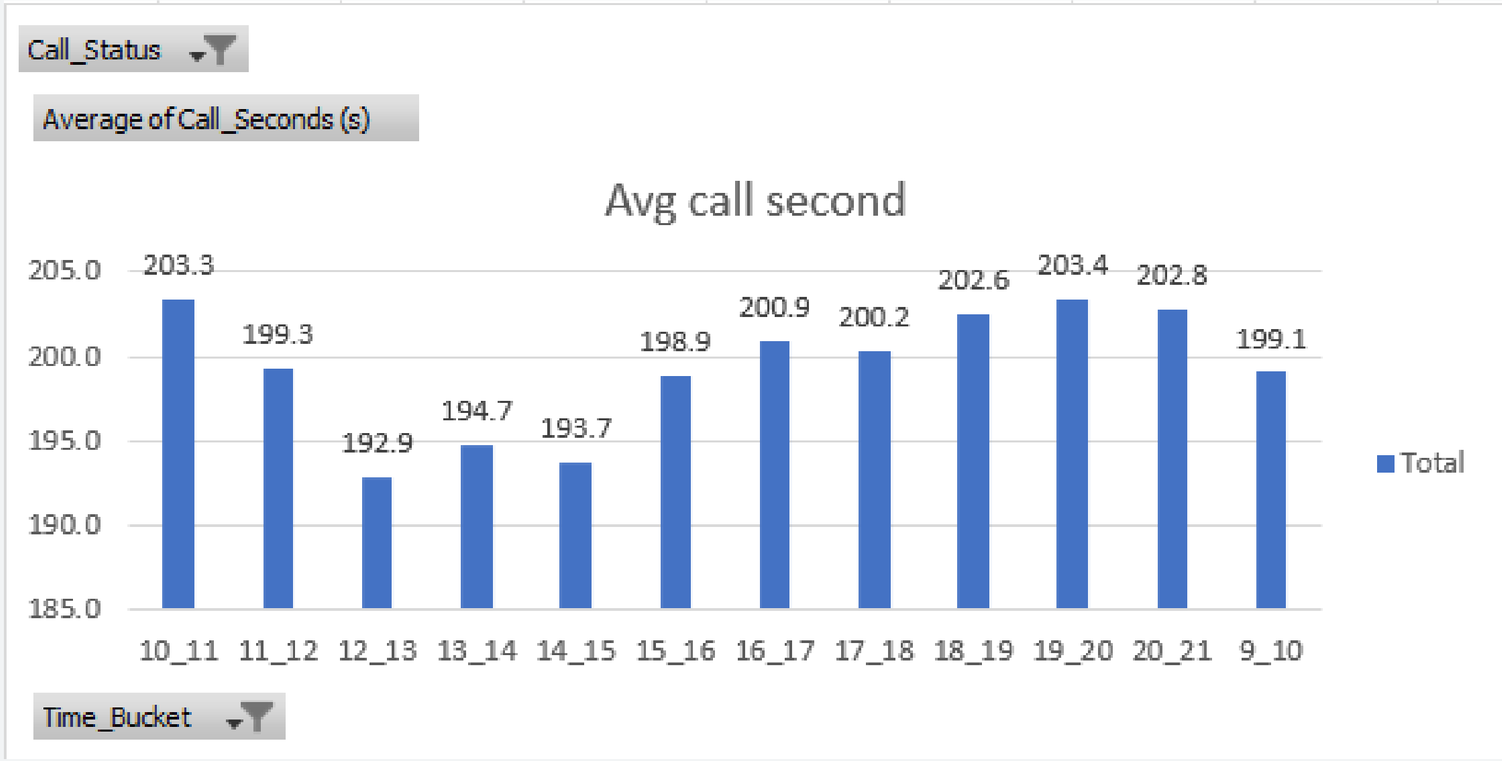
Microsoft_excel 365:

It provides us different functions to explore the data for better insights.

PROJECT INSIGHTS

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

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**



PROJECT INSIGHTS

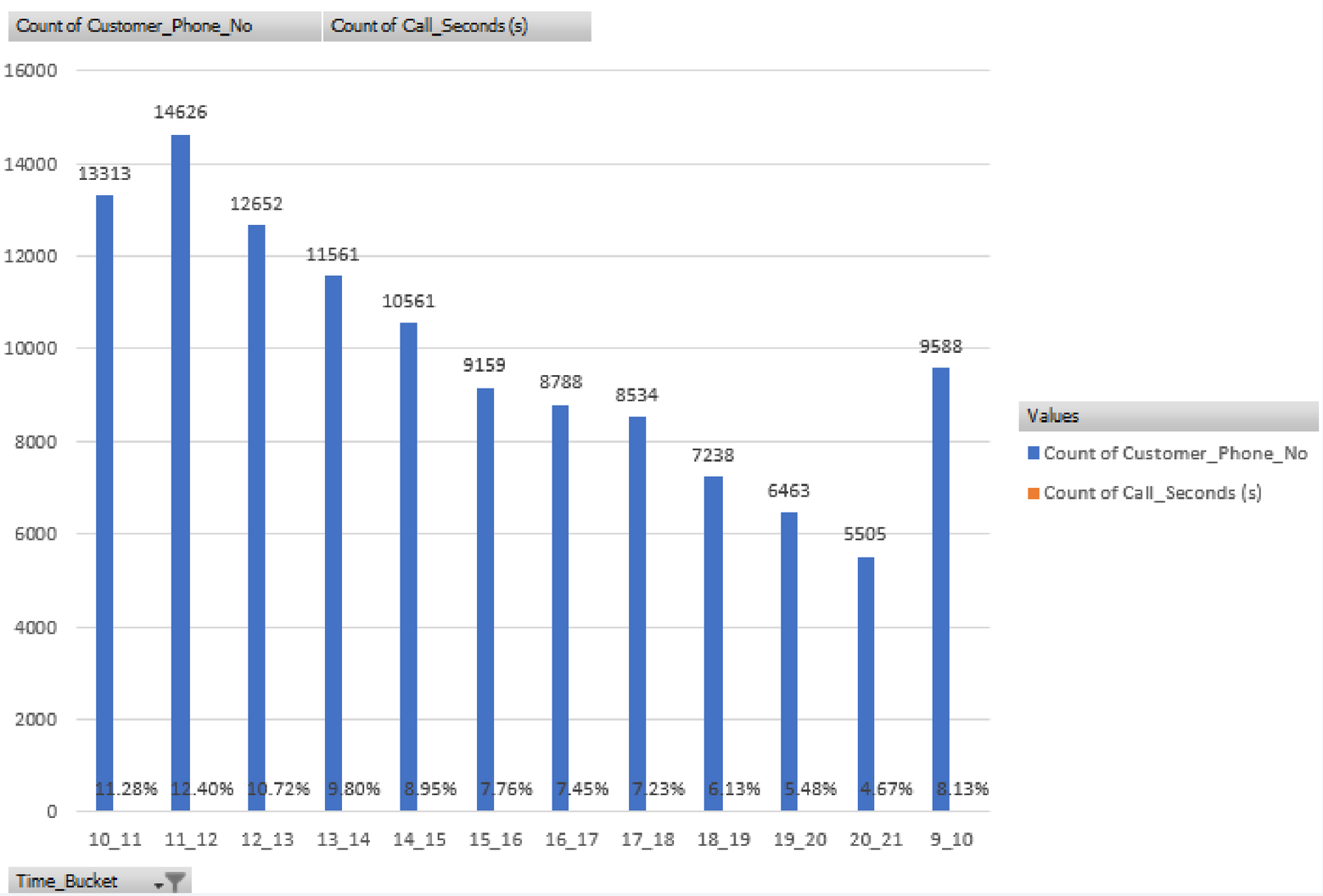
1. The average call time duration for incoming calls answered by our agents is 198.6 seconds.
2. The highest average call time duration is observed between 10 am to 11 am and from 7 pm to 8 pm, which may be due to peak demand for our services during those times.
3. The lowest average call time duration is between 12 noon to 1 pm, possibly due to a lower volume of calls during that period.

PROJECT INSIGHTS

B) Show the total volume/ number of calls coming in via charts/ graphs [Number of calls v/s Time].

Row Labels	Count of Customer_Phone_No	Count of Call_Seconds (s)
10_11	13313	11.28%
11_12	14626	12.40%
12_13	12652	10.72%
13_14	11561	9.80%
14_15	10561	8.95%
15_16	9159	7.76%
16_17	8788	7.45%
17_18	8534	7.23%
18_19	7238	6.13%
19_20	6463	5.48%
20_21	5505	4.67%
9_10	9588	8.13%
Grand Total	**117988**	**100.00%**

PROJECT INSIGHTS



1. The peak time for customer calls is between 11 am to 12 noon.
2. The lowest volume of customer calls is observed between 8 pm to 9 pm

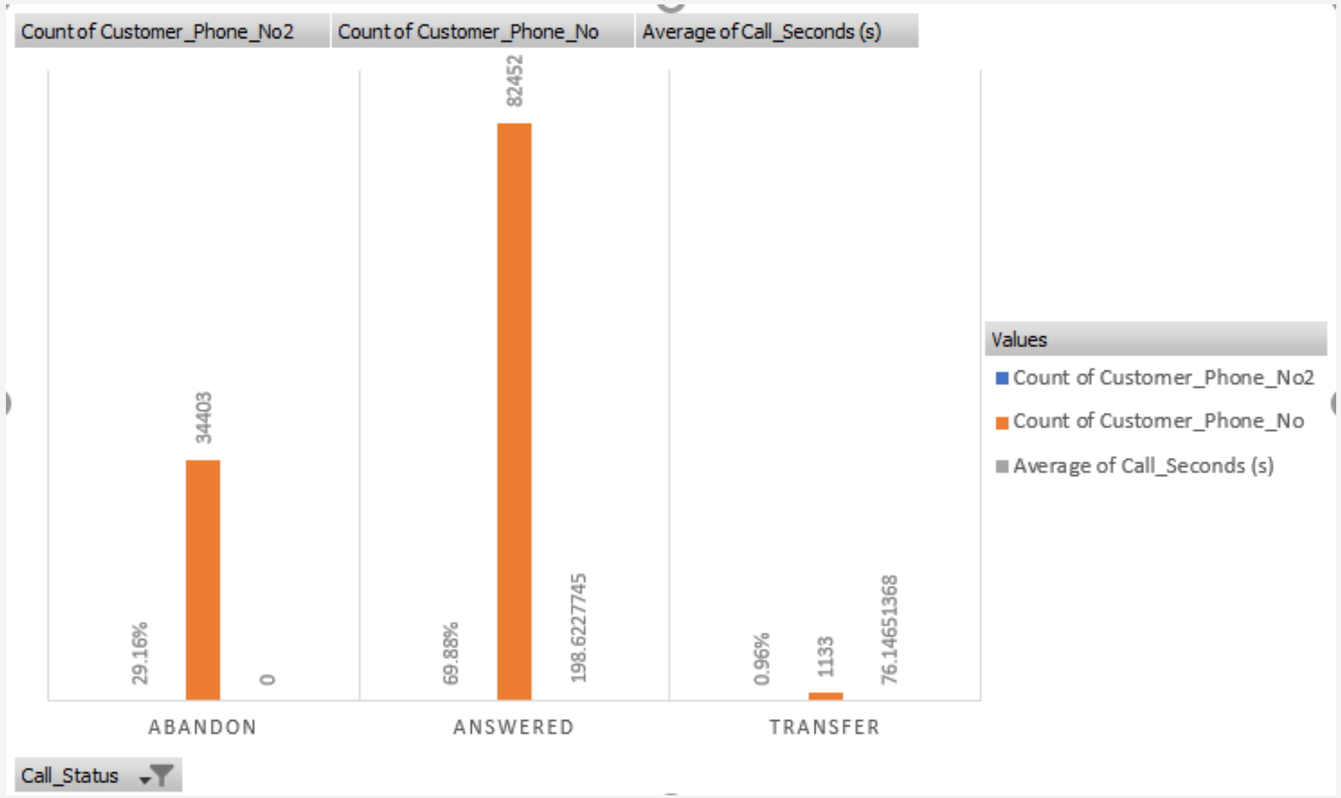
PROJECT INSIGHTS

C) 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.)

Assumptions	Hours
Agent_working_hr	9
Break	1.5
Meeting	1
Down_time	0.5
Total_Time_spent_on_call	5

PROJECT INSIGHTS

Row Labels	Count of Customer_Phone_No2	Count of Customer_Phone_No	Average of Call_Seconds (s)
abandon	29.16%	34403	0
answered	69.88%	82452	198.6227745
transfer	0.96%	1133	76.14651368
Grand Total	**100.00%**	**117988**	**139.5321473**



PROJECT INSIGHTS

Row Labels	Sum of Call_Seconds (s)	sum of Hours
1-Jan	676664	187.9622222
Grand Total	**676664**	**187.9622222**

Row Labels	Count of Call_Seconds (s)	Count of Call_Seconds (s)2	Man_required
10_11	11.28%	0.11	6
11_12	12.40%	0.12	7
12_13	10.72%	0.11	6
13_14	9.80%	0.10	5
14_15	8.95%	0.09	5
15_16	7.76%	0.08	4
16_17	7.45%	0.07	4
17_18	7.23%	0.07	4
18_19	6.13%	0.06	3
19_20	5.48%	0.05	3
20_21	4.67%	0.05	3
9_10	8.13%	0.08	5
Grand Total	**100.00%**		56

Total agent for 60%=187.96/5=37.559
Total agent for 90%= 90*37.59/60=56.3=56

- The Man required is calculated by
- **Man_req_for_each_bucket** =rounded of % value of count of call second *56.
- To answer 90% of the daily calls, a total of 56 agents are required

PROJECT INSIGHTS

D) 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:

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. Maximum Abandon rate assumption would be same 10%

PROJECT INSIGHTS

Avg call count per day(9am - 9pm)	5130
Avg call count night shift(9pm-9am) 30% of day=5130*0.3	1539
Additional Hours Required=(1539*198.6)*0.9/3600	76.4114
Additional Headcount=76.4114/5	15.2823
	15

Time Part	Calls Received	call time distribution	Man required
21_22	3	0.10	2
22_23	3	0.10	2
23_24	2	0.07	1
00_01	2	0.07	1
01_02	1	0.03	1
02_03	1	0.03	1
03_04	1	0.03	1
04_05	1	0.03	1
05_06	3	0.10	2
06_07	4	0.13	2
07_08	4	0.13	2
08_09	5	0.17	3
Total	**30**	**1**	**19**

- The calculation for determining the number of agents required for each time bucket is 15 multiplied by the time distribution.
- The company has the capacity to hire 15 customer support agents for night shift work
- In the event that employees experience difficulty working consistently in night shifts, they can be scheduled for a rotational shift

RESULT

As a result, the analysis and execution of the "ABC Call Volume Trend Analysis" project were successful. I've now provided a detailed report on this undertaking. I conclude that working on thi s project allowed me to gain a variety of ideas and helped me develop my analytical thinking.Discovering how an analyst can influence a customer service department is a valuable learning experience. I learned how to use visualization concepts , such as creating tabels , charts,graphs,pivot tabel etc.. in this project. I was aware of how the real-time data functions . I was able to learn excel concept s as a result. I gained the ability to ask the appropriate questions in light of the situation

DATA SET LINK:

https://docs.google.com/spreadsheets/d/1XKn76WijNW6PDpt0IjlF3RiZmAYiP717/editusp=sharing&ouid=118410320923325257723&rtpof=tru&sd=true

THANK YOU