ABC Call Volume Trend

Project Description:

ABC is a Call Centre which has a Customer Experience team for the voice process. 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. I have been provided with the data of ABC Call Centre for the last 23 days and I should analyze the data and help the company answer some of the business questions.

Approach:

> ➢ Downloaded the dataset and made a copy of the original raw data
> ➢ Understand the dataset and look for any duplicate or null value.
> ➢ Create any new column if required.
> ➢ Answer the problem statement using pivot table or any function.
> ➢ Create a report using my findings

Tech-Stack Used:

MS Excel 2016

Insights:

> ➢ Learned how to analyze the call centre data and report to the management.
> ➢ I have also learned to use pivot table and pivot charts more effectively.
> ➢ I learned Predictive analytics

Result:

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

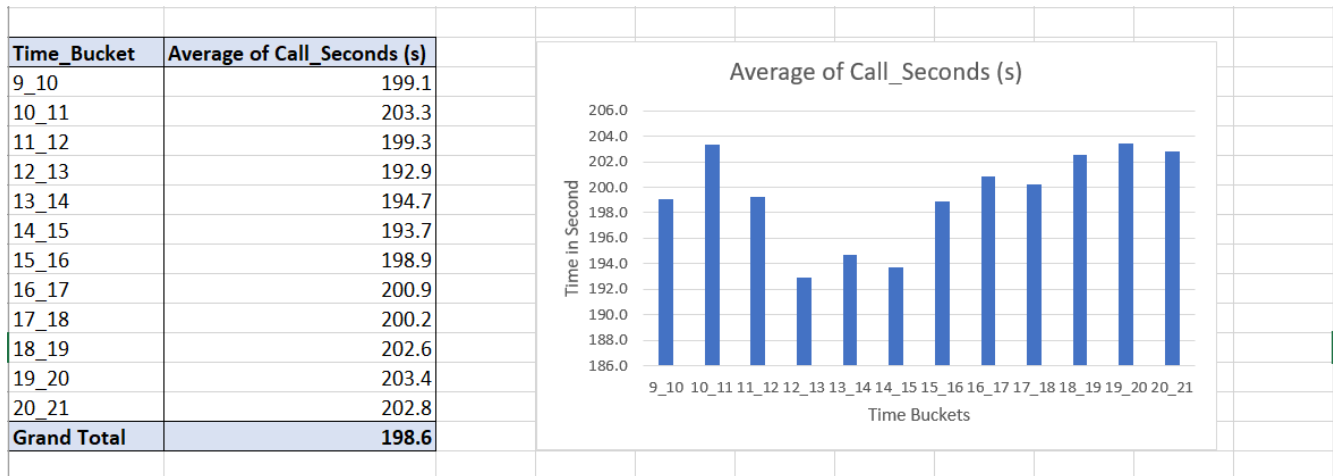| Time_Bucket	Average of Call_Seconds (s)
9_10	199.1
10_11	203.3
11_12	199.3
12_13	192.9
13_14	194.7
14_15	193.7
15_16	198.9
16_17	200.9
17_18	200.2
18_19	202.6
19_20	203.4
20_21	202.8
Grand Total	198.6

Fig 1: Average Call duration for different time bucket

b) 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…)

Time_Bucket	Count of Customer_Phone_No	Count of Time
9_10	9588	8.1%
10_11	13313	11.3%
11_12	14626	12.4%
12_13	12652	10.7%
13_14	11561	9.8%
14_15	10561	9.0%
15_16	9159	7.8%
16_17	8788	7.4%
17_18	8534	7.2%
18_19	7238	6.1%
19_20	6463	5.5%
20_21	5505	4.7%
Grand Total	117988	100.0%
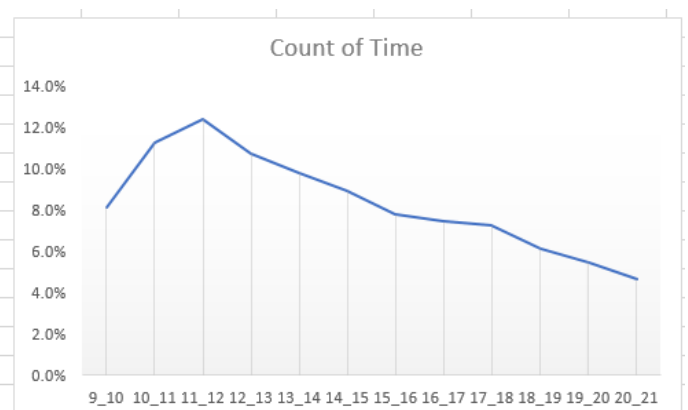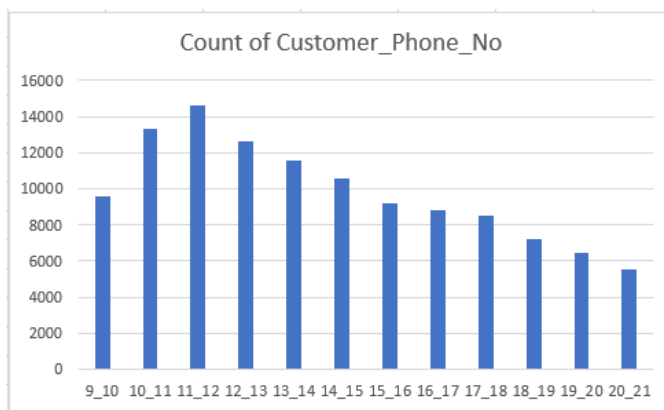
c) As you can see current abandon rate is approximately 30%. Propose a manpower plan required during each time bucket [between 9am to 9pm] to reduce the abandon rate to 10%. (I.e. you have to calculate minimum number of agents required in each time bucket so that at least 90 calls should be answered out of 100.)

Date	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
AVERAGE	1496	3585	49	5130
PERCENTAGE OF TOTAL	29%	70%	1%	100%

Time taken on a average to answer a call	198.6
Time requirement to answer 90% of the call	254.7001826
Total working person required per day	57
Call volume daily (9AM-9PM)	5130
If we proide support at night(9PM-9AM)	1539
Additional Hour required	76.41135
Additional Head Count	17
Total Head Count	74

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

Assumption: An agent work for 6 days a week; On an average total unplanned leaves per agent is 4 days a month; An agent total working hours is 9 hour out of which 1.5 hour goes into lunch and snacks in the office. On average an agent occupied for 60% of his total actual working hour (i.e. 60% of 7.5 hours) on call with customers/ users. Total days in a month is 30 days.

Time Bucket	Call Distribution	Time Distribution	Total Hours we need 76.41135	Requirement
21_22	3	10%	7.641135	13
22_23	3	10%	7.641135	13
23_24	2	7%	5.09409	8
00_1	2	7%	5.09409	8
1_2	1	3%	2.547045	4
2_3	1	3%	2.547045	4
3_4	1	3%	2.547045	4
4_5	1	3%	2.547045	4
5_6	3	10%	7.641135	13
6_7	4	13%	10.18818	17
7_8	4	13%	10.18818	17
8_9	5	17%	12.735225	21
Total	30			

DATASET:

https://docs.google.com/spreadsheets/d/122nn1uCNCm2FjIJ1qE65hD_ohFA0a6Ch/edit?usp=sharing&ouid=11597727632230478174&rtpof=true&sd=true