ABC Call Volume Trend Analysis

Project Description

- A dataset containing Customer Experience(CX) inbound calling data for 23 days.
- Data includes Agent_Name, Agent_id, Queue_Time, Time, Time_Bucket, Duration, Call_Seconds, Call status.
- Based on call status we need to improve the inbound customer support and reduce the abandoned calls.

Approach

- Download the dataset and open the dataset in MS Excel.
- Perform Analysis as per the given specifications by filtering the required data from the dataset.
- Use count, avg functions to calculate the average values and count values as per requirement/
- Plot Charts & graphs.

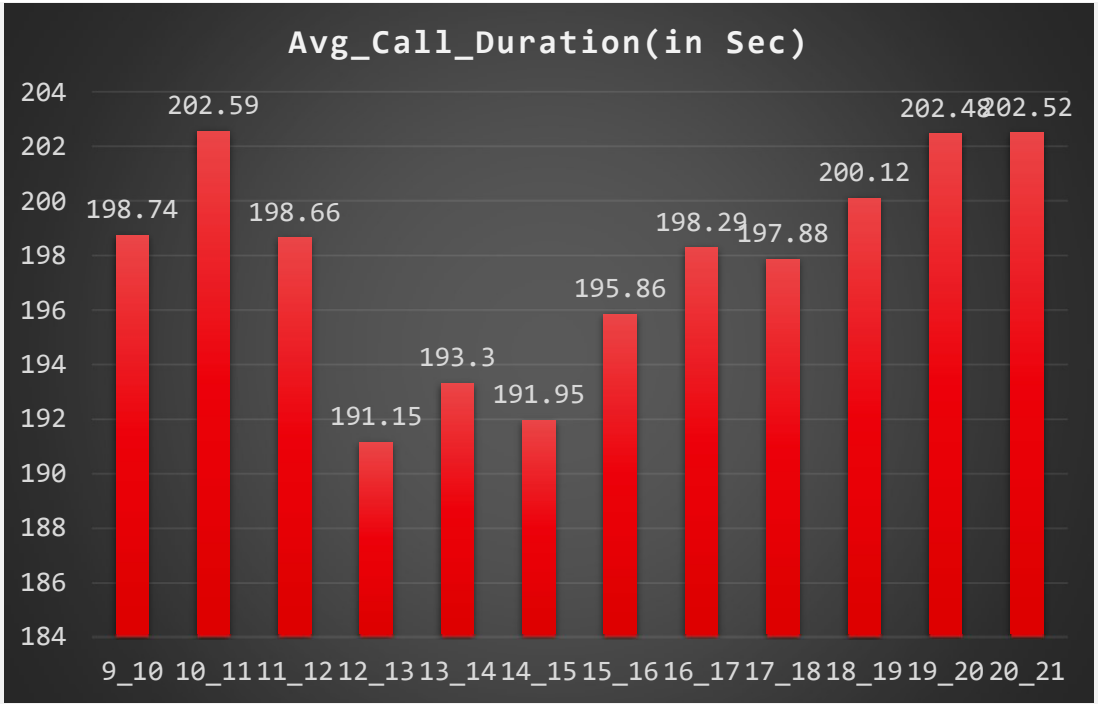
Tech-Stack Used

- Microsoft Office:
  - MS Excel: To analyze the dataset & create charts.
  - MS PowerPoint: To Prepare the presentation.
- Google Drive: To upload the Presentation

Insights & Results

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

Time_Bucket	Avg_Call_Duration(in Sec)
9_10	198.74
10_11	202.59
11_12	198.66
12_13	191.15
13_14	193.3
14_15	191.95
15_16	195.86
16_17	198.29
17_18	197.88
18_19	200.12
19_20	202.48
20_21	202.52

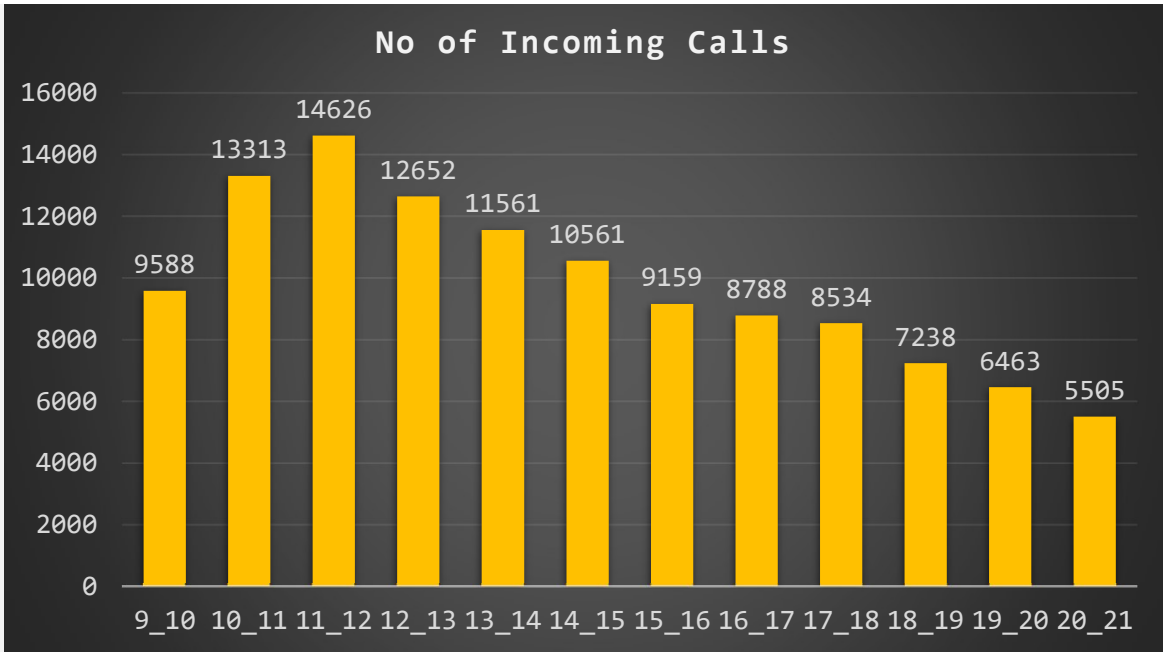


❖ Average call duration was highest during 10_11 time bucket of 202.59 seconds.

Insights & Results

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, …..)

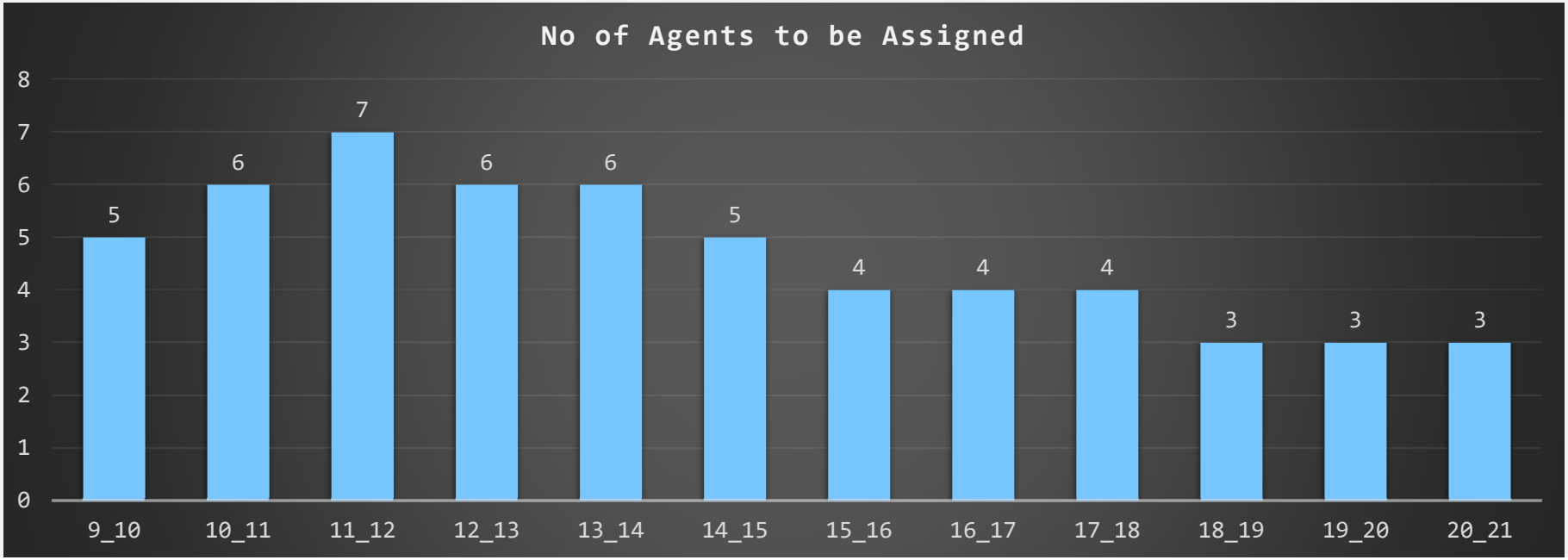
Time_Bucket	No of Incoming Calls
9_10	9588
10_11	13313
11_12	14626
12_13	12652
13_14	11561
14_15	10561
15_16	9159
16_17	8788
17_18	8534
18_19	7238
19_20	6463
20_21	5505



- No of incoming calls was highest during the time bucket 11_12. A total of 14626 calls were incoming.

Insights & Results

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.)



Insights & Results

- In the dataset the call inbound details are given from 01-01-2022 to 23-01-2022 time period.
- A total of 117988 inbound call details are given. Out of 117988 inbound calls 82452 calls (70%) were answered, 1133 calls (1%) were transferred & 34403 calls (29%) were abandoned.
- First we calculate the average inbound call volume for the above time period which was 5130.
- We calculate the average call duration which was 198 secs.
- Based on assumption data we found that an agent spends 4.5 hours on call.
- From the above data we calculate the no of agents required to answer 90% calls was 56.
- These 56 agents are to be distributed in each time bucket based on inbound call % as shown in below mentioned table.

Time_Bucket	No of Agents to be Assigned
9_10	5
10_11	6
11_12	7
12_13	6
13_14	6
14_15	5
15_16	4
16_17	4
17_18	4
18_19	3
19_20	3
20_21	3

Insights & Results

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

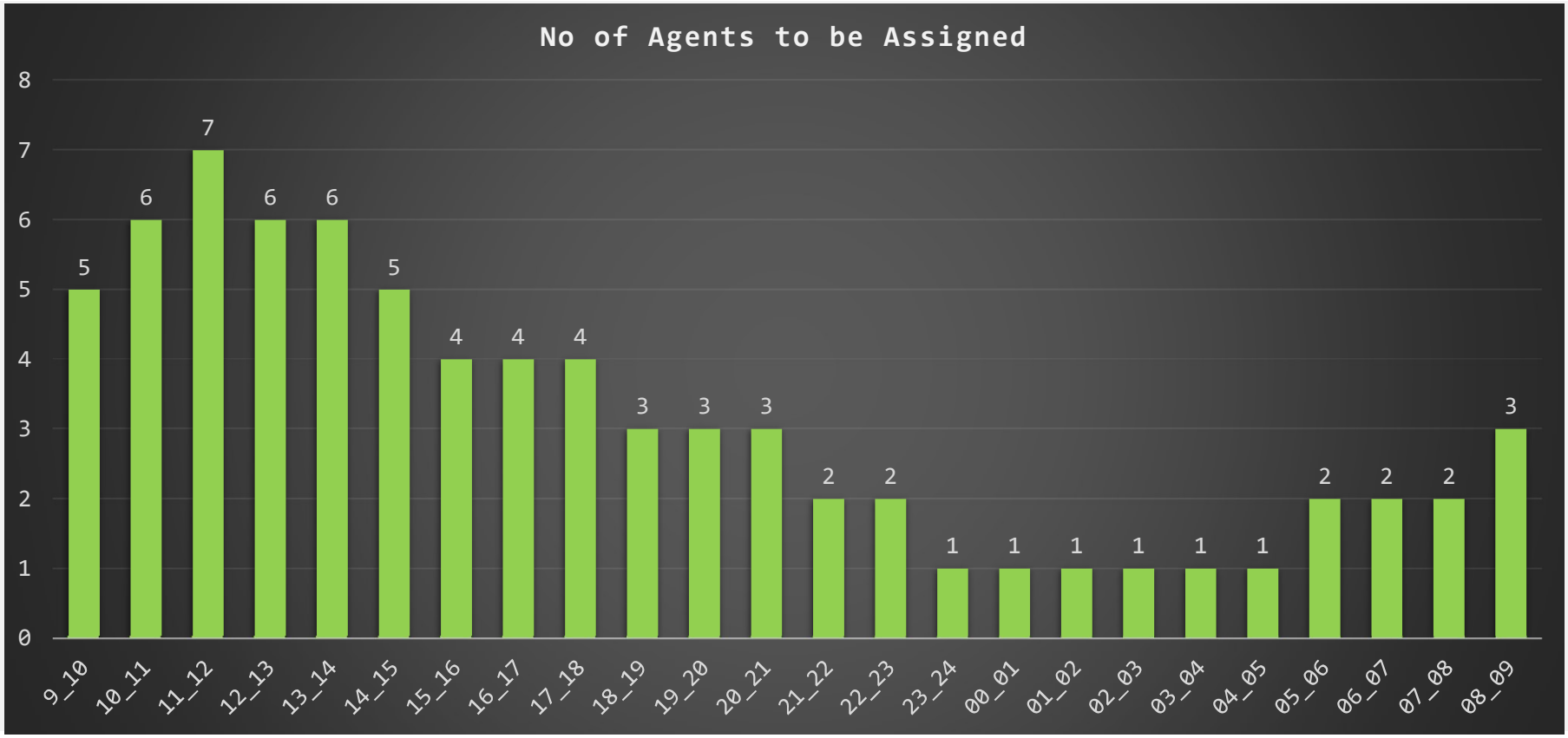
Now propose a manpower plan required during each time bucket in a day. Maximum Abandon rate assumption would be same 10%

Insights & Results

- We have calculated average call volume for the time bucket 9:00AM to 9:00PM was 5130.
- If we provide support for the time bucket 9:00PM to 9:00AM the avg call volume will be 1539 (30% of 5130).
- The total call duration for 1539 calls will be 76 Hours(considering 90% of calls were answered).
- So the total no of agents required for time bucket 9:00PM to 9:00AM was found to be 17 Nos.
- These 17 no of agents were distributed in each time bucket based on % of inbound calls as shown in table below.

Time_Bucket	No of Agents to be Assigned
21_22	2
22_23	2
23_24	1
00_01	1
01_02	1
02_03	1
03_04	1
04_05	1
05_06	2
06_07	2
07_08	2
08_09	3

Insights & Results



Thank You