ABC Call Volume Trend Analysis

Overview:

Advertising is a crucial aspect of any business. It helps increase sales and makes the audience aware of the company's products or services. The first impressions of a business are often formed through its advertising efforts.

The target audience for businesses can be local, regional, national, or international. Various types of advertising are used to reach these audiences, including online directories, trade and technical press, radio, cinema, outdoor advertising, and national papers, magazines, and TV.

The advertising business is highly competitive, with many players bidding large amounts of money to target the same audience segment. This is where the company's analytical skills come into play. The goal is to identify those media platforms that can convert audiences into customers at a low cost.

In this project, I'll be using analytical skills to understand the trends in the call volume of the CX team and derive valuable insights from it

Approach:

The approach that I used during the completion of this project is first I downloaded the data sets than with the help of the knowledge that I gained regarding different functions used in excel and the various tools that it provides I answered different questions and created various graphs for the same.

Tech-Stack:

I used Microsoft excel (2016) for the commencement of this project. I used various tools such as filters, charts, formulas that this version of excel supports to complete my project.

Insights and results:

Here is a brief overview of the dataset:

- **Number of observations:** 11,7989
- **Number of variables:** 13

so in order to complete the tasks given to me the first thing I did is cleaned my data by

1.removing duplicates

2.resizing the columns

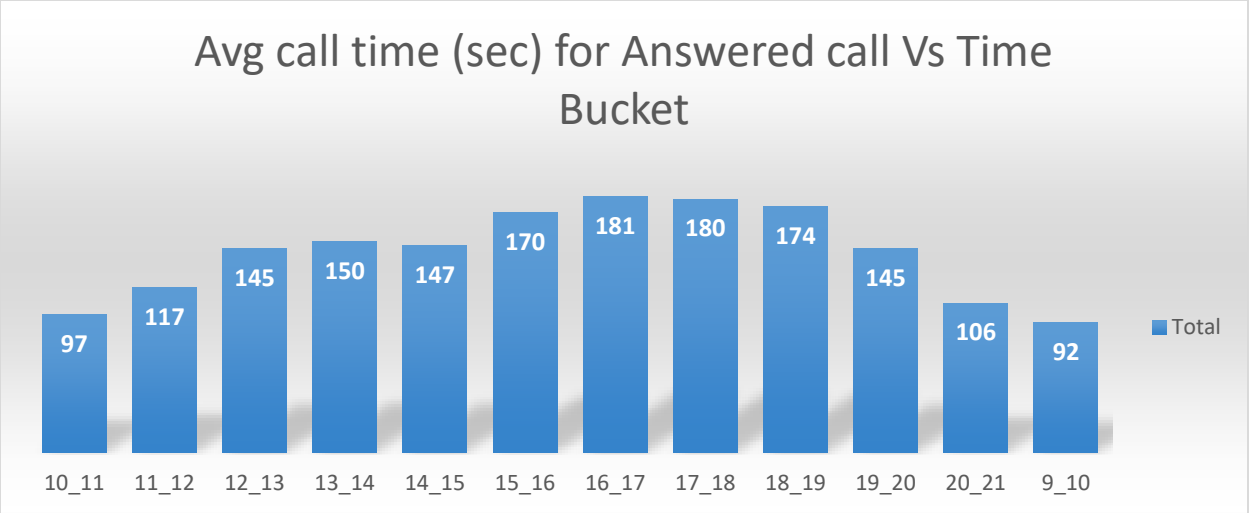
3.eleminating blank columns and replacing it with appropriate values

I replaced the #N/A with abandoned call in columns agent name and agent id

I also imputed “abandoned call” in the blank spaces in the column wrapped by.

now coming to the task assigned:

1. Average Call Duration: Determine the average duration of all incoming calls received by agents. This should be calculated for each time bucket.
- Your Task: What is the average duration of calls for each time bucket?

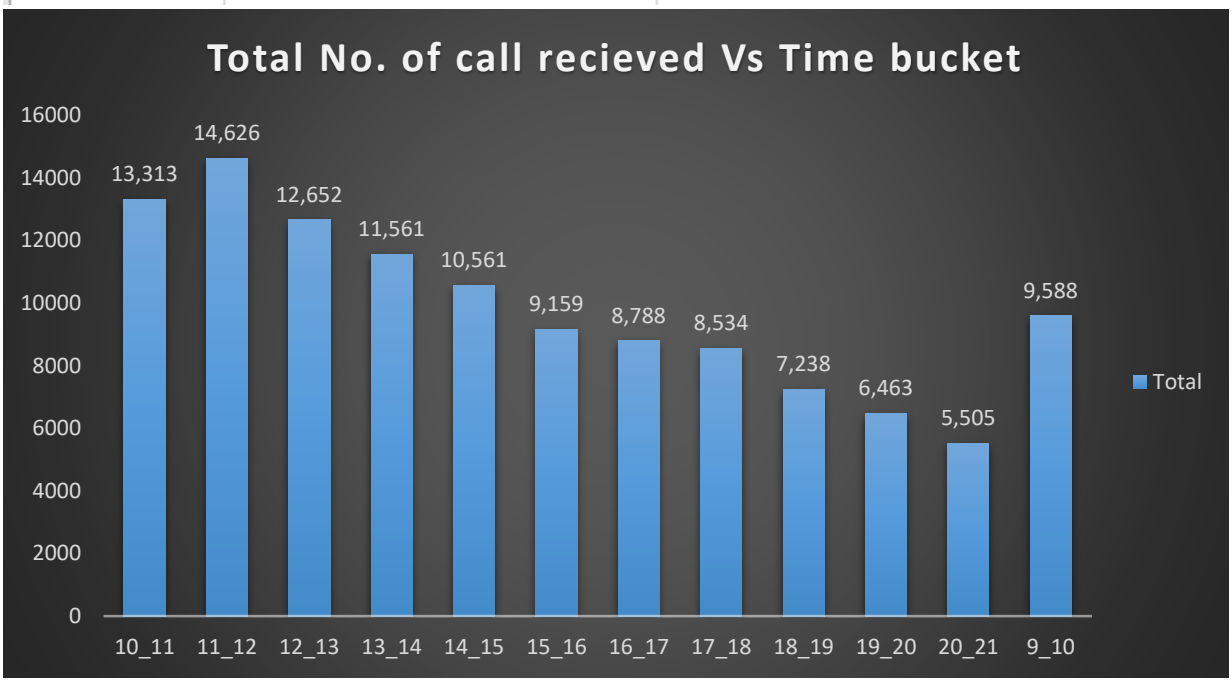


The average time duration of the calls is 199sec.

2. **Call Volume Analysis:** Visualize the total number of calls received. This should be represented as a graph or chart showing the number of calls against time. Time should be represented in buckets (e.g., 1-2, 2-3, etc.).

- **Your Task:** Can you create a chart or graph that shows the number of calls received in each time bucket?

Time bucket	Count of Customer_Phone_No
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
9_10	9588
Grand Total	**117988**



Most of the calls are received at the time duration of 10-1

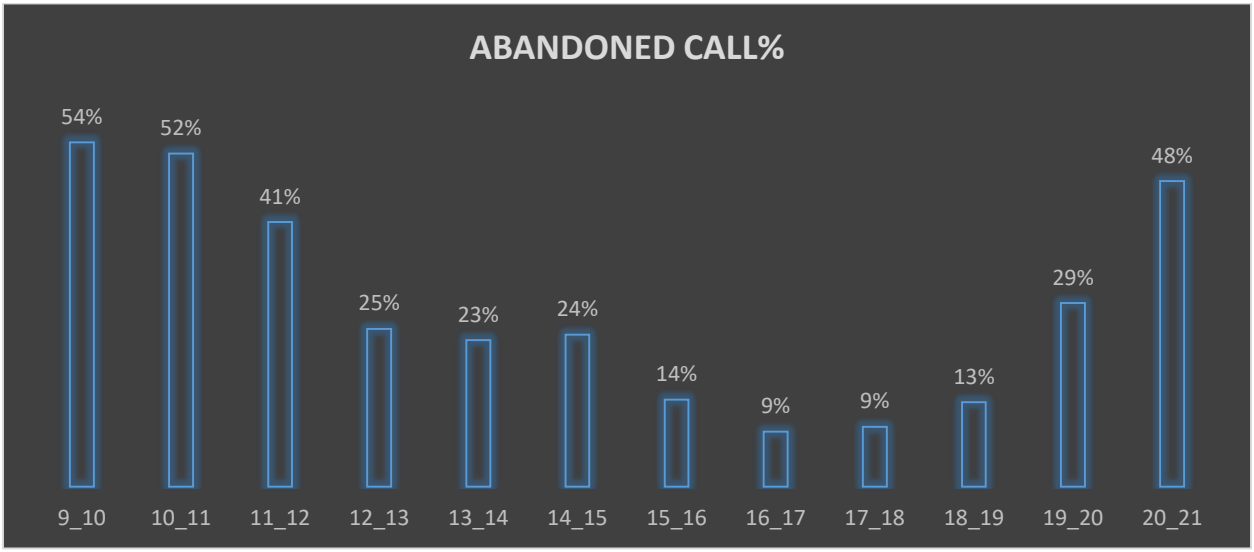
3. **Manpower Planning:** The current rate of abandoned calls is approximately 30%. Propose a plan for manpower allocation

during each time bucket (from 9 am to 9 pm) to reduce the abandon rate to 10%. In other words, you need to calculate the minimum number of agents required in each time bucket to ensure that at least 90 out of 100 calls are answered.

- **Your Task:** What is the minimum number of agents required in each time bucket to reduce the abandon rate to 10%?

MANPOWER PLANNING TO REDUCE ABANDON RATE FROM 30% TO 10%

	FOR 23 DAYS			FOR DAY				
TIME BUCKET	ABANDON	ANSWERED	TOTAL	ABANDONED CALL	ANSWERED CALL	TOTAL	ABANDONED CALL%	DAILY CALL VOLUME FOR 90% ACHIEVEMENT
9_10	5149	4428	9577	224	193	417	54%	375
10_11	6911	6368	13279	300	277	577	52%	519
11_12	6028	8560	14588	262	372	634	41%	571
12_13	3073	9432	12505	134	410	544	25%	490
13_14	2617	8829	11446	114	384	498	23%	448
14_15	2475	7974	10449	108	347	455	24%	410
15_16	1214	7760	8974	53	337	390	14%	351
16_17	747	7852	8599	32	341	373	9%	336
17_18	783	7601	8384	34	330	364	9%	328
18_19	933	6200	7133	41	270	311	13%	280
19_20	1848	4578	6426	80	199	279	29%	251
20_21	2625	2870	5495	114	125	239	48%	215

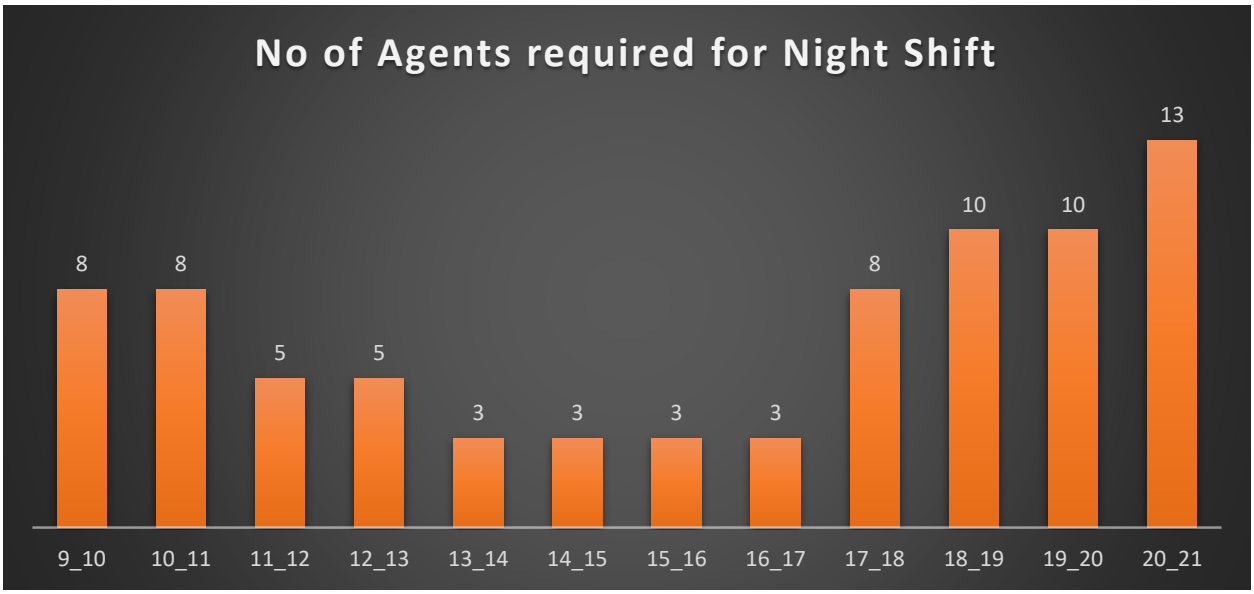


4. **Night Shift Manpower Planning:** Customers also call ABC Insurance Company at night but don't get an answer because there are no agents available. This creates a poor customer experience. Assume that for every 100 calls that customers make between 9 am and 9 pm, they also make 30 calls at night between 9 pm and 9 am. The distribution of these 30 calls is as follows:

- **Your Task:** Propose a manpower plan for each time bucket throughout the day, keeping the maximum abandon rate at 10%.

TIME BUCKET	DAILY CALL VOLUME FOR 90% ACHIEVEMENT
9_10	375
10_11	519
11_12	571
12_13	490
13_14	448
14_15	410
15_16	351
16_17	336
17_18	328
18_19	280
19_20	251
20_21	215
TOTAL CALLS PER DAY	4573
TOTAL CALL PER NIGHT	1372

TIME BUCKET	Distribution of 30 calls	percentage distribution	No.of calls	No. of Agent required
9_10	3	10%	137	8
10_11	3	10%	137	8
11_12	2	7%	91	5
12_13	2	7%	91	5
13_14	1	3%	46	3
14_15	1	3%	46	3
15_16	1	3%	46	3
16_17	1	3%	46	3
17_18	3	10%	137	8
18_19	4	13%	183	10
19_20	4	13%	183	10
20_21	5	17%	229	13
	30	100%	1372	76



RESULT

- Average time duration of a call is 199 seconds

- There is consistency in average call duration which suggests that the quality of service is good and calls are being handled efficiently

Hyperlink to excel file (refer the same folder where this file is present for the excel file if it does not open using the hyperlink)

..\Documents\Call_Volume_Trend_Analysis.xlsx

Hyper link to the video solution: (refer the same folder where this file is present for the video if it does not open using the hyperlink)

..\Documents\InShot_20240807_124131782.mp4