

PROJECT: ABC CALL VOLUME TREND ANALYSIS

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Description:

This project is all about carry out the in-depth analysis of important underlying insights of analyzing the call volume trend analysis. This project is about, using your analytical skills to understand the trends in the call volume of the CX team and derive valuable insights from it. EDA using excel was performed to draw insights.

Approach:

First, I have done data cleaning, dealt with blank cell / null values, removed duplicates and removed outliers. Then I have done the EDA part using excel. And this analysis was done with the help of various functions, formula and tools.

Tech-Stack: Microsoft Excel 2019

Used: Microsoft Excel 2019 was used in this project execution. The ease of access and set up with convenient user interface made it a good tool for the project.

Insights:

In this project, I learned about advanced EXCEL. And how to analyse the problem statement and the functions that I can use in EXCEL to solve the problem statement. All the questions asked has been answered or solved through Excel.

Result: In this project, I have achieved and gained knowledge how to deal and analyse the data with help of EXCEL and apply statistics logic and function. And how to interact and run different functions to get desired output from data.

ExcelWorkbook-

<https://docs.google.com/spreadsheets/d/1SSUiHGU1RELNpXejChNloJbjcdHvgpQ9/edit?usp=sharing&ouid=110645243858390813184&rtpof=true&sd=true>

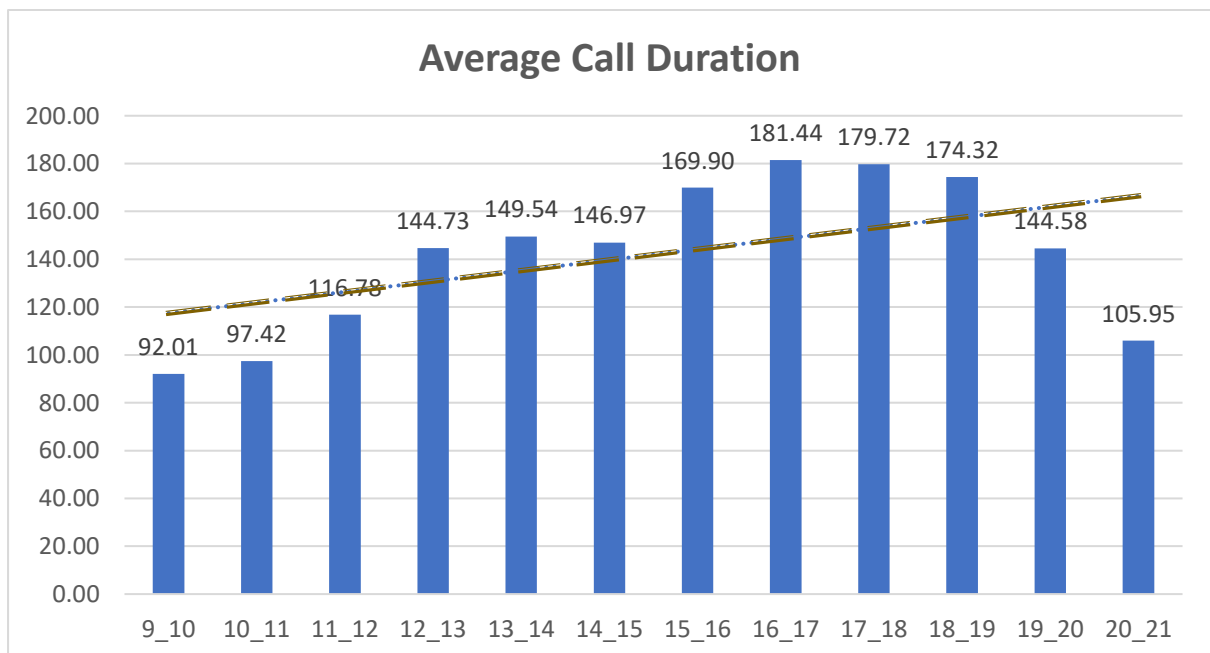
Analysis

Task 1: Average Call Duration

Average
Answered,

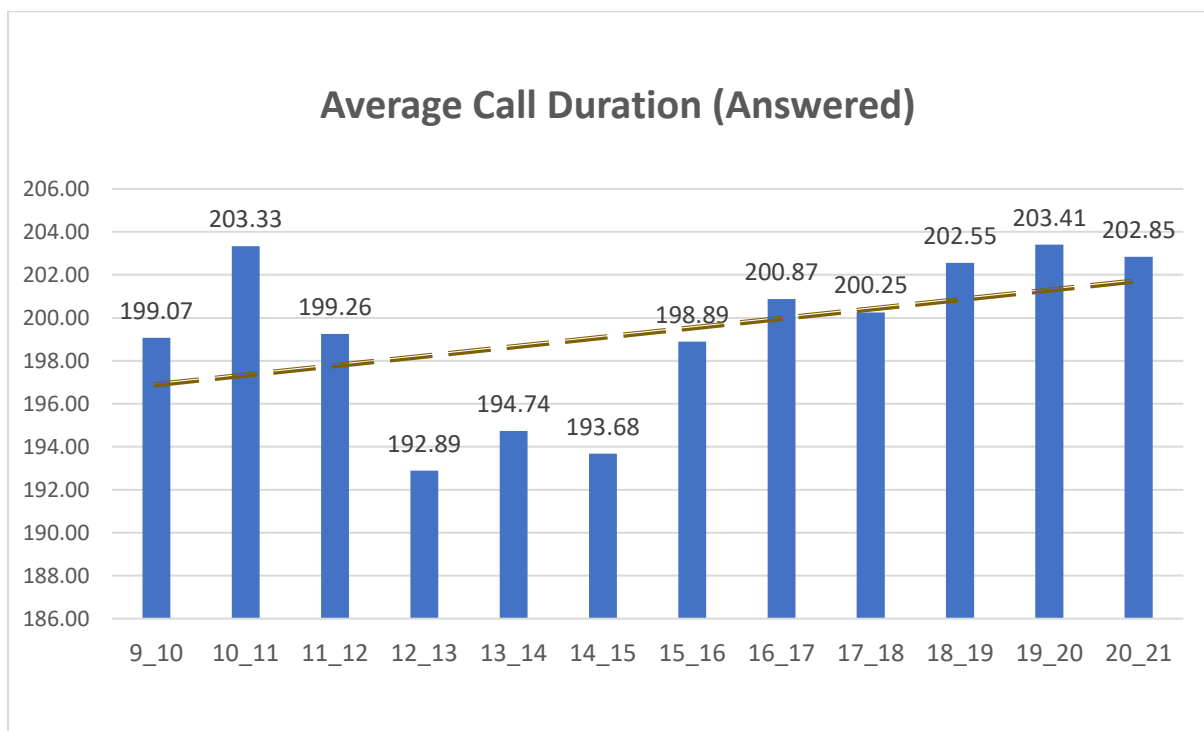
Time Buckets	Average of Call_Seconds (s)
9_10	92.01
10_11	97.42
11_12	116.78
12_13	144.73
13_14	149.54
14_15	146.97
15_16	169.90
16_17	181.44
17_18	179.72
18_19	174.32
19_20	144.58
20_21	105.95
Grand Total	139.53

call duration (Abandon,
Transfer)-



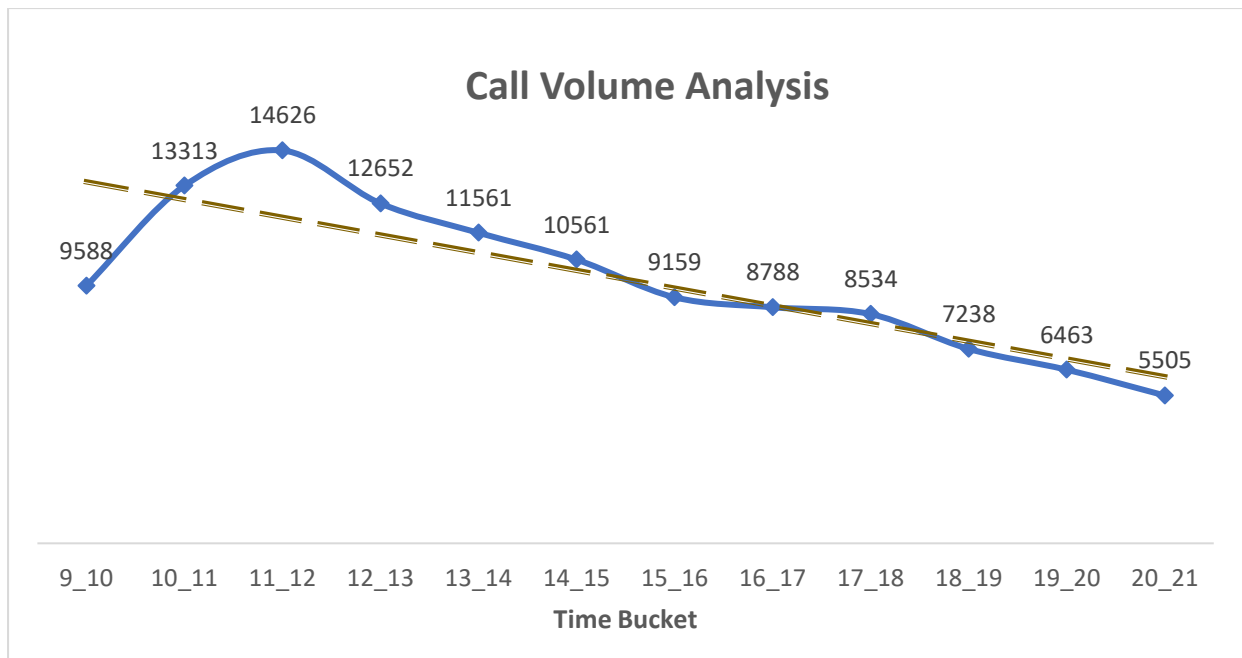
Average call duration (Answered)-

Call_Status	answered
Time Buckets	Average of Call_Seconds (s)
9_10	199.07
10_11	203.33
11_12	199.26
12_13	192.89
13_14	194.74
14_15	193.68
15_16	198.89
16_17	200.87
17_18	200.25
18_19	202.55
19_20	203.41
20_21	202.85
Grand Total	198.62

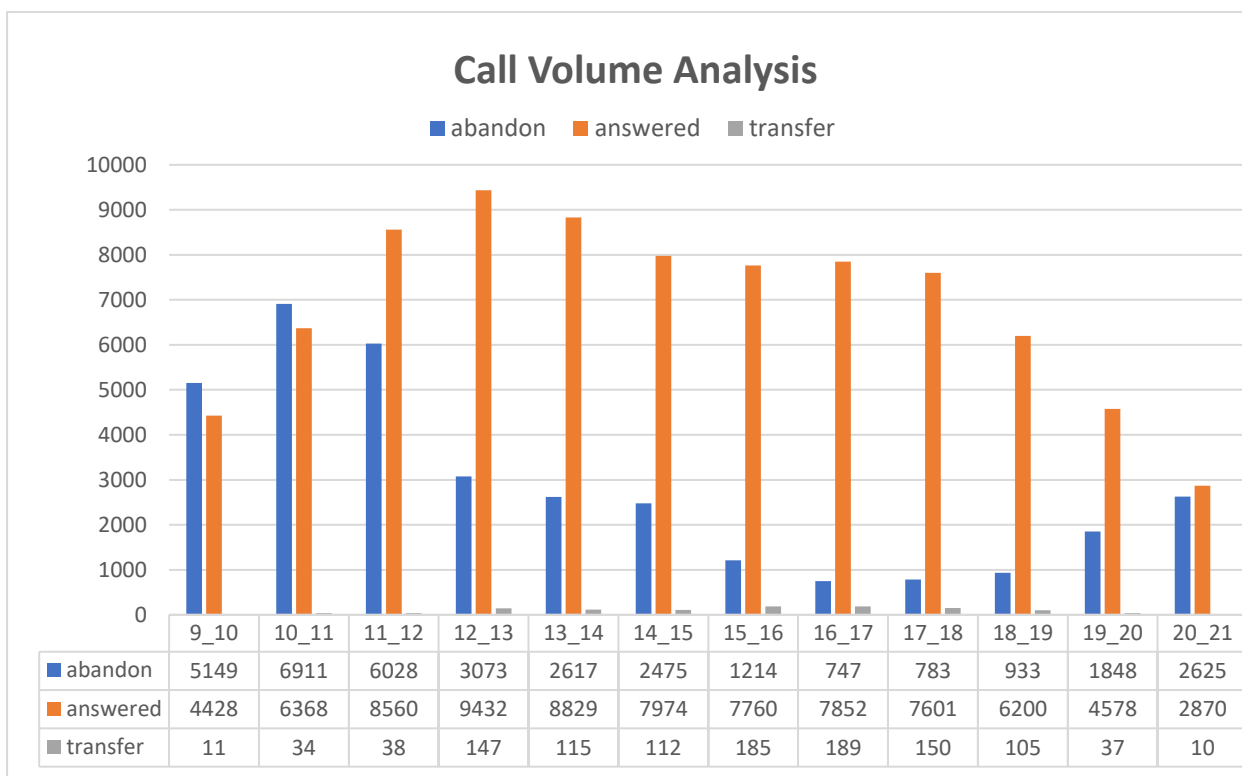


Task 2: Call Volume Analysis

Time Buckets	Count of Customer_Phone_No
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
Grand Total	117988



Count of Customer_Phone_No	Column Labels			
Time Buckets	abandon	answered	transfer	Grand Total
9_10	5149	4428	11	9588
10_11	6911	6368	34	13313
11_12	6028	8560	38	14626
12_13	3073	9432	147	12652
13_14	2617	8829	115	11561
14_15	2475	7974	112	10561
15_16	1214	7760	185	9159
16_17	747	7852	189	8788
17_18	783	7601	150	8534
18_19	933	6200	105	7238
19_20	1848	4578	37	6463
20_21	2625	2870	10	5505
Grand Total	34403	82452	1133	117988



Task 3: Manpower Planning

Time Buckets	Average of Call_Seconds (s)	Count of Customer_Phone_No	Count of Call_Status
abandon	0	34403	29.16%
answered	199	82452	69.88%
transfer	76	1133	0.96%
Grand Total	140	117988	100.00%

Date_&_Time 01-01-2022

Time	Sum of Call_Seconds
Grand Total	676664

1-Jan Sum of Call_Seconds	Sum Of Hours	Actual Working Hours By Agent
676664	187.96	5

Total Agents for 60%	38	60=	37.6
Total Agents for 90%	56	90=	56.4

Time Buckets	Count of Call_Seconds (s)	Count of Call_Seconds (s)2	Agent Required
9_10	8.13%	0.08	5
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	6
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
Grand Total	100.00%	100.00%	56

Task 4: Night Shift Manpower Planning

Count of Call_Status	Column Labels			
Date	abandon	answered	transfer	Grand Total
01-01-2022	684	3883	77	4644
01-02-2022	356	2935	60	3351
01-03-2022	599	4079	111	4789
01-04-2022	595	4404	114	5113
01-05-2022	536	4140	114	4790
01-06-2022	991	3875	85	4951
01-07-2022	1319	3587	42	4948
01-08-2022	1103	3519	50	4672
01-09-2022	962	2628	62	3652
01-10-2022	1212	3699	72	4983
01-11-2022	856	3695	86	4637
01-12-2022	1299	3297	47	4643
1/13/2022	738	3326	59	4123
1/14/2022	291	2832	32	3155
1/15/2022	304	2730	24	3058
1/16/2022	1191	3910	41	5142
1/17/2022	16636	5706	5	22347
1/18/2022	1738	4024	12	5774
1/19/2022	974	3717	12	4703
1/20/2022	833	3485	4	4322
1/21/2022	566	3104	5	3675
1/22/2022	239	3045	7	3291
1/23/2022	381	2832	12	3225
Grand Total	34403	82452	1133	117988

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

Average Calls Daily	5130
Calls for Night Shift	1539
Average Call Duration (sec.)	198.623
Actual Agent Working Hours	5
Additional Hours Req.	76
Additional Agents Req.	15

Night Shift	Call Distribution	Time Distribution	Agent Required
9pm- 10pm	3	0.10	1.5
10pm- 11pm	3	0.10	1.5
11pm- 12am	2	0.07	1.0
12am- 1am	2	0.07	1.0
1am- 2am	1	0.03	0.5
2am- 3am	1	0.03	0.5
3am- 4am	1	0.03	0.5
4am- 5am	1	0.03	0.5
5am- 6am	3	0.10	1.5
6am- 7am	4	0.13	2.0
7am- 8am	4	0.13	2.0
8am- 9am	5	0.17	2.5
Total	30	1.00	15