

ABC Call Volume Trend Analysis

Final project-4 (project 8)



Project report by:

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Project description :

A customer experience (CX) team consists of professionals who analyze customer feedback and data, and share insights with the rest of the organization.

In this project we are going to analyse the data of a call centre to analyse the patterns and find an efficient way to staff the workforce and improve customer service capabilities.

Tech stack used :

We will be using MS Excel to perform the analysis especially its advanced features such as pivot tables and solver

Approach :

We'll start by converting the data given to us as description into numbers such as Workforce statistics and read the data and form a relationship between columns (features). We then carefully using MS excel and its numerous advance functions.

Insights :

This project introduces us to the customer experience analytics and we have used the call data to perform analysis and found room for efficiency and improvement.

- we found out that an Customer experience agent(CEA) need 198 seconds on average to complete his/her call
- we found that the call volume peaks in the late morning and eventually decreases ,but not to a great extent
- we can show by the analysis of the data that we need 57 employees from 9am- 9pm, to answer 90% of calls , so that we provide better customer service
- But, we need just 17 employees from 9pm-9am to provide efficient customer service and reachability ,since we call volume decreases by 70% to just 30% of the call volume of day , for night shift
- We also scheduled the 74 employees into starting from different time intervals to complete the whole day task

🔗 One drive link to access the MS Excel workbook for the current project:

[Call_Volume_Trend_Analysis_Project_9.xlsx](#)

Results 👍 :

Workforce statistics 🏢 :

As per the description provided to us, we know	
Employee's working hours	9
Employee's working hours(after adjusting for breaks and leisure)	7.5
Time Employee actually spend on call with customers	4.5
Employee's total working days(per week)	6
Employee's total working days(per week) after Unplanned leaves	5
Total days in a month	30
Total days in a week	7

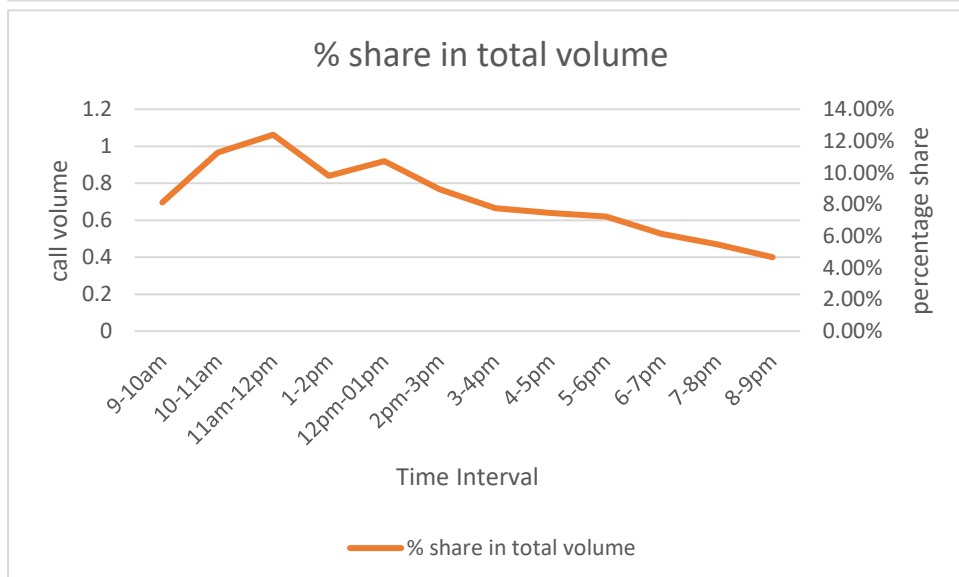
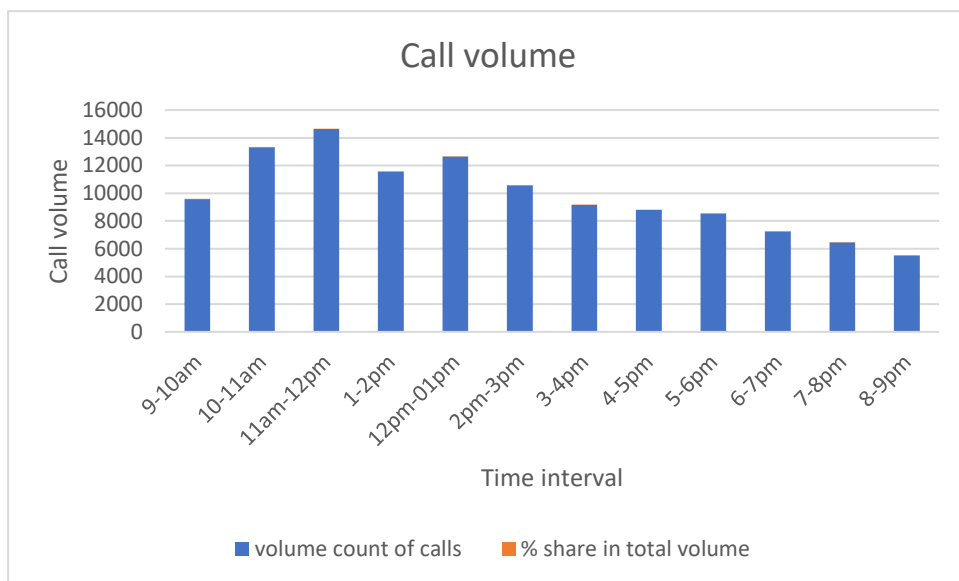
#1: The average call time duration for all incoming calls received by agents (in each Time_Bucket) 📞 🧑

Call_Status	answered
CSA vs Time Interval	Average of Call_Seconds (s)
10-11am	203.3
11am-12pm	199.3
1-2pm	194.7
12pm-01pm	192.9
2pm-3pm	193.7
3-4pm	198.9
4-5pm	200.9
5-6pm	200.2
6-7pm	202.6
7-8pm	203.4
8-9pm	202.8
9-10am	199.1
Grand Total	198.6

#2 Total volume/ number of calls coming in via charts/ graphs

[Number of calls v/s Time] 

Time Intervals	volume count of calls	% share in total volume
9-10am	9588	8.13%
10-11am	13313	11.28%
11am-12pm	14626	12.40%
1-2pm	11561	9.80%
12pm-01pm	12652	10.72%
2pm-3pm	10561	8.95%
3-4pm	9159	7.76%
4-5pm	8788	7.45%
5-6pm	8534	7.23%
6-7pm	7238	6.13%
7-8pm	6463	5.48%
8-9pm	5505	4.67%
Grand Total	117988	100.00%



#3

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
Grand Total	34403	82452	1133	117988
average	1496	3585	49	5130
average (in percentage)	29	70	1	100
Average count of call duration		5130		
Average time needed to complete a call		198.62		
Time in hours required to complete answer 90% of calls		254.7293904		
Workforce(employees) required for operation per day	56.60653119	57		

#4

Average count of call duration (9am-9pm)	5130
Average time needed to complete a call (9am-9pm)	199
Time in hours required to complete answer 90% of calls (9am-9pm)	254.7
Workforce(employees) required for operation per day (9am-9pm)	57

Since we know that we receive 30% of Average count of call duration (9am-9pm) in (9pm-9am)

Average count of call duration (9pm-9am)	1539
Time in hours required to complete answer 90% of calls (9pm-9am)	76.4
Workforce(employees) required for operation per day (9pm-9am)	17

summary

Total workforce needed to run the operation for all 24 hours is 74, of which 57 are day workers and 17 work night shifts

Time intervals	work force needed
9-10am	4
10-11am	4
11am-12pm	4
1-2pm	4
12pm-01pm	4
2pm-3pm	4
3-4pm	4
4-5pm	4
5-6pm	4
6-7pm	4
7-8pm	4
8-9pm	4
9pm-10pm	3
10-11pm	3
11pm-12am	2
12am-1am	2
1am-2am	1
2-3am	1
3-4am	1
4-5am	1
5-6am	3
6-7am	2
7-8am	2
8-9am	5
total	74



THANK YOU 🙏

