

ABC Call Volume Trend Analysis

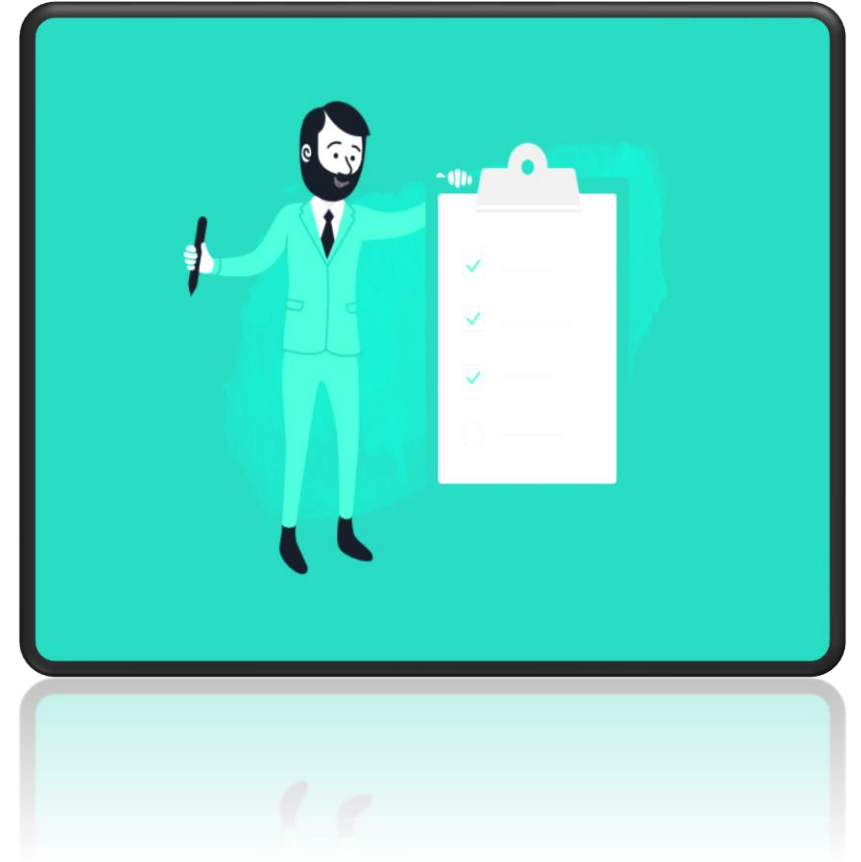


Project Description:

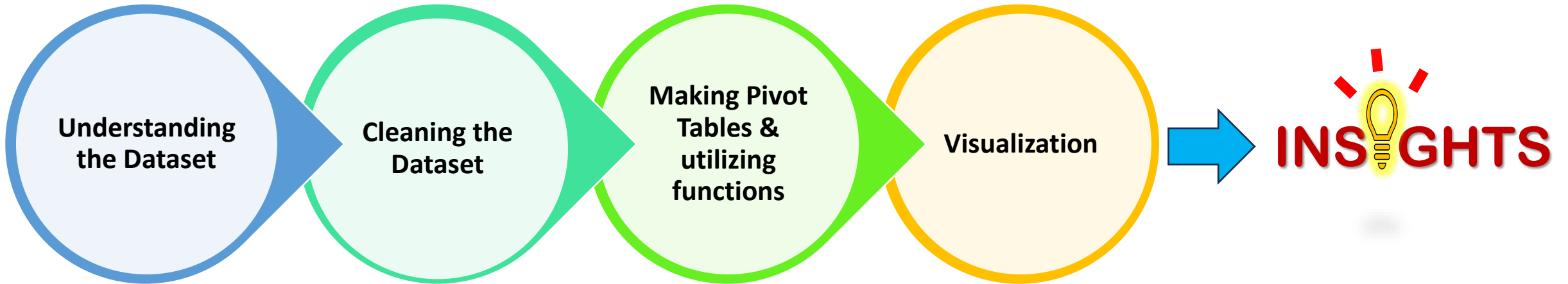
In this project, we'll be diving into the world of Customer Experience (CX) analytics, specifically focusing on the inbound calling team of a company. We'll be provided with a dataset that spans 23 days and includes various details such as the agent's name and ID, the queue time, the time of the call, the duration of the call, and the call status (whether it was abandoned, answered, or transferred).

A Customer Experience (CX) team plays a crucial role in a company. They analyze customer feedback and data, derive insights from it, and share these insights with the rest of the organization.

Inbound customer support, which is the focus of this project, involves handling incoming calls from existing or prospective customers. The goal is to attract, engage, and delight customers, turning them into loyal advocates for the business.



Approach:



Assumptions: An agent works for 6 days a week; On average, each agent takes 4 unplanned leaves per month; An agent's total working hours are 9 hours, out of which 1.5 hours are spent on lunch and snacks in the office. On average, an agent spends 60% of their total actual working hours (i.e., 60% of 7.5 hours) on calls with customers/users. The total number of days in a month is 30.

Tech-Stack Used:

For the project, Microsoft® Excel® 2021 MSO (Version 2310 Build 16.0.16924.20054) 64-bit has been used for our data analysis as Excel is jam-packed with features and functions that can be used to clean, aggregate, pivot, and graph data. Also, Excel has a user-friendly visual interface that allows individuals at any level of expertise to easily learn and utilize its capabilities.



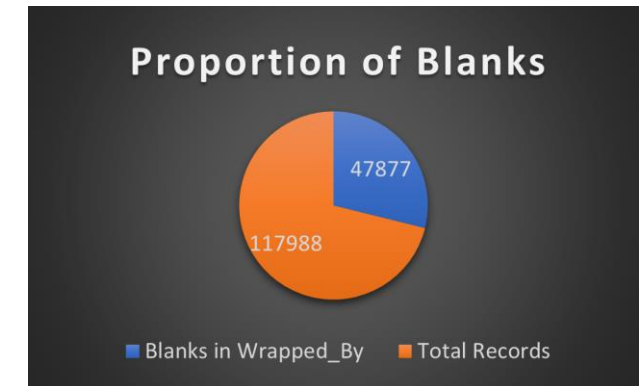
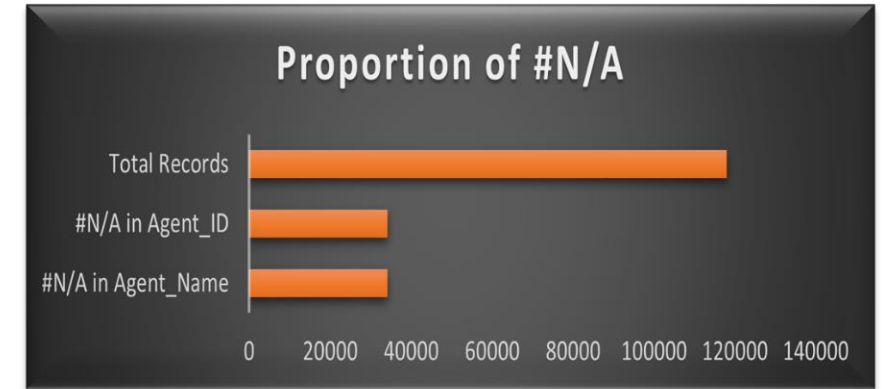
[Excel File](#)

[Video Presentation](#)

About The Dataset:

Rows
117988

Columns
14

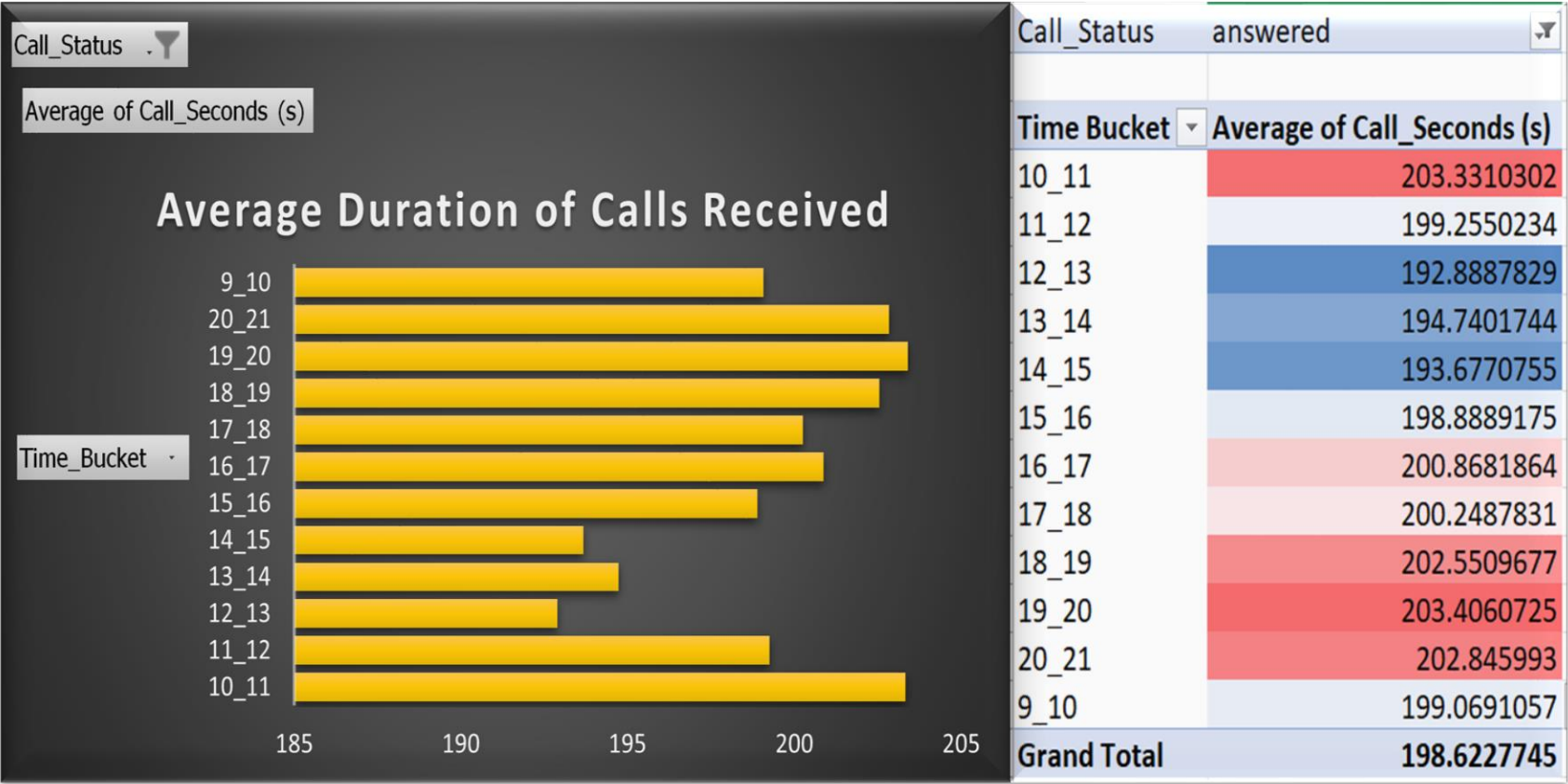


All the Blanks in `Wrapped_By` and #N/A in `Agent_ID`, `Agent_Name` are for **Abandoned** calls, so, we need not to do anything in this case.

Insights

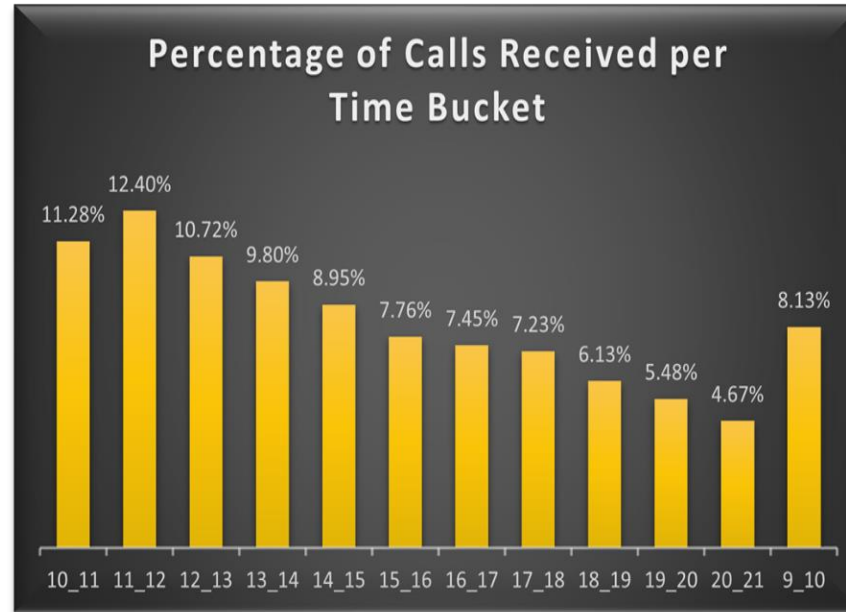
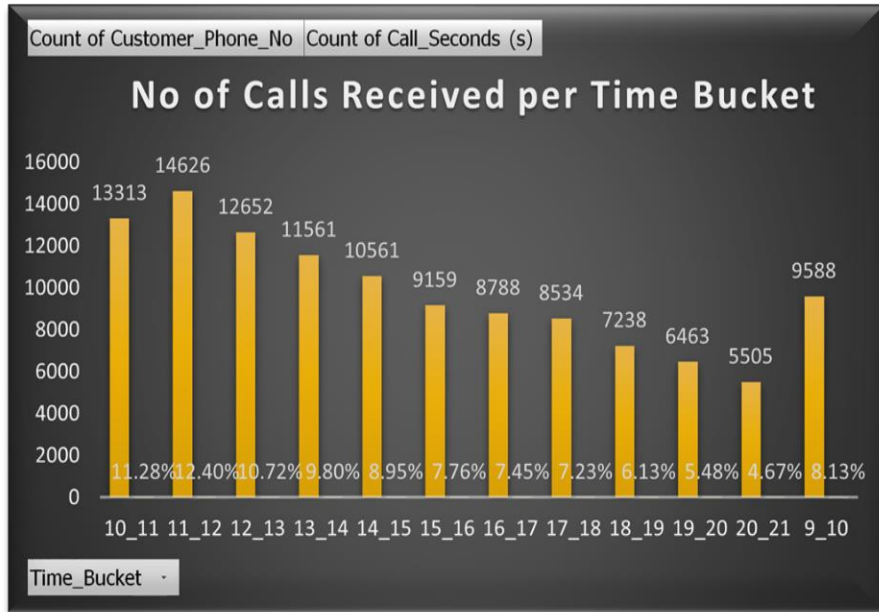


Average Call Duration:



- Calls between **10AM-11AM** have the **longest** duration.
- Calls between **9PM-10PM** have the **shortest** duration
- Average Call Duration is **198.62277**.

Call Volume Analysis:



Time Bucket	Count of Customer_Phone_No	Count of Call_Seconds (s)
10_11	13313	11.28%
11_12	14626	12.40%
12_13	12652	10.72%
13_14	11561	9.80%
14_15	10561	8.95%
15_16	9159	7.76%
16_17	8788	7.45%
17_18	8534	7.23%
18_19	7238	6.13%
19_20	6463	5.48%
20_21	5505	4.67%
9_10	9588	8.13%
Grand Total	117988	100.00%

- Calls received in the time bucket **11AM-12PM** are **highest** , followed by calls received in **10AM-11AM, 12PM-1PM**.
- Calls received in the time bucket **8PM-9PM** are the **lowest**.

Manpower Planning:

Row Labels	Count of Call_Secon	Count of C	Average of Call_Seconds (s)
abandon	34403	29.16%	0
answered	82452	69.88%	198.6227745
transfer	1133	0.96%	76.14651368
Grand Total	117988	100.00%	139.5321473

The current Abandon Rate of calls was approximately **30%**.

We need to propose a plan to reduce the Abandon Rate to **10%** .

Time_Bucket	Count of Call_Seconds (s)	Count of Call_Seconds (s)	No of Agents Required
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
9_10	8.13%	0.08	5
Grand Total	100.00%		57

For 90% calls being answered

Actual Working Hours for a Agent	4.5
Average Call Duration	198.6227745
Total Hours Required for Abandon Rate to be 10%	254.7293904
Total No of Agents Required	57

Total Hours Required for Abandon Rate to be 10%

=

Actual Working Hours for a Agent

Total Hours Required for Abandon Rate to be 10%

=

[Average(Total Calls Received)* Average Call Duration*0.90]

3600

Night Shift Manpower Planning:

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 No of Call Received in Night	1539
Total Hours Required for 90% Answered Calls	76
No of Agents Required	17

30% of Average(Total Calls Received)

[Average no of Call Received in Night* Average Call Duration*0.90]

3600

Total Hours Required for 90% Answered Calls

Actual Working Hours for a Agent

Time_Bucket	Count of Call_Seconds (s)	Count of Call_Seconds (s)	No of Agents Required
10_11	11.28%	0.11	2
11_12	12.40%	0.12	2
12_13	10.72%	0.11	2
13_14	9.80%	0.10	2
14_15	8.95%	0.09	2
15_16	7.76%	0.08	1
16_17	7.45%	0.07	1
17_18	7.23%	0.07	1
18_19	6.13%	0.06	1
19_20	5.48%	0.05	1
20_21	4.67%	0.05	1
9_10	8.13%	0.08	1
Grand Total	100.00%		17

Suggestions:



- ❑ We find that during the time bucket **10AM-11AM**, the call duration is the **highest** , so more agents can be allocated for this .
- ❑ Since **most** no of calls are received in the time bucket **11AM-12PM**, so , we can consider it as **All Hands on Desk** and encourage agents to not take **breaks** within this time period.
- ❑ Similarly, we see in the time bucket **8PM-9PM**, we receive **lowest** no of calls, so a relaxation can be given as **meeting** time to agents in this.

Result:



While completing this project, I learnt the importance of **Customer Experience(CX)** for a company and the crucial role they play in attracting, engaging and delighting the customers. Also, I gained more experience in using Pivot Tables and visualizing charts.

Overall, the project helped me to dive into the world of Customer Analytics and how important customer satisfaction is while keeping in mind the profitability of the company.



THANK
YOU!