PROJECT 8

Project Description:

The project is all about the Customer Experience (CX) analytics. Customer Experience Analytics (CX Analytics) is the collection, processing, and evaluation of customer data to measure and ultimately improve CX. CX Analytics provide actionable data and offer verifiable measurements of marketing successes. Creating a culture and structure that puts CX at the forefront of your business is the best way to understand your current customers, bring in new business, and build loyalty.
The dataset that spans 23 days and includes various details such as the agent's name and ID, the queue time (how long a customer had to wait before connecting with an agent), the time of the call, the duration of the call, and the call status (whether it was abandoned, answered, or transferred).
Standard models based on broad metrics are not capable of deep insights and are often inconsistent throughout the business. Without CX Analytics, your most valuable insights about customer satisfaction, engagement, and purchasing habits are lost. Results from CX Analytics allow for measurable, data-driven decisions that get results.

Approach:

-I downloaded the dataset and then Analyzed the columns and rows in it .
-Read few blogs which consists about the Customer Experience (CX) analytics.
-Firstly downloaded the dataset, then filtered the data. I looked into the dataset to check the nulls and delete them accordingly.
-Then solved the questions which were given to me. The dataset that spans 23 days and includes various details such as the agent's name and ID, the queue time (how long a customer had to wait before connecting with an agent), the time of the call, the duration of the call, and the call status (whether it was abandoned, answered, or transferred).

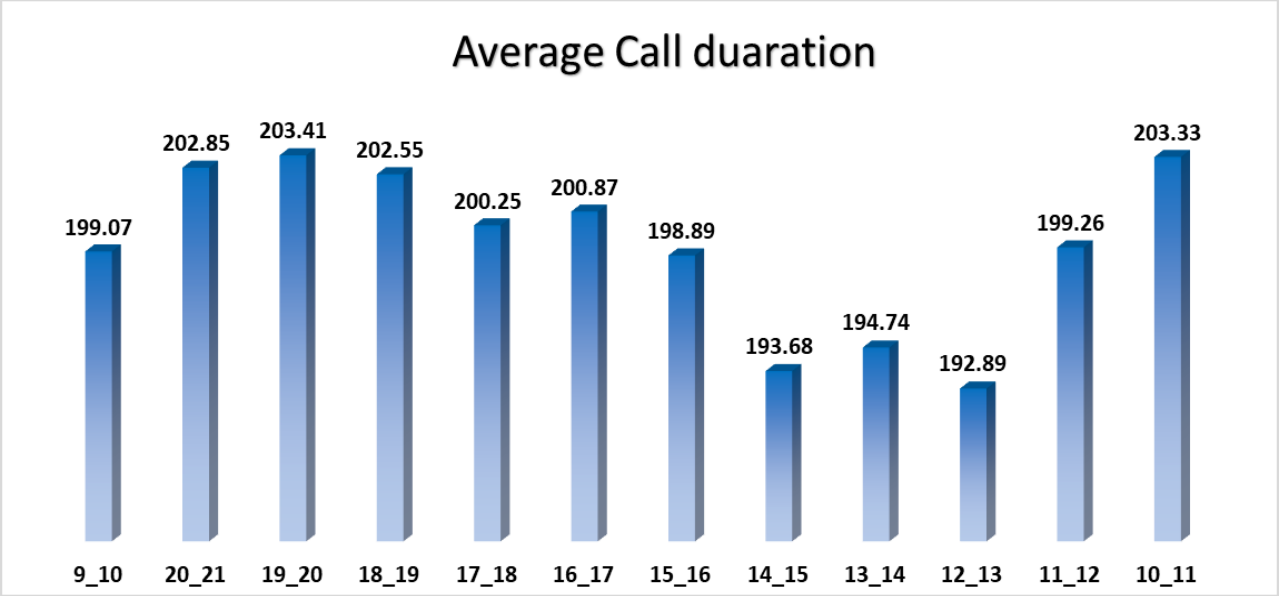
Tech-Stack Used:

-I used Microsoft Excel 365 to complete this project.
- Microsoft Excel made to work easily visualize the data and help to filter and clean the data.
- Microsoft helped me to make different charts to make the data more meaningful.

Insight:

1. **Average Call Duration:** Determine the average duration of all incoming calls received by agents. This should be calculated for each time bucket.

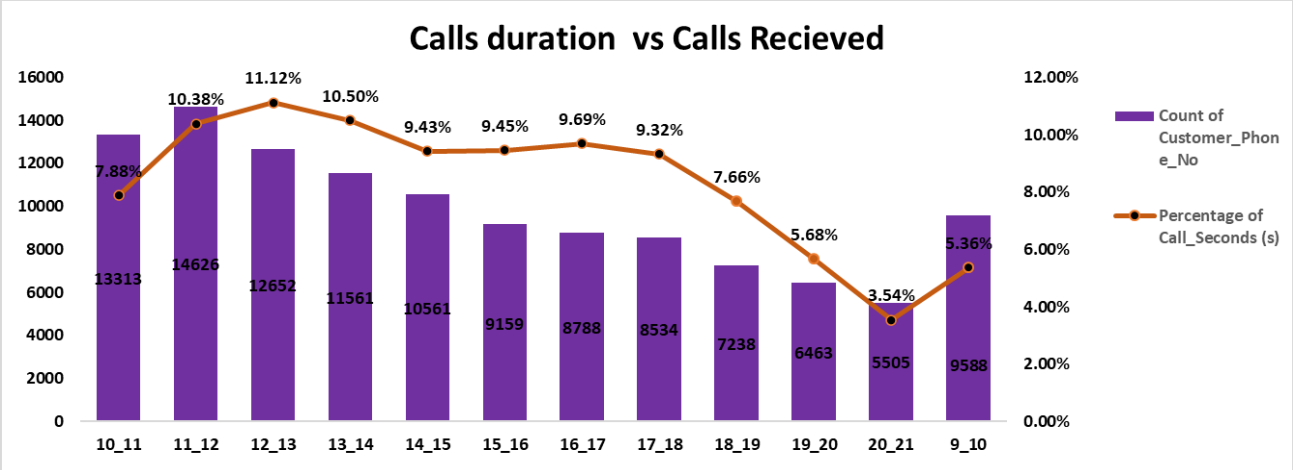
   Your Task: What is the average duration of calls for each time bucket?



- ❖ Most of the calls durations are higher in between 10am-11am and 19pm-20pm.
- ❖ There are less calls duration comparatively to others in between 14pm-15pm and 12pm-13pm.
- ❖ The total average call duration for a day is 198.62.
- ❖ During the most numbers of call durations we can engage more employee and less agents during the less call durations.

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?



- The chart depicts that the chances of getting a call in between 10am-12pm is higher.
- The chances of call duration are higher at 11am-2pm.
- There we can allot more agents to work on specific timing where chances of getting the call is higher.

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%?

Count of Call_Seconds (s)	Column Labels			
Row Labels	abandon	answered	transfer	Grand Total
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
9_10	5149	4428	11	9588
Grand Total	**34403**	**82452**	**1133**	**117988**
	2866.9	6871.0	94.4	9832.3
Percenatge of each calls	**29%**	**70%**	**1%**	

Agents work per day	**4.5**
Average Call duration per day	**198.6**
For 90% ppl needed	**488**
no.of agents needed	**108**

- ✓ We can figure it out as seen that 29% of call are been abounded.
- ✓ Most no.of calls are abended in between 10am to 11pm on daily basis and the chances of getting the call is also in between 10am-12pm. We need to increase the Manpower.
- ✓ During a day we observed that there are need of 108 agents. So, that most of the call will not be abended.
- ✓ After increasing the manpower, we can say that 90% of calls will not be abended.

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%.

Count of Call_Status	Column Labels			
Row Labels	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
	1495.8	3584.9	49.3	5129.9

Percentage of calls	29%	70%	1%

Agents work per day	**4.5**
Average Call duration per day	**198.6**

Average no. of calls in the night	1539
For 90% ppl needed	255
For night we need the agents	57

- We can see that we require 57 agents to work for night shift so that the chances of not abended will rise to 90%.
- So, we can see that we require new hiring for 57 new agents.

Result:

- Most of the calls durations are higher in between 10am-11am and 19pm-20pm.
- The total average call duration for a day is 198.6.
- The chances of getting a call in between 10am-12pm is higher.
- Most no.of calls are abended in between 10am to 11pm on daily basis.
- We require almost 108 new agents to increase the rate of chances of not abending the call to 90%.
- We require 57 agents to work for night shift so that the chances of not abended will rise to 90%.
- The total number of new agents required are 57+108 =165 new agents to make sure that the call abended would rise to 90%.
- Most no.of calls are abended in between 10am to 11pm on daily basis and the chances of getting the call is also in between 10am-12pm. We need to increase the Manpower.
- During a day we observed that there are need of 108 agents. So, that most of the call will not be abended.

Excel Dataset: https://docs.google.com/spreadsheets/d/1GHgYCN_AA_-Y5Wr4Dmo3HuQX5exNdi_h/edit?usp=sharing&ouid=113818516476537685883&rtpof=true&sd=true **[Download in .xlsx]**

Video : https://www.loom.com/share/3fa7558fb3cd4d2ea4c26a8c7da413e3?sid=44878004-af4d-4d0c-88ac-799b2470d3de

Thank you!!