

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. 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).

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. This team is responsible for a wide range of tasks, including managing customer experience programs, handling internal communications, mapping customer journeys, and managing customer data, among others.

In the current era, several AI-powered tools are being used to enhance customer experience. These include Interactive Voice Response (IVR), Robotic Process Automation (RPA), Predictive Analytics, and Intelligent Routing.

Tech stack used:

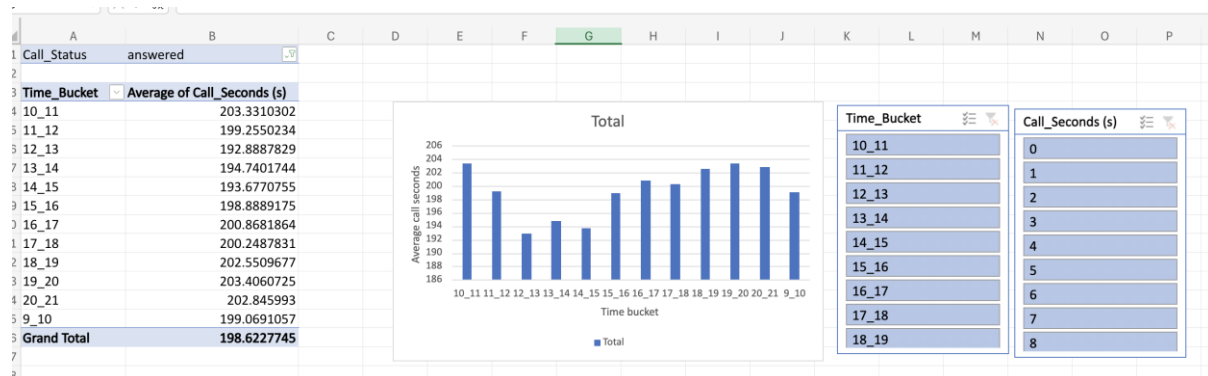
Microsoft Excel 365

Tasks :

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?

Answer: [Call Volume Trend Analysis Project.xlsx](#)

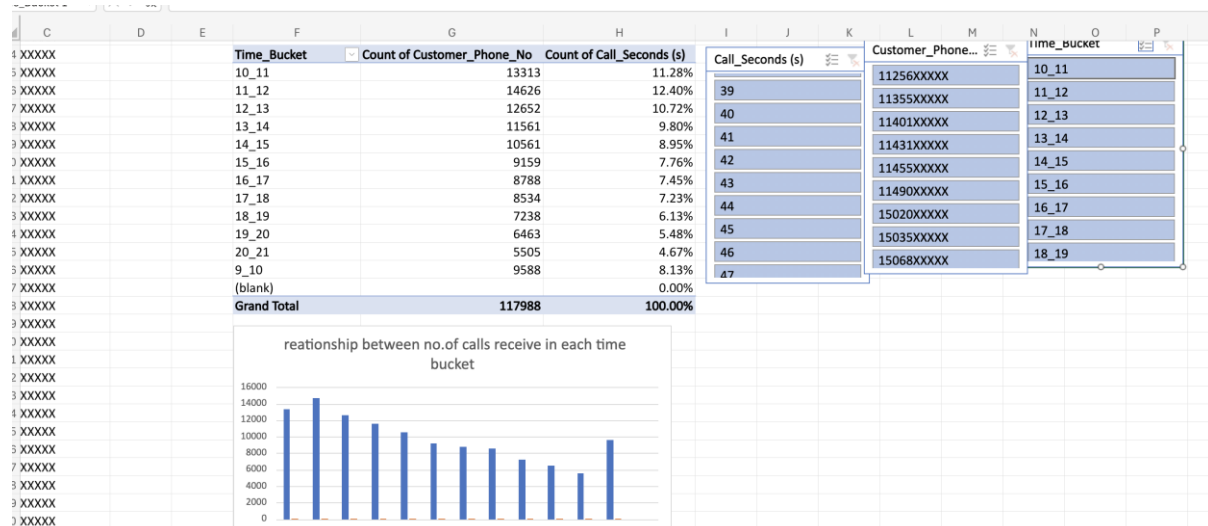


Insights: In this we have found the the average duration of calls for each time bucket. The total average duration of call time is 198.622.

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?

Answer:

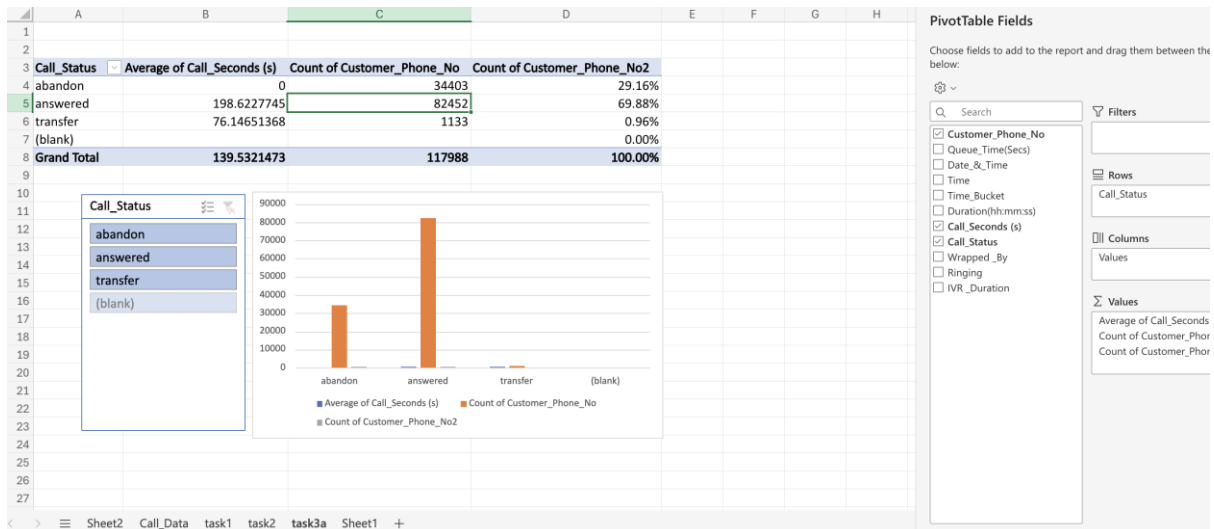


Insights: The highest number of calls received in 11_12 time bracket and lowest is 20_21 time bracket.

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%?

Answer: [Call_Volume_Trend_Analysis_Project.xlsx](#),
[Call_Volume_Trend_Analysis_Project.xlsx](#)



	F	G	H	I	J	K	L	M	N
1									
2	Row label	1 january sum of all call second			hour				
3		676664			187.9622222				
4		total agentnt required for 60%			37.59244444				
5		total agent for 90%			56.38866667				
6									
7									
8									
9		Date & time2	01-01-2022						
10					Time_Bucket	Count of Call_Seconds (s)	Count of call seconds	Agent required	
11		Date_&_Time	Sum of Call_Seconds (s)		10_11	11.28%	0.112833508	6	
12		01-01-2022 09:02	96		11_12	12.40%	0.123961759	7	
13		01-01-2022 09:02	140		12_13	10.72%	0.107231244	6	
14		01-01-2022 09:02	85		13_14	9.80%	0.097984541	5	
15		01-01-2022 09:02	91		14_15	8.95%	0.089509103	5	
16		01-01-2022 09:02	165		15_16	7.76%	0.077626538	4	
17		01-01-2022 09:04	0		16_17	7.45%	0.074482151	4	
18		01-01-2022 09:04	85		17_18	7.23%	0.072329389	4	
19		01-01-2022 09:04	0		18_19	6.13%	0.061345222	3	
20		01-01-2022 09:04	245		19_20	5.48%	0.054776757	3	
21		01-01-2022 09:05	108		20_21	4.67%	0.046657287	3	
22		01-01-2022 09:05	186		9_10	8.13%	0.081262501	5	
23		01-01-2022 09:06	0		(blank)	0.00%	0	0	
24		01-01-2022 09:06	100		Grand Total	100.00%			
25		01-01-2022 09:06	75						
26		01-01-2022 09:07	0						
27		01-01-2022 09:07	0						

Insights : we have found the minimum number of agents required for each time bucket in the analysis.

- 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%.

Answer:

[Call Volume Trend Analysis Project.xlsx](#) , [Call Volume Trend Analysis Project.xlsx](#)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	9am-9pm	call distribution	time distribution	agent re													
2	9_10	3	10	1.5													
3	10_11	3	10	1.5													
4	11_12	2	15	1													
5	12_1	2	15	1													
6	1_2	1	30	0.5													
7	2_3	1	30	0.5													
8	3_4	1	30	0.5													
9	4_5	1	30	0.5													
10	5_6	3	10	1.5													
11	6_7	4	7.5	2													
12	7_8	4	7.5	2													
13	8_9	5	6	2.5													
14	total	30	1	15													
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	

	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
7				Count of Call_Status	Call_Status													
8				Date & time2	abandon	answered	transfer	(blank)	Grand Total									
9				01-01-2022	684	3883	77		4644				Average	5129.913043		5130		
10				02-01-2022	356	2935	60		3351				fornight 9am-9pm			1539		
11				03-01-2022	599	4079	111		4789									
12				04-01-2022	595	4404	114		5113									
13				05-01-2022	536	4140	114		4790				Additional hour required			76		
14				06-01-2022	991	3875	85		4951				Additional agent required			15		
15				07-01-2022	1319	3587	42		4948									
16				08-01-2022	1103	3519	50		4672									
17				09-01-2022	962	2628	62		3652									
18				10-01-2022	1212	3699	72		4983									
19				11-01-2022	856	3695	86		4637									
20				12-01-2022	1299	3297	47		4643									
21				13-01-2022	738	3326	59		4123									
22				14-01-2022	291	2832	32		3155									
23				15-01-2022	304	2730	24		3058									
24				16-01-2022	1191	3910	41		5142									
25				17-01-2022	16636	5706	5		22347									
26				18-01-2022	1738	4024	12		5774									
27				19-01-2022	974	3717	12		4703									
28				20-01-2022	833	3485	4		4322									
29				21-01-2022	566	3104	5		3675									
30				22-01-2022	239	3045	7		3291									
31				23-01-2022	381	2832	12		3225									
32				(blank)														
33				Grand Total	34403	82452	1133		117988									

Insights: In this i have found the additional agent required for the total time is 15 .

Results:Through out this project I have gained valuable insights into the impact of an analyst in the customer service department. It is evident that company strives to ensure a maximum customer satisfaction through. Effective handling strategies.