ABC Call Volume Trend Analysis

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. Typically, these teams fulfil various roles and responsibilities such as: Customer experience programs (CX programs), Digital customer experience, Design and processes, Internal communications, Voice of the customer (VoC), User experiences, Customer experience management, Journey mapping, Nurturing customer interactions, Customer success, Customer support, Handling customer data, Learning about the customer journey.

Let's look at some of the most impactful AI-empowered customer experience tools you can use today:

Interactive Voice Response (IVR), Robotic Process Automation (RPA), Predictive Analytics, Intelligent Routing

In a Customer Experience team there is a huge employment opportunities for Customer service representatives A.k.a. call centre agents, customer service agents. Some of the roles for them include: Email support, Inbound support, Outbound support, social media support.

Inbound customer support is defined as the call centre which is responsible for handling inbound calls of customers. Inbound calls are the incoming voice calls of the existing customers or prospective customers for your business which are attended by customer care representatives. Inbound customer service is the methodology of attracting, engaging, and delighting your customers to turn them into your business' loyal advocates. By solving your customers' problems and helping them achieve success using your product or service, you can delight your customers and turn them into a growth engine for your business.

Tech-Stack Used:

• *Microsoft Excel 365:* It enables users to format, organize and calculate data in a spreadsheet. It organizes data in an easy-to-navigate way. We need not to perform any complex mathematical functions. And it turns data into helpful graphics and charts.

• *Microsoft Word 2021:* It is used to make a report (PDF) to be presented to the leadership team.
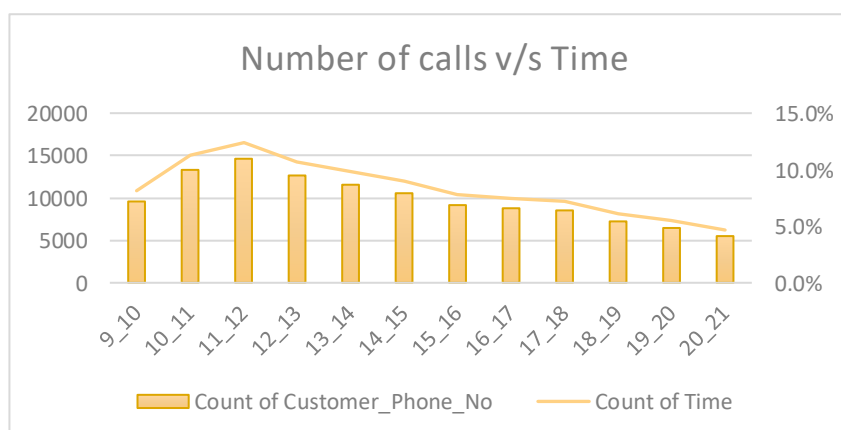
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Approach:

❖ Calculate the average call time duration for all incoming calls received by agents (in each Time_Bucket)
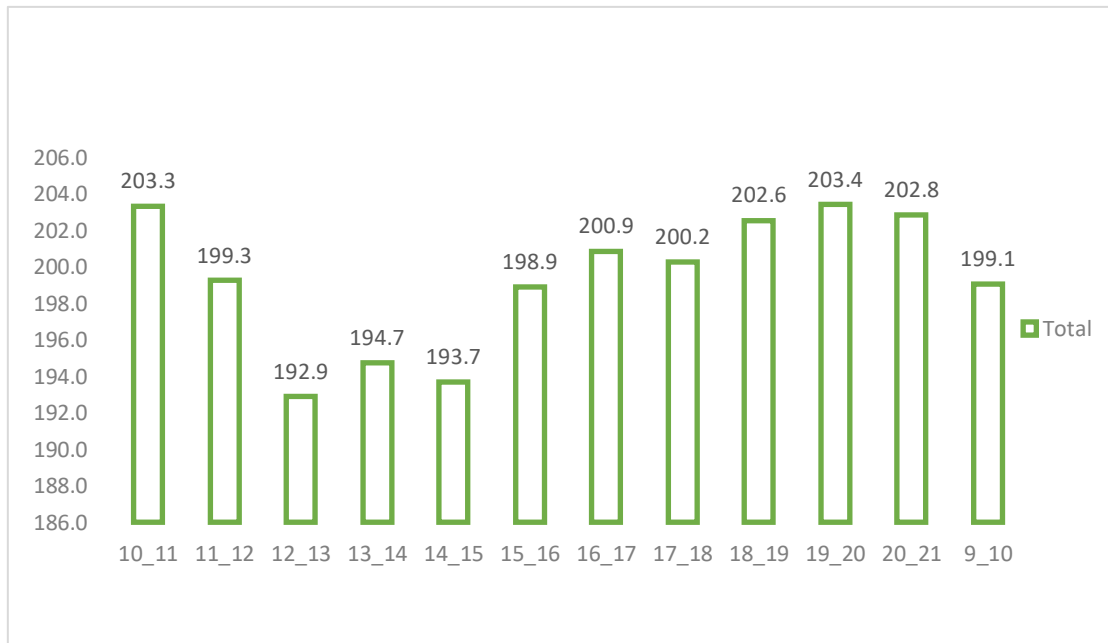
➤ The total average of call time duration which are answered by the agents is 198.6 seconds.

➤ The average call time duration for all incoming calls received by agents is the highest in between 10 am to 11 am and from 7 pm to 8 pm.

➤ The average call time duration for all incoming calls received by agents is the least in between 12 noon to 1 pm.

❖ Show the total volume/ number of calls coming in via charts/ graphs [Number of calls v/s Time]. You can select time in a bucket form (i.e. 1-2, 2-3, …..)

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❖ The customers call the most in between 11 am to 12 noon.
❖ The customers call the least in between 8 pm to 9 pm.

Assumption: An agent work for 6 days a week; On an average total unplanned leaves per agent is 4 days a month; An agent total working hrs is 9 Hrs out of which 1.5 Hrs goes into lunch and snacks in the office. On average an agent occupied for 60% of his total actual working Hrs (i.e 60% of 7.5 Hrs) on call with customers/ users. Total days in a month is 30 days.

Agents working hour	9
Agents on-floor work hour	7.5
Working Days	6
Out of 28 days, an agent works	24
Unplanned leave days	4
Work days per month	20
Days an agent work in a week	5
Actual working hours	60%
Total time spent on call	4.5

➢ As you can see current abandon rate is approximately 30%. Propose a manpower plan required during each time bucket [between 9am to 9pm] to reduce the abandon rate to 10%. (i.e. You have to calculate minimum number of agents required in each time bucket so that at least 90 calls should be answered out of 100.)

Time taken on an average to answer a call	**198.6 seconds**
Time requirement to answer 90% of the calls (hrs)	**254.7001826**
Total working person required per day	**57**

Call volume daily (9 AM - 9pm)	5130
If we provide support in night, (9 PM - 9 AM)	1539
Additional hours required	76.41135
Additional HC	17
Total HC	74

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Time Bucket	Count of Time	Reqd. Agents
9_10	8.1%	5
10_11	11.3%	6
11_12	12.4%	7
12_13	10.7%	6
13_14	9.8%	6
14_15	9.0%	5
15_16	7.8%	4
16_17	7.4%	4
17_18	7.2%	4
18_19	6.1%	3
19_20	5.5%	3
20_21	4.7%	3
Grand Total	100.0%	57

➢ 29% of the calls are abandoned, 1% is transferred, while 70% of the calls are answered in the day time.
➢ Total agents required to answer the 90% of the calls per day is 57.
➢ The minimum number of agents required for each time bucket is calculated by 57 * count of time.

● Let's say customers also call this ABC insurance company in night but didn't get answer as there are no agents to answer, this creates a bad customer experience for this Insurance company. Suppose every 100 calls that customer made during 9 Am to 9 Pm, customer also made 30 calls in night between interval [9 Pm to 9 Am] and distribution of those 30 calls are as follows:

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

Now propose a manpower plan required during each time bucket in a day. Maximum Abandon rate assumption would be same 10%

❖ We first calculated the Time Distribution by dividing each calls distribution by total calls i.e. 30.

❖ The number of agents required for each time bucket is calculated by 17 * Time Distribution.

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Nights Call (9 pm - 9 am)	Calls Distribution	Time Distribution	Agents Required
21_22	3	10%	2
22_23	3	10%	2
23_24	2	7%	1
00_01	2	7%	1
01_02	1	3%	1
2_3	1	3%	1
3_4	1	3%	1
4_5	1	3%	1
5_6	3	10%	2
6_7	4	13%	2
7_8	4	13%	2
8_9	5	17%	3
	30		17

17 is calculated above by dividing the additional hours required to answer the night calls by 4.5 (actual working hours of agents).

Insights:

- ✓ The company can hire 17 customer support agents for the night shift work.
- ✓ The customers call the least in the evening. So, the company can reduce the number of agents at that time for answering the calls.
- ✓ The company can shift some of the day workers for the night shift.
- ✓ The employees who are working 9 am to 9 pm. The manager can change some of the workers shift from 5 am to 2 pm and some workers from 2 pm to 11 pm to get the most calls answered.
- ✓ The company can make the employers divide into 3 parts too, so that the agents are always available 24/7.
- ✓ We found there were few outliers in the data. And if we have removed that outliers, then the answers would have been different.

Results:

This Project helps me to know that how the company deals with customers to give them the best satisfaction towards the company.I also got to know that how the analysis can be done in customer service department. Finally, it helps me to learn about the behavioural analytics.

Excel sheet Link:

https://docs.google.com/spreadsheets/d/1etPw3ZY8CXkN06gS3xA-lTTquTIMGPXq/edit?usp=share_link&ouid=114843614286429142720&rtpof=true&sd=true