ABC Call Volume Trend Analysis

Trainity Project Report

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DESCRIPTION

This project aims to analyze call Center data and share insights with the rest of the organization. It also look out at business problem on and to provide best possible solution & suggestion which result in enhancing customer experience

ABOUT DATASET

1. The case study based on dataset of a Customer Experience (CX) Inbound calling team for 23 days.
2. Data includes Agent_Name, Agent_ID, Queue_Time [duration for which customer have to wait before they get connected to an agent], Time [time at which call was made by customer in a day], Time_Bucket [i.e., 9am - 10am, 10 am – 11am, ...] , Duration [duration for which a customer and executives are on call, Call_Seconds [duration of call in seconds], call status (Abandon, answered, transferred).

TECH STACK USED

- Ms Excel 2013 was use to perform Analysis & Visualization
- MS Power Point 2013 was use to prepare to report.

Click below to view excel sheet containing steps & solution

Excel SolutionBook

APPROACH

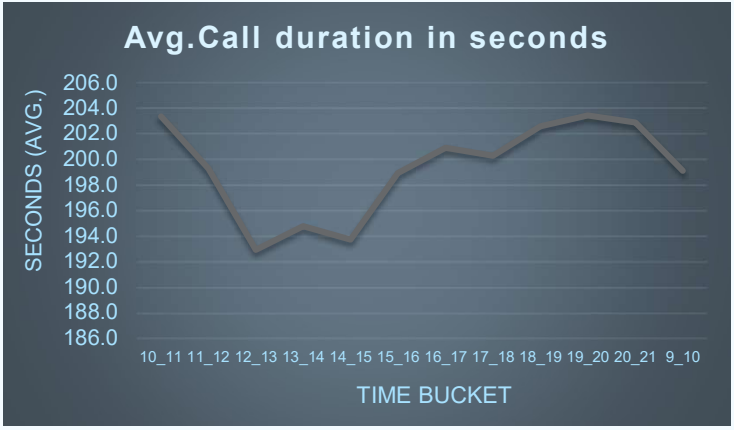
- After extracting & loading dataset into Excel the first step to understand and check the dataset cleaning standard.
- There after I focused on to find solution and achieve best answer to our goals
- For this I use Pivot Table and Apply Different combination and draw Graphs for easy understandings
- For Goals no. 4 & 5 (i.e., Question no. 3 & 4) I FTE (Full time Equivalent) Method to find answer

PROBLEM STATEMENT

- As of now call abandon rate is approximately 30% through daytime and company received calls at night time approx. 2.5 to 3 % of day time which totally missed as currently company don't have people for night shifts
- Hence, we'll calculate estimate manpower plan required during each time bucket [between 9am to 9pm] to reduce the abandon rate to 10%. And manpower plan required during night time [between 9pm to 9am] to resolve night shift problem as well.
- Which is in result in enhancing experience of customer and company's brand value

FINDINGS

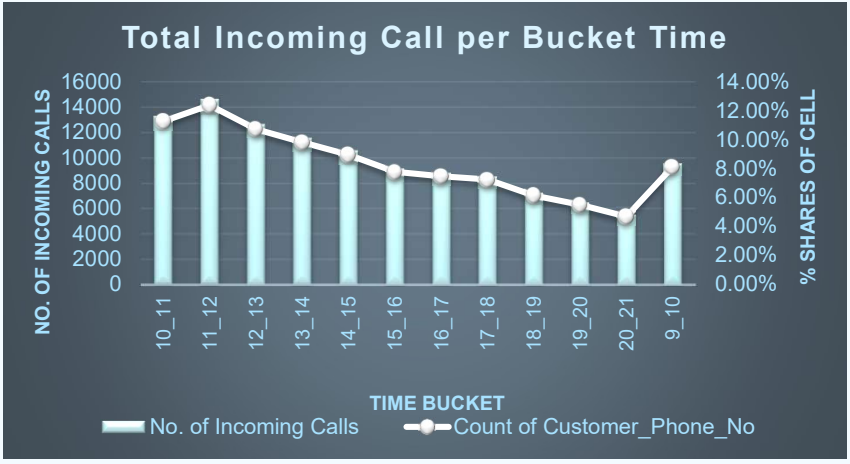
Average Call Time Duration



Row Labels	Average of Call_Seconds (s)
10_11	203.3
11_12	199.3
12_13	192.9
13_14	194.7
14_15	193.7
15_16	198.9
16_17	200.9
17_18	200.2
18_19	202.6
19_20	203.4
20_21	202.8
9_10	199.1
Grand Total	198.6

- Grand average call duration time is **198.6 sec (i.e. 3:31 min)**

Total Call Volume



Row Labels	No. of Incoming Calls
10_11	13313
11_12	14626
12_13	12652
13_14	11561
14_15	10561
15_16	9159
16_17	8788
17_18	8534
18_19	7238
19_20	6463
20_21	5505
9_10	9588
Grand Total	117988

- Incoming calls is on peak during 11am to 12pm and after follow the downward trend
- Incoming calls data is right skewed.

Call Abandon Rate

Following steps is use to calculate no. of required Employees to reduce abandon call rate to the 10 %

- first we'll calculate actual working hours of each agent on daily basis
- Then we'll find out active working days in month of each agent
- Then we'll calculate average time duration per call
- after that we'll calculate average received calls per day
- then we'll calculate total call duration in hours in a day
- and finally, we'll divided total call duration in hours in a day by actual working hours of each agent on daily basis to get required no. of agent

1. so we have,
i) working Shift timing is **9hours** for agent
ii) active working hour for agent is **7.5 hours**
iii) actual working hours of each agent = **60% of active working hours**

there fore,

actual working hours of each agent = **4.5 hours**

as per company policy **"An agent work for 6 days a week; On an average total unplanned leaves per agent is 4 days a month"**

2. Therefore, An agent take 9 to 8 days leaves and **work for 20 to 22 days**

Avg. Call Received per day =	4347	
Time Taken per Call =	198.6 sec	
Time requirement to answer 90% of call	**215.9**	hours
Total active employees required per day	**48**	

Employee Requirement per day - (9am to 9pm)					
Time bucket	**total call**	**call each day**	**90% of total call**	**work load**	**Required Employee**
9_10	9588	417	375	20.7	**34**
10_11	13313	579	521	28.7	**48**
11_12	14626	636	572	31.6	**53**
12_13	12652	550	495	27.3	**46**
13_14	11561	503	452	25.0	**42**
14_15	10561	459	413	22.8	**38**
15_16	9159	398	358	19.8	**33**
16_17	8788	382	344	19.0	**32**
17_18	8534	371	334	18.4	**31**
18_19	7238	315	283	15.6	**26**
19_20	6463	281	253	14.0	**23**
20_21	5505	239	215	11.9	**20**
Total		5130			

Employee Requirement per day - (9pm to 9am)				
Time bucket	**prctg of night calls**	**calls at night**	**work load In hours**	**required Employees**
9 pm to 10pm	3	154	8.5	**14**
10pm to 11pm	3	154	8.5	**14**
11pm to 12am	2	103	5.7	**9**
12 am to 1 am	2	103	5.7	**9**
1 am to 2 am	1	51	2.8	**5**
2am to 3am	1	51	2.8	**5**
3am to 4am	1	51	2.8	**5**
4am to 5am	1	51	2.8	**5**
5am to 6am	3	154	8.5	**14**
6am to 7am	4	205	11.3	**19**
7am to 8am	4	205	11.3	**19**
8am to 9am	5	256	14.2	**24**

Summary

- I learned how an analyst can make an impact in customer service department.
- I learned how a company deals with the customers to give them the most satisfaction.
- I got to know about the IVR Duration, which is an AI tool, who answer the calls to get to know the customer exact question and then transfer it to the right agent to get the customer's queries get answered.
- This project was easy to get the answers as the data provided by the team have already calculated the time bucket and converted the calls duration into seconds, so we do not have to spend time on it to calculate.
- I learned about the behavioral analytics.

THANK YOU