ABC CALL VOLUME TREND ANALYSIS

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AGENDA

- ✓ Project Description
- ✓ Approach
- ✓ Tech-Stack Used
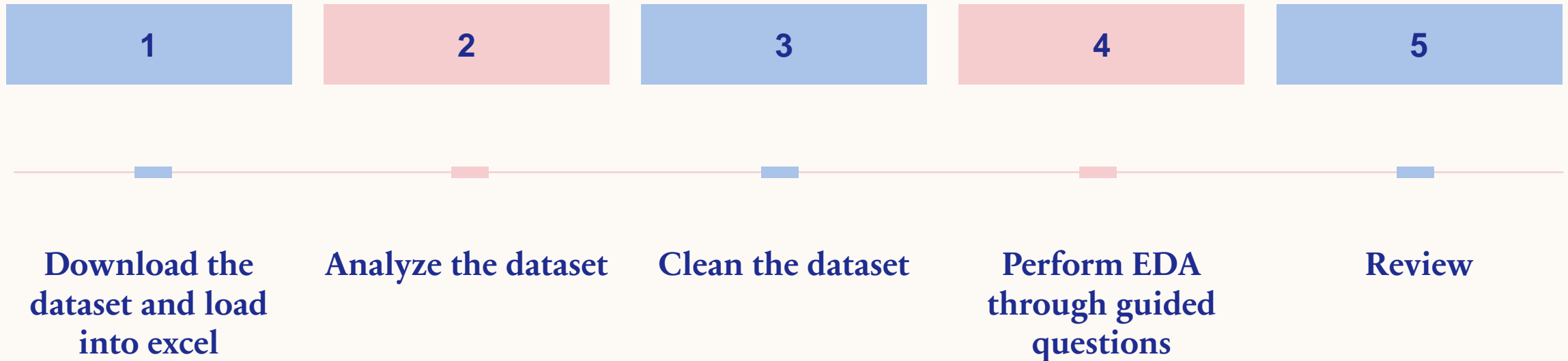- ✓ Insights
- ✓ Results

PROJECT DESCRIPTION

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.

One of the key roles in a CX team is that of the customer service representative, also known as a call centre agent. These agents handle various types of support, including email, inbound, outbound, and social media support.

In this project, we'll be using our analytical skills to understand the trends in the call volume of the CX team and derive valuable insights from it.
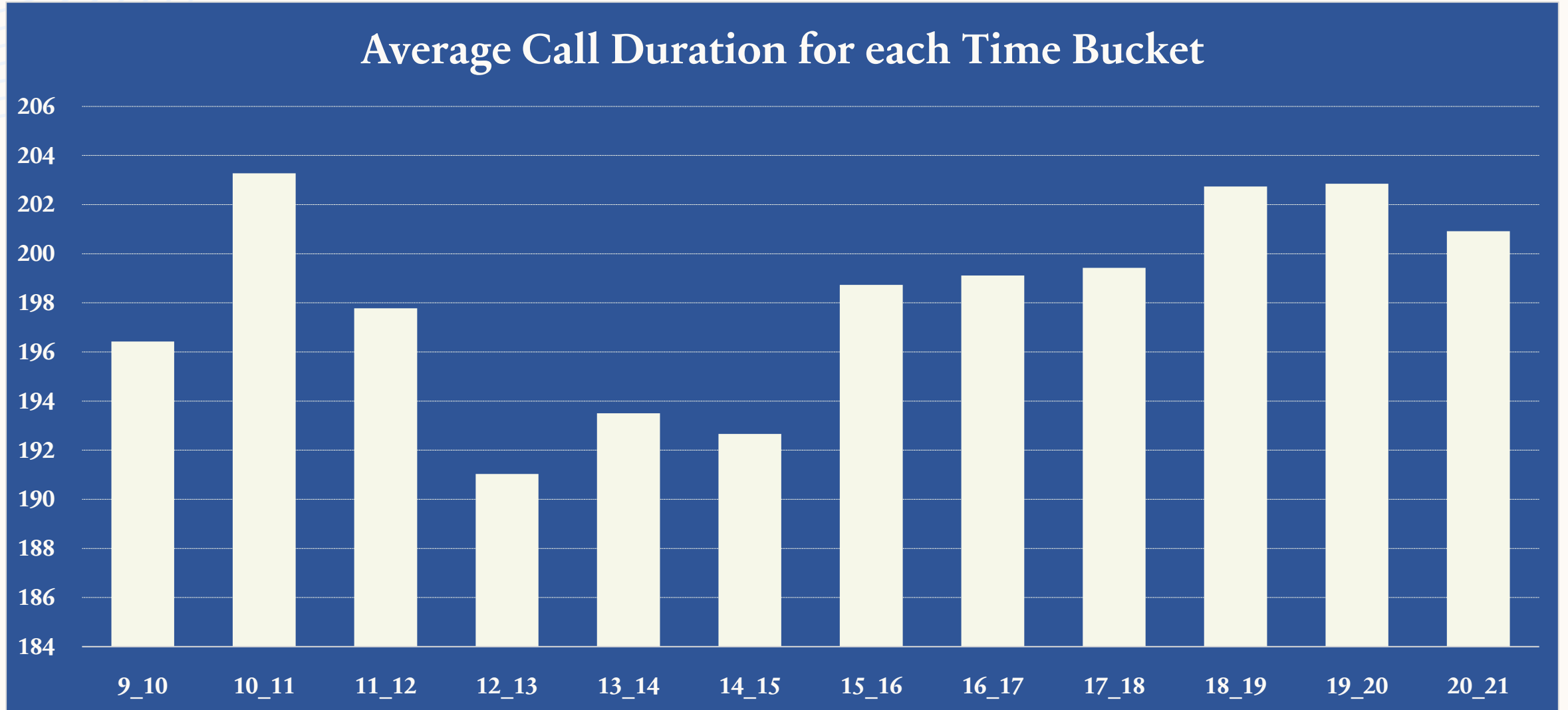
Here is the excel file

APPROACH

| 1 | 2 | 3 | 4 | 5 |

Download the dataset and load into excel

Analyze the dataset

Clean the dataset

Perform EDA through guided questions

Review

TECH-STACK

Q1 Determine the average duration of all incoming calls received by agents. This should be calculated for each time bucket.

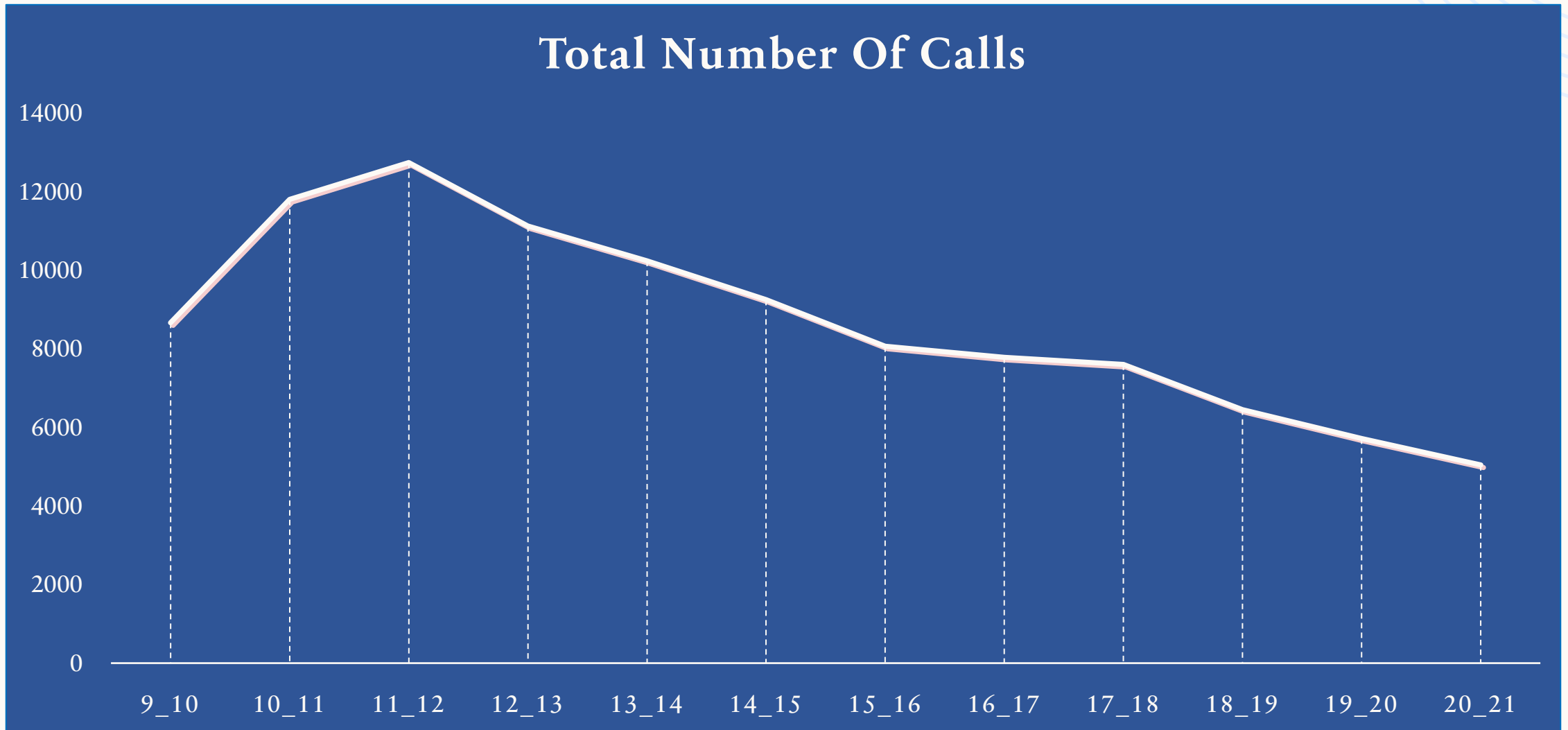Average Call Duration for each Time Bucket

INSIGHTS

1. The most time talked is between 10-11am, 6-7pm and 7-8pm.

2. The least time talked is between 12-1pm (lunch time).

Q2 Visualize the total number of calls received. This should be represented as a graph or chart showing the number of calls against time.

Total Number Of Calls

INSIGHTS

1. The number of calls answered keeps increasing until noon, and then drops off as the day progresses.

2. The most number of calls were answered in the timeframe 11am-12pm..

3. 8-9pm saw the least number of calls picked up

Call Status	Average Call Duration	Count of Customer_Phone_No	Total Calls
abandon	0	32.92%	34403
answered	198	66.11%	69090
transfer	76	0.98%	1021
Grand Total	**131**	**100.00%**	**104514**

Calls Distribution by Status
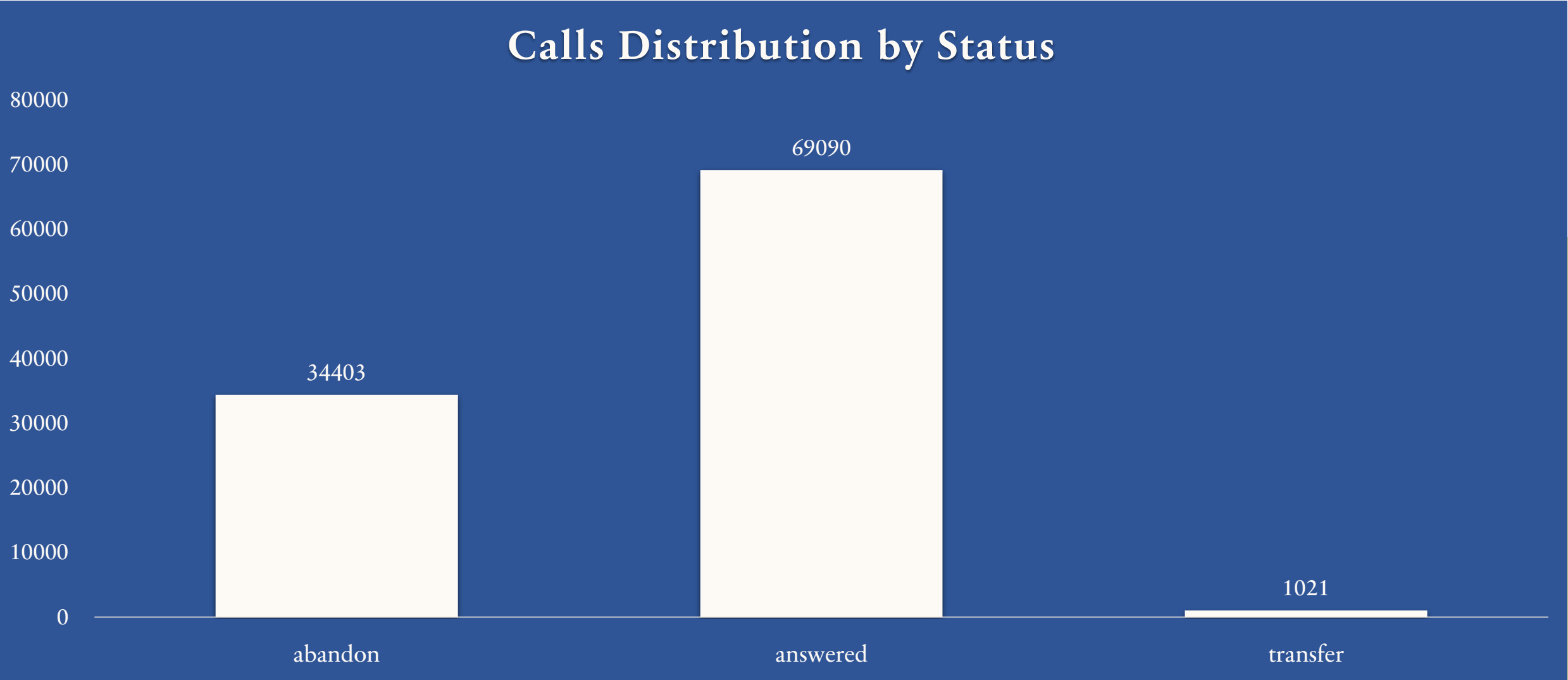
Q3

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.

Assumption:
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.

60% of 7.5 = 4.5 hours

For 1 Jan 2022	
Total Call Duration (in sec)	609969
Total Call Duration (in hours)	169.4358333
Number of Agents	38

70% efficiency	38 Agents
90% efficiency	49 Agents

Time Bucket	Total call time (in sec)	Total call time (in %)	Agents	Agents
10_11	44469	7.29%	3.572281542	4
11_12	58173	9.54%	4.673150603	5
12_13	66809	10.95%	5.366897334	5
13_14	54463	8.93%	4.375119063	4
14_15	69351	11.37%	5.571101154	6
15_16	60294	9.88%	4.843534671	5
16_17	56012	9.18%	4.499553256	4
17_18	62700	10.28%	5.036813346	5
18_19	46515	7.63%	3.736640715	4
19_20	37133	6.09%	2.982966347	3
20_21	22461	3.68%	1.804335958	2
9_10	31589	5.18%	2.537606009	3
(blank)		0.00%	49	49
Grand Total	**609969**	**100.00%**		

Q4 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:

| Average Duration	614577.67
Estimated Duration for night shift	184373.301
Estimated Duration for night shift (in hours)	51.21480583
Number of Agents	12

Time_Bucket	Call Distribution	Time Distribution	Agents Active
21_22	3	0.10	2
22_23	3	0.10	2
23_00	2	0.07	1
00_1	2	0.07	1
1_2	1	0.03	1
2_3	1	0.03	1
3_4	1	0.03	1
4_5	1	0.03	1
5_6	3	0.10	2
6_7	4	0.13	2
7_8	4	0.13	2
8_9	5	0.17	3
Total	30	1.00	15

60% of 7.5 = 4.5 hours

70% efficiency 12 Agents
90% efficiency 15 Agents

SUMMARY

In this project, we discussed the call volume trend of the ABC company. We looked at the number of calls answered by agents as well as the average talk time in each timeframe. Finally, we made a manpower plan to improve the efficiency of calls answered to 90% and extended the services to be a 24-hour service. All this was done to improve the customer satisfaction and feedback.
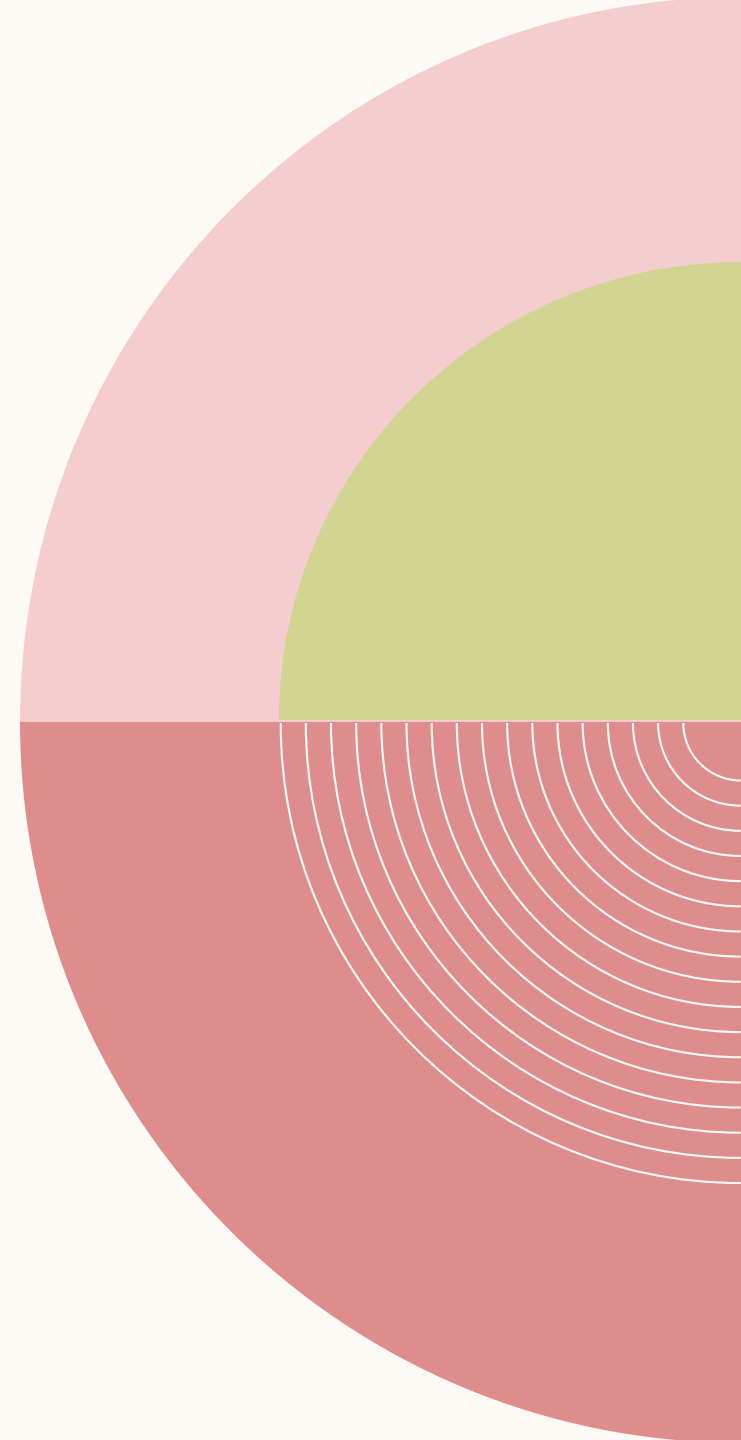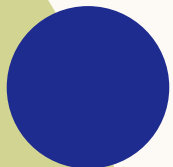
THANK YOU!

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