ABC Call Volume Trend Analysis

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Project Description

- We have a dataset with information about calls received by a company called ABC over 23 days. This data includes the agent's name and ID, how long customers waited before talking to an agent, the time and duration of the calls, and the call status (whether it was abandoned, answered, or transferred).
- The Customer Experience (CX) team looks at customer feedback and data to find useful insights and shares these insights with the rest of the company. They handle many tasks like managing customer experience programs, internal communications, mapping customer journeys, and managing customer data. They also support customers through email, inbound and outbound calls, and social media.
- AI tools like Interactive Voice Response (IVR), Robotic Process Automation (RPA), Predictive Analytics, and Intelligent Routing help improve customer experience.
- Inbound customer support means dealing with calls from current or potential customers. The goal is to attract, engage, and make customers happy, turning them into loyal supporters of the business.
- I will use my analytical skills to understand call volume trends for the CX team and find valuable insights.

Project Description

Analysis is done on the following points:

- 1. Average Call Duration
- 2. Call Volume Analysis
- 3. Manpower Planning
- 4. Night Shift Manpower Planning

Tech Stack used:

- Microsoft Excel

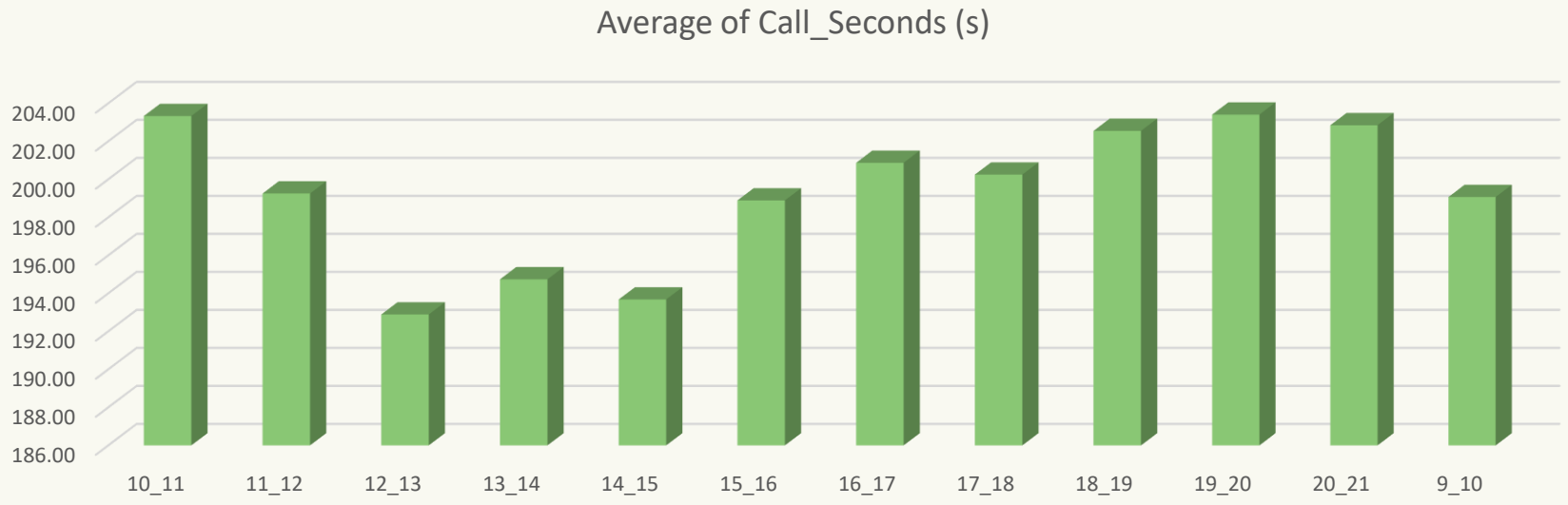
Average Call Duration

Task1: What is the average duration of calls for each time bucket?

Row Labels	Average of Call_Seconds (s)
10_11	203.33
11_12	199.26
12_13	192.89
13_14	194.74
14_15	193.68
15_16	198.89
16_17	200.87
17_18	200.25
18_19	202.55
19_20	203.41
20_21	202.85
9_10	199.07
Grand Total	198.62

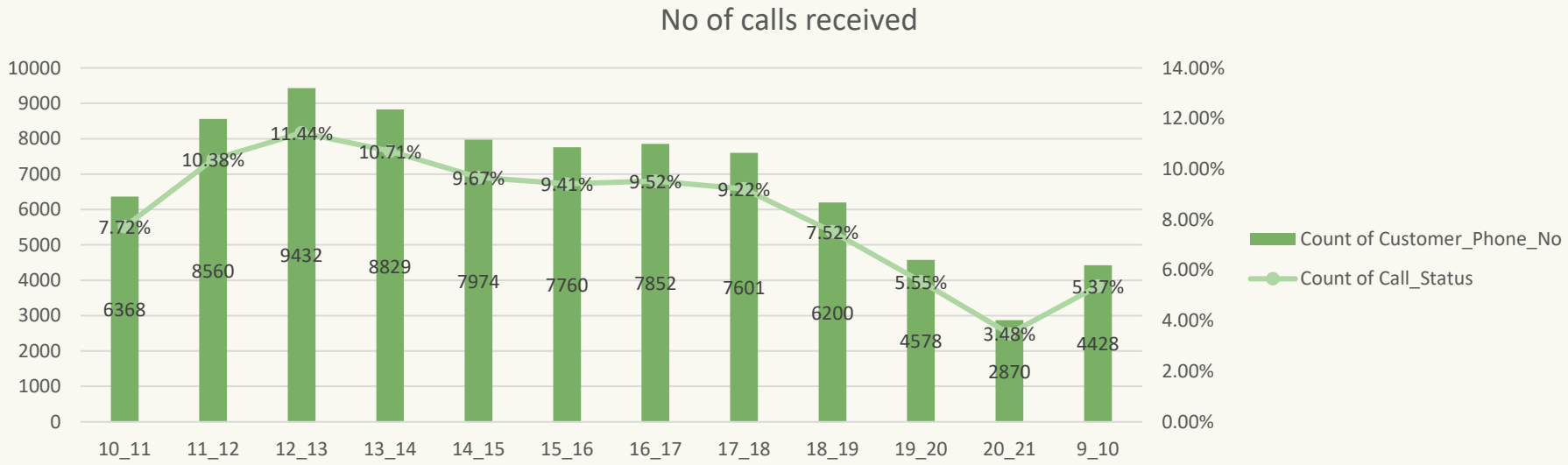
Average Call Duration

Task1: What is the average duration of calls for each time bucket?



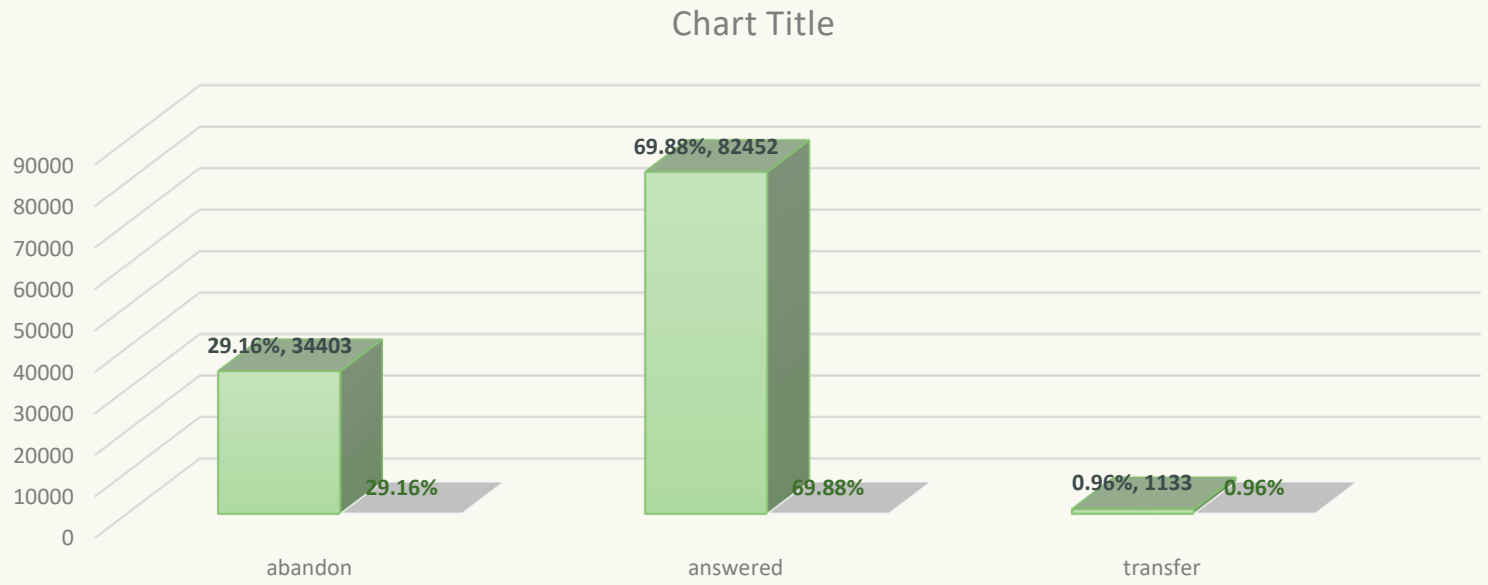
Call Volume Analysis

Task2: Can you create a chart or graph that shows the number of calls received in each time bucket?



Manpower Planning

- Task3: 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%. What is the minimum number of agents required in each time bucket to reduce the abandon rate to 10%?



Manpower Planning

Total Working hrs	**9 hrs**
Lunch & snacks	1.5 hrs
Total actual working hrs	7.5 hrs
Actual working hrs	4.5 hrs

Manpower Planning

TOTAL HRS WORKED	**187.96**	
Total no.of agents worked (as we know abandon rate is 30% we have to reduce it to 10 %)	42	
	Unitary Method	
42 agents are working for answered rate of 70%	42	70
	x	90
	x=	54

Manpower Planning

Row Labels	Sum of Call_Seconds (s)	Sum of Call_hours
1-Jan	676664	187.96

Night Shift Manpower Planning

- Task4: 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 incoming calls	5130
Average incoming calls at night between 9 pm - 9 am (30% of 5130)	1539
Average seconds required to answer the calls (Avg incoming calls at night * Avg calls answered)	305680.4499
Average hours required to answer the calls	84.91123608
keeping the maximum abandon rate at 10%	
Actual average hours required to answer the calls	76.42011247
We know from the previous task that Actual working hrs is 4.5 hrs	
No. of agents required to answer the call	16.98224722

Night Shift Manpower Planning