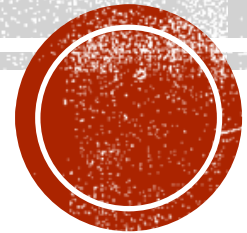


ABC CALL VOLUME TREND ANALYSIS

Project_8

Prepared by_ Vaishnavi Patel

(Trainity)



PROJECT DESCRIPTION

- **Purpose of the project and problem to analyze:** For inbound customer support service we are given dataset of a customer experience for 23 days. By understanding given data, My work as a data analysts is to purpose a man power plan, utilization and make abandon rate 10%.
- **Description of data sources :** Dataset is “Call volume Trend Analysis” in .xlsx format.
- **Understanding of data :**
 - Number of observations : 1,17,988 , Number of variables : 12
 - Dataset is for 23 days work
 - Getting to know the 12 variable and its meaning



PROJECT DESCRIPTION

1. Agent_name, Agent_ID
2. Queue_time (duration for which customer have to wait before they get connected to an agent)
3. Date &Time (the day and time when customer have made call)
4. Time_bucket (the time slot to work)
5. Duration (time for which a customer and executives are on call)
6. Call_seconds (time duration in seconds)
7. Call_status(call was answered, not-answered or transferred)
8. IVR Duration (Interactive voice response : i.e., time before which agent is provided to customer or it is duration for interaction of client with computer-operated telephone system)



PROJECT DESCRIPTION

➤ Information based on current scenario:

- Working days: (30 days in a month)
 - 6 days a week
 - 4 Sundays and 4 leaves agent can take
 - 22 days working in a month
 - Employees present % over 30 days : $22/30 = 73.3 \%$
- Agent works 9 hours per day
 - Lunch time 1.5 hours
 - Working hours : 7.5 hours
 - Actual Working hours : 60% of 7.5 hours = 4.5 hours
 - Efficiency of Agent : $4.5 \text{ hours} / 9 \text{ hours} = 50\%$
- Currently working No. of Agents: 66

➤ Based on the information and task, I have to purpose a manpower plan for agent to work effectively to bring call abandoned rate 10% (i.e., 90% of call should be attended by each agent)



TECH-STACK USED

- Software used is **EXCEL**.
- Features used:
 1. Pivot table
 2. Formula
 3. Charts
 4. Formatting
- EXCEL enables to identify trends, organize data, easy to use, handy functions to perform and organize tasks and it helps better understand of work flow using features.
- The excel analysis file : (Download excel file using this link)

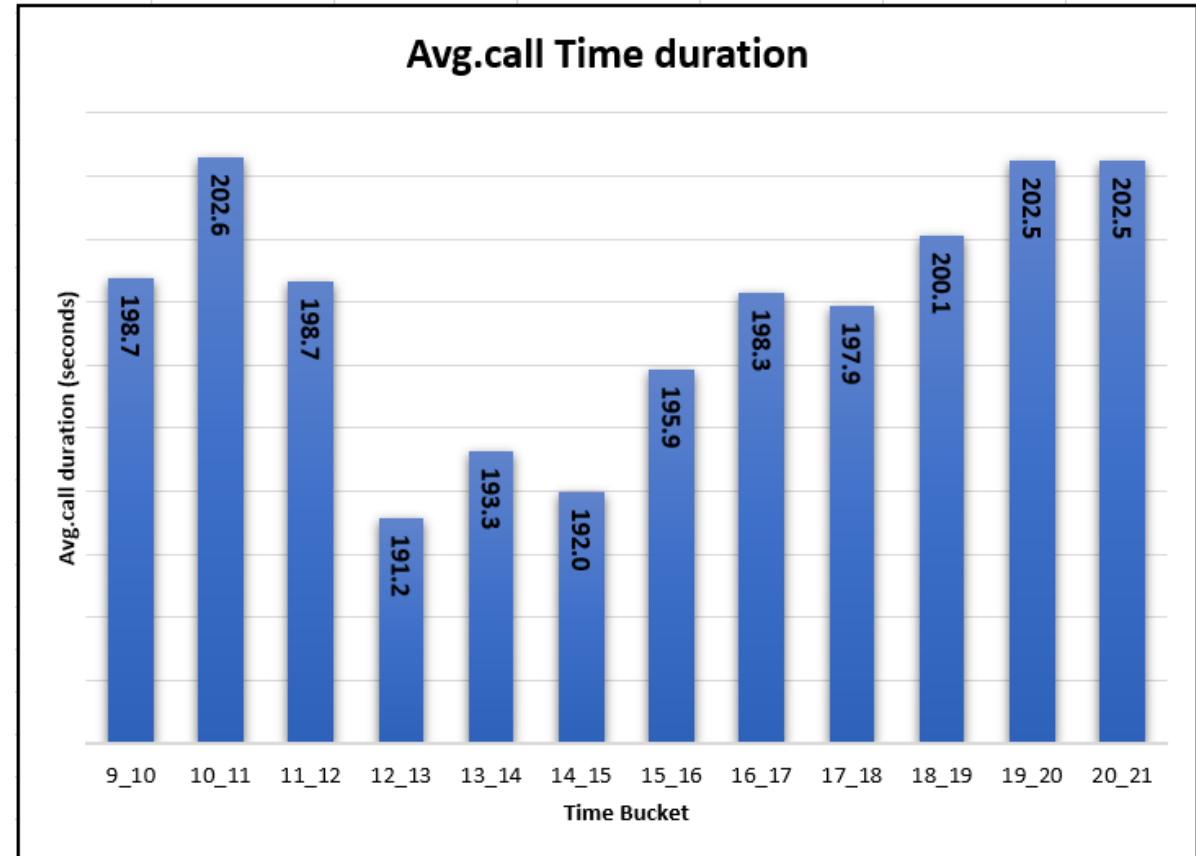
https://docs.google.com/spreadsheets/d/144gX-pSZ3z7HnBnz6PIYB_foSrWJZdoO/edit?usp=sharing&ouid=114706903831395447522&rtpof=true&sd=true



APPROACH : TASK: 1

- **Task:1** : Calculate the average call time duration for all incoming calls received by agents (in each Time Bucket).

Call_Status	(Multiple Items)
Time Bucket	Average of Call_Seconds (s)
9_10	198.7373282
10_11	202.5938769
11_12	198.6600372
12_13	191.1536695
13_14	193.2963998
14_15	191.9543656
15_16	195.8571429
16_17	198.2948638
17_18	197.8801445
18_19	200.1208565
19_20	202.4782232
20_21	202.5173611
Grand Total	196.9626009



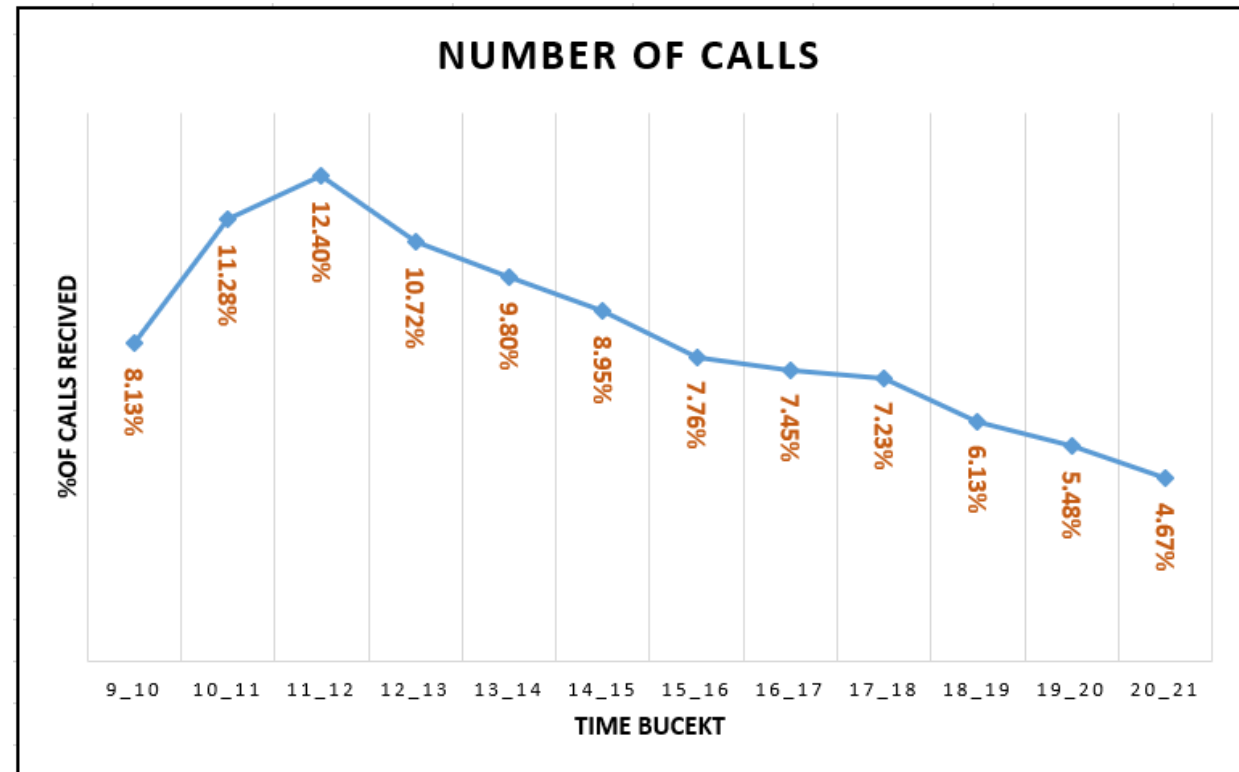
- **Key findings** : The bar chart signifies the details. The maximum average call time duration is nearly 203 seconds in the time bucket of 10-11 am, 7-8 pm, 8-9 pm. From this we can say that in these time bucket rush for call is more.



APPROACH : TASK: 2

- **Task:2** : 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,

Time bucket	Number of calls
9_10	8.13%
10_11	11.28%
11_12	12.40%
12_13	10.72%
13_14	9.80%
14_15	8.95%
15_16	7.76%
16_17	7.45%
17_18	7.23%
18_19	6.13%
19_20	5.48%
20_21	4.67%



- **Key findings** : Line chart shows during 9 am to 9 pm how many number of calls are received by agent. The maximum call received is during 10 am to 3 pm.

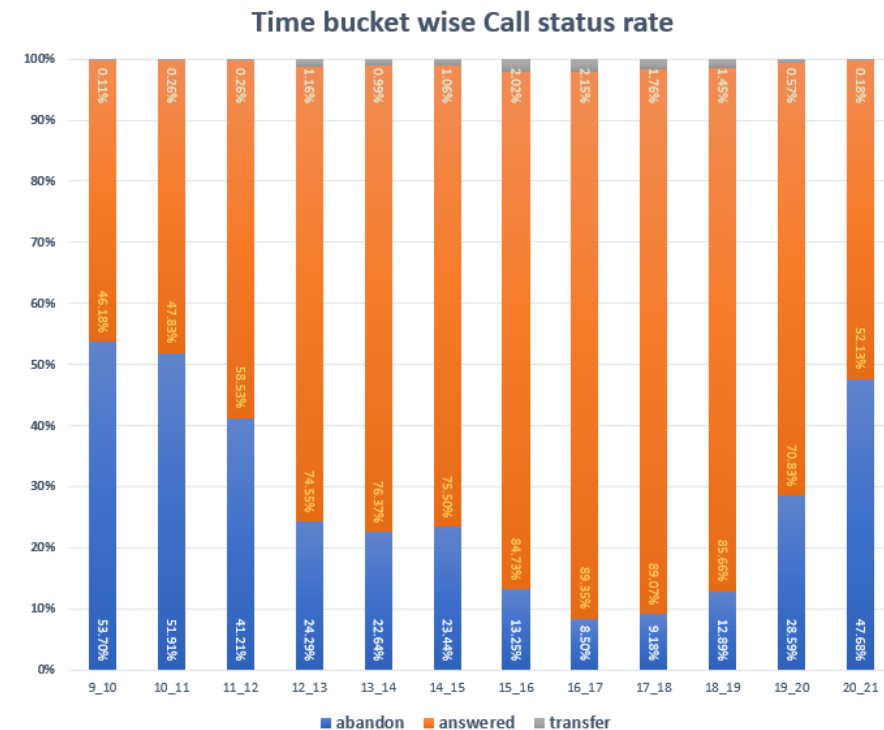


APPROACH : TASK: 3

- **Task:3** : 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.)

- **How to do this task ?**
- **Step 1** : Analysis of average call status in time bucket from 9 am to 9 pm.
- Abandon rate : 29.2%
- Answered rate : 69.88 %
- Transfer : 0.96 %

Count of Call_Status2	Date												
Time bucket	9_10	10_11	11_12	12_13	13_14	14_15	15_16	16_17	17_18	18_19	19_20	20_21	Grand Total
abandon	53.70%	51.91%	41.21%	24.29%	22.64%	23.44%	13.25%	8.50%	9.18%	12.89%	28.59%	47.68%	29.16%
answered	46.18%	47.83%	58.53%	74.55%	76.37%	75.50%	84.73%	89.35%	89.07%	85.66%	70.83%	52.13%	69.88%
transfer	0.11%	0.26%	0.26%	1.16%	0.99%	1.06%	2.02%	2.15%	1.76%	1.45%	0.57%	0.18%	0.96%
Grand Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%



APPROACH : TASK: 3

- **Step 2** : Analysis of call status for each day in time bucket from 9 am to 9 pm over 23 days.
- Understanding day and time bucket wise abandon rate : In shown pivot table, all highlighted cells shows abandon rate $\geq 10\%$ (our task is to make abandon rate around 10%)
- Our next step is to see, how many agents work during each time bucket of 9 am to 9 pm, which will give average number of agents working in each time bucket for single day.

Day and Time bucket wise call status																									
Count of Call_Status2	Date																								
Time bucket		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Grand Total
9_10		8%	9%	6%	8%	9%	8%	7%	7%	9%	7%	7%	8%	9%	7%	2%	3%	12%	7%	7%	6%	7%	8%	9%	8%
abandon		36%	21%	26%	43%	54%	57%	53%	32%	51%	51%	40%	62%	58%	6%	18%	56%	90%	47%	34%	15%	26%	6%	26%	54%
answered		64%	73%	74%	57%	46%	43%	47%	68%	48%	49%	53%	38%	41%	93%	82%	44%	10%	53%	66%	85%	74%	94%	74%	46%
transfer		0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10_11		12%	13%	10%	8%	10%	11%	11%	13%	15%	9%	9%	10%	8%	8%	0%	14%	16%	8%	10%	10%	11%	10%	11%	11%
abandon		43%	39%	24%	11%	27%	50%	51%	59%	73%	41%	42%	47%	15%	4%		46%	88%	30%	31%	34%	40%	15%	36%	52%
answered		56%	61%	74%	89%	72%	50%	49%	40%	26%	59%	57%	53%	84%	94%	54%	12%	70%	69%	66%	60%	85%	64%	48%	48%
transfer		0%	0%	1%	0%	1%	0%	0%	1%	0%	0%	1%	0%	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
11_12		10%	12%	10%	11%	11%	12%	16%	13%	12%	12%	11%	14%	11%	9%	13%	10%	15%	9%	11%	13%	13%	12%	12%	12%
abandon		15%	10%	6%	10%	12%	31%	50%	50%	44%	43%	37%	45%	27%	2%	30%	8%	83%	23%	23%	45%	39%	10%	20%	41%
answered		85%	89%	93%	90%	87%	68%	50%	50%	56%	57%	62%	55%	73%	97%	70%	91%	17%	77%	77%	55%	61%	90%	80%	53%
transfer		0%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
12_13		10%	10%	10%	11%	10%	10%	10%	11%	10%	10%	10%	11%	10%	11%	13%	5%	14%	9%	11%	10%	10%	11%	11%	11%
abandon		2%	3%	7%	3%	1%	2%	10%	17%	4%	6%	8%	15%	7%	3%	7%	3%	18%	13%	13%	8%	6%	4%	5%	24%
answered		96%	94%	90%	95%	97%	95%	89%	82%	92%	92%	90%	85%	92%	94%	92%	95%	22%	87%	87%	92%	93%	96%	95%	75%
transfer		2%	3%	3%	2%	2%	3%	1%	1%	4%	2%	2%	0%	1%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	1%
13_14		8%	10%	10%	10%	10%	9%	9%	9%	9%	10%	10%	9%	10%	10%	11%	9%	12%	7%	9%	10%	8%	9%	9%	10%
abandon		1%	1%	26%	2%	1%	6%	17%	5%	3%	4%	9%	10%	11%	4%	7%	4%	75%	4%	7%	11%	4%	4%	5%	23%
answered		97%	97%	72%	97%	96%	93%	83%	94%	94%	94%	89%	88%	88%	95%	92%	96%	25%	95%	93%	89%	96%	95%	94%	76%
transfer		2%	2%	2%	1%	3%	1%	1%	1%	3%	2%	2%	2%	1%	1%	1%	1%	0%	1%	0%	0%	0%	1%	1%	1%
14_15		9%	8%	10%	9%	9%	8%	8%	8%	7%	9%	8%	9%	10%	8%	11%	7%	10%	10%	9%	10%	9%	8%	9%	9%
abandon		1%	0%	23%	4%	2%	4%	11%	14%	4%	8%	6%	25%	22%	2%	8%	5%	73%	31%	10%	13%	6%	3%	6%	23%
answered		97%	96%	75%	94%	95%	95%	87%	85%	95%	91%	90%	75%	78%	98%	91%	94%	27%	69%	90%	81%	94%	97%	94%	76%
transfer		2%	4%	3%	2%	3%	1%	2%	1%	2%	1%	3%	0%	1%	0%	1%	1%	0%	0%	0%	0%	0%	0%	1%	1%
15_16		8%	7%	9%	8%	8%	9%	7%	8%	7%	8%	9%	7%	9%	7%	9%	7%	5%	11%	10%	9%	8%	9%	7%	8%
abandon		0%	0%	0%	1%	0%	2%	4%	4%	2%	3%	8%	6%	7%	2%	3%	3%	53%	34%	17%	16%	4%	4%	3%	13%
answered		96%	97%	95%	92%	93%	94%	94%	93%	94%	93%	90%	91%	91%	96%	96%	97%	47%	66%	82%	84%	96%	95%	97%	85%
transfer		4%	3%	5%	7%	6%	4%	2%	3%	3%	3%	2%	3%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	2%
16_17		7%	9%	9%	9%	8%	9%	8%	8%	7%	7%	9%	7%	9%	9%	10%	7%	4%	8%	8%	8%	8%	9%	8%	7%
abandon		1%	0%	0%	2%	2%	13%	11%	2%	2%	4%	3%	3%	5%	4%	3%	3%	40%	13%	5%	5%	4%	4%	3%	9%
answered		95%	95%	95%	90%	94%	84%	88%	96%	97%	93%	94%	93%	93%	96%	94%	95%	60%	86%	95%	95%	96%	96%	96%	89%
transfer		4%	5%	5%	8%	4%	3%	1%	2%	2%	3%	3%	4%	2%	0%	2%	2%	0%	0%	1%	0%	0%	0%	1%	2%
17_18		8%	6%	8%	8%	8%	7%	7%	8%	7%	8%	8%	8%	7%	9%	10%	8%	4%	11%	7%	8%	9%	8%	8%	7%
abandon		0%	0%	0%	1%	2%	2%	4%	2%	2%	5%	4%	7%	9%	4%	6%	2%	37%	34%	8%	9%	6%	4%	2%	9%
answered		96%	100%	97%	95%	95%	95%	93%	95%	94%	92%	93%	91%	95%	94%	93%	97%	63%	65%	91%	91%	93%	96%	96%	89%
transfer		4%	0%	3%	4%	3%	3%	2%	2%	4%	3%	3%	2%	2%	2%	0%	2%	0%	0%	1%	1%	0%	0%	0%	2%
18_19		7%	7%	7%	6%	7%	6%	6%	6%	7%	7%	6%	6%	6%	8%	8%	9%	3%	7%	7%	7%	7%	7%	6%	6%
abandon		8%	15%	6%	2%	11%	4%	13%	13%	16%	20%	6%	12%	2%	3%	2%	5%	40%	26%	7%	14%	2%	8%	1%	13%
answered		92%	84%	91%	97%	87%	93%	80%	85%	81%	77%	89%	86%	92%	96%	96%	93%	60%	73%	93%	85%	97%	92%	98%	86%
transfer		0%	1%	2%	2%	2%	3%	1%	2%	1%	2%	5%	2%	6%	1%	2%	2%	0%	0%	0%	1%	1%	0%	0%	1%
19_20		5%	6%	6%	6%	5%	6%	5%	5%	6%	7%	7%	6%	5%	8%	7%	8%	3%	7%	6%	6%	6%	6%	6%	5%
abandon		4%	18%	11%	26%	1%	26%	18%	16%	25%	49%	20%	41%	8%	32%	14%	30%	61%	56%	52%	25%	9%	11%	8%	29%
answered		95%	81%	88%	74%	96%	73%	81%	84%	74%	50%	79%	59%	90%	67%	86%	70%	39%	44%	48%	75%	91%	89%	91%	71%
transfer		1%	0%	1%	0%	3%	1%	1%	1%	1%	1%	0%	0%	2%	1%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%
20_21		7%	4%	5%	5%	5%	5%	5%	4%	5%	6%	6%	4%	5%	6%	4%	13%	2%	5%	5%	3%	4%	5%	5%	5%
abandon		58%	1%	26%	61%	15%	37%	43%	35%	36%	65%	43%	66%	52%	61%	12%	77%	64%	62%	63%	14%	17%	19%	11%	48%
answered		42%	97%	73%	38%	84%	63%	57%	65%	64%	35%	57%	34%	48%	39%	88%	23%	36%	38%	37%	86%	83%	81%	89%	52%
transfer		0%	3%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Grand Total		100.00%	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	100.00%

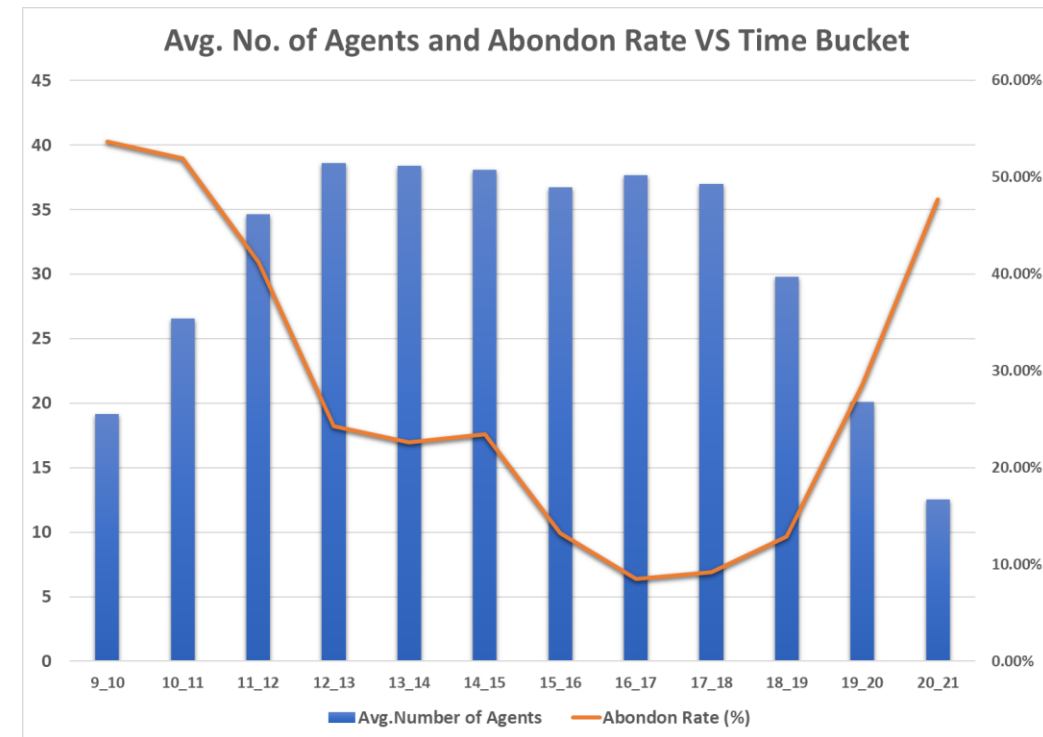


APPROACH : TASK: 3

Average Distinct Agents available per day over 23 days in each time-bucket

- **Step 3** : Day and time bucket wise distinct count of agent.
- Insights :
- We can see from graph, When Number agents are low, abandon rate is high.
- It is also seen that when the agents number are same but still we are seeing difference in abandoned rate in a lunch time.

Distinct Count of Ag Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Avg
Time bucket																								
9_10	16	19	19	21	20	16	16	18	13	19	16	18	17	21	17	22	24	23	22	23	18	24	18	19
10_11	22	24	29	31	31	24	26	21	19	26	25	25	27	28		31	34	31	28	26	24	29	23	27
11_12	30	28	35	39	41	37	36	33	25	40	33	34	32	32	32	36	42	36	40	35	32	36	33	35
12_13	34	34	44	45	48	43	39	35	27	41	40	36	34	35	37	38	45	40	41	39	36	42	35	39
13_14	35	34	44	45	49	41	39	36	29	41	39	35	34	36	36	38	43	39	41	37	35	40	37	38
14_15	35	32	44	45	49	41	37	36	29	41	39	34	34	35	38	38	45	39	40	37	37	36	35	38
15_16	32	32	42	46	45	40	35	35	28	39	37	34	34	33	35	37	43	37	39	35	35	36	35	37
16_17	35	33	43	48	48	39	35	37	28	39	37	35	33	34	37	37	44	38	40	37	35	37	37	38
17_18	32	32	40	47	47	38	35	38	28	39	39	35	33	35	36	37	44	36	37	37	32	37	37	37
18_19	27	23	32	34	36	31	27	27	21	29	32	26	31	32	36	35	36	27	31	29	29	27	27	30
19_20	19	17	25	24	26	25	18	20	16	16	21	16	21	17	20	23	21	19	18	22	20	18	20	20
20_21	10	11	14	13	18	14	12	11	12	11	15	9	10	9	12	14	12	12	11	15	13	14	16	13
Grand Total	35	35	44	48	50	45	40	39	30	42	41	38	34	36	38	40	49	41	44	39	38	42	39	40



APPROACH : TASK: 3

- **Step 4 :** Day and time bucket wise average time spent by an agent on call.
- Insights :
- On an average, in each time bucket total hours spent by agents on call varies from 10.7 hrs to 22 hrs in a month.

Sum of call_	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total (Avg. T
9_10	9.8	13.8	12.4	12.6	11.5	9.8	9.9	12.9	9.4	10.0	10.5	9.4	8.7	11.0	3.1	3.2	12.1	11.9	12.5	14.9	10.8	13.4	11.6	245.1	10.7
10_11	14.7	15.2	20.3	22.2	20.8	16.0	17.4	13.0	8.7	16.5	16.9	15.3	16.7	12.8	0.0	18.2	18.1	17.9	18.1	17.5	14.4	15.9	13.5	360.3	15.7
11_12	18.8	17.9	23.8	26.1	25.7	22.2	22.0	19.5	14.1	23.0	19.8	20.8	19.7	15.9	16.9	23.7	24.7	22.8	22.2	18.6	18.8	20.2	17.3	474.5	20.6
12_13	20.2	16.8	23.7	27.6	25.5	25.3	24.2	24.0	17.5	26.7	25.0	25.8	21.0	16.7	20.3	11.9	28.2	24.2	25.5	23.6	17.9	19.1	17.8	508.6	22.1
13_14	16.6	17.9	20.5	25.7	24.5	24.6	23.3	21.8	15.7	24.2	24.0	24.1	21.0	16.7	17.8	21.0	26.8	20.6	21.4	21.8	18.2	17.3	14.9	480.2	20.9
14_15	21.1	13.3	19.2	22.4	23.3	23.9	21.0	19.4	13.4	22.5	19.5	17.1	19.1	12.5	16.7	16.4	25.4	21.2	19.6	19.0	18.0	14.0	13.1	431.2	18.7
15_16	18.2	11.7	22.5	20.1	21.4	23.4	20.6	21.7	13.5	21.2	21.5	17.2	19.3	11.8	15.8	17.6	27.4	23.4	20.4	19.6	15.7	15.6	12.5	432.2	18.8
16_17	16.5	14.3	23.3	23.6	20.7	24.0	21.7	19.9	14.6	18.9	20.1	17.9	20.4	15.8	17.2	15.8	30.3	22.8	19.6	20.9	16.1	15.4	13.1	442.9	19.3
17_18	18.9	11.5	20.0	21.1	20.2	20.2	19.8	19.1	14.1	22.4	22.0	19.7	17.6	14.1	16.5	18.9	25.5	20.9	18.8	19.4	17.2	14.4	13.7	426.0	18.5
18_19	14.7	11.0	17.8	18.5	17.3	18.8	12.4	13.4	11.6	14.6	16.3	15.2	12.8	14.8	14.0	19.0	23.5	17.2	15.9	15.8	14.2	11.2	10.5	350.5	15.2
19_20	11.2	10.1	13.8	13.9	13.9	12.7	11.0	12.0	11.1	9.6	13.7	10.7	10.1	9.5	9.7	14.0	12.5	10.7	9.0	12.3	9.9	9.0	9.3	259.6	11.3
20_21	7.1	6.0	8.5	5.7	10.4	9.4	7.1	7.4	6.6	6.8	9.0	4.1	5.8	5.1	6.5	7.6	8.1	7.8	5.2	7.5	6.6	7.1	6.7	162.0	7.0

APPROACH : TASK: 3

- **Step 5** : Summary of agents, call duration and current scenario of 30% abandon rate
- Insights :

Average Total call time in hours in each time bucket

Average Distinct Agents available per day over 23 days in each time-bucket

When abandon is 30%					
Time bucket	Number of calls	Avg.call per day	Avg.call duration (sec)	Total call time (hrs)	Avg. agent availa
9_10	9588	417	198.7	10.7	19
10_11	13313	579	202.6	15.7	27
11_12	14626	636	198.7	20.6	35
12_13	12652	550	191.2	22.1	39
13_14	11561	503	193.3	20.9	38
14_15	10561	459	192.0	18.7	38
15_16	9159	398	195.9	18.8	37
16_17	8788	382	198.3	19.3	38
17_18	8534	371	197.9	18.5	37
18_19	7238	315	200.1	15.2	30
19_20	6463	281	202.5	11.3	20
20_21	5505	239	202.5	7.0	13



APPROACH : TASK: 3

- **Step 6** : Expectation of abandon rate 10%
- Insights :
- 1 agent → 22 days (4 week-offs and 4 Sundays)
- For days : Utilization of agents efficiency is: $22/30 : 0.73$
- To have 87 agents in a day with 73% utilization:
- **Total require agents: 119**
- **Currently working: 66**
- **Need to require: 53**

Abandon rate 10%				
Calls to be recived in a day	Total call duration (hrs' efficiency based agents		based on exisiting ratio	
375	20.7	41	37	
521	29.3	59	50	
572	31.6	63	53	
495	26.3	53	46	
452	24.3	49	45	
413	22.0	44	45	
358	19.5	39	38	
344	18.9	38	37	
334	18.4	37	37	
283	15.7	31	31	
253	14.2	28	25	
215	12.1	24	22	

Time bucket	Agents needed	9 AM shift	10 AM shift	11 AM shift	12 AM shift	Total Agents
9_10	41	41				41
10_11	58	41	17			58
11_12	63	41	17	5		63
12_13	52	41	17	5	24	87
13_14	48	41	17	5	24	87
14_15	44	41	17	5	24	87
15_16	38	41	17	5	24	87
16_17	37	41	17	5	24	87
17_18	36	41	17	5	24	87
18_19	31		17	5	24	46
19_20	28			5	24	29
20_21	24				24	24



APPROACH : TASK: 4

- **Task:3** : 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. Now propose a manpower plan required during each time bucket in a day. Maximum Abandon rate assumption would be same 10%.

	per 23 days	per day	per night	avg.call duration
Total call	117988	5130	1539	197.0

- **How to do this task ? (Same as task 3 but now we have to consider 9 pm to 9 am call distribution)**
- **Step 1** : Understanding given data for night time.
- Need to calculate, total number of calls came at night and required agents to get abandon rate 10%

Time bucket	call distribution	in %
9_10	3	10%
10_11	3	10%
11_12	2	7%
12_1	2	7%
1_2	1	3%
2_3	1	3%
3_4	1	3%
4_5	1	3%
5_6	3	10%
6_7	4	13%
7_8	4	13%
8_9	5	17%



APPROACH : TASK: 4

- **Step 2** : Table created to count :
 - Number of calls came at night during each time bucket
 - To get 10% abandon rate maximum calls to be received
 - Total call time (hrs) in each bucket
 - According to that how many agents are needed in each bucket

Time bucket	No. of calls	10% abandon rate	Call hours	Agents needed
9_10	154	139	7.58	15
10_11	154	139	7.58	15
11_12	103	92	5.05	10
12_1	103	92	5.05	10
1_2	51	46	2.53	5
2_3	51	46	2.53	5
3_4	51	46	2.53	5
4_5	51	46	2.53	5
5_6	154	139	7.58	15
6_7	205	185	10.10	20
7_8	205	185	10.10	20
8_9	256	231	12.63	25



APPROACH : TASK: 4

- **Step 3** : How can agents be distributed for whole day shift i.e., 24*7 running business
- By assuming shifts as below:

Morning shift	6 am _ 3 pm
Evening shift	2 pm _ 11pm
Night shift	10 pm _ 7 am

- The man power can be distributed as shows:

Time bucket (24 hours)	Agents needed	Shift wise man power		
6_7	20	63		
7_8	20			
8_9	25			
9_10	41			
10_11	58			
11_12	63			
12_13	52			
13_14	48		38	
14_15	44			
15_16	38			
16_17	37			
17_18	36			
18_19	31			
19_20	28			
20_21	24			
21_22	15			
22_23	15			15
23_24	10			
24_1	10			
1_2	5			
2_3	5			
3_4	5			
4_5	5			
5_6	15			



APPROACH : TASK: 4

- **Insights:**
- Total agents require for 24*7 hours running business: 116
- As seen before : 1 agent is working 22 days in a month so utilization of agents over 30 days is counted as 73% to get abandon rate 10%
- We need: 158 agents ($116/0.73$)
- We have: 66 agents (currently working)
- To run business company need to require : $158 - 66 : 92$ agents



RESULT

- I came to know about **Inbound customer support**.
- By analyzing the data given, and after carefully understanding the key findings are :
 - Based on given data : agents efficiency to work is less than 50% , this should be improved which eventually decline the necessity of hiring new employees
 - Shifts should be assign to agents so that overall performance of company in day as well as night time can be utilized.
 - **Third option** : Company should hire **92 new agents** and can assign **morning, afternoon and night** shifts based on analysis.



RESULT

- I came to know about **Inbound customer support**.
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 - **Third option** : Company should hire **92 new agents** and can assign **morning, afternoon and night** shifts based on analysis.
- **What I gain by this project:**
 - Understanding of management of employees
 - Utilization of employees in a proper manner is mandatory for growth of employees as well as company.
 - Role of data analysts to understand business problem



