ABC Call Volume Trend Analysis

Optimizing Customer Experience through Data Analytics

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Introduction

- Customer Experience (CX) is a critical differentiator in today's competitive landscape
- ABC Insurance Company understands the importance of providing exceptional customer support
- This project focuses on analyzing inbound call volume trends to enhance CX strategy

About ABC Insurance Company

- Leading player in the insurance sector
- Committed to delivering exceptional customer experience (CX)
- Recognizes the importance of seamless customer support

Approach

- Leveraged a comprehensive dataset spanning 23 days
- Performed analytical tasks:
- Calculated average call duration per time bucket
- Visualized total call volumes using charts/graphs
- Proposed manpower allocation plans
- Utilized domain knowledge and statistical techniques

Tech Stack Used

- Microsoft Excel 2021 (Data analysis, calculations, visualizations)
- Microsoft PowerPoint (Presentation)
- Purpose: Powerful data analysis and spreadsheet software

Project Objectives

- Analyze average call duration for each time bucket
- Visualize total call volumes across time buckets
- Propose manpower plan to reduce abandon rate (9 AM - 9 PM)
- Develop night-time manpower plan (9 PM - 9 AM)

Assumptions

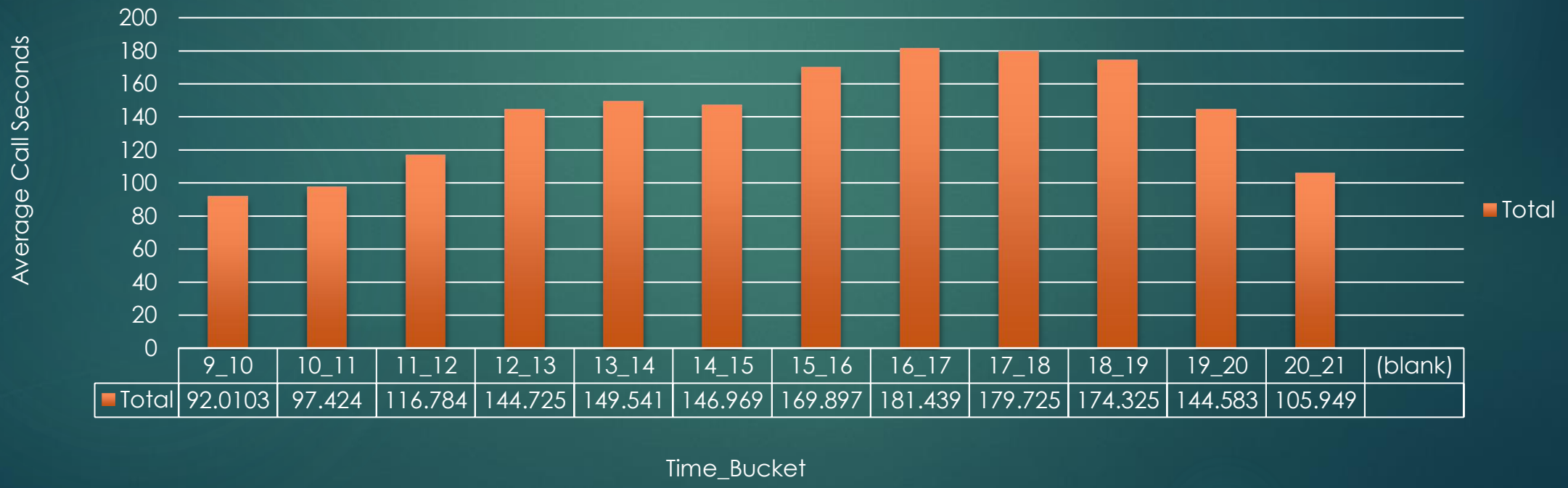
- Agent works 6 days a week
- Average 4 unplanned leaves per agent per month
- 9-hour shift with 1.5 hours for lunch/snacks
- Agents spend 60% of working hours on calls
- 30 days in a month

Working Days	6
Working Hours	9
Break	1.5
Actual Working Hours	7.5
Occupancy	60%
Total Working Hours	4.5
Total Working Seconds	16200
Average Call Time Per Agent	199
Call Capacity of an Agent/Day	81
Call Capacity of an Agent/Hour	18

Average Call Duration Analysis

- Calculated average duration of incoming calls for each time bucket is 199 seconds
- Gain insights into customer engagement and agent efficiency
- Identified peak call volume periods and patterns
- Observed variations in average call duration across time buckets
- Further analysis reveals that the average call duration for incoming calls received by agents is highest between 10 AM to 11 AM and 7 PM to 8 PM, while it is found to be the lowest between 12 noon to 1 PM.
- Gained understanding of customer engagement and operational efficiency

Average Call Duration

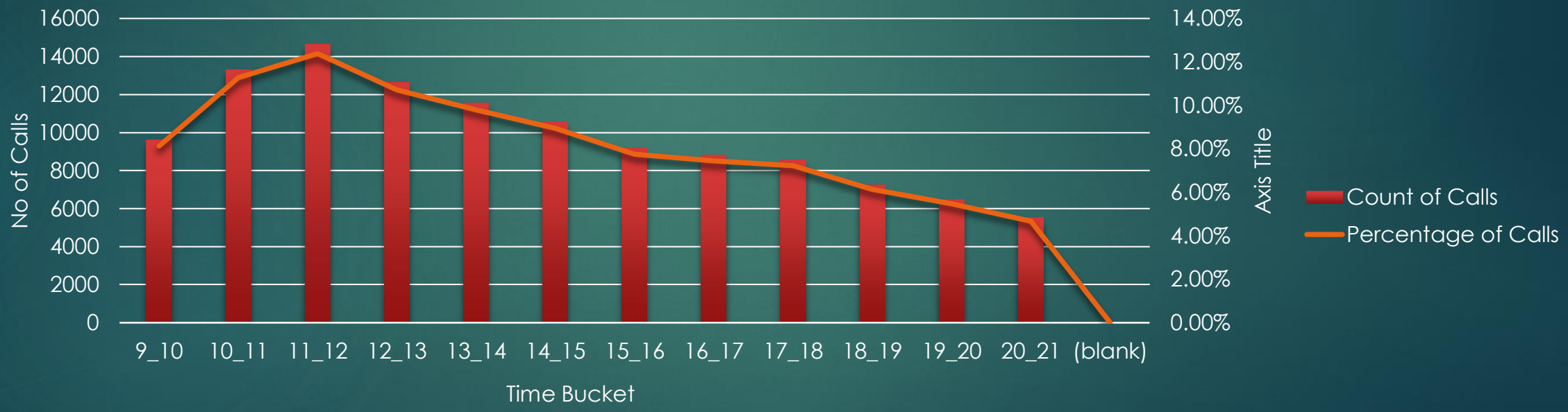


	9_10	10_11	11_12	12_13	13_14	14_15	15_16	16_17	17_18	18_19	19_20	20_21	(blank)
Total	92.0103	97.424	116.784	144.725	149.541	146.969	169.897	181.439	179.725	174.325	144.583	105.949	

Call Volume Analysis

- Visualize total number of calls received across time buckets
- Identify call volume patterns and peak demand periods
- Peak Call Duration: 10 AM - 11 AM and 7 PM - 8 PM
- Lowest Call Duration: 12 noon - 1 PM

Call Volume Analysis

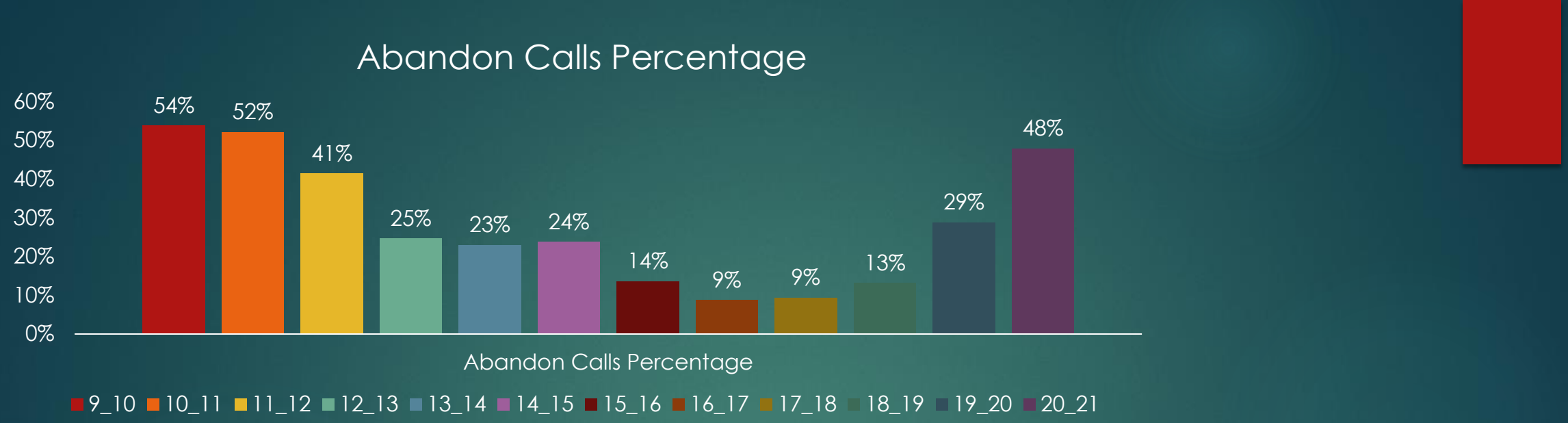


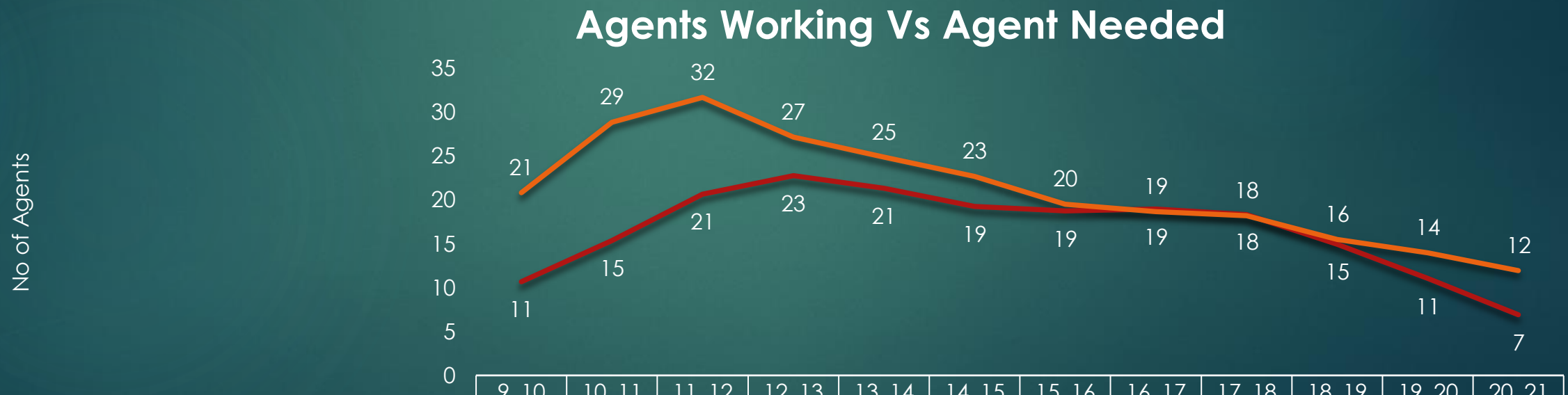
Manpower Planning (9 AM - 9 PM)

- Current abandon rate: 30%
- Target: Reduce abandon rate to 10%
- Propose manpower allocation plan for each time bucket
- Ensure at least 90 out of 100 calls are answered promptly

Time Bucket	Answered Calls/Day	Agents Needed	Number of Calls to be answered per day	**Agents required to achieve the Target**
9_10	193	11	375	**21**
10_11	277	15	520	**29**
11_12	372	21	571	**32**
12_13	410	23	489	**27**
13_14	384	21	448	**25**
14_15	347	19	409	**23**
15_16	337	19	351	**20**
16_17	341	19	336	**19**
17_18	330	18	328	**18**
18_19	270	15	279	**16**
19_20	199	11	251	**14**
20_21	125	7	215	**12**

Time Bucket	Abandon Calls/23 Days	Answered /23 Days	Grand Total/23 Days	Abandon Calls/Day	Answered Calls/Day	Grand Total/Day	**Abandon Calls Percentage**	No of Calls Required to be answered to make Abandon % upto10
9_10	5149	4428	9577	224	193	416	**54%**	375
10_11	6911	6368	13279	300	277	577	**52%**	520
11_12	6028	8560	14588	262	372	634	**41%**	571
12_13	3073	9432	12505	134	410	544	**25%**	489
13_14	2617	8829	11446	114	384	498	**23%**	448
14_15	2475	7974	10449	108	347	454	**24%**	409
15_16	1214	7760	8974	53	337	390	**14%**	351
16_17	747	7852	8599	32	341	374	**9%**	336
17_18	783	7601	8384	34	330	365	**9%**	328
18_19	933	6200	7133	41	270	310	**13%**	279
19_20	1848	4578	6426	80	199	279	**29%**	251
20_21	2625	2870	5495	114	125	239	**48%**	215
Grand Total	34403	82452	116855	1496	3585	5081	**29%**	4573



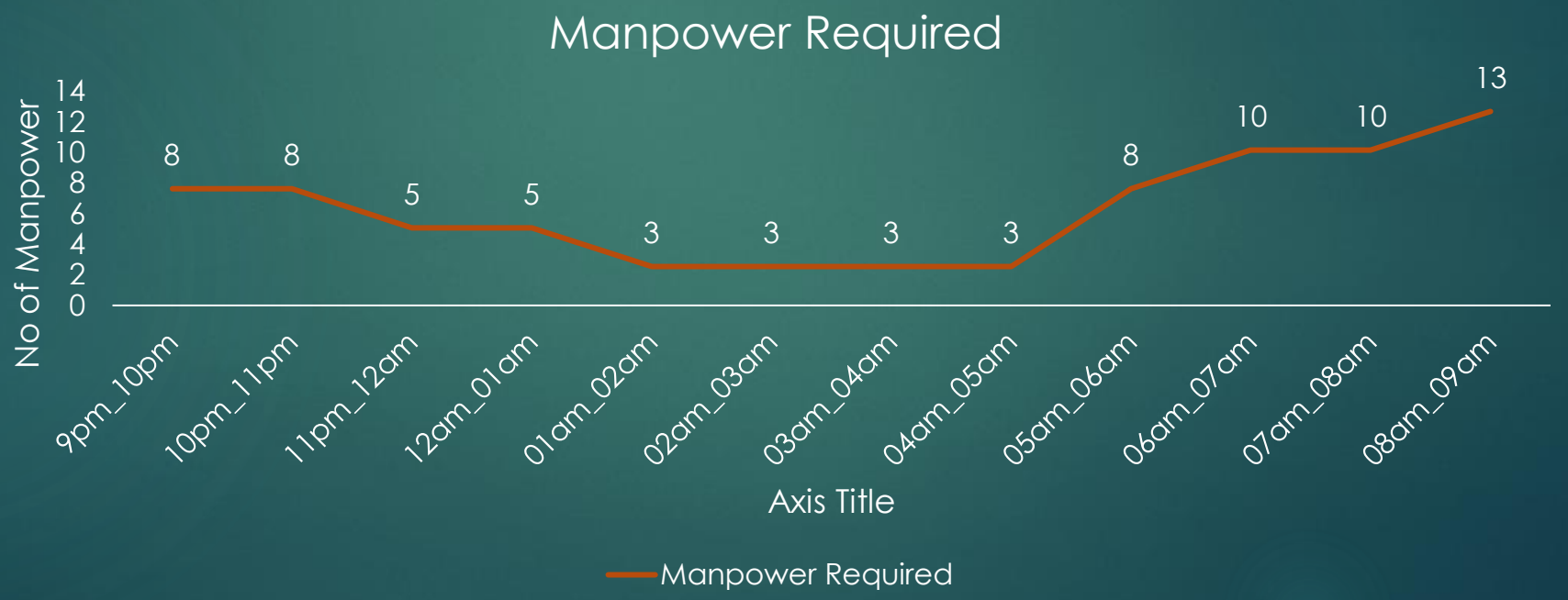


	9_10	10_11	11_12	12_13	13_14	14_15	15_16	16_17	17_18	18_19	19_20	20_21
Agents Needed	11	15	21	23	21	19	19	19	18	15	11	7
Agents required to achieve the Target	21	29	32	27	25	23	20	19	18	16	14	12

Night Shift Manpower Planning (9 PM - 9 AM)

- Accommodate additional 30 calls for every 100 calls received during operational hours
- Develop strategic manpower plan for each time bucket
- Maintain maximum abandon rate at 10%

Time Bucket	Distribution of 30 Calls	Percentage	Calls/Night	Manpower Required
9pm_10pm	3	10%	137	8
10pm_11pm	3	10%	137	8
11pm_12am	2	7%	91	5
12am_01am	2	7%	91	5
01am_02am	1	3%	46	3
02am_03am	1	3%	46	3
03am_04am	1	3%	46	3
04am_05am	1	3%	46	3
05am_06am	3	10%	137	8
06am_07am	4	13%	183	10
07am_08am	4	13%	183	10
08am_09am	5	17%	229	13
Grand Total	30	100%	1372	76

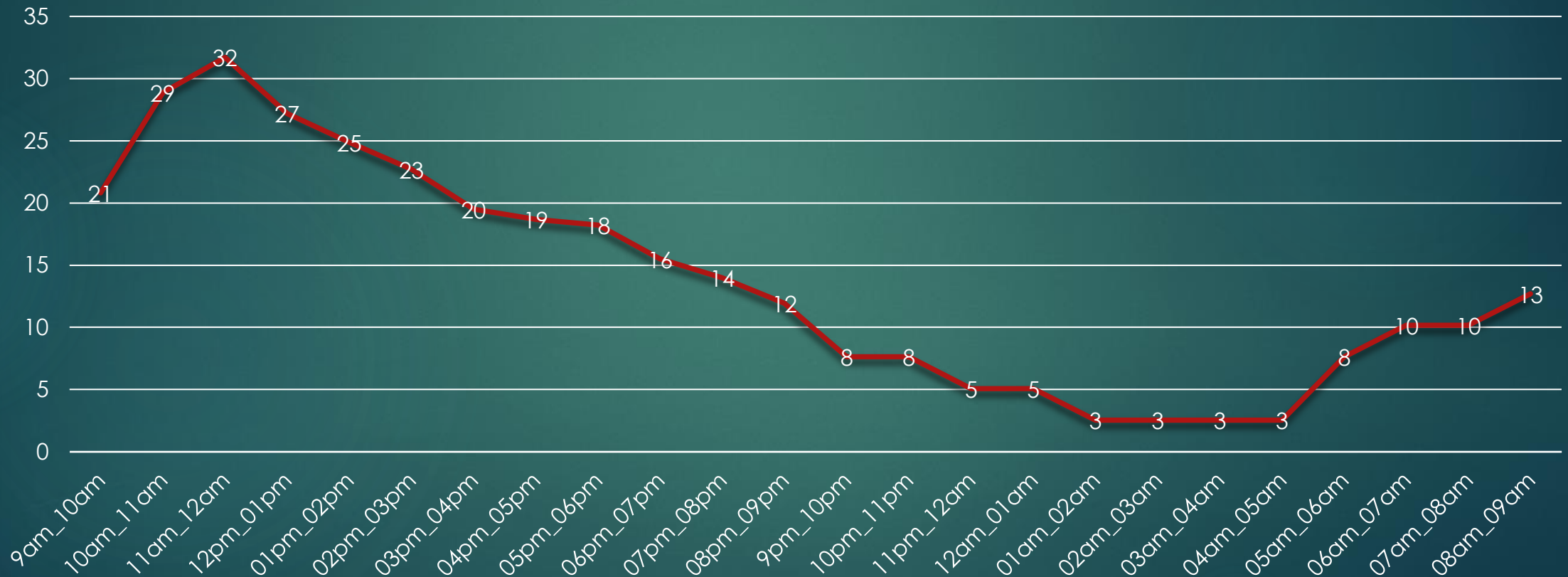


Manpower Planning 9AM-9AM

- Propose a comprehensive manpower plan for the entire day
- Accommodate additional 30 calls for every 100 calls received during operational hours
- Develop strategic manpower allocation for each time bucket (24 hours)
- Maintain maximum abandon rate at 10%
- 76 No of Manpower required to meet the Target Rate.

Time Bucket	No of Manpower Required
9am_10am	21
10am_11am	29
11am_12am	32
12pm_01pm	27
01pm_02pm	25
02pm_03pm	23
03pm_04pm	20
04pm_05pm	19
05pm_06pm	18
06pm_07pm	16
07pm_08pm	14
08pm_09pm	12
9pm_10pm	8
10pm_11pm	8
11pm_12am	5
12am_01am	5
01am_02am	3
02am_03am	3
03am_04am	3
04am_05am	3
05am_06am	8
06am_07am	10
07am_08am	10
08am_09am	13

No of Manpower Required



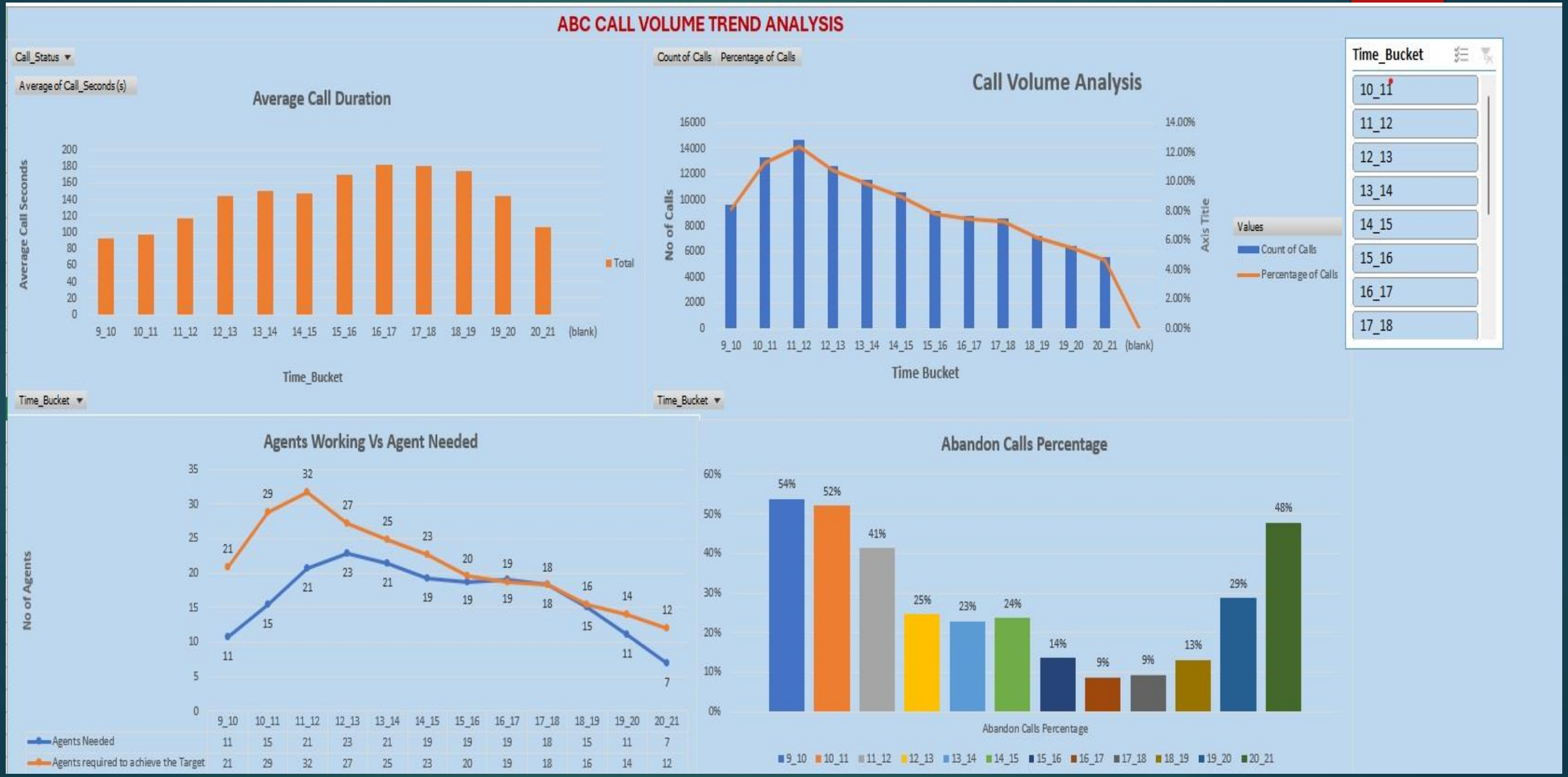
Expected Outcomes

- Gain valuable insights into call volume trends and customer engagement
- Optimize resource allocation and reduce abandon rates
- Enhance customer satisfaction and loyalty

Insights

- Identified peak call volume periods and patterns
- Observed variations in average call duration across time buckets
- Recognized the need for strategic manpower allocation
- Gained understanding of customer engagement and operational efficiency

DASHBOARD


ABC CALL VOLUME TREND ANALYSIS
Call_Status
Average of Call_Seconds (s)
Average Call Duration
Average Call Seconds
Time_Bucket
Total
Count of Calls
Percentage of Calls
Call Volume Analysis
No of Calls
Axis Title
Time Bucket
Values
Count of Calls
Percentage of Calls
Time_Bucket
10_11
11_12
12_13
13_14
14_15
15_16
16_17
17_18
Time_Bucket
Agents Working Vs Agent Needed
No of Agents
Agents Needed
Agents required to achieve the Target
Time_Bucket
Abandon Calls Percentage
Abandon Calls Percentage

Result

- Gained insights into the critical role of data analysts in optimizing customer experience (CX) strategies for customer service departments.
- Understood the importance of effective customer handling techniques and tools like Interactive Voice Response (IVR) systems with AI capabilities for prompt query resolution.
- Appreciated the value of pre-processed data with time buckets and call duration in seconds, streamlining analysis efforts.
- Explored the field of behavioral analytics, studying customer behavior patterns to identify trends, preferences, and areas for CX improvement.
- Acquired valuable knowledge on the dynamics of customer service operations and the pivotal part analysts play in driving customer satisfaction through data-driven insights.

Thank you!

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Excel Sheet Link

Video Presentation Link