ABC Insurance

ABC Call Volume TREND ANALYSIS

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INTRODUCTION

Goal: Improving Inbound Call Center Customer Experience

Dataset:

- Focus on 23 days of call data for customer support agents
- Includes call details - Agent ID, queue times, call duration, call status etc.

Business Problem: Current 30% call abandon rate

Objective: Reduce abandon rate to 10% by optimizing

- Staffing levels
- Operational efficiency

Outcome: Improved CX, conversion rates

TECH STACK

Google Colab Notebook (Python) for analysis

PowerPoint

Analysis File

APPROACH

01 Data Profiling

02 Data Cleaning

03 Generate Insights

04 Data Visualiztion

05 Conclusion

DATA PROFILING

117,988
Number of Records

13
Number of Features

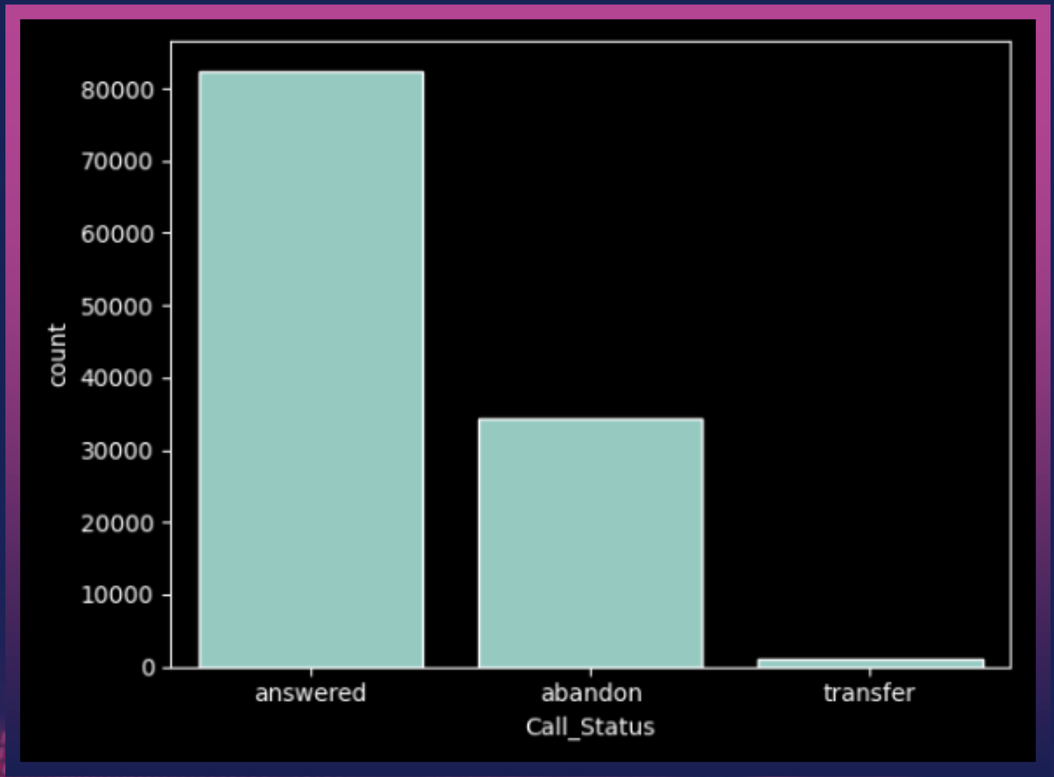
34,198
Agent Name/ID

Missing/Null Values

47,877
Wrapped By

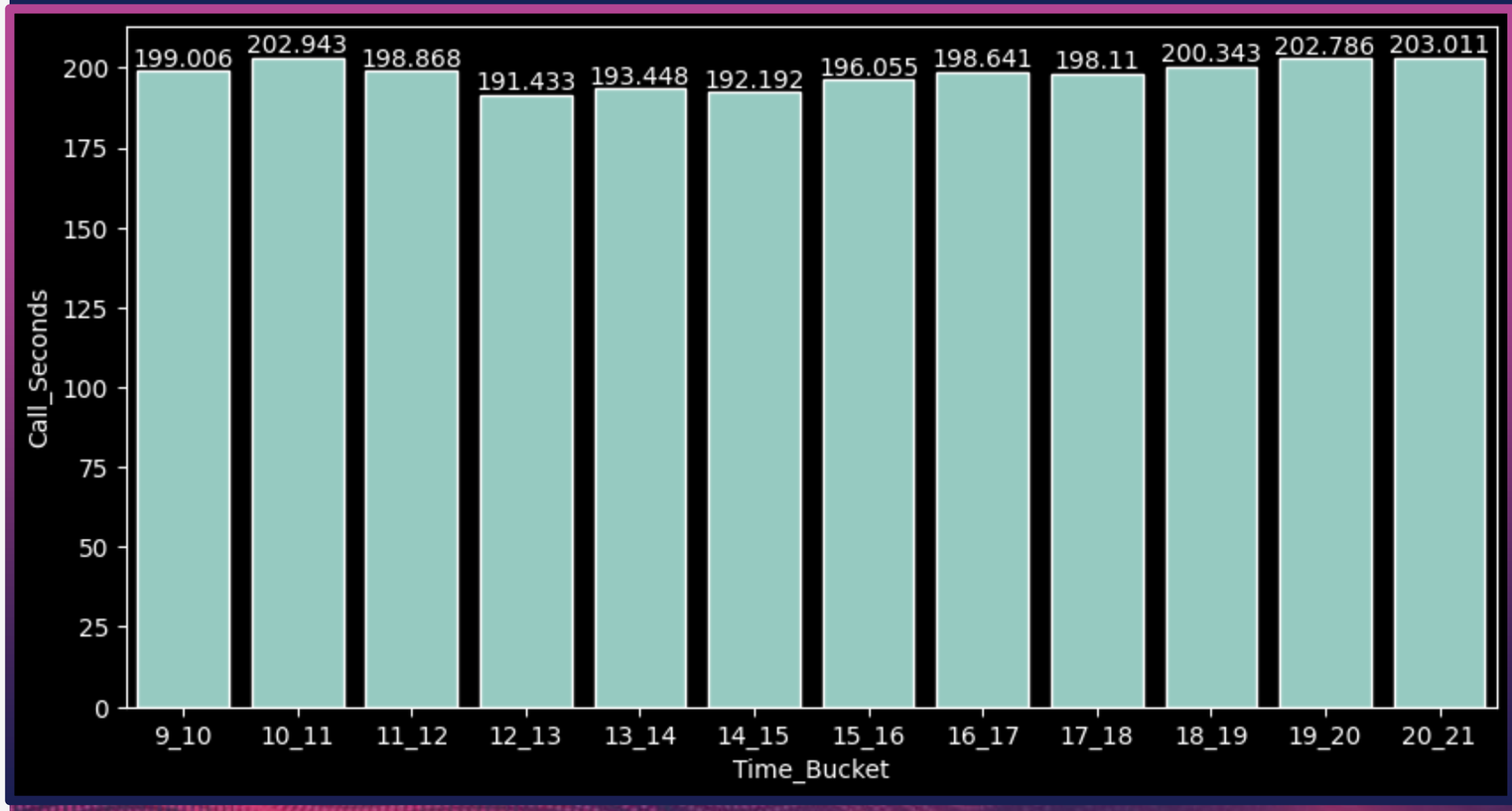
Data CLEANING

- Missing values for Agent Name/ID - Abandoned calls
- Over 40% missing in Wrapped By - Drop column



Data INSIGHTS

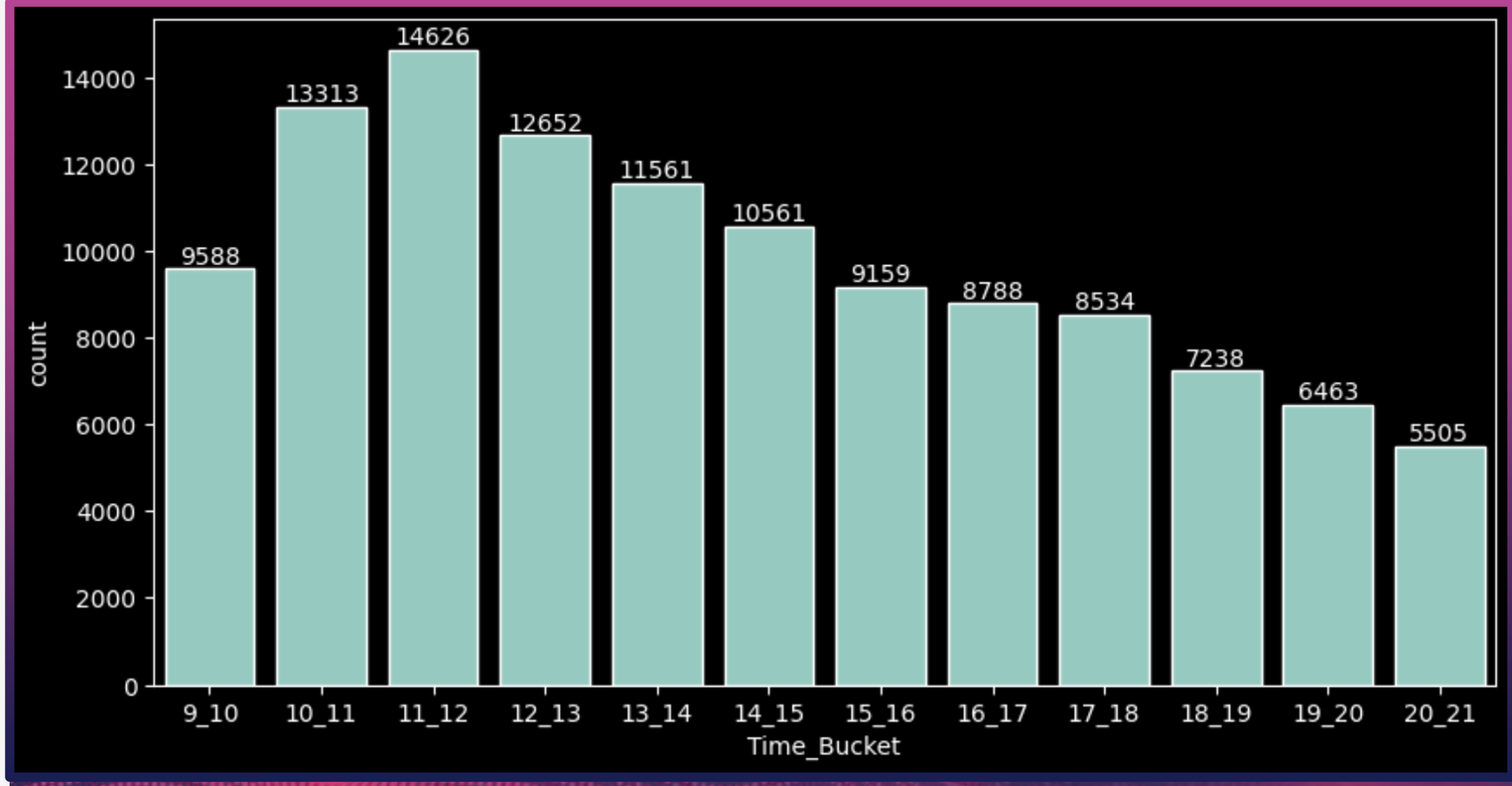
Average Call Duration (seconds) for calls received by agents for each Time Bucket



OVERALL AVERAGE CALL DURATION = 199 S

Data INSIGHTS

Call Volume for each Time Bucket



Data INSIGHTS

Daytime Manpower Planning

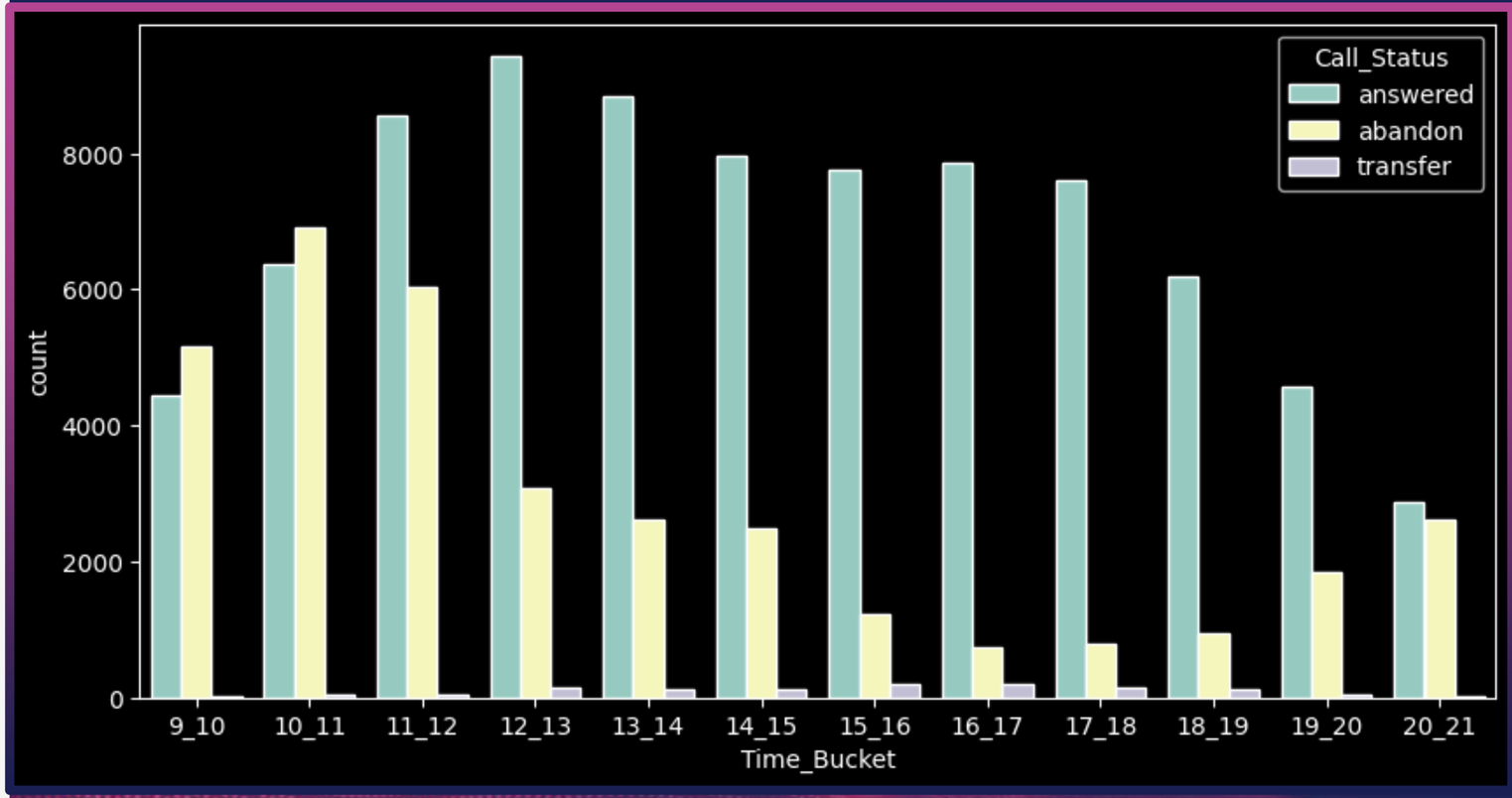
Reduced Abandon Rate from 30% to 10%

WORK HOURS PER DAY	9 H
BREAK	1.5 H
ACTUAL WORKING HOURS	7.5 H
EFFICIENCY	60%
TOTAL CALL TIME	4.5 H
AVERAGE CALL DURATION	199 S
CALL CAPACITY PER AGENT PER DAY	81
CALL CAPACITY PER AGENT PER HOUR	18

Data INSIGHTS

Daytime Manpower Planning

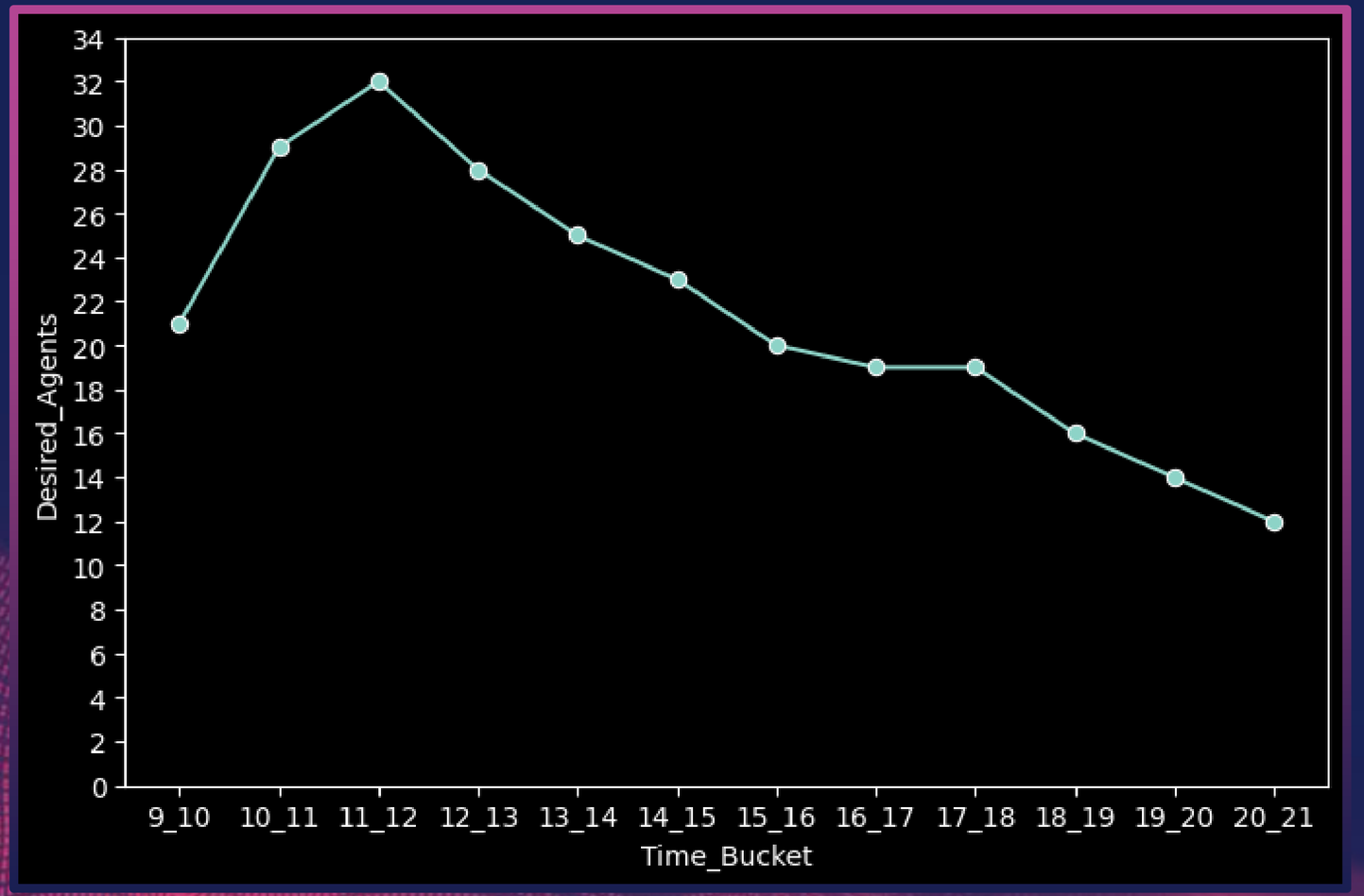
Call Status distribution per time bucket



Data INSIGHTS

Daytime Manpower Planning

Agents required for each time bucket



Data INSIGHTS

AVERAGE NUMBER OF ANSWERED DAYTIME CALLS FOR 10% ABANDON RATE	4617
NIGHTIME CALLS PERCENTAGE	30%
AVERAGE NUMBER OF ANSWERED NIGHTIME CALLS FOR 10% ABANDON RATE	1385
CALL CAPACITY PER AGENT PER HOUR	18

Nightime Manpower Planning

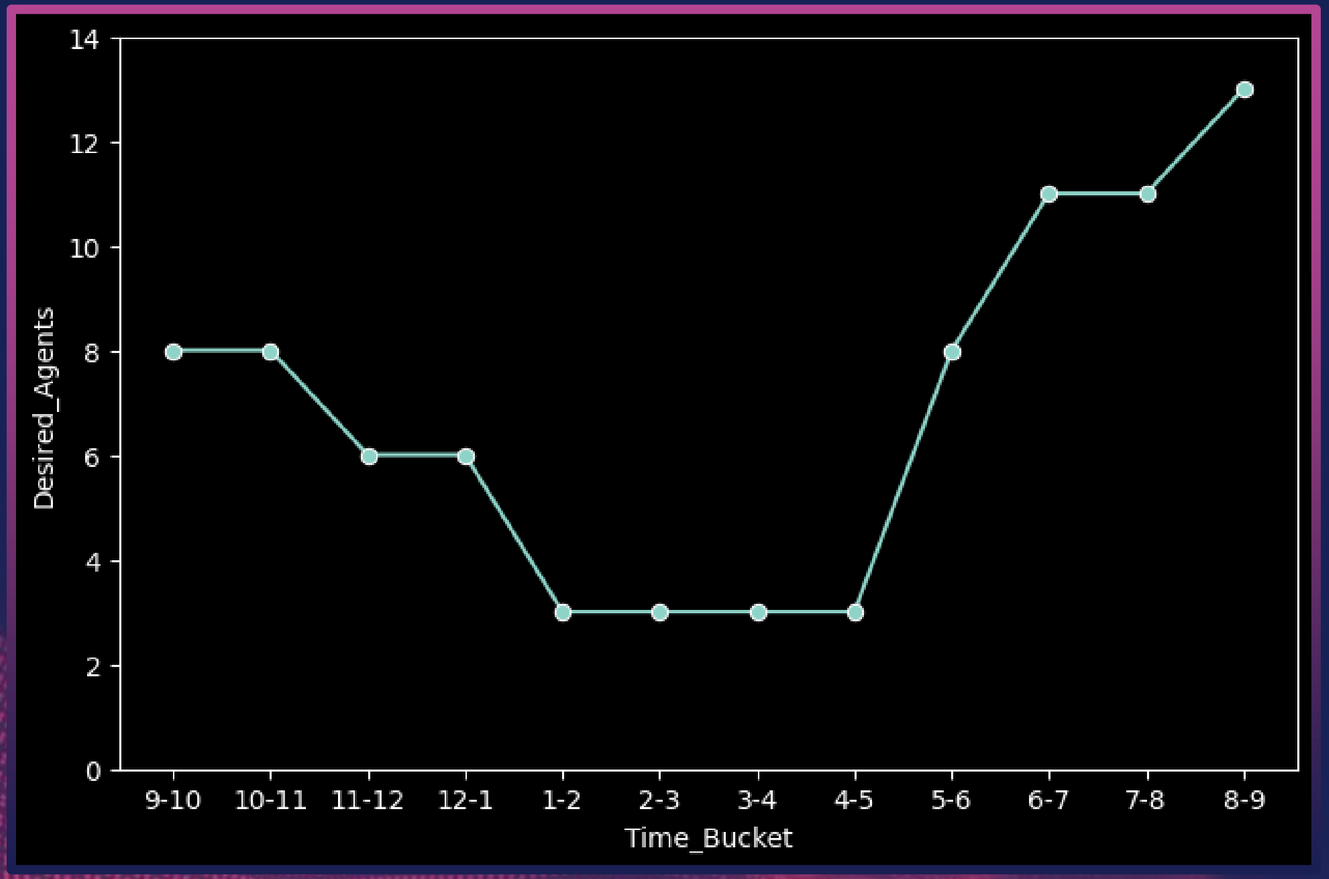
Maintaining an abandon rate of 10%, propose a manpower plan for 9 pm-9 am

Distribution of 30 calls coming in night for every 100 calls coming in between 9am - 9pm (i.e. 12 hrs slot)											
9pm- 10pm	10pm - 11pm	11pm- 12am	12am- 1am	1am - 2am	2am - 3am	3am - 4am	4am - 5am	5am - 6am	6am - 7am	7am - 8am	8am - 9am
3	3	2	2	1	1	1	1	3	4	4	5

Data INSIGHTS

Nightime Manpower Planning

Maintaining an abandon rate of 10%, propose a manpower plan for 9 pm-9 am



Conclusion

Key Learnings:

- Forecasting
- Manpower Management
- Customer Experience Analytics