

MILESTONE – II

CALL CENTER DASHBOARD

Name: KEERTHANA M

Project Title: Call Center Dashboard

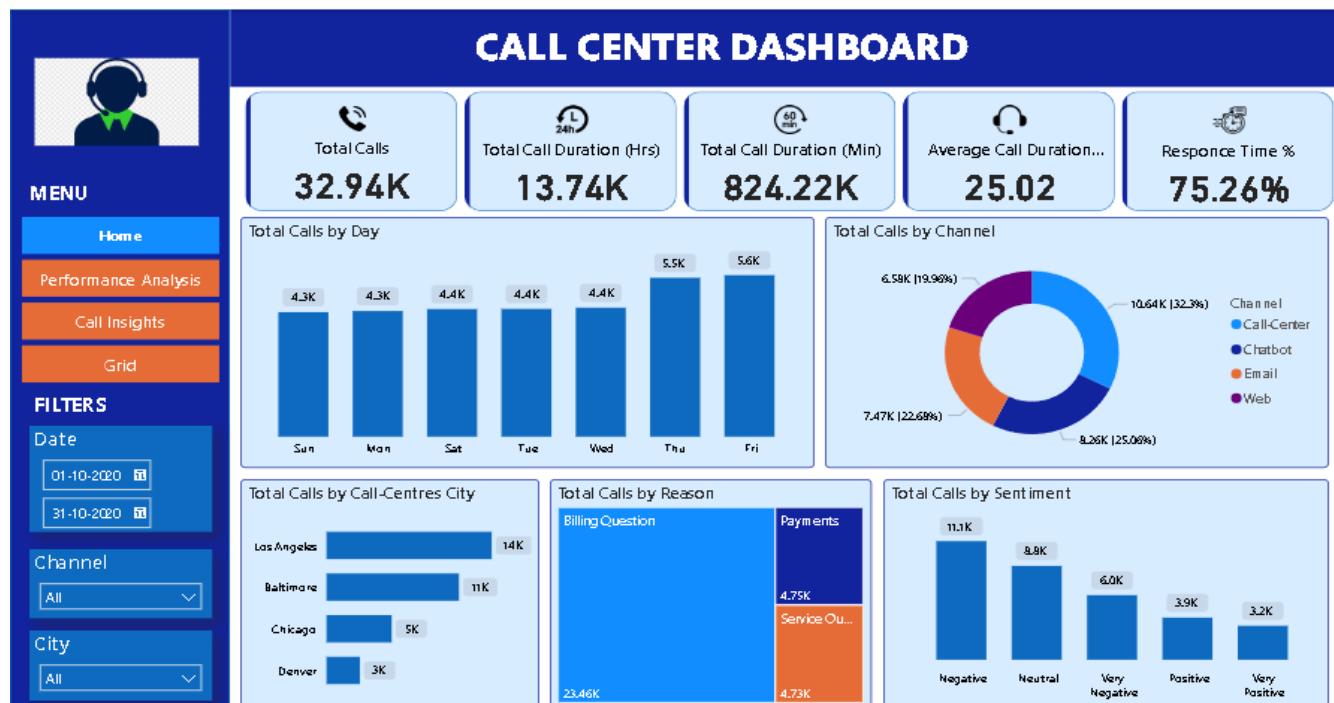
Tools Used: Power BI

Project Objective:

The goal of this project was to design and develop an interactive Power BI dashboard that would provide insights into call center performance. The dashboard analyzed various KPIs such as total call volume, call duration, response time, sentiment, and regional call trends. The visualizations were created to allow managers to identify performance bottlenecks, improve customer service efficiency, and optimize resources.

Dashboard Pages:

1. Home Page:



Key Metrics: Total Calls, Total Call Duration, Average Call Duration, Response Time Percentage, Call Distribution by Day, Channel, Call Center City, Reason, and Sentiment.

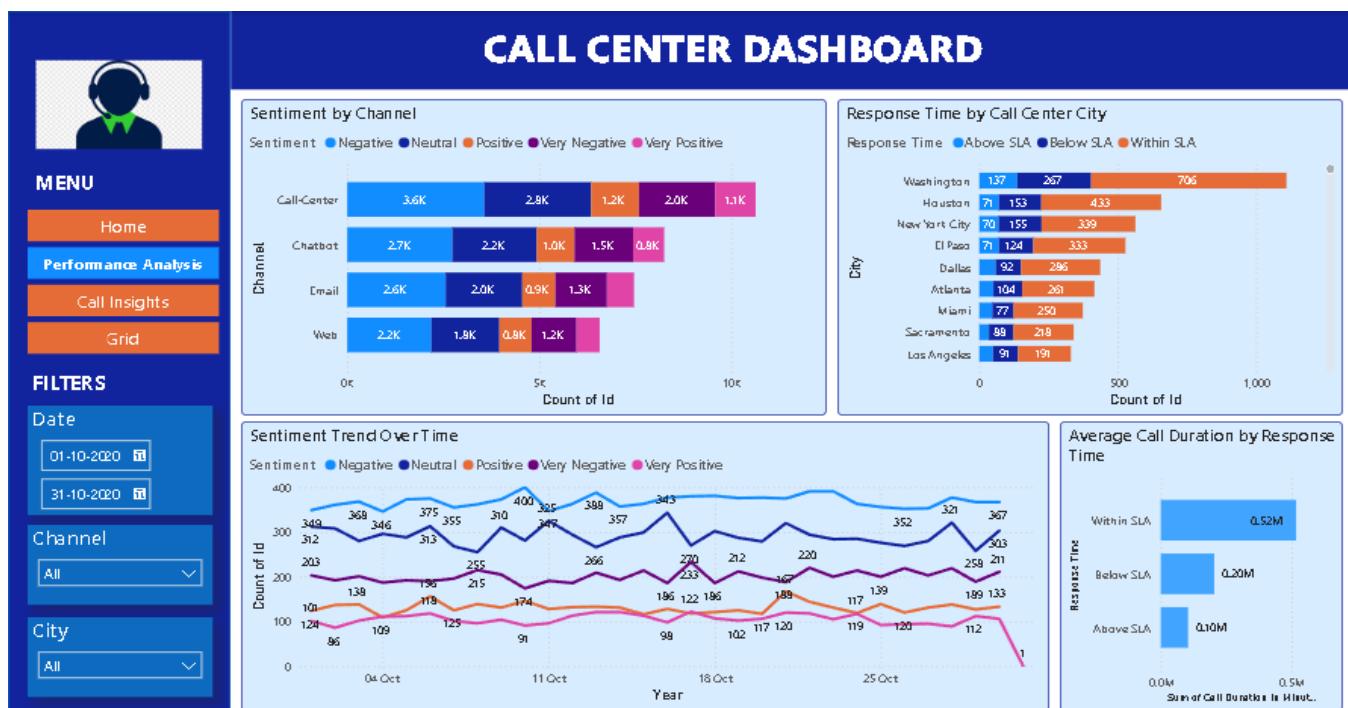
Visuals Used:

- **KPI Visuals:** Displayed high-level metrics like total calls, call duration, and response time.
- **Bar Charts:** Used for breakdowns like calls by day, channel, and sentiment.
- **Line Chart:** Trend analysis for calls by day.
- **Stacked Bar Charts:** Used for call distribution by reason, sentiment, and city.
- **Donut Charts:** Call distribution by sentiment and reason.

Analysis:

- Provides a high-level overview of call center performance.
- Displays the total number of calls and call durations (in both hours and minutes).
- Segments the calls by day, channel, reason, and sentiment to help managers understand the trends.

2. Performance Analysis Page:



Key Metrics: Response Time (within SLA, below SLA, above SLA), Sentiment Distribution (positive, negative, neutral, etc.), Call Duration by Channel (Call Center, Chatbot, Email, Web).

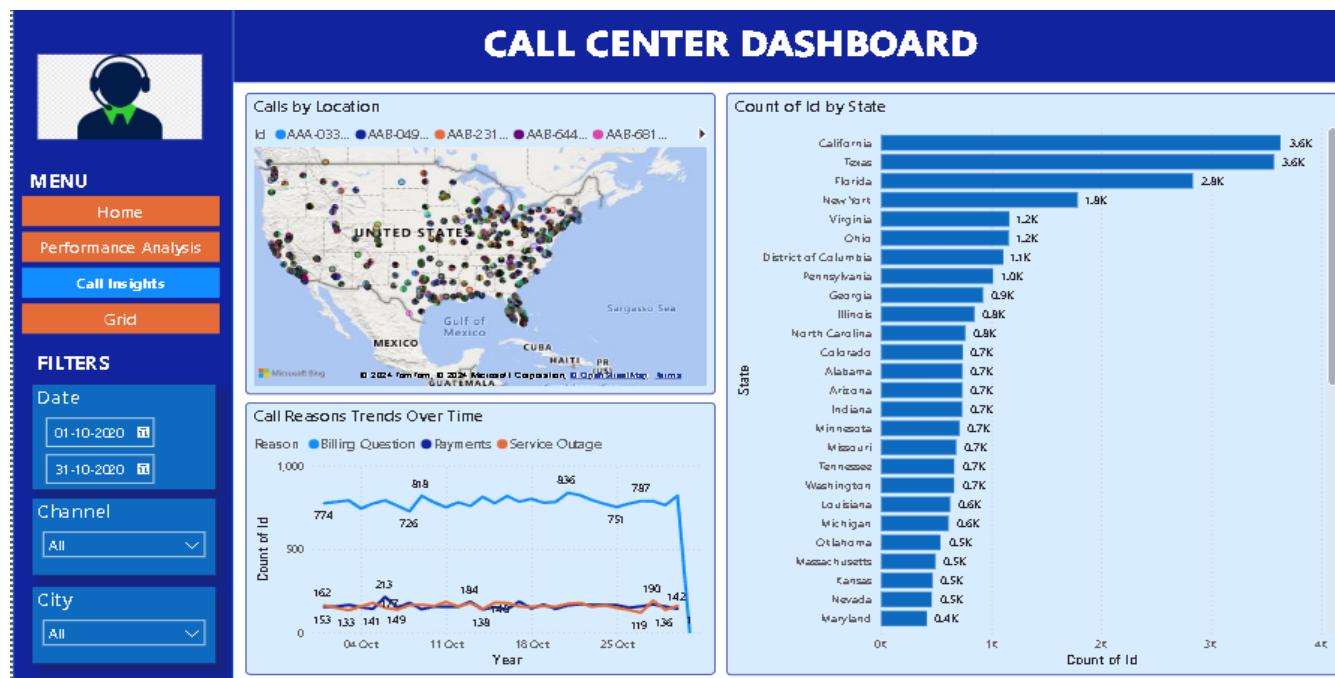
Visuals Used:

- **Bar Charts:** For analyzing response time by SLA category (within SLA, below SLA, above SLA).
- **Line Charts:** For trend analysis of sentiment over time.
- **Stacked Bar Charts:** Displaying call duration by channel.

Analysis:

- Focuses on performance metrics like response times, SLA adherence, and sentiment over time.
- Helps identify any issues with service level agreements (SLAs) and areas where performance can be improved.
- Provides insights into customer satisfaction through sentiment analysis.

3. Call Insights Page:



Key Metrics: Call Volume by Region (City/State), Call Reasons (Billing, Payments, Service Outage), Call Duration by Reason.

Visuals Used:

- **Map Visual:** Regional breakdown (city and state) for call distribution.
 - **Bar Charts:** Call volume by region, and call reasons.
 - **Stacked Column Charts:** Call duration by reason.

Analysis:

- Analyzes regional call trends and identifies areas with the highest call volumes.
 - Provides insights into the most common reasons for calls (e.g., billing, service outage).
 - Displays call durations by reason to identify issues that may require more attention or resources.

4.Grid page:

| Call Center Dashboard | | | | | | | | |
|--------------------------|-------------|--------------|------------------|----------|-----------|--------------------|----------------|-------------|
| Category | Key Metrics | | Regional Summary | | | Operational Data | | |
| | Value | Unit | Region A | Region B | Region C | Avg. Response Time | SLA Compliance | Total Calls |
| Customer Acquisition | 1200 | New Leads | 450 | 380 | 370 | 15 min | 95% | 2000 |
| Retention Rate | 85% | Annual | 78% | 82% | 80% | 12 min | 92% | 1800 |
| Conversion Rate | 2.5% | Year-to-Date | 2.3% | 2.7% | 2.4% | 18 min | 88% | 1900 |
| Avg. Call Duration | 10 min | Min-Max | 8-12 min | 9-11 min | 10-13 min | 10 min | 90% | 2100 |
| Total Calls Handled | 5000 | Per Day | 1500 | 1600 | 1900 | 10 min | 90% | 5000 |
| Agent Utilization | 75% | Efficiency | 72% | 78% | 76% | 10 min | 90% | 5000 |
| Customer Satisfaction | 4.2 | Score | 4.1 | 4.3 | 4.2 | 10 min | 90% | 5000 |
| Feedback Volume | 1000 | Comments | 350 | 380 | 370 | 10 min | 90% | 5000 |
| Net Promoter Score | 72 | NPS | 68 | 75 | 73 | 10 min | 90% | 5000 |
| Churn Rate | 1.5% | Annual | 1.2% | 1.8% | 1.6% | 10 min | 90% | 5000 |
| Refund Requests | 500 | Per Month | 180 | 200 | 220 | 10 min | 90% | 5000 |
| Complaints Received | 200 | Per Month | 70 | 80 | 90 | 10 min | 90% | 5000 |
| Resolution Rate | 90% | Success | 88% | 92% | 91% | 10 min | 90% | 5000 |
| First Contact Resolution | 70% | Efficiency | 68% | 72% | 71% | 10 min | 90% | 5000 |
| Customer Retention | 88% | Annual | 85% | 90% | 87% | 10 min | 90% | 5000 |
| Agent Turnover | 10% | Annual | 9% | 11% | 10% | 10 min | 90% | 5000 |
| Training Hours | 1500 | Hours | 500 | 600 | 700 | 10 min | 90% | 5000 |
| Agent Satisfaction | 4.0 | Score | 3.8 | 4.1 | 4.0 | 10 min | 90% | 5000 |
| Feedback Satisfaction | 700 | Comments | 250 | 280 | 300 | 10 min | 90% | 5000 |
| Net Promoter Score | 68 | NPS | 64 | 70 | 69 | 10 min | 90% | 5000 |
| Churn Rate | 1.8% | Annual | 1.5% | 1.9% | 1.7% | 10 min | 90% | 5000 |
| Refund Requests | 450 | Per Month | 160 | 180 | 200 | 10 min | 90% | 5000 |
| Complaints Received | 180 | Per Month | 60 | 70 | 80 | 10 min | 90% | 5000 |
| Resolution Rate | 88% | Success | 85% | 90% | 87% | 10 min | 90% | 5000 |
| First Contact Resolution | 68% | Efficiency | 65% | 70% | 69% | 10 min | 90% | 5000 |
| Customer Retention | 85% | Annual | 82% | 88% | 86% | 10 min | 90% | 5000 |
| Agent Turnover | 12% | Annual | 11% | 13% | 12% | 10 min | 90% | 5000 |
| Training Hours | 1600 | Hours | 550 | 650 | 800 | 10 min | 90% | 5000 |
| Agent Satisfaction | 3.9 | Score | 3.7 | 4.0 | 3.9 | 10 min | 90% | 5000 |
| Feedback Satisfaction | 750 | Comments | 260 | 280 | 320 | 10 min | 90% | 5000 |
| Net Promoter Score | 70 | NPS | 66 | 72 | 69 | 10 min | 90% | 5000 |
| Churn Rate | 1.7% | Annual | 1.4% | 1.8% | 1.6% | 10 min | 90% | 5000 |
| Refund Requests | 400 | Per Month | 140 | 160 | 180 | 10 min | 90% | 5000 |
| Complaints Received | 160 | Per Month | 50 | 60 | 80 | 10 min | 90% | 5000 |
| Resolution Rate | 85% | Success | 82% | 88% | 84% | 10 min | 90% | 5000 |
| First Contact Resolution | 65% | Efficiency | 62% | 68% | 64% | 10 min | 90% | 5000 |
| Customer Retention | 82% | Annual | 79% | 85% | 83% | 10 min | 90% | 5000 |
| Agent Turnover | 14% | Annual | 13% | 15% | 14% | 10 min | 90% | 5000 |
| Training Hours | 1700 | Hours | 580 | 680 | 900 | 10 min | 90% | 5000 |
| Agent Satisfaction | 3.8 | Score | 3.6 | 3.9 | 3.8 | 10 min | 90% | 5000 |
| Feedback Satisfaction | 780 | Comments | 270 | 290 | 340 | 10 min | 90% | 5000 |
| Net Promoter Score | 72 | NPS | 68 | 74 | 71 | 10 min | 90% | 5000 |
| Churn Rate | 1.6% | Annual | 1.3% | 1.7% | 1.5% | 10 min | 90% | 5000 |
| Refund Requests | 350 | Per Month | 130 | 150 | 170 | 10 min | 90% | 5000 |
| Complaints Received | 140 | Per Month | 40 | 50 | 70 | 10 min | 90% | 5000 |
| Resolution Rate | 82% | Success | 79% | 84% | 81% | 10 min | 90% | 5000 |
| First Contact Resolution | 63% | Efficiency | 60% | 66% | 62% | 10 min | 90% | 5000 |
| Customer Retention | 79% | Annual | 76% | 81% | 78% | 10 min | 90% | 5000 |
| Agent Turnover | 16% | Annual | 15% | 17% | 16% | 10 min | 90% | 5000 |
| Training Hours | 1800 | Hours | 600 | 700 | 1000 | 10 min | 90% | 5000 |
| Agent Satisfaction | 3.7 | Score | 3.5 | 3.8 | 3.7 | 10 min | 90% | 5000 |
| Feedback Satisfaction | 800 | Comments | 280 | 300 | 350 | 10 min | 90% | 5000 |
| Net Promoter Score | 74 | NPS | 70 | 76 | 73 | 10 min | 90% | 5000 |
| Churn Rate | 1.5% | Annual | 1.2% | 1.6% | 1.4% | 10 min | 90% | 5000 |
| Refund Requests | 300 | Per Month | 110 | 130 | 150 | 10 min | 90% | 5000 |
| Complaints Received | 120 | Per Month | 30 | 40 | 60 | 10 min | 90% | 5000 |
| Resolution Rate | 79% | Success | 76% | 81% | 78% | 10 min | 90% | 5000 |
| First Contact Resolution | 61% | Efficiency | 58% | 64% | 61% | 10 min | 90% | 5000 |
| Customer Retention | 76% | Annual | 73% | 78% | 75% | 10 min | 90% | 5000 |
| Agent Turnover | 18% | Annual | 17% | 19% | 18% | 10 min | 90% | 5000 |
| Training Hours | 1900 | Hours | 620 | 720 | 1050 | 10 min | 90% | 5000 |
| Agent Satisfaction | 3.6 | Score | 3.4 | 3.7 | 3.6 | 10 min | 90% | 5000 |
| Feedback Satisfaction | 820 | Comments | 290 | 310 | 360 | 10 min | 90% | 5000 |
| Net Promoter Score | 76 | NPS | 72 | 78 | 75 | 10 min | 90% | 5000 |
| Churn Rate | 1.4% | Annual | 1.1% | 1.5% | 1.3% | 10 min | 90% | 5000 |
| Refund Requests | 250 | Per Month | 90 | 110 | 130 | 10 min | 90% | 5000 |
| Complaints Received | 100 | Per Month | 20 | 30 | 50 | 10 min | 90% | 5000 |
| Resolution Rate | 76% | Success | 73% | 78% | 75% | 10 min | 90% | 5000 |
| First Contact Resolution | 59% | Efficiency | 56% | 62% | 59% | 10 min | 90% | 5000 |
| Customer Retention | 73% | Annual | 70% | 75% | 72% | 10 min | 90% | 5000 |
| Agent Turnover | 20% | Annual | 19% | 21% | 20% | 10 min | 90% | 5000 |
| Training Hours | 2000 | Hours | 640 | 740 | 1080 | 10 min | 90% | 5000 |
| Agent Satisfaction | 3.5 | Score | 3.3 | 3.6 | 3.5 | 10 min | 90% | 5000 |
| Feedback Satisfaction | 840 | Comments | 300 | 320 | 370 | 10 min | 90% | 5000 |
| Net Promoter Score | 78 | NPS | 74 | 80 | 77 | 10 min | 90% | 5000 |
| Churn Rate | 1.3% | Annual | 1.0% | 1.4% | 1.2% | 10 min | 90% | 5000 |
| Refund Requests | 200 | Per Month | 70 | 90 | 110 | 10 min | 90% | 5000 |
| Complaints Received | 80 | Per Month | 10 | 20 | 40 | 10 min | 90% | 5000 |
| Resolution Rate | 73% | Success | 70% | 76% | 73% | 10 min | 90% | 5000 |
| First Contact Resolution | 57% | Efficiency | 54% | 60% | 57% | 10 min | 90% | 5000 |
| Customer Retention | 70% | Annual | 67% | 72% | 71% | 10 min | 90% | 5000 |
| Agent Turnover | 22% | Annual | 21% | 23% | 22% | 10 min | 90% | 5000 |
| Training Hours | 2100 | Hours | 660 | 760 | 1100 | 10 min | 90% | 5000 |
| Agent Satisfaction | 3.4 | Score | 3.2 | 3.5 | 3.4 | 10 min | 90% | 5000 |
| Feedback Satisfaction | 860 | Comments | 310 | 330 | 380 | 10 min | 90% | 5000 |
| Net Promoter Score | 80 | NPS | 76 | 82 | 79 | 10 min | 90% | 5000 |
| Churn Rate | 1.2% | Annual | 0.9% | 1.2% | 1.1% | 10 min | 90% | 5000 |
| Refund Requests | 150 | Per Month | 50 | 70 | 90 | 10 min | 90% | 5000 |
| Complaints Received | 60 | Per Month | 8 | 18 | 38 | 10 min | 90% | 5000 |
| Resolution Rate | 70% | Success | 67% | 72% | 70% | 10 min | 90% | 5000 |
| First Contact Resolution | 55% | Efficiency | 52% | 58% | 55% | 10 min | 90% | 5000 |
| Customer Retention | 67% | Annual | 64% | 69% | 67% | 10 min | 90% | 5000 |
| Agent Turnover | 24% | Annual | 23% | 25% | 24% | 10 min | 90% | 5000 |
| Training Hours | 2200 | Hours | 680 | 780 | 1120 | 10 min | 90% | 5000 |
| Agent Satisfaction | 3.3 | Score | 3.1 | 3.4 | 3.3 | 10 min | 90% | 5000 |
| Feedback Satisfaction | 880 | Comments | 320 | 340 | 390 | 10 min | 90% | 5000 |
| Net Promoter Score | 82 | NPS | 78 | 84 | 81 | 10 min | 90% | 5000 |
| Churn Rate | 1.1% | Annual | 0.8% | 1.1% | 1.0% | 10 min | 90% | 5000 |
| Refund Requests | 100 | Per Month | 30 | 50 | 70 | 10 min | 90% | 5000 |
| Complaints Received | 50 | Per Month | 7 | 17 | 27 | 10 min | 90% | 5000 |
| Resolution Rate | 67% | Success | 64% | 69% | 67% | 10 min | 90% | 5000 |
| First Contact Resolution | 52% | Efficiency | 49% | 55% | 52% | 10 min | 90% | 5000 |
| Customer Retention | 64% | Annual | 61% | 66% | 64% | 10 min | 90% | 5000 |
| Agent Turnover | 26% | Annual | 25% | 27% | 26% | 10 min | 90% | 5000 |
| Training Hours | 2300 | Hours | 700 | 800 | 1140 | 10 min | 90% | 5000 |
| Agent Satisfaction | 3.2 | Score | 3.0 | 3.3 | 3.2 | 10 min | 90% | 5000 |
| Feedback Satisfaction | 900 | Comments | 330 | 350 | 400 | 10 min | 90% | 5000 |
| Net Promoter Score | 84 | NPS | 80 | 86 | 83 | 10 min | 90% | 5000 |
| Churn Rate | 1.0% | Annual | 0.7% | 1.0% | 0.9% | 10 min | 90% | 5000 |
| Refund Requests | 50 | Per Month | 15 | 35 | 55 | 10 min | 90% | 5000 |
| Complaints Received | 40 | Per Month | 6 | 16 | 26 | 10 min | 90% | 5000 |
| Resolution Rate | 63% | Success | 60% | 65% | 63% | 10 min | 90% | 5000 |
| First Contact Resolution | 48% | Efficiency | 45% | 51% | 48% | 10 min | 90% | 5000 |
| Customer Retention | 61% | Annual | 58% | 63% | 61% | 10 min | 90% | 5000 |
| Agent Turnover | 28% | Annual | 27% | 29% | 28% | 10 min | 90% | 5000 |
| Training Hours | 2400 | Hours | 720 | 820 | 1160 | 10 min | 90% | 5000 |
| Agent Satisfaction | 3.1 | Score | 2.9 | 3.2 | 3.1 | 10 min | 90% | 5000 |
| Feedback Satisfaction | 920 | Comments | 340 | 360 | 420 | 10 min | 90% | 5000 |
| Net Promoter Score | 86 | NPS | 82 | 88 | 85 | 10 min | 90% | 5000 |
| Churn Rate | 0.9% | Annual | 0.6% | 0.9% | 0.7% | 10 min | 90% | 5000 |
| Refund Requests | 40 | Per Month | 10 | 20 | 30 | 10 min | 90% | 5000 |
| Complaints Received | 30 | Per Month | 5 | 15 | 25 | 10 min | 90% | 5000 |
| Resolution Rate | 58% | Success | 55% | 60% | 58% | 10 min | 90% | 5000 |
| First Contact Resolution | 43% | Efficiency | 40% | 47% | 43% | 10 min | 90% | 5000 |
| Customer Retention | 58% | Annual | 55% | 59% | 58% | 10 min | 90% | 5000 |
| Agent Turnover | 30% | Annual | 29% | 31% | 30% | 10 min | 90% | 5000 |
| Training Hours | 2500 | Hours | 740 | 840 | 1180 | 10 min | 90% | 5000 |
| Agent Satisfaction | 3.0 | Score | 2.8 | 3.1 | 3.0 | 10 min | 90% | 5000 |
| Feedback Satisfaction | 940 | Comments | 350 | 370 | 430 | 10 min | 90% | 5000 |
| Net Promoter Score | 88 | NPS | 84 | 90 | 87 | 10 min | 90% | 5000 |
| Churn Rate | 0.8% | Annual | 0.5% | 0.8% | 0.6% | 10 min | 90% | 5000 |
| Refund Requests | 30 | Per Month | 7 | 17 | 27 | 10 min | 90% | 5000 |
| Complaints Received | 20 | Per Month | 4 | 14 | 24 | 10 min | 90% | 5000 |
| Resolution Rate | 53% | Success | 50% | 56% | 53% | 10 min | 90% | 5000 |
| First Contact Resolution | 38% | Efficiency | 35% | 42% | 38% | 10 min | 90% | 5000 |
| Customer Retention | 53% | Annual | 50% | 54% | 53% | 10 min | 90% | 5000 |
| Agent Turnover | 32% | Annual | 31% | 33% | 32% | 10 min | 90% | 5000 |
| Training Hours | 2600 | Hours | 760 | 860 | 1200 | 10 min | 90% | 5000 |
| Agent Satisfaction | 2.9 | Score | 2.7 | 3.0 | 2.9 | 10 min | 90% | 5000 |
| Feedback Satisfaction | 960 | Comments | 360 | 380 | 440 | 10 min | 90% | 5000 |
| Net Promoter Score | 90 | NPS | 86 | 92 | 89 | 10 min | 90% | 5000 |
| Churn Rate | 0.7% | Annual | 0.4% | 0.7% | 0.5% | 10 min | 90% | 5000 |
| Refund Requests | 20 | Per Month | 4 | 14 | 24 | 10 min | 90% | 5000 |
| Complaints Received | 10 | Per Month | 2 | 12 | 22 | 10 min | 90% | 5000 |
| Resolution Rate | 48% | Success | 45% | 51% | 48% | 10 min | 90% | 5000 |
| First Contact Resolution | 33% | Efficiency | 30% | 37% | 33% | 10 min | 90% | 5000 |
| Customer Retention | 48% | Annual | 45% | 49% | 48% | 10 min | 90% | 5000 |
| Agent Turnover | 34% | Annual | 33% | 35% | 34% | 10 min | 90% | 5000 |
| Training Hours | 2700 | Hours | 780 | 880 | 1220 | 10 min | 90% | 5000 |
| Agent Satisfaction | 2.8 | Score | 2.6 | 2.9 | 2.8 | 10 min | 90% | 5000 |
| Feedback Satisfaction | 980 | Comments | 370 | 390 | 450 | 10 min | 90% | 5000 |
| Net Promoter Score | 92 | NPS | 88 | 94 | 91 | 10 min | 90% | 5000 |
| Churn Rate | 0.6% | Annual | 0.3% | 0.6% | 0.4% | 10 min | 90% | 5000 |
| Refund Requests | 10 | Per Month | 2 | 12 | 22 | 10 min | 90% | 5000 |
| Complaints Received | 5 | Per Month | 1 | 11 | 21 | 10 min | 90% | 5000 |
| Resolution Rate | 43% | Success | 40% | 47% | 43% | 10 min | 90% | 5000 |
| First Contact Resolution | 28% | Efficiency | 25% | 32% | 28% | 10 min | 90% | 5000 |
| Customer Retention | 43% | Annual | 40% | 44% | 43% | 10 min | 90% | 5000 |
| Agent Turnover | 36% | Annual | 35% | 37% | 36% | 10 min | 90% | 5000 |
| Training Hours | 2800 | Hours | 800 | 900 | 1240 | 10 min | 90% | 5000 |
| Agent Satisfaction | 2.7 | Score | 2.5 | 2.8 | 2.7 | 10 min | 90% | 5000 |
| Feedback Satisfaction | 990 | Comments | 380 | 400 | 460 | 10 min | 90% | 5000 |
| Net Promoter Score | 94 | NPS | 90 | 96 | 93 | 10 min | 90% | 5000 |
| Churn Rate | 0.5% | Annual | 0.2% | 0.5% | 0.3% | | | |

Grid Page Overview:

The Grid Page was added to provide users with a tabular view of the call center data, allowing them to view raw details directly. This page is essential for more granular analysis and serves as a reference for detailed call logs and individual record inspection.

Columns Displayed:

The table in the Grid Page includes the following columns:

- **ID:** Unique identifier for each call.
- **Customer Name:** Name of the customer initiating the call.
- **Channel:** The method of interaction (e.g., Call Center, Chatbot, Email, Web).
- **State:** The state from which the call originated.
- **Reason:** The purpose or issue for the call (e.g., Billing Questions, Payments, Service Outage).
- **City:** The city where the call center is located.
- **Response Time:** Time taken to respond to the customer inquiry (categorized as Within SLA, Below SLA, Above SLA).
- **Call Duration in Minutes:** Total duration of the call in minutes.

Data Modeling, Relationships, and Hierarchies

Data Modeling and Relationships:

- **Data Sources:**

A dataset with columns like **ID**, **Call Timestamp**, **Call Center City**, **Customer Name**, **Reason**, **Response Time**, **Sentiment**, **Call Duration**, **State**, etc.

- **Data Relationships:**

Created relationships between the primary call center data table and additional tables like:

- **Date Table:** Links Date with Call Time Stamp in the main data.

- **Location Table:** Links **City** and **State** with call center cities for regional analysis.
- **Call Center Table:** Link ID in the Call Center Data with the Location Table.

Hierarchies:

- **Call Center Hierarchy:**

City → State → Country: This hierarchy allows analysis by city, state, and broader country levels for regional insights.

- **Time Hierarchy:**

Year → Quarter → Month → Day: Enables trend analysis at different levels of time granularity.

Conclusion:

The Call Center Performance Dashboard provides a detailed view of key call center metrics, enabling data-driven insights into operations and customer satisfaction. Through interactive visuals, it highlights trends in call volume, response times, sentiment, and regional performance. The multi-page layout offers both high-level overviews and detailed data, supporting informed decision-making. With a grid page for granular analysis, this dashboard equips stakeholders to enhance efficiency, meet service targets, and improve overall customer experience.