

Call Centre Trends Analysis

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Project Agenda

Problem Description: The goal of this project is to understand customer and agent behaviour trends at their call centres, to seek transparency and insights into the call center's data, including total number of calls answered and abandoned, speed of answer, length of calls, and overall customer satisfaction. The project will be looking for a clear and accurate overview of long-term trends in customer and agent behavior to have informed discussions with the management.

Approach: Here I have created a comprehensive Power BI dashboard, incorporating all relevant KPIs and metrics, to address the problem for call center trend insights. The user-friendly dashboard visualizes customer satisfaction, overall calls handled (answered and abandoned), call distribution over time, average speed of answer, and agent performance based on handle time and calls answered, enabling data-driven decision-making and performance optimization.

Tech-Stack used: In this project, the tech stack used for data analysis and visualization revolves around Power BI as the primary tool. Power BI is chosen for its powerful data visualization capabilities, providing a user-friendly and interactive dashboard for the Call Center Manager. With Power BI's extensive library of visualizations, it efficiently presents relevant Key Performance Indicators (KPIs) and metrics, such as overall customer satisfaction, call volumes, speed of answer, and agent performance. By leveraging Power BI's features, we effectively analyze call center trends and deliver actionable insights to aid informed decision-making and optimize call center operations for enhanced customer satisfaction.




Insights

Case study 1: Cleaning the data set

- Replaced all the null/blank values to 0.
- Deleted the unnecessary columns.
- Changed datatype wherever required.
- Extracted seconds, months from average talk duration and create a new column by naming- Duration on calls.

Case study 2: Calculated the total number of calls

Total Calls
5000



Case study 3: Calculate total number of calls answered and total number of calls rejected.

Total calls answered
4054

Total calls rejected
946

Case study 4: Calculate total number of agents

Total Agents
8

Case study 5: Calculate the percentage of calls answered and calls rejected.

% of calls answered
81.1%

% of calls rejected
18.9%

Case study 6: Calculate the number of calls resolved and calls not resolved.

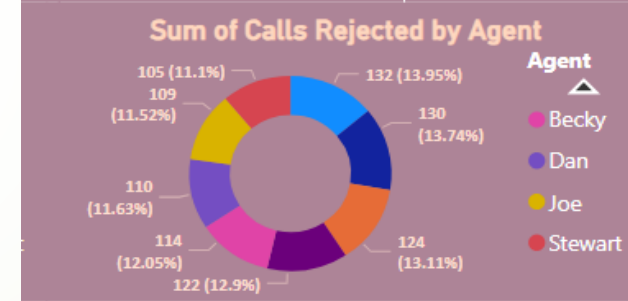
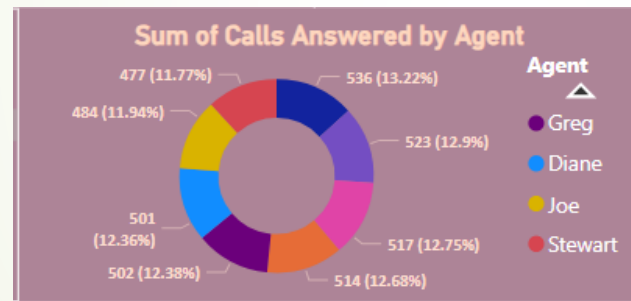
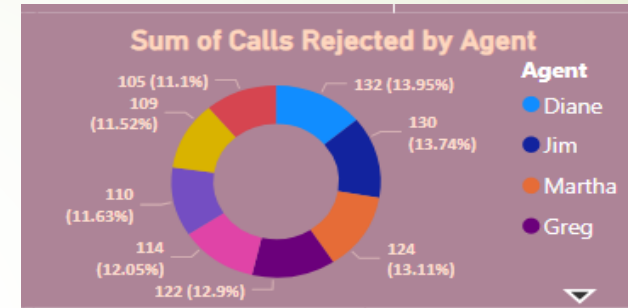
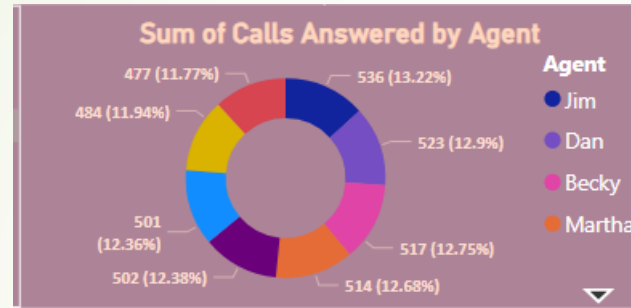


Case study 7: Find the top 1 agent who answered maximum calls and the agent who got the highest satisfaction rating.

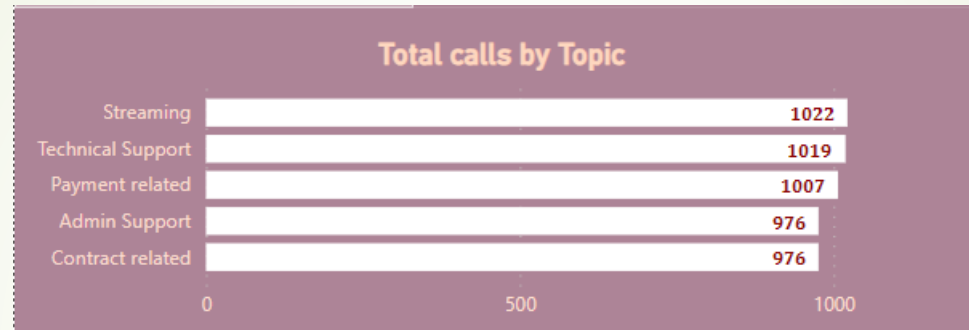
Highest Calls Answered
Jim

Highest Satisfaction Rate
Dan

Case study 8: sum of calls answered and rejected by each agent.



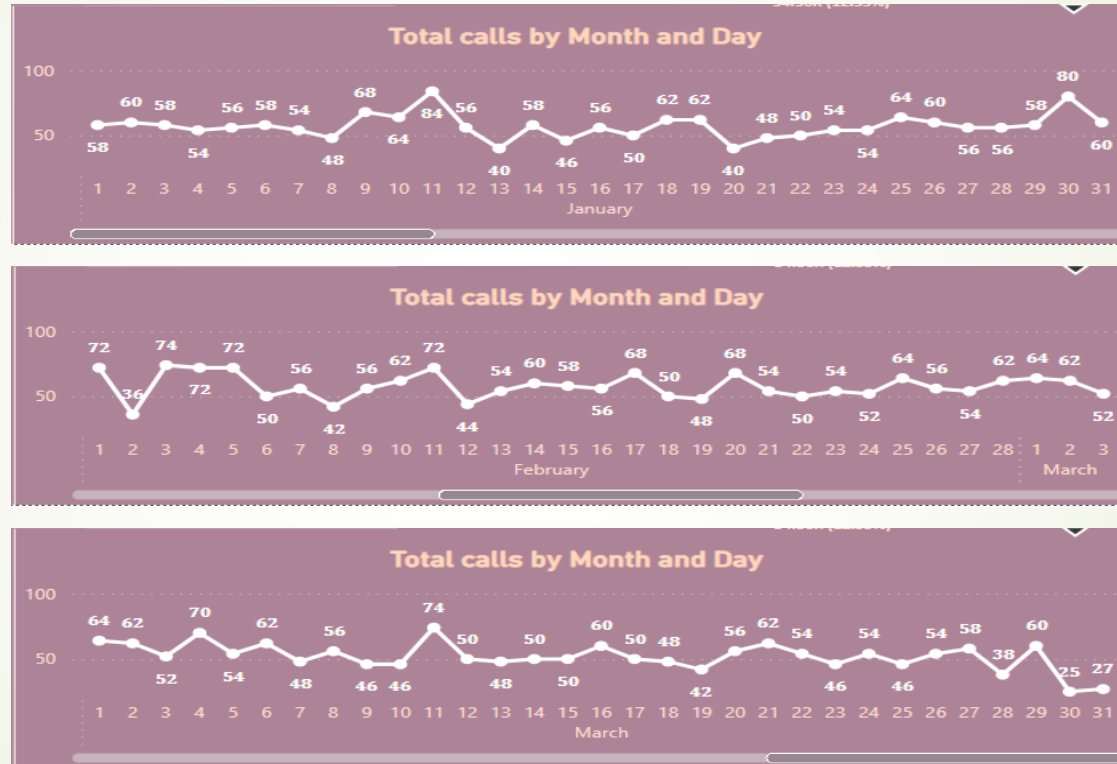
Case study 9: Total number of calls topic wise.



Case study 10: Duration on calls by each agent.



Case study 11: Total calls by days and months for the year 2021.






Insights:

1. **Agent Performance:** Identifying the top-performing agent who answered the maximum calls and had the highest satisfaction rating can help in recognizing and rewarding high-performing agents.
2. **Call Resolution Analysis:** Understanding the number of calls resolved and calls not resolved can provide insights into the call center's efficiency in resolving customer issues.
3. **Call Volume Analysis:** Analyzing the total number of calls and calls answered/rejected by each agent can help in optimizing agent allocation and workload management.
4. **Customer Satisfaction:** Monitoring overall customer satisfaction levels and its correlation with other metrics like average talk duration can aid in identifying factors affecting customer experience.
5. **Topic-wise Call Analysis:** Understanding the total number of calls topic-wise can highlight areas of concern or specific issues faced by customers.
6. **Time-based Analysis:** Analyzing calls by days and months for the year 2021 can reveal seasonal trends or patterns, enabling the call center to allocate resources effectively during peak periods.
7. **Call Rejection Rate:** Calculating the percentage of calls answered and calls rejected can indicate the call center's ability to handle call volumes and customer demand.
8. **Agent Performance Comparison:** Comparing the sum of calls answered and rejected by each agent can help in identifying any disparities in agent performance and addressing training needs if required.
9. **Average Call Duration:** Studying the duration on calls by each agent can provide insights into agent efficiency and potential areas for improvement in call handling.

Overall, these insights will enable the call center manager to have a better understanding of customer and agent behavior trends, identify areas for improvement, and make informed decisions to enhance call center performance and customer satisfaction.



Result:

The Power BI dashboard provided with a comprehensive and insightful tool to understand call center trends. By visualizing KPIs and metrics, one could easily identify patterns and draw meaningful conclusions about customer satisfaction, call volumes, call center efficiency, and agent performance. With the aid of the dashboard, it was empowered to make data-driven decisions, address customer issues proactively, allocate resources more effectively, and enhance overall call center performance. The visually appealing and user-friendly interface facilitated better understanding and collaboration among the call center team and management.

Overall, the Power BI dashboard significantly improved the telecom company's ability to leverage data for informed decision-making, leading to enhanced customer satisfaction and more efficient call center operations.

Link to the project:

<https://drive.google.com/file/d/1wawB55fk4Sv8q1Vxl4btkJUJlb48khus/view?usp=sharing>



Thank You