

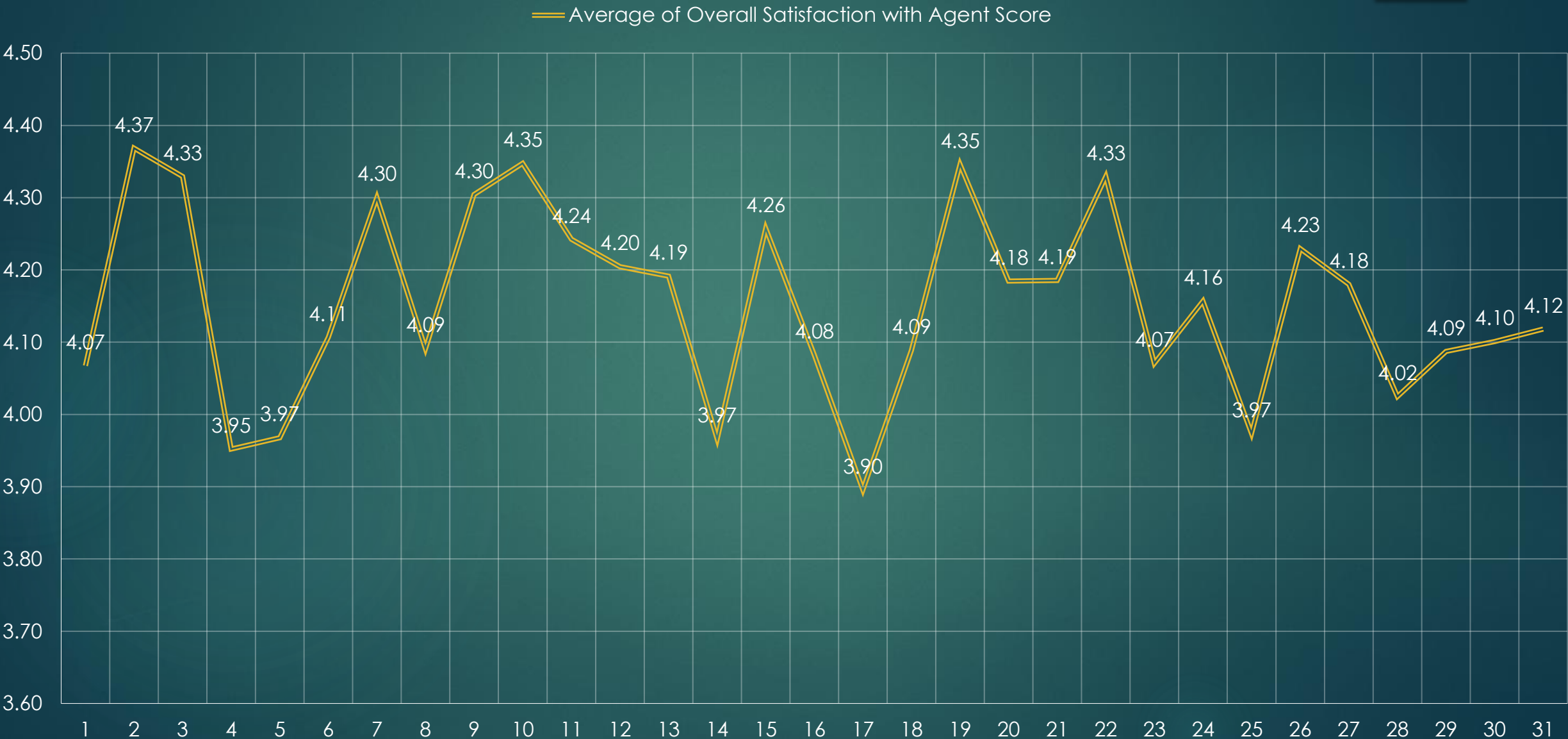


# Travel Company Exploratory Data analysis

TRAVEL CASE STUDY BY NIRBHAY TIWARI (DATA SCIENTIST)

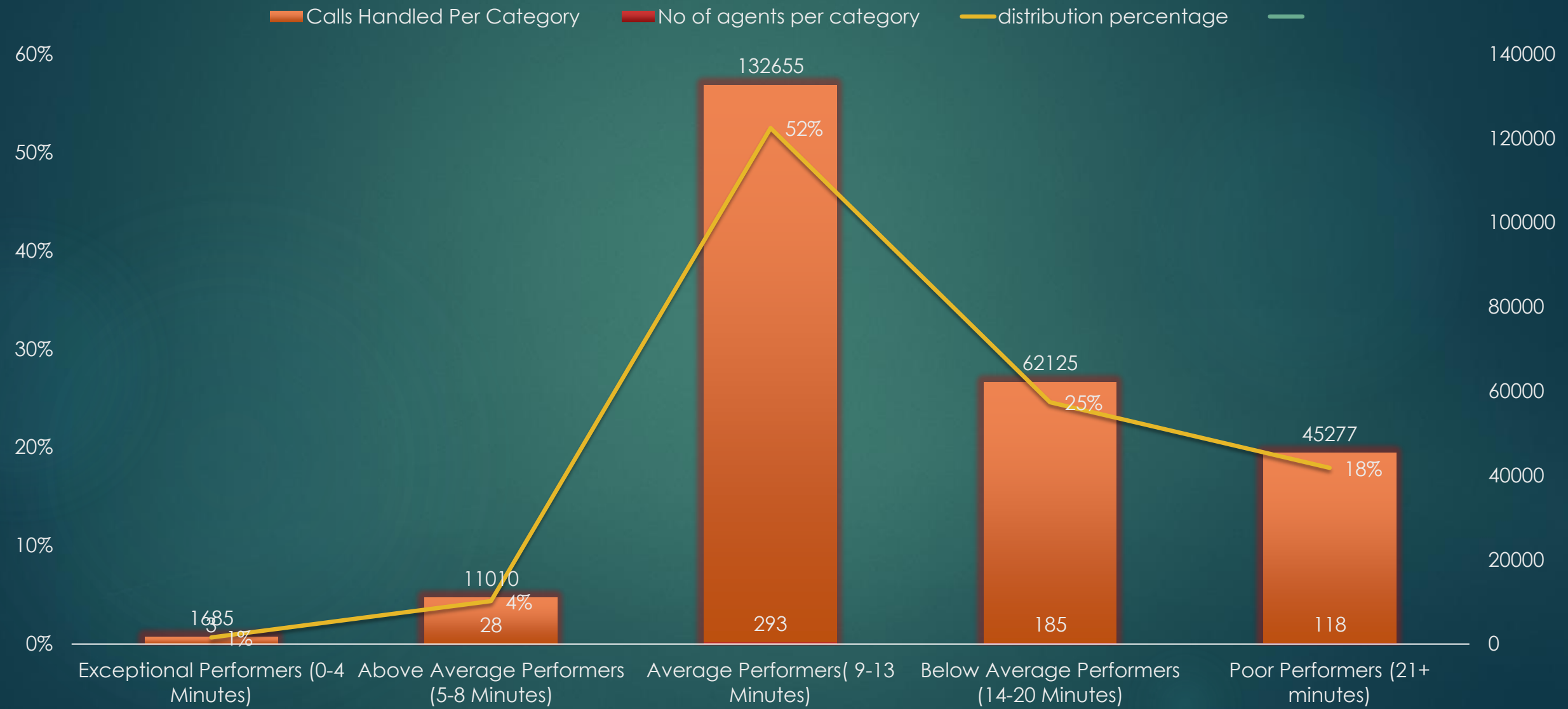
# Daily Average Satisfaction Score Trend Analysis

DAILY FLUCTUATIONS TREND FOR OVERALL AGENT SATISFACTION SCORE WITHIN A MONTH



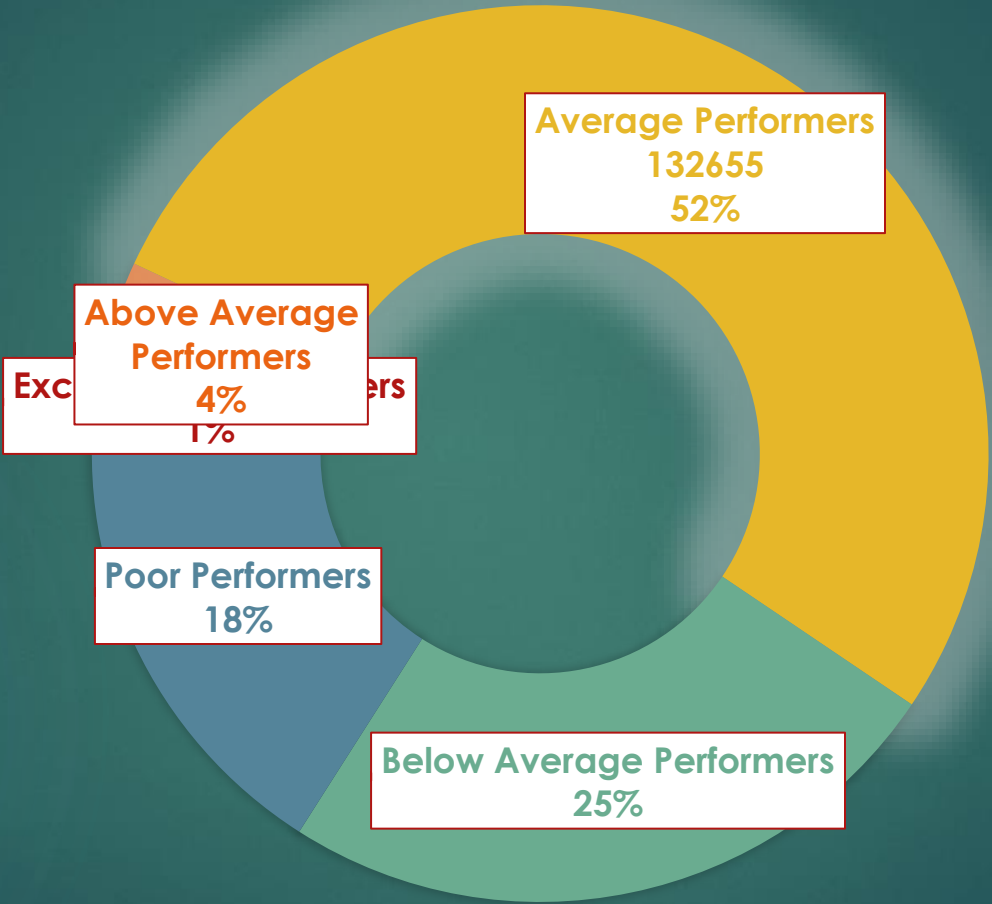
# Agent Performance Analysis Based on Call Handling Time

## Agents Bifurcation Based On Productivity Score



# Distribution of Agent Performance Based on Call Handling Time

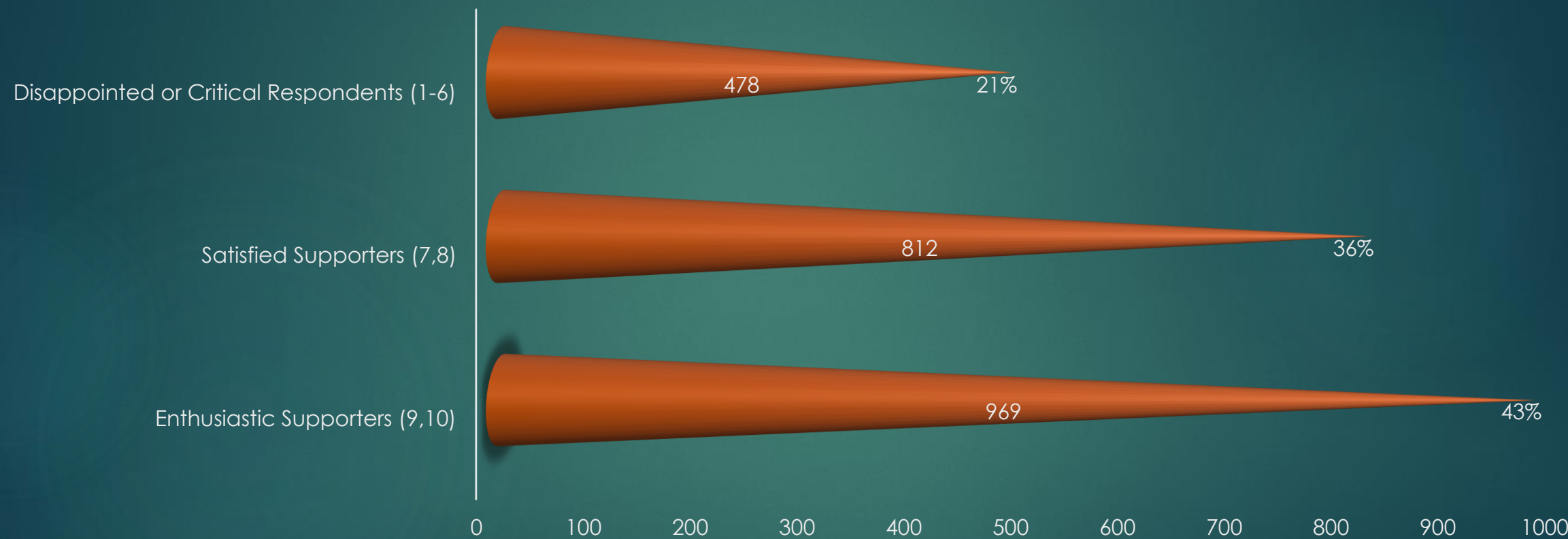
## CALLS HANDLED PER CATEGORY



■ Exceptional Performers   ■ Above Average Performers   ■ Average Performers   ■ Below Average Performers   ■ Poor Performers

# "Customer Loyalty Insights: Likelihood to Recommend Business"

## Customer Loyalty Bifurcation

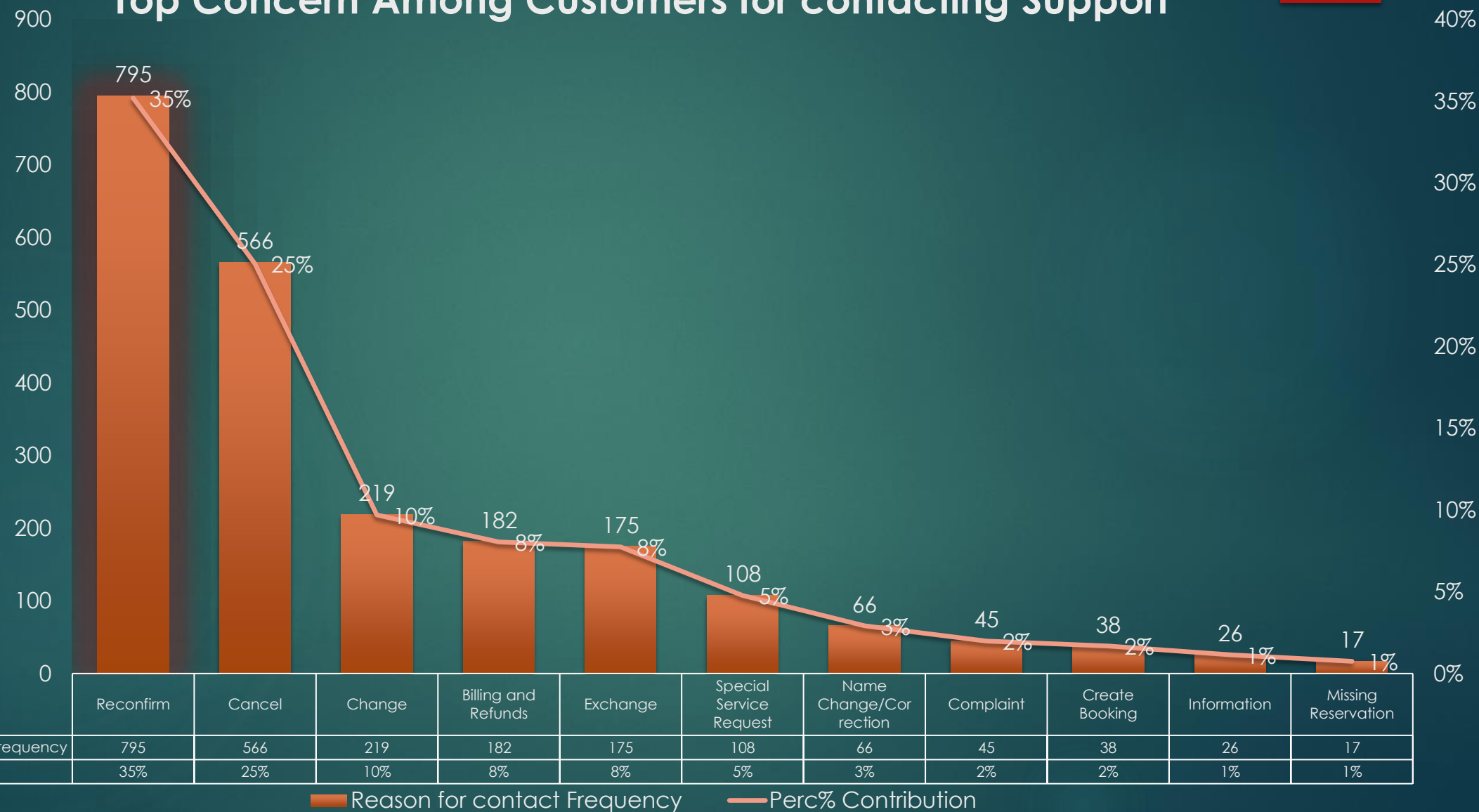


	Enthusiastic Supporters (9,10)	Satisfied Supporters (7,8)	Disappointed or Critical Respondents (1-6)
count of customers	969	812	478
Percent distribution	43%	36%	21%

count of customers    Percent distribution

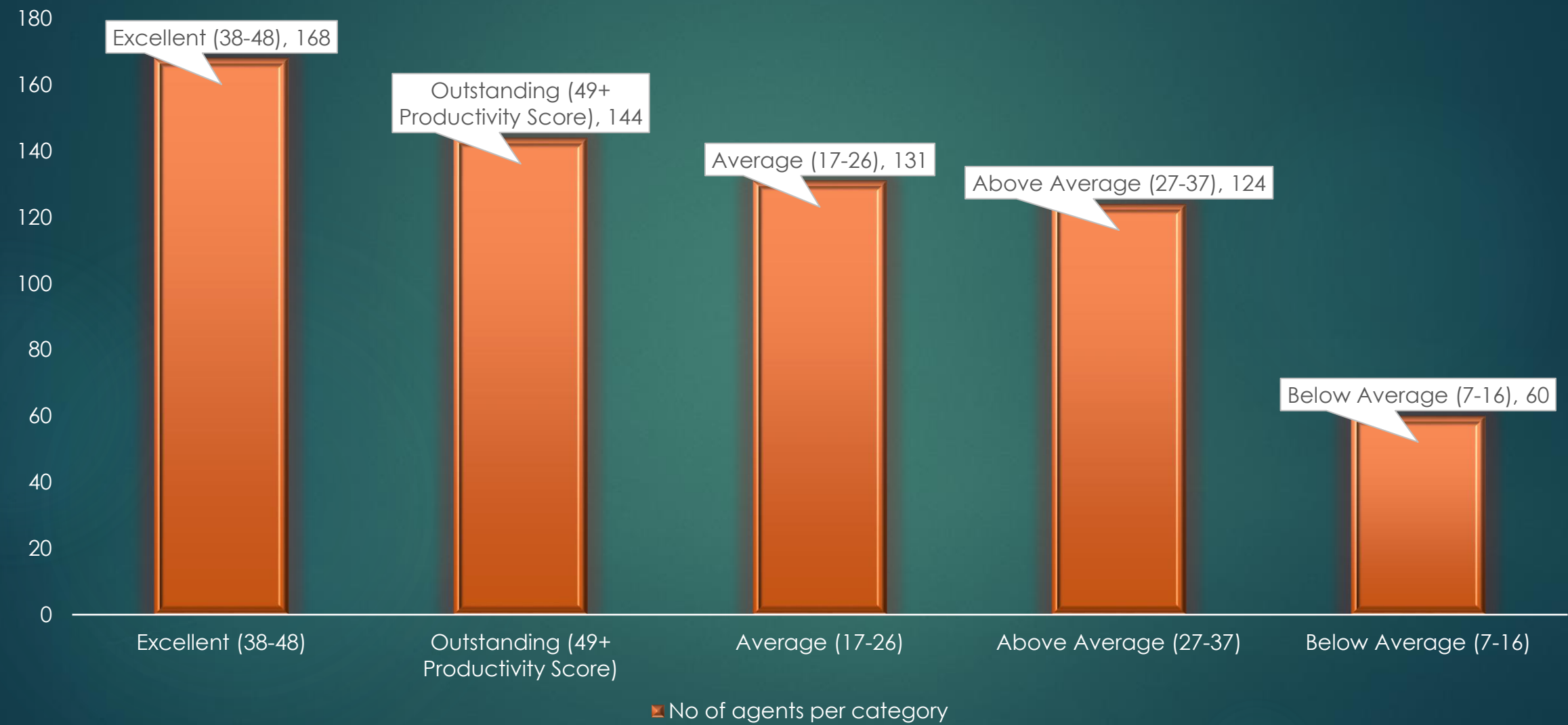
# "Customer Interaction Breakdown: Call Reasons and Frequencies"

## Top Concern Among Customers for contacting Support



# "Agent Productivity Analysis: Benchmarking Performance"

## "Understanding Agent Efficiency Across Productivity Brackets"

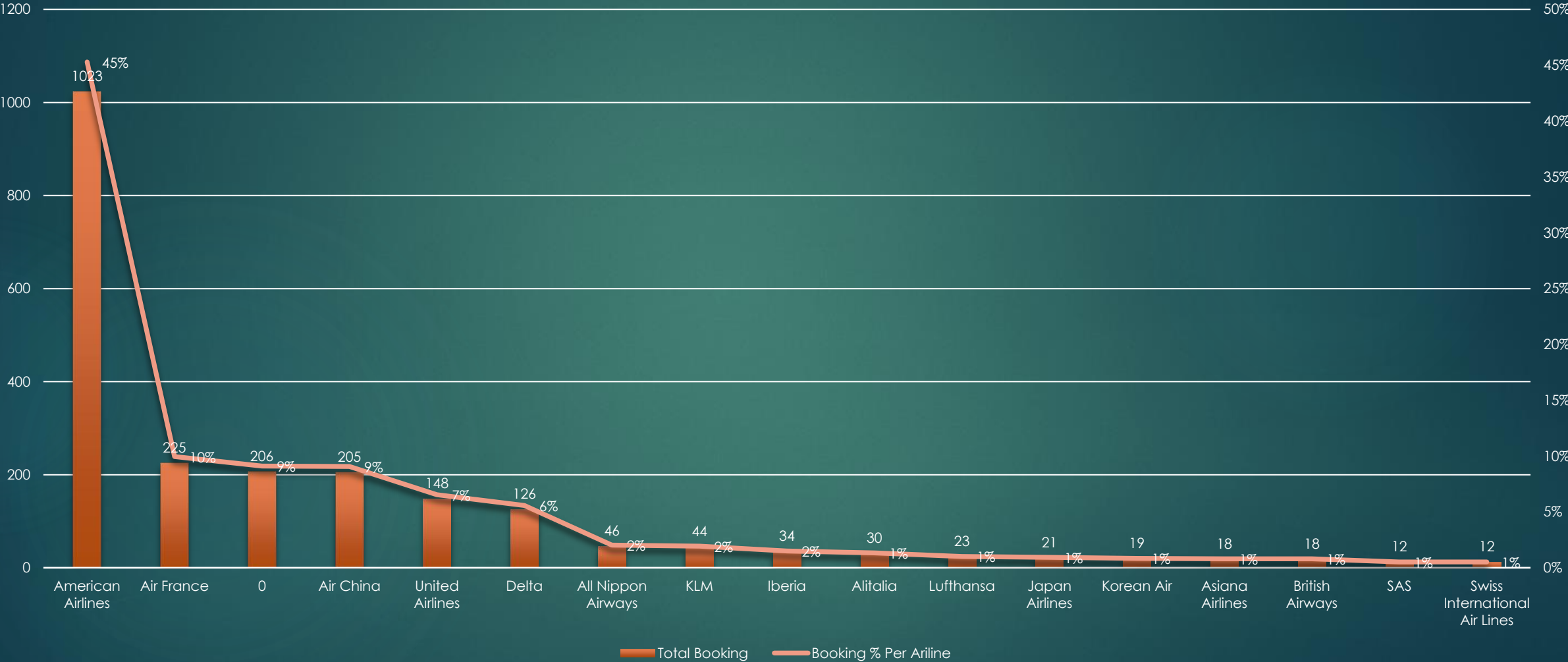




# "Airline Booking Distribution Analysis: Understanding Customer Preferences"



Frequency of calls receive per airline company





# "Agent Performance Analysis: Insights and Recommendations"

➤ Leading & Lagging Indicator Insights Findings (Potential Recommendations to improve)	➤ Metrics
<b>➤ Average Satisfaction Score Per Agent:</b>  The average satisfaction score per agent being 4.2 suggests that, on average, customers are relatively satisfied with the service provided by agents.	➤ 4.2
<b>➤ Average Productivity Score is:</b> A productivity score of 37 signifies a high level of efficiency and effectiveness in handling tasks or completing work within a given period. It suggests that the individual or team is accomplishing a substantial amount of work relative to the resources or time invested. This score indicates exceptional performance and efficiency.	➤ 37
<b>➤ Average Likelihood to recommend service:</b>  Customer Advocacy: average likelihood to recommend service of 7.6, indicates a generally positive sentiment among customers towards the service provided. Customers are likely to recommend the service to others, suggesting a level of satisfaction and trust in the company.	➤ 7.6
<b>➤ Average Avail Time</b> for agents is 39% which suggest that agents are available for handling calls approximately 39% of their total working time  <b>drawback:</b> Lower availability could potentially lead to longer wait times for customers, affecting overall service levels and customer satisfaction.	➤ 39%
<b>➤ Average Calls handled per agent</b> is 403, indicating a high workload intensity this could lead to potential challenges in maintaining quality and efficiency during interactions with customers.  <b>Conclusion:</b> it is imp to Monitor individual agent performance to ensure that high call volumes do not compromise quality or customer satisfaction. Look for trends in call handling times, resolution rates, and customer feedback to identify areas for improvement.	➤ 403
<b>➤ Average duration in minutes Handling per call</b> is 13 minutes, assess whether the average handle time aligns with service level agreement and industry benchmark. A longer handle time may indicate inefficiencies in resolving customer issues or complexities in the service provided.  <b>conclusion:</b> Identify agents with significantly longer handle times and provide targeted training to improve their efficiency. This could include coaching on active listening, problem-solving techniques, and product knowledge to streamline interactions and reduce handle times.	➤ 13 Minutes

# "Agent Performance Analysis: Efficiency and Effectiveness in Customer Handling"

## ► **Exceptional Performers (3 agents):**

These agents have an average handle time ranging from 0 to 4 minutes. They handle a total of 1685 calls, contributing approximately 1% to the total number of calls handled. Exceptional performers demonstrate outstanding efficiency in resolving customer inquiries or issues within a short time frame.

## **Above Average Performers (28 agents):**

Agents in this category exhibit a good performance level with an average handle time between 5 to 8 minutes. They handle a significant portion of the calls, totaling 11010, which contributes around 4% to the total call volume. While not as swift as exceptional performers, above average performers still maintain a commendable efficiency in addressing customer concerns.

## **Average Performers (293 agents):**

The largest group of agents falls into this category, with average handle times ranging from 9 to 13 minutes. They handle a substantial portion of the calls, accounting for 132655 calls, which constitutes approximately 52% of the total call volume. These agents represent the standard level of performance, effectively managing customer queries within a reasonable time frame.

## **Below Average Performers (185 agents):**

Agents in this category take longer to handle calls, with average handle times falling between 14 to 20 minutes. They handle 62125 calls, contributing around 25% to the total call volume. While still capable of resolving customer issues, their longer handle times may indicate a need for improvement in efficiency or effectiveness.

## **Poor Performers (118 agents):**

This category comprises agents with the longest average handle times, exceeding 20 minutes. They handle 45277 calls, accounting for approximately 18% of the total call volume. Poor performers may struggle to efficiently address customer inquiries or resolve issues, potentially leading to longer wait times or dissatisfaction among customers.

# "Customer Sentiment and Service Analysis: Insights and Trends"



<p>➤ <b>NPS Score:</b></p> <p>The Overall NPS Score is 43% which indicates that a higher percentage of customers are promoters (those likely to recommend the company) compared to detractors (those unlikely to recommend). This suggests that overall, there is a positive sentiment among customers towards the company, as there are more customers who are likely to recommend the service than those who are not.</p>	➤ 43%
<p>➤ <b>Enthusiastic Supporters:</b> The majority of customers fall into the "Enthusiastic Supporters" category (27% for a score of 10 and 16% for a score of 9), indicating that a significant portion of customers are highly satisfied with the service and are likely to recommend it enthusiastically.</p>	➤ 43%
<p>➤ <b>Satisfied Supporters:</b> A smaller proportion of customers fall into the "Satisfied Supporters" category (25% for a score of 8 and 11% for a score of 7), suggesting that while they are satisfied with the service, they may not be as enthusiastic in recommending it compared to the "Enthusiastic Supporters."</p>	➤ 36%
<p>➤ <b>Disappointed or Critical Respondents:</b> A relatively small percentage of customers fall into the "Disappointed or Critical Respondents" category (ranging from 1% to 7% across scores 0 to 6), indicating that there are customers who are not satisfied with the service and may not recommend it.</p>	➤ 21%
<p>➤ <b>Conclusion:</b> The majority of customers (approximately 79%) are satisfied and likely to recommend the service, whereas a minority (approximately 21%) are not as satisfied and may not recommend it. This suggests that the company has a generally positive reputation among its customers, but there is still room for improvement to address the concerns of those who are less satisfied.</p>	
<p>➤ <b>Popular Calling Product:</b> 59% of the calls are related to flight bookings or inquiries, making it the most common product category customers contact the company about.</p>	➤ 59%
<p>➤ <b>Second Popular Product:</b> Approximately 36% of the calls pertain to hotel bookings or inquiries, indicating a significant portion of customer interactions are related to hotel accommodations.</p>	➤ 36%
<p>➤ <b>Car-related</b> calls represent a smaller proportion at 4% of the total calls, suggesting that car bookings or inquiries are less frequent compared to flights and hotels.</p>	➤ 4%

# "Customer Contact Insights & Agent Workload Analysis"

➤ Reconfirm, Cancel, and Change: These are the top three reasons for customer contact, accounting for 70% of all calls. This suggests that customers frequently reach out to the customer service center to reconfirm their bookings, cancel reservations, or make changes to their travel plans.

➤ 70%

➤ Billing and Refunds, Exchange, Special Service Request: These reasons also contribute significantly to customer contact, each accounting for around 8-10% of calls. This indicates that issues related to billing, refunds, exchanges, and special service requests are common concerns among customers.

➤ 8-10%

➤ Agent Workload: Average Case Handled Per Agent is:

Monitoring the average number of cases handled per agent can help assess agent efficiency and productivity. Higher averages may indicate that agents are effectively managing their workload and resolving cases in a timely manner.

➤ 3.74`



# "Agent Productivity Distribution Analysis"

<p>➤ Agent Category for Productivity bracket</p> <p>Excellent (38-48): There are 168 agents in this category, constituting 27% of the total. These agents demonstrate consistently high productivity, with productivity scores ranging from 38 to 48.</p>	➤ 27%
<p>➤ Outstanding (49+ Productivity Score): 144 agents fall into this category, representing 23% of the total. Agents in this group exhibit exceptional productivity, with scores exceeding 49, showcasing outstanding performance.</p>	
<p>➤ Average (17-26): This category comprises 131 agents, making up 21% of the total. These agents demonstrate average productivity levels, with scores ranging from 17 to 26.</p>	➤ 21%
<p>➤ Above Average (27-37): 124 agents are classified in this category, accounting for 20% of the total. Agents in this group exhibit productivity levels above the average range, with scores ranging from 27 to 37.</p>	➤ 20%
<p>➤ Below Average (7-16): There are 60 agents in this category, representing 10% of the total. These agents demonstrate productivity levels below the average range, with scores ranging from 7 to 16."</p>	➤ 10%

# "Airline Booking Distribution Analysis:

- ▶ American Airlines: Leading the pack, American Airlines accounts for 45% of the total bookings, indicating a significant preference among customers for this airline.
- ▶ Air France: Following closely, Air France captures 10% of the total bookings, representing a notable share of the market.
- ▶ Others: The remaining bookings are distributed among various other airlines, with each accounting for 1-9% of the total. While none individually dominate the market, together they constitute a significant portion of the bookings.
- ▶ Insights:
  - ▶ Dominance of American Airlines: The data highlights American Airlines as the preferred choice among customers, with almost half of the total bookings. This suggests a strong brand presence or customer loyalty associated with American Airlines.
  - ▶ Varied Preferences: While American Airlines and Air France hold substantial shares, the rest of the market is fragmented among several other airlines. This indicates diverse preferences among customers, with factors like price, route availability, and service quality influencing their choices.
  - ▶ Opportunities for Market Expansion: Airlines with lower booking percentages have opportunities to target specific customer segments or improve their services to attract more bookings. Understanding customer preferences and addressing their needs can help airlines expand their market share."

# Case Study Closure...

- ▶ Thanks for giving me the opportunity for this amazing case study on Travel Dataset, Hope the insights I have shared help management make informed decision for the management.....
- ▶ Regards
- ▶ Nirbhay Tiwari(Data Scientist)