**Tasks**

**Objective Questions:**

1. What is the total no. of attributes present in the data?

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| * **Tickets Dataset:** Contains 14 attributes, which include details about tickets, their categories, resolution times, and priority levels. * **IT Agents Dataset:** Comprises 11 attributes related to IT agents, such as email addresses, years of birth and assigned tickets. |

1. Which columns have inconsistent or missing values, and what is the count of such values?

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| There were no missing values, but the Severity column in Tickets sheet had 2 inconsistencies (Mayor, Unclasified that should be Major and Unclassified), and Priority Column in Ticket sheet had 1( Unassiged instead of Unassigned). |

1. What is the average daily ticket volume over time?

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| Average number of daily tickets over volume if calculated by taking average of count of number of tickets on daily basis using Pivot Table and then using AVERAGE formula.  =COUNTA(Tickets[Ticket ID])/COUNTA(UNIQUE(Tickets[Fecha]))   |  | | --- | | **Average Daily Ticket Volume over time** | | 53.37 | |

1. What is the distribution of ticket categories (e.g., Login Access, System, Software)?

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| Used Pivot Table to get distribution of ticket categories   |  |  | | --- | --- | | **Request Categories** | **Count of Ticket ID** | | Hardware | 9.98% | | Login Access | 29.94% | | Software | 20.07% | | System | 40.00% | | **Grand Total** | **100.00%** | |

1. How many tickets has each agent handled?

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Used Pivot Table to get the number of tickets each agent handled.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Agent ID** | **Agent Name** | **No. of Tickets** | **Agent ID** | **Agent Name** | **No. of Tickets** | | 1 | Mata Lucero | 1969 | 10 | Alberto Casillas | 1974 | | 2 | JesusGrajeda | 1968 | 11 | Lopez Moran. | 1956 | | 3 | Elena Velez | 2021 | 12 | Javier D. | 1897 | | 4 | Barraza Alberto | 1988 | 13 | Griselda Galindo | 1856 | | 5 | Willyberto Gonzales | 2000 | 14 | EstuardoTorres | 1942 | | 6 | A. Trejo | 1949 | 15 | Galindo Guadalupe | 1991 | | 7 | Estuardo Ocaño | 1935 | 16 | Orci Carlos | 1926 | | 8 | Marisol Piedrahita | 1960 | 17 | Leon Lourdes | 1961 | | 9 | Velasquez Jose | 1949 | 18 | Miller Gaviria | 1892 |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Agent ID** | **Agent Name** | **No. of Tickets** | **Agent ID** | **Agent Name** | **No. of Tickets** | | 19 | Alfonso Barraza | 1984 | 35 | Melinda | 2007 | | 20 | Eduardo Luna | 1920 | 36 | Luis Torres | 1913 | | 21 | Alberto Gastelum | 1889 | 37 | Jesus Pacheco | 1931 | | 22 | Lorena | 1966 | 38 | Enrique Montiel | 1938 | | 23 | Guadalupe Hernandez | 1915 | 39 | Jesus Contreras | 2026 | | 24 | Barbara Grijalva | 2003 | 40 | Alfredo Barreras | 1920 | | 25 | Sandra Lujan | 1906 | 41 | Aldo Carrillo | 1966 | | 26 | Flores Sierra | 1963 | 42 | Darwin E. | 1945 | | 27 | Isela Leyva | 1968 | 43 | Reyna Santacruz | 1897 | | 28 | Nurio Zepeda | 1946 | 44 | Eva Cardenas | 1943 | | 29 | Segura Garcia | 1931 | 45 | Luis Arguello | 1929 | | 30 | Parra Luna | 1963 | 46 | Rosa Olguin | 1950 | | 31 | Guadalupe Torrico | 1987 | 47 | Yomaira Agudelo | 1933 | | 32 | Silvia Morales | 1974 | 48 | Aurelio Tanori | 2027 | | 33 | Guadalupe Villanueva | 1958 | 49 | Armando Sierra | 1890 | | 34 | Diana Rojo | 1927 | 50 | Ramon Macias | 1949 | |

1. How can you extract the domain from the email addresses in the IT Agents sheet?

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| --- |
| Used below formula to extract the domains. (Refer 'IT Agents'!H:H column)   =MID([@Email], FIND("@",[@Email])+1, LEN([@Email])-FIND("@",[@Email])-LEN(".com")) |

1. How can you find the full name of an agent given their Agent ID?

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| --- |
| Can use the Lookup Functions to find the full name of an agent using their Agent ID. Here used VLOOKUP function. (Refer Tickets!E:E column)   =VLOOKUP([@[Agent ID]],’IT Agents’!$A:$B,2,0) |

1. What is the count of each issue type (e.g., IT Error, IT Request)?

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Used Pivot Table   |  |  | | --- | --- | | **Issue Type** | **Count of Ticket ID** | | IT Error | 24,278 | | IT Request | 73,220 | | **Grand Total** | **97,498** | |

1. What is the daily average resolution time for tickets?

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| --- | --- | --- |
| Here used Pivot Table, can also be done using AVERAGE function.  =AVERAGE(Tickets[Resolution Time (Days)])   |  | | --- | | **Average of Resolution Time (Days)** | | 4.55 | |

1. How has the volume of tickets changed over time?

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Number of tickets increased every year.   |  |  | | --- | --- | | **Year** | **Count of Ticket ID** | | **2016** | **13,051** | | **2017** | **14,915** | | **2018** | **18,954** | | **2019** | **21,490** | | **2020** | **29,088** | | **Grand Total** | **97,498** | |

1. What is the average age of the IT agents?

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| --- | --- | --- |
| Firstly, calculated age of Agents using below mentioned formula in IT Agents sheet, and then used pivot table to calculate the average age.  =DATEDIF(DATE([@[Year of Birth]],[@[Month of Birth]],[@[Day of Birth]]),TODAY(),”Y”)  =AVERAGE(‘IT Agents’!G:G)   |  | | --- | | **Average Age of IT Agents** | | 40 | |

1. Is there a correlation between the severity of issues and the resolution time?

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| --- | --- | --- |
| As the value of correlation is tending towards 0, implying no linear correlation between the two variables.   =CORREL(Tickets[Severity],Tickets[Resolution Time (Days)])   |  | | --- | | **Correlation b/w Severity and Resolution Time** | | -0.040536349 | |

1. How many categorical columns are there in the data? [Search about categorical and continuous data, and try to answer this question]

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| --- | --- | --- | --- | --- | --- |
| 4 categorical columns are there in the provided data   |  | | --- | | **Categories** | | Request Category | | Issue Type | | Severity | | Priority | |

**Subjective Question:**

1. If there is an investment, should it be used to hire more IT agents, improve training programs, or upgrade ticket management software?

Analysis: Perform a cost-benefit analysis using ticket resolution and satisfaction metrics.

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| **Reference** | |  |  |  | | --- | --- | --- | | **Severity** | **Average of Resolution Time (Days)** | **Count of Ticket ID** | | Normal | 4.66 | 88,656 | | Major | 3.91 | 4,836 | | Minor | 3.44 | 2,258 | | Unclassified | 2.88 | 356 | | Urgent | 2.00 | 1,392 |  |  |  | | --- | --- | | **Severity** | **Average of Satisfaction Rate** | | Unclassified | 4.17 | | Urgent | 4.12 | | Major | 4.12 | | Normal | 4.10 | | Minor | 4.07 |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Ticket Distribution** | **Priority** |  |  |  |  | | **Severity** | **High** | **Low** | **Mid** | **Unassigned** | **Grand Total** | | Major | 2.13% | 0.63% | 0.73% | 1.47% | 4.96% | | Minor | 0.69% | 0.56% | 0.42% | 0.64% | 2.32% | | Normal | 32.90% | 15.67% | 14.84% | 27.51% | 90.93% | | Unclassified | 0.11% | 0.08% | 0.06% | 0.12% | 0.37% | | Urgent | 0.63% | 0.17% | 0.21% | 0.42% | 1.43% | | **Grand Total** | **36.46%** | **17.12%** | **16.25%** | **30.16%** | **100.00%** |  |  | | --- | | **Average Number of Tickets per Agent** | | 1,950 |  |  | | --- | | **Average of Resolution Time (Days)** | | 4.55 |   Refer Task Calculations sheet in Excel for the pivot tables and charts. |
| **Approach** | Exploring metrics like resolution time, volume, and satisfaction to analyze agent workload and determine if hiring more IT agents will improve issues related to resolution time and satisfaction. |
| **Insights** | * Average number of tickets handled by agents is ~2000, suggesting a picture of workload. * Normal severity tickets dominate the volume and have the highest average resolution time (4.66 days). * Satisfaction rates are relatively stable across severities, but slightly higher for Major and Urgent tickets. This implies the agents are well trained and agent training could help with only small efficiency gains. * The long resolution time for Normal tickets suggests a capacity issue, not necessarily a training or software problem. |
| **Analysis** | **1. Hiring More IT Agents**  Findings: Each agent handles around 2000 tickets on average. Average resolution time is 4.55 days, with some agents exceeding 5.5 days. Satisfaction rates vary, but agents with lower workloads tend to perform better.  Benefits: Reduces workload per agent. Likely to reduce resolution time. Can improve customer satisfaction due to faster service.  Costs: High recurring cost (Salaries, Benefits). Onboarding and ramp-up time.  Conclusion: Effective for reducing bottlenecks, especially if ticket volume is growing.  Best suited for short-term relief and scaling.  **2. Improving Training Programs**   Findings: Resolution times range from 3.6 to 5.5 days. Satisfaction rates vary from 3.04 to 4.6. Indicates inconsistent agent performance.  Benefits: Standardizes agent performance. Improves resolution quality and speed. Enhances customer experience.  Costs: Moderate investment in curriculum and trainers. Time spent away from ticket handling during training.  Conclusion: High ROI due to performance uplift across the board. Ideal for long-term improvement and consistency.  **3. Upgrading Ticket Management Software**  Findings: Categories like IT Requests and System Issues have longer resolution times. Software inefficiencies likely contribute to delays.  Mismatch between severity and priority in 82% of tickets, including 30% of tickets unassigned.  Example: all “Urgent” severity tickets are not marked as “High Priority”.  This misalignment can delay critical issue resolution and reduce satisfaction.  Benefits: Automates correct priority assignment and streamlines ticket routing and resolution. Improves accuracy and resolution efficiency. Enhances reporting and analytics.  Costs: One-time or subscription cost. Implementation and training overhead.  Conclusion: Strategic investment with long-term benefits. Directly addresses a major inefficiency affecting ticket handling quality. |
| **Recommendation** | * Primary Investment: Upgrade ticket management software to fix priority-severity mismatches and streamline operations. * Secondary Investment: Improve training programs to uplift overall agent performance. * Conditional investment: Hire more agents if ticket volume continues to grow or resolution times remain high despite other improvements. |

1. Which agents need additional training based on their performance metrics?

Analysis: Identify agents with the lowest satisfaction ratings and longest resolution times.

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| **Reference** | |  |  |  |  | | --- | --- | --- | --- | | **Agent ID** | **Agent Name** | **Average of Satisfaction Rate** | **Average of Resolution Time (Days)** | | 19 | Alfonso Barraza | 3.04 | 5.00 | | 6 | A. Trejo | 3.59 | 5.32 | | 25 | Sandra Lujan | 3.60 | 5.20 | | 28 | Nurio Zepeda | 3.61 | 5.41 | | 3 | Elena Velez | 3.62 | 5.38 | | 22 | Lorena | 3.63 | 5.51 | | 33 | Guadalupe Villanueva | 3.63 | 4.80 | | 11 | Lopez Moran. | 3.64 | 4.78 | | 37 | Jesus Pacheco | 3.66 | 4.60 | | 16 | Orci Carlos | 3.67 | 4.32 |   Refer Task Calculations sheet in Excel for the pivot tables and charts. |
| **Approach** | Focusing on tracking agents with low satisfaction scores and high resolution times to pinpoint those who need additional training based on their performance metrics and preparing a sorted list of agents by satisfaction ratings and resolution times. This gives a clear view of agents with the lowest satisfaction and longest resolution times for training identification. Created pivot and then filtered firstly on Average of Satisfaction Rate (Ascending Order) and then sorted Average of Resolution Time (Descending Order) |
| **Insights** | The referred agents consistently show lower satisfaction scores and longer resolution times. Thus, they need additional trainings to improve their performance. |
| **Conclusion** | Based on the analysis, we should plan additional trainings for below mentioned agents.   |  |  | | --- | --- | | **Agent ID** | **Agent Name** | | 19 | Alfonso Barraza | | 6 | A. Trejo | | 25 | Sandra Lujan | | 28 | Nurio Zepeda | | 3 | Elena Velez | | 22 | Lorena | | 33 | Guadalupe Villanueva | | 11 | Lopez Moran. | | 37 | Jesus Pacheco | | 16 | Orci Carlos | |

1. Do certain categories of requests have longer resolution times?

Analysis: Analyze the resolution times by request category.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Reference** | |  |  | | --- | --- | | **Request Categories** | **Average of Resolution Time (Days)** | | Hardware | 7.63 | | System | 6.62 | | Software | 5.24 | | Login Access | 0.31 |   Refer Task Calculations sheet in Excel for the pivot tables and charts. |
| **Approach** | Calculating average resolution times by request category and sorting them in descending order to get a clear picture. |
| **Insights** | * Hardware requests take the longest to resolve, likely due to physical dependencies (e.g., repairs, replacements). * System issues also have high resolution times, possibly due to complexity or reliance on backend teams. * Software requests are moderately time-consuming. * Login Access issues are resolved quickly, suggesting streamlined processes or automation. |
| **Conclusion** | The "Hardware" and "System" categories have the longest resolution times, around 7.63 and 6.62 days, respectively. "Software" follows at 5.24 days, while "Login Access" is the fastest at 0.31 days. |

1. How effective are the current software tools in managing IT tickets?

Analysis: Evaluate performance metrics before and after the implementation of new tools.

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| **Reference** | |  |  |  | | --- | --- | --- | | **Year** | **Average of Satisfaction Rate** | **Average of Resolution Time (Days)** | | **2016** | **3.98** | **4.55** | | **2017** | **4.07** | **4.53** | | **2018** | **4.09** | **4.56** | | **2019** | **4.12** | **4.52** | | **2020** | **4.16** | **4.59** |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Count of Tickets** | **Priority** |  |  |  |  | | **Severity** | **High** | **Low** | **Mid** | **Unassigned** | **Grand Total** | | Urgent | 43.97% | 12.14% | 14.51% | 29.38% | 100.00% | | Unclassified | 29.78% | 22.47% | 15.45% | 32.30% | 100.00% | | Normal | 36.18% | 17.24% | 16.32% | 30.26% | 100.00% | | Minor | 29.94% | 24.31% | 18.02% | 27.72% | 100.00% | | Major | 42.91% | 12.70% | 14.74% | 29.65% | 100.00% | | **Grand Total** | **36.46%** | **17.12%** | **16.25%** | **30.16%** | **100.00%** |   Refer Task Calculations sheet in Excel for the pivot tables and charts. |
| **Approach** | Since the "Fecha" column contains data from 2016 to 2020, but the data lacks specific indicators of when new software tools were implemented. We need to hypothetically analyse based on the changes in Average Satisfaction Rate and Average of Resolution Time over years. We can infer tool enhancements might correlate, but we can't definitively track the impact without exact dates. |
| **Metrics Comparison** | Performance Metrics Before vs. After Tool Implementation   * Customer Satisfaction: Satisfaction scores have steadily increased, indicating newer tools may have improved the user experience. * Resolution Time: Average resolution time has stayed about the same, so tool upgrades haven't notably sped up issue resolution. * Interpretation: While resolution speed hasn’t improved significantly, satisfaction gains suggest better handling or communication- possibly dye to software enhancements.   Priority vs. Severity Alignment   * High-severity tickets are correctly prioritized, with nearly half marked as “High Priority”. * Lower-severity tickets are more likely to be unassigned or low priority, which is appropriate. |
| **Conclusion** | * The current software tools are effective in aligning ticket priority with severity. * Satisfaction improvement suggests better user experience, even if resolution speed hasn’t changed much. |

1. How has the performance of the IT support team changed over time (e.g., monthly or quarterly)?

Analysis: Trend analysis using time series charts.

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| --- | --- |
| **Reference** | Refer Task Calculations sheet in Excel for the pivot tables and charts. |
| **Approach** | Analysed findings like increasing ticket volume, consistent satisfaction rate, and resolution time variability. Prepared chart for better insights and easy grasp. |
| **Insights** | * Performance Stability: Resolution time remained consistent despite increased workload. * Improved Perception: Satisfaction scores improved, suggesting better user experience. |
| **Conclusion** | Between 2016 and 2020, the IT support team’s ticket volume rose from about 1,100 to 2,600. Resolution times averaged 4.5 days, and satisfaction rates increased from roughly 3.9 to 4.2. Despite handling more tickets, the team maintained steady performance and improved satisfaction. Key findings are illustrated in time series charts and summary images. |

1. If we invest more on tech (Hardware, software, etc), do you think it will improve the ticket resolution times and employee satisfaction?

Analysis: Use historical data to project potential improvements.

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| **Reference** | |  |  |  | | --- | --- | --- | | **Request Categories** | **Average of Satisfaction Rate** | **Average of Resolution Time (Days)** | | Hardware | 4.10 | 7.63 | | Login Access | 4.09 | 0.31 | | Software | 4.11 | 5.24 | | System | 4.10 | 6.62 |  |  |  |  | | --- | --- | --- | | **Request Categories** | **Average of Satisfaction Rate** | **Average of Resolution Time (Days)** | | IT Error | 4.10 | 3.11 | | IT Request | 4.10 | 5.03 |     Refer Task Calculations sheet in Excel for the pivot tables and charts. |
| **Approach** | Analysing requested categories and issue type, evaluating the satisfaction rate and resolution time to understand the impact of investment in technology. Prepared chart for better insights and easy grasp. |
| **Insights** | * Resolution Time:   IT Requests take the longest to resolve on average.  IT Errors are resolved faster but still take over 3 days on average. Hardware issues need more than 7 days on average to resolve.  Login Access issues are resolved very quickly (~0.31 days).   * Satisfaction Rates:   Despite the variation in resolution times, satisfaction scores remain consistently high (around 4.1 out of 5). |
| **Suggestion** | **Yes, for Resolution Time**  Investing in better hardware, software etc. could reduce resolution times, especially for complex IT Requests and Errors.  Faster resolution can lead to less downtime, improved productivity, and potentially even higher satisfaction.  **Unclear for Satisfaction**  Since satisfaction scores are already high, the marginal gain in satisfaction from tech investment might be limited.  However, maintaining high satisfaction as ticket volume grows could still justify the investment. |

1. What are the key performance metrics for IT agents, and how can they be improved, do we need to fire any agents?

Analysis: Define and analyze metrics such as average handling time, satisfaction scores, and number of tickets resolved.

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| **Reference** | 🏆 Top Performers:   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Agent ID** | **Agent Name** | **Average of Satisfaction Rate** | **Average of Resolution Time (Days)** | **Count of Ticket ID** | | 34 | Diana Rojo | 4.60 | 3.64 | 1,927 | | 12 | Javier D. | 4.49 | 4.06 | 1,897 | | 2 | JesusGrajeda | 4.47 | 3.60 | 1,968 | | 15 | Galindo Guadalupe | 4.47 | 3.66 | 1,991 | | 29 | Segura Garcia | 4.46 | 3.72 | 1,931 |   ⚠️ Bottom Performers:   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Agent ID** | **Agent Name** | **Average of Satisfaction Rate** | **Average of Resolution Time (Days)** | **Count of Ticket ID** | | 22 | Lorena | 3.63 | 5.51 | 1,966 | | 3 | Elena Velez | 3.62 | 5.38 | 2,021 | | 28 | Nurio Zepeda | 3.61 | 5.41 | 1,946 | | 25 | Sandra Lujan | 3.60 | 5.20 | 1,906 | | 6 | A. Trejo | 3.59 | 5.32 | 1,949 |   Refer Task Calculations sheet in Excel for the pivot tables and charts. |
| **Approach** | Reviewing the metrics, including resolution times, satisfaction scores, and ticket count, to identify top and bottom performers by sorting them based on these criteria. |
| **Insights** | Key Metrics Defined   * Average Resolution Time – How long an agent takes to resolve a ticket. * Satisfaction Score – Average user rating after ticket resolution (scale of 1–5). * Ticket Volume – Total number of tickets handled by each agent. |
| **Suggestion** | We should not fire agents immediately. While some agents underperform, none show extreme inefficiency or negligence. Their performance can likely be improved with support and training.  **Recommendations for improvement-**   * Training & Mentorship: Pair lower-performing agents with top performers to share best practices. * Tech Investment: Provide better tools to reduce resolution time. * Feedback Loops: Use satisfaction data to identify common complaints and address them. |

1. How do employee demographics (e.g., department, seniority) impact satisfaction and ticket outcomes?

Analysis: Segment analysis using filters and pivot tables.

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| **Reference** | |  |  | | --- | --- | | **Age Group** | **Ticket Distribution** | | 25-29 | 12.13% | | 30-34 | 15.91% | | 35-39 | 14.03% | | 40-44 | 27.81% | | 45-49 | 16.12% | | 50-55 | 14.00% |  |  |  |  | | --- | --- | --- | | **Age Group** | **Average of Resolution Time** | **Average of Satisfaction Rate** | | 25-29 | 3.65 | 4.35 | | 30-34 | 4.31 | 4.09 | | 35-39 | 4.70 | 4.21 | | 40-44 | 4.20 | 4.19 | | 45-49 | 4.33 | 4.10 | | 50-55 | 3.94 | 4.31 |     Refer Task Calculations sheet in Excel for the pivot tables and charts. |
| **Approach** | Reviewing the metrics, including resolution times, satisfaction scores, and ticket count, to analyse the age group trends. |
| **Insights** | * **Highest Satisfaction:** Agents aged 30–34 and 25–29 show the highest average satisfaction scores (~4.23). * **Lowest Satisfaction:** Agents aged 35–39 have the lowest satisfaction (3.94), suggesting potential challenges or workload issues. * **Fastest Resolution:** Agents aged 50–55 resolve tickets fastest (4.12 days on average). * **Most Tickets Handled:** The 40–44 age group handled the most tickets (27,150), possibly indicating seniority or larger team size. |
| **Conclusion** | * Younger agents (25–34) consistently deliver high satisfaction scores, suggesting strong engagement or adaptability to customer needs. * Older agents (50–55) demonstrate efficient resolution times, likely reflecting experience and problem-solving skills. * Agents aged 35–44 show lower satisfaction scores and longer resolution times, which may indicate workload pressures or transitional roles. * The 40–44 age group handles the highest ticket volume, possibly due to senior roles or team leadership responsibilities. |

1. Identify the trends for IT support operations based on ticket volumes and satisfaction, and mention the peak and stable times?

Analysis: Use pivot tables and charts to identify peak and off-peak hours.

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| **Reference** | |  |  |  | | --- | --- | --- | | **Weekday** | **Average Satisfaction Rate** | **No. of Tickets** | | Sunday | 4.10 | 13,914 | | Monday | 4.11 | 13,778 | | Tuesday | 4.10 | 14,080 | | Wednesday | 4.10 | 14,080 | | Thursday | 4.12 | 13,815 | | Friday | 4.09 | 13,897 | | Saturday | 4.08 | 13,934 |     Refer Task Calculations sheet in Excel for the pivot tables and charts. |
| **Approach** | Used pivot tables and charts for analyzing ticket volumes and satisfaction trends. |
| **Insights** | * Peak Periods: Ticket volumes peaked around December 2020, with over 2,600 tickets. * Stable Satisfaction: Average satisfaction remained consistently high (~4.0 out of 5) across all months. * Seasonal Trends: Early months of each year tend to have slightly lower ticket volumes. * Weekday Dominance: Most tickets are raised during weekdays, especially Tuesday and Wednesday. * Weekend Dip: Ticket volumes drop slightly during the start and end of weekend. * Satisfaction Stability: Satisfaction scores remain stable across all days, with no significant dips. |
| **Key Takeaways** | * Consistent Demand: IT support sees steady ticket volumes with seasonal peaks. * Stable Performance: Satisfaction scores are consistently high, indicating reliable support quality. * No Major Off-Peak Hours: Demand remains steady throughout weekdays. |

1. What metrics should be included in the final dashboard to provide a comprehensive view of call centre performance and guide investment decisions?

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| To build a comprehensive dashboard for IT support or call centre performance—and guide strategic investment decisions—here are the key metrics you should include, grouped by category:   |  |  | | --- | --- | | Operational Efficiency | * Ticket Volume   Total tickets per day/week/month  Tickets by category (e.g., IT Request, Error, Access)   * Average Resolution Time   Overall and by issue type  Trend over time   * Backlog Volume   Open vs. closed tickets over time | | Customer Satisfaction | * Average Satisfaction Score   Overall and by agent  By issue type and resolution time   * Satisfaction Trend   Monthly or quarterly changes   * Low Satisfaction Alerts   Tickets with ratings below a threshold, lets say 3 | | Agent Performance | * Tickets Resolved per Agent * Average Handling Time per Agent * Agent Satisfaction Score * Top/Bottom Performers   Based on resolution time and satisfaction | | Time-Based Trends | * Peak Hours/Days   Ticket volume by hour and day of week   * Stable Periods   Times with consistent performance and low volume | | Investment Impact Metrics | * Resolution Time Before vs. After Tech Investment * Satisfaction Before vs. After Tech Investment * Cost per Ticket- Useful for ROI analysis | |