IT Ticket Data Analysis Project

# 1. Introduction

This project involves analyzing an IT ticket dataset to gain insights into ticket volume, agent performance, issue types, and resolution patterns. The analysis aims to answer a set of objective and subjective questions using Excel-based data exploration techniques.

# 2. Objective Questions

1. What is the total number of attributes present in the data?

Ans. Count the total columns in the main data sheet ( Tickets) using Excel formula:

=COUNTA(A1:Z1). The total number of attributes present in the data sheet(Ticket) is 14.

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

Ans. =COUNTBLANK() is used to check if there is any missing values or not. In the data sheet(Tickets and IT Agents) we do not have any missing values. Hence count of inconsistent or missing value is 0.

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

Ans. Step1. Create Pivot Table (Date as Row, Count of Ticket ID as Value),

Step2. AVERAGE (count of ticket id).

Hence the Average daily ticket volume over time is 53.36507937.

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

Ans. Create Pivot Table (Request Category as Row, Count of Request Category as Value)

|  |  |
| --- | --- |
| **Distribution of ticket by Request Category** |  |
| **Row Labels** | **Count of Request Category** |
| Hardware | 9733 |
| Login Access | 29193 |
| Software | 19570 |
| System | 39002 |
| **Grand Total** | **97498** |

**Ticket distribution of ticket categories**

1. How many tickets has each agent handle?

Ans. Create Pivot Table (Agent ID as Row, Count of Ticket id as Value). We can see the count of tickets handled by each agent.

|  |  |
| --- | --- |
| **Row Labels** | **Count of ID Ticket** |
| Aurelio Tanori | 2027 |
| Jesus Contreras | 2026 |
| Elena Velez | 2021 |
| Melinda | 2007 |
| Barbara Grijalva | 2003 |
| Willyberto Gonzales | 2000 |
| Galindo Guadalupe | 1991 |
| Barraza Alberto | 1988 |
| Guadalupe Torrico | 1987 |
| Alfonso Barraza | 1984 |
| Alberto Casillas | 1974 |
| Silvia Morales | 1974 |
| Mata Lucero | 1969 |
| JesusGrajeda | 1968 |
| Isela Leyva | 1968 |
| Lorena | 1966 |
| Aldo Carrillo | 1966 |
| Flores Sierra | 1963 |
| Parra Luna | 1963 |
| Leon Lourdes | 1961 |
| Marisol Piedrahita | 1960 |
| Guadalupe Villanueva | 1958 |
| Lopez Moran. | 1956 |
| Rosa Olguin | 1950 |
| Ramon Macias | 1949 |
| Velasquez Jose | 1949 |
| A. Trejo | 1949 |
| Nurio Zepeda | 1946 |
| Darwin E. | 1945 |
| Eva Cardenas | 1943 |
| EstuardoTorres | 1942 |
| Enrique Montiel | 1938 |
| Estuardo Ocaño | 1935 |
| Yomaira Agudelo | 1933 |
| Segura Garcia | 1931 |
| Jesus Pacheco | 1931 |
| Luis Arguello | 1929 |
| Diana Rojo | 1927 |
| Orci Carlos | 1926 |
| Eduardo Luna | 1920 |
| Alfredo Barreras | 1920 |
| Guadalupe Hernandez | 1915 |
| Luis Torres | 1913 |
| Sandra Lujan | 1906 |
| Javier D. | 1897 |
| Reyna Santacruz | 1897 |
| Miller Gaviria | 1892 |
| Armando Sierra | 1890 |
| Alberto Gastelum | 1889 |
| Griselda Galindo | 1856 |
| **Grand Total** | **97498** |

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

Ans. To extract the domain from the email addresses we can use formula: =RIGHT(A2, LEN(A2) - FIND("@", A2)). The domain name from the email [lucero.mata@fp20analytics.com](mailto:lucero.mata@fp20analytics.com) is **fp20analytics.com**

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

Ans. We can use Excel formula =VLOOKUP () or XLOOKUP () to get agent Full name from one sheet (IT Agents) to sheet (Tickets).

Formula. I have used in the excel sheet (Tickets)=XLOOKUP ([@ [Agent ID]],IT Agents [Agent ID], IT Agents [Full Name],0)

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

Ans. Create Pivot Table ( Issue Type as Row, count of issue type as values). Chart as a bar graph. We can analyze the count of each issue type using this type of pivot table or chart. For IT Error we have 24278 tickets and IT Request 73220 tickets.

**Count of each issue type**

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

Ans. Created Pivot table (ID Ticket as Row,Average of Resolution time(day) as values) on excel sheet(Pivot for objective questions).The daily average resolution time for ticket is 4.55.

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

Ans. Use a Pivot Table with Date as Rows and Count of Ticket ID as Values, then insert a line chart.

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

Ans. Use =AVERAGE(range) on the Age column in the IT Agents sheet.

Hence the average age of the IT Agents is 40.4

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

Ans. To check correlation between two column we can use formula =CORREL(Tickets[Severity Number],Tickets[Resolution Time (Days)]).

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

Ans. We have 4 Categorical columns in the sheet(Tickets), Request Category, Issue Type, Severity and Priority.

# 3. Subjective Questions

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

**Ans.**  **Factor 1: Hiring More IT Agents**

Agents like Aurelio Tanori and Jesus Contreras are handling the highest number of tickets, but they don’t rank well in terms of resolution speed or satisfaction score.

This indicates that overload may be affecting their performance.

On average, a small group of agents are handling excessively large workloads.

**Insight:** Hiring more agents could help distribute the workload more evenly, potentially improving both satisfaction and resolution time by reducing agent burnout and delay.

***Refer Figure 1***

**Factor 2: Improving Training Programs**

Top performers like Diana Rojo, Jesus Grajeda, and Galindo Guadalupe consistently achieve high satisfaction (4.5+) and fast resolution (3.4–3.6 days).

These agents likely have stronger technical or communication skills.

Agents with longer resolution times and lower satisfaction scores can benefit from training to close this performance gap.

**Insight**: Better training would help to bring average-performing agents closer to the performance levels of top agents, improving overall service quality.

***Refer Figure 2 and 3***

**Factor 3: Upgrading Ticket Management Software: Priority-Severity Mismatch**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Mismatch between ticket Severity and Assigned Priority** | | | | |
| **Severity/Priority** | **High** | **Low** | **Mid** | **Unassigned** |
| **Normal** | 32080 | 15282 | 14468 | 26826 |
| **Major** | 2075 | 614 | 713 | 1434 |
| **Minor** | 676 | 549 | 407 | 626 |
| **Urgent** | 612 | 169 | 202 | 409 |
| **Unclassified** | 106 | 80 | 55 | 115 |

**Table- Mismatch between ticket Severity and Assigned Priority**

The “**Mismatch between ticket Severity and Assigned Priority**" table reveals a

significant misalignment between ticket severity and assigned priority:

Over 32080 “Normal” severity tickets were marked as High priority,

Meanwhile, “Major” and “Urgent” severity tickets received far fewer high-priority tags,

Many tickets remain Unassigned or assigned Low/Mid priorities, regardless of their severity.

This inconsistency suggests that either agents are manually misclassifying tickets, or the current software does not enforce rules to align severity and priority properly. Such mismatches delay resolution of critical issues and negatively impact service quality.

**Insight:** A better ticketing system could:

. Automatically align Severity and Priority.

. Assign tickets based on agent workload and expertise.

. Raise alerts for mismatches and automate key decisions.

**Overall Recommendation:**

While hiring more IT agents may reduce workload pressure and benefit agents

currently handling high ticket volumes, the data shows that training and system

inefficiencies have a more significant impact on satisfaction and resolution speed.

Therefore, the most impactful and immediate investment should focus on:

1. Advanced training programs — to reduce performance variation among agents and

enhance resolution efficiency.

2. Upgrading the ticket management system — to enforce proper severity-priority

alignment and enable smart ticket assignment.

Together, these two strategies will improve both individual performance and system-wide effectiveness, leading to faster response times, fewer critical delays, and higher customer satisfaction.

**Figure 1: Top 10 Agents by Ticket Count**

**Figure 2: Top 10 Agents by Satisfaction Score**

**Figure 3: Top 10 Agents by Average Resolution Time**

**Figure 4**: **Mismatch between ticket Severity and Assigned Priority**

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

**Ans.** Based on the below table:

we analysed agents’ performance using two key metrics: the Resolution Time Ratio (agent’s average resolution time compared to the overall average) and Average Satisfaction Rate. Agents with a ratio significantly above 1.00 and below-average satisfaction scores (4.10) were flagged for potential improvement. This approach ensures performance is evaluated holistically, accounting for both efficiency and user experience. Notable examples include Lorena (Ratio: 1.21, Satisfaction: 3.63) and Alfonso Barraza (Ratio: 1.10, Satisfaction: 3.04), indicating a strong need for targeted support or training.

See below Table ( **Table 1)** for full agent-level breakdown.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Row Labels** | **Count of ID Ticket** | **Average of Resolution Time (Days)** | **Ratio** | **Average of Satisfaction Rate** |
| Diana Rojo | 1927 | 3.64 | 0.80 | 4.60 |
| Javier D. | 1897 | 4.06 | 0.89 | 4.49 |
| JesusGrajeda | 1968 | 3.60 | 0.79 | 4.47 |
| Galindo Guadalupe | 1991 | 3.66 | 0.80 | 4.47 |
| Segura Garcia | 1931 | 3.72 | 0.82 | 4.46 |
| Enrique Montiel | 1938 | 4.64 | 1.02 | 4.44 |
| Barbara Grijalva | 2003 | 4.23 | 0.93 | 4.44 |
| Marisol Piedrahita | 1960 | 3.83 | 0.84 | 4.44 |
| Alberto Casillas | 1974 | 4.30 | 0.94 | 4.42 |
| Eva Cardenas | 1943 | 4.72 | 1.04 | 4.41 |
| Aurelio Tanori | 2027 | 4.51 | 0.99 | 4.41 |
| Alberto Gastelum | 1889 | 3.71 | 0.81 | 4.40 |
| Melinda | 2007 | 4.37 | 0.96 | 4.40 |
| Guadalupe Hernandez | 1915 | 4.56 | 1.00 | 4.38 |
| Willyberto Gonzales | 2000 | 4.26 | 0.94 | 4.38 |
| Guadalupe Torrico | 1987 | 3.67 | 0.81 | 4.36 |
| Darwin E. | 1945 | 4.06 | 0.89 | 4.36 |
| Armando Sierra | 1890 | 5.34 | 1.17 | 4.36 |
| Jesus Contreras | 2026 | 5.55 | 1.22 | 4.34 |
| Leon Lourdes | 1961 | 3.71 | 0.81 | 4.34 |
| Mata Lucero | 1969 | 5.45 | 1.20 | 4.34 |
| Rosa Olguin | 1950 | 5.32 | 1.17 | 4.32 |
| Griselda Galindo | 1856 | 5.32 | 1.17 | 4.28 |
| Isela Leyva | 1968 | 3.65 | 0.80 | 4.22 |
| Ramon Macias | 1949 | 5.45 | 1.20 | 4.20 |
| Luis Torres | 1913 | 3.92 | 0.86 | 4.20 |
| Barraza Alberto | 1988 | 5.24 | 1.15 | 4.19 |
| Yomaira Agudelo | 1933 | 3.82 | 0.84 | 4.17 |
| Eduardo Luna | 1920 | 4.41 | 0.97 | 4.15 |
| Silvia Morales | 1974 | 4.89 | 1.07 | 4.12 |
| EstuardoTorres | 1942 | 4.90 | 1.08 | 4.09 |
| Miller Gaviria | 1892 | 4.73 | 1.04 | 3.99 |
| Flores Sierra | 1963 | 4.75 | 1.04 | 3.99 |
| Estuardo Ocaño | 1935 | 5.52 | 1.21 | 3.98 |
| Reyna Santacruz | 1897 | 3.85 | 0.84 | 3.91 |
| Parra Luna | 1963 | 4.87 | 1.07 | 3.85 |
| Luis Arguello | 1929 | 3.70 | 0.81 | 3.82 |
| Aldo Carrillo | 1966 | 4.55 | 1.00 | 3.78 |
| Velasquez Jose | 1949 | 4.52 | 0.99 | 3.69 |
| Alfredo Barreras | 1920 | 4.29 | 0.94 | 3.67 |
| Orci Carlos | 1926 | 4.32 | 0.95 | 3.67 |
| Jesus Pacheco | 1931 | 4.60 | 1.01 | 3.66 |
| Lopez Moran. | 1956 | 4.78 | 1.05 | 3.64 |
| Guadalupe Villanueva | 1958 | 4.80 | 1.06 | 3.63 |
| Lorena | 1966 | 5.51 | 1.21 | 3.63 |
| Elena Velez | 2021 | 5.38 | 1.18 | 3.62 |
| Nurio Zepeda | 1946 | 5.41 | 1.19 | 3.61 |
| Sandra Lujan | 1906 | 5.20 | 1.14 | 3.60 |
| A. Trejo | 1949 | 5.32 | 1.17 | 3.59 |
| Alfonso Barraza | 1984 | 5.00 | 1.10 | 3.04 |
| **Overall** | **97498** | **4.55** | **1.00** | **4.10** |

**Table 1. Agent Performance Analysis**

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

**Ans**. Based on the pivot table and bar chart (Figure 5.), the Hardware request category has the highest average resolution time compared to other categories.

This suggests that hardware-related issues may require more time due to factors such as physical repairs, part availability, or hands-on troubleshooting.

In contrast, categories like ["Software" or " Login Access"] are resolved faster, likely because they can be addressed remotely or require less complexity.

The data indicates that hardware-related requests take the longest to resolve, suggesting an opportunity to review and improve related workflows, such as inventory management or procurement processes, to reduce delays.

**Figure 5. Request Category by Average Resolution Time.**

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

**Ans.** The dataset does not directly describe the IT ticket management software, but we can evaluate its effectiveness by analysing how severity levels align with priority levels — a critical function of any ticket system.

Based on the chart comparing Severity vs Priority, we observe:

. A large number of “Normal” severity tickets are assigned High Priority, which indicates over

prioritization.

. Many tickets across all severity levels have “Unassigned” priority, suggesting process gaps.

. Urgent and Major severity tickets are not always given High Priority, which could delay critical issue resolution.

**Implications:**

These mismatches suggest that the current system may lack automation or clear workflows for prioritizing tickets.

It may also reflect inconsistent agent input or inadequate training in categorizing severity and priority.

**Recommendation:**

Configure the system to automatically assign priority based on severity level. Ensure that

Urgent and Major tickets are always routed as High Priority.

Provide training to agents on proper ticket classification to avoid neglect of priority tickets.

**Figure 6: Ticket distribution by Severity and Priority levels**

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

**Ans**. Based on the line chart comparing the monthly average resolution time and satisfaction rate, the following trends were observed:

**Resolution Time:** The average resolution time has stayed close to 4.5–4.6 days most months. A slight increase is seen in June, but it drops again in July and remains stable afterward, indicating that the team is maintaining a steady resolution pace overall.

**Satisfaction Rate:**

The satisfaction rate shows a slight downward trend from January to March, followed by stabilization between April and December around 4.1. This suggests that while customer satisfaction dipped early in the year, the team was able to maintain it at a consistent level after Q1.

**Conclusion:** The IT support team’s performance stayed mostly stable throughout the year.

In June, the average resolution time was the highest, which means it took longer to fix

issues that month. However, the team improved again in the following months.

Customer satisfaction stayed almost the same each month, with only small changes.

Overall, the team handled tickets well, but June may need attention to find out why it took longer.

**Figure 7. IT Ticket Resolution and Satisfaction Trends by Month**

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

**Ans.** Based on the below chart that compares average resolution time and satisfaction rate across request categories, we can clearly see that:

. Hardware and System-related tickets take the longest time to resolve and have the lowest

satisfaction ratings, suggesting inefficiencies in handling complex or resource-heavy

issues.

. Software issues also have moderately high resolution times, with only average satisfaction.

. Login Access requests are resolved very quickly, with minimal delay and high satisfaction

indicating the process or tools are effective for simpler issues.

**Conclusion & Recommendation**:

Yes, investing in better technology (hardware, ticketing systems, automation tools) is likely to:

**Reduce resolution times** for hardware and system tickets, where delays are currently the

highest.

**Improve agent efficiency** for complex requests through smarter routing, AI-based triage, or

knowledge base support.

**Enhance employee satisfaction**, especially in categories currently showing poor experience.

Such investments will be most impactful when targeted at specific request categories that are

currently underperforming.

**Figure 8. Resolution Time and Satisfaction Rate by Request Category**

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

**Ans**. The most important **metrics** to evaluate IT agent performance include:

**. Average Resolution Time -** Measures how quickly agents’ close tickets. Lower values denote higher efficiency

**. Performance Ratio -** A derived metric where a ratio <1.00 means the agent is performing better than average, and >1.00 indicates underperformance. This is essential to benchmark each agent fairly.

**. Number of Tickets Handled - Reflects** workload and experience

**. Employee Satisfaction -** Indicates how happy employees are with the support they received. A higher score implies better service quality.

Insights from the **Table 1. Agent Performance Analysis:**

**.** The overall average resolution time is 4.55 days, and the average satisfaction score is 4.10.

**. Top-Performing Agents:** Agents like Diana Rojo, Jesus Grajeda, Javier D., and Galindo Guadalupe stand out with Low resolution times (3.60–4.06 days), High satisfaction scores (≥ 4.47), Ratios below 0.90 — indicating strong efficiency and service quality.

**. Underperforming Agents:** Alfonso Barraza, Sandra Lujan, Nurio Zepeda and Lorena have:

High resolution times (>5.20 days), Low satisfaction scores (≤ 3.60), High ratios (≥1.10) — suggesting consistent underperformance compared to peers.

**.** Some agents, such as **Eduardo Luna** and **Silvia Morales**, are borderline and may be struggling due to factors like complexity of tickets or workload distribution.

**How Can Performance Be Improved?**

Several steps can help improve these performance metrics:

**. Targeted Training** → Train agents with longer resolution times or lower satisfaction ratings

**. Process Optimization** → Standardize ticket handling workflows to reduce delays

**. Software & Tool Upgrades** → Better tools can automate repetitive tasks and improve accuracy

**. Load Balancing** → Assign tickets more evenly to avoid overburdening certain agents

**. Monitoring & Feedback** → Regular reviews and feedback loops help catch issues early

**Do We Need to Fire Any Agents?**

**Recommendations:**

No Immediate Terminations Recommended.

**.** At this stage, **firing** agents would be premature. Instead, underperformance should be

addressed through structured performance management.

**.** **Performance-Based Training Plans** Agents with high ratios and low satisfaction (e.g., Alfonso Barraza, Sandra Lujan) should receive:

i. Targeted skill development in time management and problem-solving,

ii. Customer communication workshops to improve satisfaction scores.

**. Mentorship and Peer Learning**

High-performing agents can be paired with lower-performing colleagues to share best practices.

**.** **Monthly Performance Monitoring** Introduce monthly dashboards to track changes in each agent’s performance metrics, ensuring accountability and early intervention.

**. Workload and Ticket Complexity Review** Analyse if certain agents are handling more complex or high-severity tickets, which may inflate resolution times unfairly.

**📉 When to Consider Termination:**

Termination should only be considered if, after giving proper training, feedback, and time to improve (about 60–90 days), an agent still shows no progress. The focus should be on helping them improve first. If there's no change, then letting them go may be necessary to maintain team performance.

**Figure 9. Agent Performance Overview**

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

**Ans.** The data evaluates the impact of agent age groups on the number of tickets handled, average resolution time, and satisfaction rate.

**.** The 40–44 age group handled the highest number of tickets (23,323), suggesting that this group is the most active or trusted for handling requests. In contrast, the 20–29 age group managed the fewest tickets (9,645), possibly due to less experience or smaller workforce in that segment.

**.** In terms of resolution time, the 35–39 age group showed the highest average resolution time

(4.89 days), indicating slower performance, which could result from dealing with more

complex tickets or a need for additional training. The most efficient resolution time came from

the 50-54 age group (4.16 days), implying that more senior agents might bring experience and

speed to the support process.

**.** Interestingly, the satisfaction rate was not directly correlated with resolution time. For

example, the 20–29 and 45–49 age groups achieved the highest average satisfaction score

(4.26), despite having moderate resolution times. On the other hand, the 35–39 group, which

had the slowest resolution, also had the lowest satisfaction score (3.93), suggesting

performance challenges in this age range.

Overall, the analysis suggests that agent age impacts both efficiency and customer satisfaction.

While mid-to-senior age agents (40–54) tend to handle more tickets and resolve them faster,

younger agents (20–29) and those in the 45–49 group achieve higher satisfaction, indicating a

balance of fresh engagement and experience.

**Figure 10: Performance metrics by Age Group**

**Recommendation:**

Provide training to the 35–39 age group to improve performance, use experienced agents (50–54) for mentoring, and involve younger agents (20–29) in customer-focused roles to boost satisfaction. Balance ticket distribution across age groups.

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

**Ans.** The chart shows the monthly trends of IT ticket volumes, Avg. Resolution time(days) and average satisfaction rates. Here's what the data reveals:

**. Ticket Volume Trend:**

**Increasing Trend**: Ticket volumes steadily increased from 7,242 in January to a

peak of 8,495 in October, showing a growing support demand across the year.

**Peak Period:** October recorded the highest ticket volume (8,495), indicating a

potential spike in IT issues or user activity.

**Stable Periods:** May to August saw relatively stable volumes, averaging between

8,000–8,200 tickets.

**Low Volume:** The year started with the lowest volume in January (7,242).

**. Satisfaction Rate Trend:**

The average satisfaction rate remains relatively constant throughout the year, with only slight variations month-to-month.

Despite the increase in ticket volumes in some months (like August), the satisfaction level remains stable, which suggests that the IT team has maintained consistent service quality even during busier periods.

**. Resolution Time Comparison**

**Resolution Time Peaks**: June showed the highest average resolution time (4.62 days). February,

May, and October also recorded relatively high times (4.59, 4.56, and 4.56 days, respectively).

**Resolution Time Efficiency:** Improved slightly in July and November (4.50 and 4.51 days).

Lowest time was in January (4.58) — which might seem high, but paired with highest

satisfaction, it implies fewer tickets allow better customer handling.

**Conclusions:** Ticket volume increased gradually, peaking in October. Despite higher volumes, the satisfaction rate remained stable, suggesting the support team handled the load well.

Resolution time fluctuated, and higher resolution times don’t directly correlate with lower

satisfaction—implying other service quality factors contribute to satisfaction.

**Recommendations:**

1. Monitor and manage resolution times, especially during peak months like October and June.
2. Strengthen staffing or system support during Q3 and Q4 (July to October), where volumes are higher.
3. Investigate other drivers of satisfaction (communication, professionalism), as customers remained satisfied even when resolution time was slightly longer.
4. Use January as a model month: High satisfaction with lower volumes and fastest resolution—could be a baseline for training or process improvements.

**Figure 8. Ticket Volume, Avg. Resolution Time and Average Satisfaction rate over Month**

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

**Ans. T**o evaluate call centre performance and support investment decisions, the dashboard should include key metrics like **Ticket Count per Agent, Average Resolution Time, and Average Satisfaction Score (based on Severity Date)**. Operational metrics such **as Tickets by Priority/Severity, and Ticket Volume** Trends help assess efficiency. **Workload distribution by Issue Type and Request Category** reveals training or hiring needs. Satisfaction trends guide decisions on agent performance and process improvement. These insights collectively support strategic choices on hiring, training, or upgrading systems.

|  |  |
| --- | --- |
| **Issue Type** | **Count of ID Ticket** |
| **IT Request** | 73220 |
| **IT Error** | 24278 |
| **Grand Total** | **97498** |

**Figure 9. Average of Resolution time by Priority and Severity**

# 3. Methodology

The following steps were used to analyze the dataset:  
- Loaded the dataset into Excel.  
- Explored the dataset using filters, pivot tables, and charts.  
- Used Excel formulas (COUNTA, AVERAGE, VLOOKUP, etc.) to answer specific questions.  
- Identified missing values using conditional formatting and filtering.  
- Created visualizations to represent trends and distributions.

# 4. Conclusion

This project provides a structured approach to analyze IT service ticket data and derive actionable insights. Further improvements can include automation using Excel macros or integration with visualization tools like Power BI.