**#DataDNA May Brief: Technical Support Analysis Challenge**

**Introduction:**

In today’s world, businesses of all sizes rely heavily on technology for daily operations. Technical support plays a crucial role in maintaining these systems efficiently. This month's challenge provides a real-life scenario for you to explore: analyzing the functioning of technical support. It’s a great chance to learn from fellow participants, improve your analytical abilities, and broaden your professional experience.

**Data Dictionary:**

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| **Term** | **Description** |
| **Status** | Ticket Status in Support Pipeline. (**Open:** a new ticket awaiting processing, **In Progress:** Currently being addressed by an agent, **Resolved:** Solution has been provided, **Closed:** Customer has confirmed the ticket's closure.) |
| **Ticket ID** | Unique Ticket Number |
| **Source** | Channel of Request (**chat, phone, email**) |
| **Priority** | Ticket Urgency (**low, medium, high**) |
| **Support Level** | Ticket Difficulty Level (**Tier 1, Tier2**) |
| **Product group** | Product group to which the request pertains |
| **Topic** | Subject matter of the customer's inquiry. |
| **Agent Group** | Agent group to whom the agent belongs (**1st level support, 2nd level support**) |
| **Agent Name** | Agent currently handling the ticket |
| **Created time** | Timestamp indicating when the ticket was received. |
| **Expected SLA to first response** | Deadline for providing the initial response |
| **First response time** | Timestamp of the initial response. |
| **SLA For first response** | First Response Compliance (**Within SLA, SLA Violated**) |
| **Expected SLA to resolve** | Deadline for resolving the ticket. |
| **Resolution time** | Timestamp of ticket resolution |
| **SLA For Resolution** | Resolution Compliance (**Within SLA, SLA Violated**) |
| **Close time** | Timestamp of ticket closure. |
| **Agent interactions** | Total count of agent interactions for each ticket. |
| **Survey results** | Customer Satisfaction Rating: Feedback score on a scale of 1 to 5. |
| **Country** | Country of origin for the customer creating the ticket. |
| **Latitude** | Country Coordinates: Latitude |
| **Longitude** | Country Coordinates: Longitude |

**Data Analysis Focus Areas:**

You have the freedom to choose your analytical approach. However, consider the following questions to guide your exploration, centered around Technical Support Centre Key Performance Indicators (KPIs):

**Ticket Volume Trends:**

* Analyze daily, weekly and monthly volumes
* Compare volumes between workdays and weekends
* Examine ticket distribution during standard work hours versus after hours.
* Recognize peak ticket creation times

**Ticket Content and Resolution:**

* Identify trends in ticket topics
* Investigate first response and resolution times against SLAs.
* Compare support channels (chat, phone, email)
* Analyze ticket geography for trends in submissions or product issues.

**Performance Metrics:**

* Evaluate agent SLA adherence for first responses and resolutions.
* Explore customer satisfaction rates across agents, topics and other categories
* Check how quickly tickets move through the resolution process

The whole report is divided into four separate segments as per the Product Group, namely

* 1. Custom Software Development,
  2. Other (Products),
  3. Ready to us Software,
  4. Training and Consulting Software.

Now coming to the questions asked, without any specific analytical approach, regarding

1. Tickets Trends Analysis:
   1. Pick Time for Ticket Creation: Time wise between 8:00-8:30 AM, 13:00-17:00 PM, and 19:00-20:00 PM shows maximum ticket creation.
   2. Weekly Ticket Volume: Sunday sees the maximum ticket booking, followed by Saturday, Friday, and Thursday.
   3. Monthly Ticket Volume: On average, monthly ticket booking sees a steady inclined graph, indicating the month of December is the highest ticket booking month, followed by November, October.
   4. Quarterly: 4th, followed by 3rd, followed by 2nd, and 1st is the order as Ticket booking goes up.
   5. Weekdays vs Weekends: Weekdays has max ticket booking 2.17Kon avg (92.92%).
   6. Work\_Hours vs After\_Hours: Work\_Hours has max ticket booking of 1.97K (84.64%).
2. Ticket Contents Analysis:
   1. Support wise Analysis: Most of the tickets were booked by email (1.23K, 52.96%), followed by Chat (0.85K, 36.86%), followed by Phone (0.25K, 10.56%).
   2. Topics wise Analysis: Product Setup (0.07K), Pricing and Licensing (0.07K), Feature Requirements (0.04K) are the top three topics for Ticket Creation.
   3. Resolution Time against SLA: Max SLA violated tickets are created around 13:05:16 PM, while max within SLA tickets is created around 13:01:23 PM.
   4. Response Time: Max SLA violated tickets are created around 13:03:17 PM, and as for within SLA max tickets were created around 13:01:02 PM.
3. Performance Metrics:
4. Germany(306), Italy(303), and Poland(287) are the top 3 countries for making max tickets.
5. Topic/ Issue wise when SLA\_Response is concerned, on Tier-1 Support Level, almost all agent’s performance was Average, while for Tier-2 Support Level, except Bug Report and Other issues, we see all the Agents performance hits an Average Rating.
6. Topic/ Issue wise when SLA\_Resolution is concerned, again we observe the same pattern as in the case of SLA\_Response.
7. As for Agents, we see that Connor Danielovitch has performed Excellent in both SLA\_Response and Resoution. Others’ performance were Average.