

CUSTOMER COMPLAINT RESOLUTION TIME ANALYSIS USING EXCEL: A DATA-DRIVEN APPROACH FOR SERVICE OPTIMIZATION

1. Background and Problem Statement:

A B2C utility services provider faced mounting customer dissatisfaction and increasing SLA breaches. With over 1,000 complaint records collected over six months, they needed a simple yet robust solution in Excel to analyze **resolution time trends**, identify delays, and improve their **support efficiency**—without deploying advanced BI tools.

2. Objectives:

- Analyze complaint resolution time against predefined SLA targets
- Identify peak complaint periods by day and hour
- Categorize complaints by type and urgency
- Recommend scheduling and process improvements using Excel-based analysis
- Deliver a visual dashboard and automated SLA breach alerts

3. Methodology:

3.1 Dataset Overview

- **Observations:** 1,023 customer complaints
- **Fields Used:**
 - Complaint ID
 - Complaint Type
 - Date Logged
 - Time Logged
 - Date Resolved
 - Priority (Low/Medium/High)
 - Agent Assigned
 - Customer Zone

3.2 Data Preparation in Excel

- Calculated Resolution Time (Hours) using $\text{=(Date Resolved + Time) - (Date Logged + Time)}$
- Created SLA_Breached column using $\text{=IF(Resolution Time > SLA Threshold, 1, 0)}$
- Extracted weekday and hour using =TEXT() and =HOUR()
- Used COUNTIFS() to summarize breaches by agent, priority, and day

4. Analysis and Results:

4.1 Key Findings

- **SLA Compliance Rate:** 76.4% (goal was 90%)
- **Peak Load Hours:** 10 AM to 12 PM and 5 PM to 6 PM
- **High Priority Complaints Breach Rate:** 41%
- Agents handling multiple zones showed the most SLA breaches

4.2 Visualizations in Excel

- **Heatmap:** Complaints logged by day and hour (Mon–Sun × 24 hours)
- **Bar Chart:** SLA breaches by complaint type
- **Line Chart:** Daily average resolution time
- **Agent Scorecard Table:** Sorted by % SLA breach
- **Dashboard Panel:** Overall KPI tiles with slicers for zone and agent

5. Excel Deliverables:

- **Master Data Sheet:** Includes resolution time formula, flags, and agent performance
- **Summary Sheet:** With all key metrics and COUNTIFS()-based breakdowns
- **Interactive Dashboard:** With slicers for Zone, Complaint Type, and Agent
- **Report Sheet:** PDF-exportable sheet summarizing trends and strategic insights

6. Recommendations:

- Redistribute complaint load to avoid overburdening multi-zone agents

- Automate agent assignment based on complaint type using simple Excel logic
- Shift support coverage to better cover 10 AM–12 PM and 5 PM–6 PM
- Train support team to handle High Priority complaints faster

7. Stakeholder Relevance:

Academic:

- Shows time-duration calculation, KPI tracking, and conditional analysis in Excel
- Offers a clean use-case for using DATE, TIME, and TEXT functions for service analytics

Corporate:

- Helps customer service teams **track operational performance**
- Delivers actionable, Excel-only reporting without external BI costs