Milestone 3 Report

Weeks 5 & 6: Performance & Geographic Analytics

Project: Optimizing IT Support Team Performance Using Analytics (Supportlytics)

Overview

Milestone 3 focuses on **performance trend analysis, geographic insights, and cluster-based performance evaluation**. The objective was to identify **resolution efficiency gaps**, **regional workload imbalance**, and **issue patterns impacting SLA performance**, using analytical techniques and visualizations.

Week 5: Performance Trend Analysis

Objectives

- Analyze resolution performance across ticket priorities and types
- Identify unresolved and delayed high-priority tickets
- Evaluate performance gaps using resolution time metrics

Activities Performed

- Calculated **average resolution time** by:
  - Priority (High, Medium, Low)
  - Ticket Type (Request, Incident, Problem, Change)
- Identified **unresolved tickets**, with a focus on high-priority cases
- Analyzed **resolution time trends** over time
- Evaluated **performance gaps** between:
  - Overall tickets vs high-priority tickets
  - Different issue categories

Key Insights

- High-priority tickets show the **highest unresolved counts**, indicating SLA risks
- Problem and Incident tickets have **higher resolution variability**
- Certain issue categories (Software Bugs, Service Outages) cause **significant delays**

Week 6: Geographic & Cluster-Based Performance Analysis

Objectives

- Compare performance across regions and countries
- Identify geographic ticket concentration and resolution gaps
- Analyze cluster-level performance impact

Activities Performed

- Created **country and region columns** with mapped geographic data
- Analyzed:
  - Ticket volume by region
  - Average resolution time by region
  - High-priority performance by region
- Performed **cluster analysis** to identify:
  - Cluster size (ticket volume)
  - Average resolution time per cluster
  - Dominant issue patterns per cluster
- Visualized:
  - Heatmaps for ticket concentration
  - Bar charts for regional performance
  - Scatter plots for cluster size vs performance impact

Key Insights

- Ticket demand is **heavily concentrated in major IT hubs** (India, US)
- Some high-volume regions show **performance strain**, while others perform efficiently
- **Small but complex clusters** (software bugs, undefined issues) cause the **highest delays**
- Performance degradation is driven more by **issue complexity** than ticket volume

Conclusion

Milestone 3 successfully demonstrated how **performance analytics, geographic analysis, and clustering techniques** can uncover operational bottlenecks and guide data-driven decision-making. These insights enable IT support teams to improve efficiency, reduce resolution delays, and optimize resource allocation.