Point of View (POV) Document : LLM Powered Automation for Roaming Data Analytics

1. Business Problem being Addressed

The core business problem is the struggle faced by telecom analytics teams (network analysts, commercial strategy, product teams) in extracting key performance indicators (KPIs) and patterns from large roaming datasets from SQL. This issue comes from the need to write complex SQL queries, which is time consuming and requires specialized technical skills. The company aims to automate this process using an AI-powered assistant, specifically an LLM, to enable natural language querying and actionable insight generation from roaming data.

2. Target Users

The primary target users for this AI-powered assistant are internal business teams within the telecom company. These include:

1. **Network Analysts**: Who need to monitor network performance, identify anomalies, and optimize roaming plans.

2. **Commercial Strategy Teams**: Who require insights into roaming trends, subscriber behavior, and market opportunities to develop effective commercial strategies.

3. **Product Teams**: Who can use roaming data to enhance existing products or develop new services tailored to customer needs.

3. Valuable KPIs and Roaming Insights

Based on the description and the nature of roaming data, the following KPIs and insights are valuable to the target users:

1. **Outbound Roamer Analysis**: Identifying countries with the most outbound roamers to understand popular destinations and potential areas for partnership optimization.
2. **Data Usage Trends**: Analyzing the trend in average data usage per roamer over time (e.g., quarterly) to understand consumption patterns and forecast demand.
3. **Traffic Generation Efficiency**: Finding the number of users detected via probing who did not generate data traffic. This insight helps in identifying potential issues with network connectivity, subscriber onboarding, or fraudulent activities.
4. **Roaming Partner Performance**: Evaluating the performance of different visited networks based on different parameters.
5. **Device Type Analysis**: Understanding roaming behavior across different device types (e.g., 2G/3G vs. 4G/5G usage, IOT vs. NON-IOT) to tailor services and optimize network resources.
6. **Geographical Roaming Patterns**: Identifying popular visited countries and networks (VMCC/VMNC) and home countries (HMCC/HMNC) to inform strategic decisions.

By providing these insights through natural language queries, the LLM-powered assistant will empower business users to make data-driven decisions more rapidly and effectively, reducing reliance on technical teams for routine data extraction.