# Data Analyst case study

**Problem statement**
- Search & Recommendation encountered many data & feature related issues that went unnoticed for several weeks which affected overall reporting of our KPI. You can refer to the attached document for recent search performance where the anomaly also occurred.
- You as a data PM in Search & Recommendation, are assigned to investigate the issue, and work on the short-term and long-term solutions
  - Short-term: Provide all your hypothesis and your suggested verification methods
  - Long-term: Design some useful dashboards to observe/investigate this issue efficiently in the future (including copy of SQL/Python code)

**Your task**
- Prepare the following documents:
  - A set of Presentation slides to present your proposals
    - The short-team investigation should include all your hypothesis and hypothesis testing/verification methods based on data provided (including copy of SQL/Python code)
    - Visualization of provided data for senior stakeholders to understand the data and the anomalies, if any
    - Any additional data required from product teams to fine-tune the analysis and to draw further insights from
    - The long-term dashboard design should include:  metrics definition, metrics priorities, reasons why you choose these metrics, calculating logic (with SQL/Python samples), and the sketch-up dashboards
    - Your slides should not require more than 30 mins in a real presentation scenario.
- Submission format: Slides for presentation to the management in PPT or PDF.
- Submission needs to be in English.

**Considerations**
- Identify and define the problem clearly; illustrate how your solution design will meet the needs of your stakeholders.
- Make assumptions when necessary and make sure the assumptions are communicated clearly in your output
- Data provided is not always complete. So, specify clearly what other data would you need from the product team to take the analysis to next level
- Plan implementation timeline for your dashboard considering all phases of development including rationale for prioritization
- Lastly, define measurement and tracking of success metrics of your dashboards to ensure it meets your objective