

# EYouth X DEPI Tech Challenge



Submitted by:  
EYouth

# Supplier Quality Analysis

## Challenge Description:

Supplier quality analysis is a critical aspect of supply chain management. It focuses on evaluating and monitoring suppliers' performance to ensure consistent product quality and timely deliveries. Effective supplier analysis helps businesses reduce defects, enhance operational efficiency, and improve customer satisfaction. By leveraging data analytics and visualization tools like Power BI, companies can gain actionable insights into supplier performance, detect patterns, and implement improvements.

This competition aims to enhance students' skills in Power BI by working through a real-world supplier quality analysis scenario. The project will generate business questions, clean and model data, write DAX formulas, and build interactive visualizations to provide meaningful insights.

## Implementation in Steps:

1. Step 1: **Business Questions Generation.**
2. Step 2: **Data Cleaning.**
3. Step 3: **Data Modeling.**
4. Step 4: **Writing DAX Formulas.**
5. Step 5: **Building Visualizations**

## Supporting Material:

- Dataset:  
[https://docs.google.com/spreadsheets/d/1iiFz16Pezs1Quus\\_e8tmNFJD0MCjlcLcS/edit?usp=drive\\_link&oid=117105200364203677083&rtpof=true&sd=true](https://docs.google.com/spreadsheets/d/1iiFz16Pezs1Quus_e8tmNFJD0MCjlcLcS/edit?usp=drive_link&oid=117105200364203677083&rtpof=true&sd=true) ]

## **Time Frame:**

- Duration: 1 Week
- Deadline: 28-2-2025

## **Student Deliverables:**

- A detailed report on the solution approach.
- Data Cleaning Report.
- Power BI Data Model
- Power BI Dashboard (PBIX File & Screenshots)
- A presentation summarizing findings and results

## **Evaluation Criteria:**

### **. Business Questions Generation (10%)**

- Relevance: The business questions generated are relevant to supplier quality analysis and align with the dataset provided.
- Depth: Questions demonstrate a deep understanding of supplier performance metrics (e.g., delivery timeliness, defect rates, etc.).
- Clarity: Questions are clear, concise, and actionable.

### **2. Data Cleaning (20%)**

- Completeness: All missing or inconsistent data is handled appropriately.
- Accuracy: Errors in the dataset are corrected, and data is validated for accuracy.
- Documentation: A clear and detailed data cleaning report is provided, explaining the steps taken to clean the data.

### **3. Data Modeling (20%)**

- Structure: The data model is well-structured, with proper relationships between tables (e.g., one-to-many, many-to-many).

- Efficiency: The model is optimized for performance (e.g., avoiding unnecessary columns or tables).
- Documentation: A clear explanation of the data model is provided, including how tables are related and why the chosen structure is appropriate.

#### **4. Writing DAX Formulas (20%)**

- Complexity: DAX formulas are used effectively to calculate key metrics (e.g., on-time delivery rate, defect rate, etc.).
- Accuracy: Formulas are accurate and produce correct results.
- Efficiency: Formulas are optimized for performance and avoid redundant calculations.
- Documentation: Key DAX formulas are documented with explanations of their purpose and logic.

#### **5. Building Visualizations (20%)**

- Clarity: Visualizations are clear, well-labeled, and easy to understand.
- Interactivity: The Power BI dashboard is interactive, allowing users to explore the data dynamically.
- Relevance: Visualizations are relevant to the business questions and provide meaningful insights into supplier performance.
- Aesthetics: The dashboard is visually appealing and professionally designed.

#### **6. Report and Presentation (10%)**

- Structure: The report is well-organized and follows a logical flow, covering all steps from data cleaning to insights.
- Content: The report provides a comprehensive summary of the solution approach, key findings, and recommendations.
- Presentation: The presentation is clear, concise, and effectively communicates the results and insights to a business audience.