Project Description:

The project focuses on analyzing UK train data to identify patterns in train schedules, delays, and passenger flow. The aim is to provide insights that can improve train performance, reduce delays, and enhance passenger satisfaction through data-driven decision-making.

• Group Members & Roles:

Team Member	Assigned Role	Main Responsibilities
Fady Nashat Nagy Abdalmlak	**Project Manager & Presenter**	- Final delivery & file submission - Presentation preparation - Final presentation delivery - Team coordination & progress tracking
Yasmin Mohamed Kenawy Rizk	**Data Analyst & Dashboard Designer**	- Descriptive analysis - Trend analysis - Advanced analysis - Dashboard design & layout - Data visualization
Mariam Safwat Heshmat Sedrak	**Business Analyst & Data Specialist**	- Defining analysis goals - Setting KPIs - Formulating key questions - Data preprocessing & cleaning - Business insights generation
Mohamed Ahmed Mostafa Ahmed	**Data Modeler & DAX Specialist**	- Creating calculated tables - Developing DAX measures - Data modeling & relationships - Performance optimization - Data engineering
Mohamed Mohamed Sayed Abdelrahman	**Documentation & Reporting Specialist**	- Project documentation - Final report preparation - Key insights documentation - Recommendations writing - Quality assurance

Team Leader: Specify the name of the team leader:
Fady Nashat Nagy Abdelmalak

Objectives: Outline the main goals of the project:

To analyze UK train data to find patterns in schedules and delays.

To measure performance and improve service efficiency.

To visualize key trends and provide useful insights for decision-making.

Tools & Technologies:

Microsoft Excel – for initial data cleaning and basic analysis.

Power BI – for data visualization, DAX calculations (including *Measures*, *Calculated Columns*, and *Calculated Tables*), and interactive dashboards.

Power Query – for data transformation and preprocessing before analysis.

Microsoft PowerPoint – for preparing and presenting the final project.

CALCULATE, SUMX, AVERAGE

Milestones & Deadlines:

Project Kickoff & Planning – Started on *October 10, 2025*

Data Collection & Preparation – Completed by *October 25, 2025*

Data Cleaning & Transformation (Power Query) – Completed by *November 5, 2025*

DAX Calculations & Data Modeling – Completed by *November 20, 2025*

Dashboard Design & Visualization (Power BI) – Completed by *December 1, 2025*

Final Report & Documentation – Completed by *December 10, 2025*

KPI	Description	Target / Expected Value	Measurement Method
1. Data Quality Score (Accuracy & Completeness)	Measures the accuracy and completeness of the dataset after preprocessing and cleaning in Power BI.	≥ 98% clean and valid data (less than 2% missing or incorrect values).	After cleaning, check for nulls or inconsistent entries using Power BI data profiling tools.
2. Dashboard Performance (Load Time)	Evaluates how fast the Power BI dashboard loads and refreshes.	Dashboard load time ≤ 5 seconds; refresh time ≤ 10 seconds.	Use Power BI Performance Analyzer to record load and refresh durations.
3. Interactivity & Usability Score (Positive Feedback)	Assesses how interactive, clear, and user-friendly the dashboard is for end users.	≥ 85% positive feedback from users (based on internal testing).	Collect feedback from DEPI colleagues or supervisors through short survey.
4. Number of Key Insights Generated	Tracks how many valuable business insights the project produces (e.g., predicting ride demand, class distribution, and revenue trends).	At least 5 meaningful insights related to train ridership, demand forecasting, and ticket class revenue.	Based on analysis results presented in Power BI and final report.

5. Report Distribution & Access (Accessibility for Target Users)	Ensures the Power BI dashboard and reports are easily accessible to decision makers.	100% accessibility — reports shared successfully via Power BI Service without technical issues.	Test report sharing and access permissions with target users before final submission.
6. Visualization Effectiveness (Readability Score)	Measures how effective and visually clear the dashboard visuals are according to data visualization best practices.	≥ 90% readability score based on peer review and feedback.	Conduct internal review of visual design and color clarity; gather feedback through a survey.

Presentation & Final Delivery – Completed by *December 15, 2025*

KPIs (Key Performance Indicators) - UK Train Rides Project

The team will monitor the above KPIs throughout the project to ensure data quality, dashboard efficiency, and user satisfaction. These indicators will guide performance evaluation and ensure the project meets both technical and business expectations.