**1. Project Planning & Management**

**Project Overview**

This project analyzes UK railway travel data to uncover trends in ticket sales, travel patterns, delays, and pricing. The goal is to provide insights into train travel efficiency and improve decision-making through data-driven dashboards and visualizations.

**2. Team Contributions**

* **Yasmin Mustafa** – Data Preprocessing & Analysis (cleaned and prepared the data for analysis).
* **Shaimaa Hesham** – Data Modeling (structured data for analysis and pattern detection).
* **Shaimaa Hesham & Reem Osama** – Data Visualizations (created insightful charts and graphs).
* **Ahmed Soliman** – Dashboard Development (designed and built the final dashboard for data presentation).

**3. Project Timeline & Milestones**

| **Phase** | **Tasks** | **Team Members** | **Duration** | |
| --- | --- | --- | --- | --- |
| **Data Preprocessing** | Clean, format, and handle missing values | Yasmin Mustafa | 10/02/2025 | |
| **Data Analysis** | Identify key insights from ticket sales, delays, and pricing | Yasmin Mustafa | 10/03/2025 | |
| **Data Modeling** | Develop structured models for analysis | Shaimaa Hesham | 15/03/2025 | |
| **Visualization Design** | Create graphs and charts for data insights | Shaimaa & Reem | 20/03/2025 | |
| **Dashboard Development** | Build an interactive dashboard for presentation | Ahmed Soliman | | 25/02/2025 |
| **Final Review & Delivery** | Validate findings and compile the final report | Entire Team | 25/02/2025 | |

**4. Risk Assessment & Mitigation Plan**

* **Data inconsistency** → Addressed missing or incorrect values during preprocessing.
* **Complex delay reasons** → Categorized reasons for better analysis.
* **Visualization clarity** → Designed intuitive dashboards for easy interpretation.

**5. Key Performance Indicators (KPIs)**

* Average train delay times.
* Most sold ticket types and classes.
* Most frequently visited cities.
* Total revenue and cost breakdown.