**UK Train Rides Dashboard Using Power Bi**

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**Project Overview**

Our project focuses on analysis of UK railway operations from January to April 2024 using Power BI. . Our goal is to provide key insights to improve service performance and increase passenger satisfaction.

**Data Description**

The dataset consists of 18 columns.

|  |  |  |
| --- | --- | --- |
| **Column** | **Data Type** | **Description** |
| Transaction ID | Text | Unique identifier for an individual train ticket purchase |
| Date of purchase | Date | Date the ticket was purchased |
| Time of purchase | Time | Time the ticket was purchased |
| Purchase Type | Text | Whether the ticket was purchased online or directly at a train station |
| Payment method | Text | Payment method used to purchase the ticket (Contactles, Credit Card, or Debit Card) |
| Rail card | Text | Whether the passenger is a National Railcard holder (Adult, Senior, or Disabled) or not (None). Railcard holders get 1/3 off their ticket purchases. |
| Ticket class | Text | Seat class for the ticket (Standard or First) |
| Ticket type | Text | When you bought or can use the ticket. Advance tickets are 1/2 off and must be purchased at least a day prior to departure. Off-Peak tickets are 1/4 off and must be used outside of peak hours (weekdays between 6-8am and 4-6pm). Anytime tickets are full price and can be bought and used at any time during the day. |
| Price | Whole Number | Final cost of the ticket |
| Departure station | Text | Station to board the train |
| Arrival destination | Text | Station to exit the train |
| Date of journey | Date | Date the train departed |
| Departure Time | Time | Time the train departed |
| Arrival Time | Time | Time the train was scheduled to arrive at its destination (can be on the day after departure) |
| Actual arrival Time | Time | Time the train arrived at its destination (can be on the day after departure) |
| Journey status | Text | Whether the train was on time, delayed, or cancelled |
| Reason for delay | Text | Reason for the delay or cancellation |
| Refund request | Text | Whether the passenger requested a refund after a delay or cancellation |

**Data Cleaning:**

The following steps were taken:

1. All fields were evaluated to ensure appropriate data types were applied.
2. No duplicated records were found.
3. Replace “**None**” [20918 values] in Railcard column with “**No Card**”.
4. Replace 27481 **blank** in Reason for Delay column with **“No Delay”.**
5. Replace **“Weather”** in Reason for Delay column with **“Weather Conditions”** to be consistent as they both represent same reason.
6. Replace **“Staffing”** in Reason for Delay column with **“Staffing shortage”** to be consistent as they both represent same reason.
7. Replace **“Signal failure”** in Reason for Delay column with **“Signal Failure”** to have same format.
8. Add new column called **“Reservation Period In Dayes”:**Custom column **[**Date of journey – Date of purchase**]** then convert duration to days.
9. Add new column called **“Delayed In Minutes” ”:**Custom column **[**Actual arrival Time– Arrival Time**]** thenconvert duration to minute.
10. Add new column called **“Day of Journey”** which is extract from Date of journey column.

**Note:**

The Actual Arrival Time column contain 1880 blank which represents cancelled trips