Road Accident Analysis Project Using Excel

Project Overview

In this data analytics project, we conducted an in-depth analysis of road accidents to create an interactive dashboard that provides valuable insights through various visualization tools such as donut charts, graphs, text boxes, pivot tables, and line charts.

Project Steps

1. **Understanding the Data**:
    - Analysed the data headers to comprehend the dataset.
    - Identified data types and primary keys.
2. **Data Cleaning**:
    - Removed unnecessary columns.
    - Eliminated null values.
    - Corrected spelling mistakes (dummy data).
3. **Data Processing**:
    - Processed the necessary data for visualization.
    - Created additional columns required for analysis.
4. **Data Visualization**:
    - Converted the cleaned data into pivot tables.
    - Developed various visualizations, including donut charts, graphs, line charts, slicers, filters, images, textboxes, links, icons, shapes, etc.

Dashboard Creation

- Combined different visualizations to create an interactive dashboard.
- Used slicers and filters to enhance data analysis efficiency.
- Placed different types of visuals side by side on the same page for comparative analysis.

Insights

From our analysis, we observed the following trends and patterns:

1. Most accidents resulted in only minor injuries, with no fatalities.
2. Over 80% of accidents involved cars.
3. The number of accidents in 2022 increased compared to 2021.
4. Single carriageways were the most common locations for accidents.
5. Accidents frequently occurred on dry surfaces.
6. Urban areas experienced more accidents than rural areas.

The data was transformed into an interactive dashboard that offers an intuitive and informative user experience. Additional information about the accidents can be accessed via links embedded in the dashboard.

Beneficiaries

This project is beneficial for:

- Ministry of Transport
- Police Force
- Road Safety Corps
- Traffic Management Agencies
- The General Public

Summary:

In this project, we leveraged Excel to perform a comprehensive analysis of road accident data, culminating in an interactive and insightful dashboard. Our approach involved meticulous data understanding, cleaning, processing and visualisation, leading to valuable insight beneficial for various stakeholders involved in road safety and traffic management.