**Car Sales Analysis**

**Power BI Dashboarding project proposal**

**1.Executive Summary:**

This project aims to develop an interactive and insightful Power BI dashboard for analysing car sales data. The dashboard will enable real-time monitoring of key performance indicators (KPIs), providing a visual representation of critical business metrics to enhance data-driven decision-making for automotive businesses and dealerships.

1. **Problem Statement:**

**Background:**

Limited visibility into real-time sales performance makes it difficult for dealerships and manufacturers to make timely decisions regarding inventory, pricing, and marketing strategies.

**Objective:**

Develop a Power BI dashboard to monitor and analyse key car sales metrics, offering clear insights into sales trends, inventory turnover, and customer purchasing behavior.

**Scope:**

The dashboard will focus on:

* + Total car sales and revenue analysis
  + Brand and model performance tracking
  + Regional and dealership-wise sales comparison
  + Customer preferences and demographic insights
  + Inventory vs. sales analysis

1. **Data Sources:**

**Dataset : https://www.kaggle.com/datasets/missionjee/car-sales-report**

The dataset appears to contain car sales records, including details about customers, dealers, car specifications, and pricing. Here are the key columns:

* **Car\_id**: Unique identifier for each car.
* **Date**: Date of sale.
* **Customer Name**: Name of the customer.
* **Gender**: Gender of the customer.
* **Annual Income**: Customer's annual income.
* **Dealer\_Name**: Name of the car dealer.
* **Company**: Car manufacturer (e.g., Ford, Dodge, Cadillac).
* **Model**: Specific car model.
* **Engine**: Type of engine (e.g., Overhead Camshaft).
* **Transmission**: Type of transmission (Auto/Manual).
* **Color**: Color of the car.
* **Price ($)**: Price of the car in dollars.
* **Dealer\_No**: Unique dealer identification number.
* **Body Style**: Type of car body (e.g., SUV, Hatchback).
* **Phone**: Dealer's phone number.
* **Dealer\_Region**: Geographic location of the dealer.

1. **Methodology:**

* **Data Integration:** Extract and integrate sales data from internal dealership systems and external sources into Power BI.
* **Dashboard Design:** Collaborate with stakeholders to define key metrics and design a visually appealing, interactive dashboard.
* **Interactivity Features:** Implement drill-down analysis, filters for brand/model/region, and trend exploration capabilities.

1. **Expected Outcomes:**

* Real-time, interactive dashboards providing insights into sales performance.
* Enhanced decision-making through visual representation of sales, revenue, and market trends.
* Improved data accessibility for dealership managers, sales teams, and decision-makers.
* Optimized inventory management by analysing demand trends and reducing stock inefficiencies.

1. Tools and Technologies:
   * Power BI for dashboard development.
   * SQL for data extraction and transformation.
   * Collaboration tools for stakeholder feedback.

1. **Risks and Challenges:** 
   * Data integration challenges while connecting to multiple sources.
   * Ensuring data accuracy and consistency across all reports.
   * User adoption and training for stakeholders unfamiliar with Power BI.

1. Conclusion:

This Car Sales Analysis Dashboard will provide dealerships and automotive companies with a powerful, data-driven tool for sales performance analysis. By delivering real-time, actionable insights, the project aims to empower sales teams and business leaders to make quicker, more informed decisions, driving growth and operational efficiency in the automotive industry.