Problem:

Auto Experts, a car service provider, needed a way to analyze and visualize their car servicing data to gain insights into key business metrics. The goal was to understand revenue trends, vehicle and fuel type preferences, repair statuses, and other essential data to guide decision-making and improve service efficiency.

Steps Taken to Solve the Problem:

Data Cleaning and Preparation:

I used PowerBI to clean and preprocess the servicing data, ensuring it was accurate and consistent across various data sources.

I handled missing values and standardized inconsistent formats for seamless analysis.

Data Analysis:

I computed key metrics such as the average price of serviced cars, total revenue, and average distance traveled by cars before servicing.

Identified trends in vehicle types and their respective fuel types (e.g., buses, sedans, diesel, petrol).

Data Visualization:

Designed an interactive dashboard using Power BI with the following features:

Dropdown filters for vehicle types.

Intuitive charts displaying revenue metrics, repair statuses, and top-performing car models.

Visualized the proportion of vehicles repaired vs. not repaired to assess service efficiency.

Insights Generation:

Highlighted the top 10 revenue-generating car models.

Analyzed repair status trends and identified areas to improve customer satisfaction.

Explored fuel type preferences and their impact on service patterns.

Challenges Addressed:

Overcame issues with integrating data from multiple sources by creating a standardized data schema.

Ensured the dashboard effectively communicated insights to non-technical stakeholders through clear and user-friendly design.

Insights Gained:

The average price of cars serviced provided a financial overview, helping Auto Experts target high-value vehicles.

Total revenue insights, amounting to 62M, enabled the business to gauge overall performance.

Understanding the average distance traveled by cars before servicing highlighted potential maintenance schedules.

Trends in vehicle and fuel types revealed popular categories, aiding inventory and service optimization.

The repair status visualization showcased the service efficiency, identifying opportunities to reduce non-repair instances.

The top 10 revenue-generating car models helped prioritize high-impact services.

Impact:

The dashboard empowered Auto Experts to:

Identify high-revenue vehicle types and focus marketing efforts on them.

Enhance customer satisfaction by addressing repair inefficiencies.

Optimize operations by understanding travel patterns and fuel preferences.

