



# Cars24 Used Cars Analysis Report

---

-Sanyu Paul Reddy

## Dataset Overview

This report provides a detailed analysis of the Cars24 Used Cars dataset. The analysis explores used car sales patterns across multiple dimensions such as brand, model, fuel type, transmission, ownership, price, and location, using PySpark for distributed data processing.

- Source: Cars24 Used Cars Dataset
- Records: ~1,000
- Columns: 9
- Format: CSV

### Key Columns:

- Year: Manufacturing year of the car
- Car Model: Brand and model name of the car
- Car Variant: Variant name (e.g., VXi, ZXi, etc.)
- KM Driven: Distance driven by the car (mileage)
- Fuel Type: Petrol, Diesel, CNG, or Electric
- Transmission Type: Manual or Automatic
- Ownership: Ownership status (First Owner, Second Owner, etc.)
- Price (in Lakhs): Selling price of the car
- Location: Sale location (city/region)

## Key Findings and Analysis

### 1. Car Age Distribution

- Insight: Most cars listed fall within 5–10 years of age, showing Cars24 as a platform for mid-life cars rather than brand-new or very old vehicles.
- Trend: Cars older than 12 years are fewer in number, indicating limited resale value.

## 2. Fuel Type Distribution

- Insight: Petrol cars dominate the dataset, followed by Diesel. CNG and Electric vehicles are still rare in the resale market.
- Trend: Petrol preference reflects affordability and availability, while gradual Electric adoption may increase in future years.

## 3. Transmission Type Analysis

- Insight: Manual transmission cars account for the majority of listings.
- Trend: Automatic transmission is gaining adoption, especially in urban cities, but manual still dominates in the used market.

## 4. Ownership Patterns

- Insight: First-owner cars form the majority of listings, which indicates higher trust among buyers.
- Trend: Cars with more than 2 owners have noticeably lower resale value.

## 5. Price Distribution

- Insight: The average price of used cars falls between ₹3–8 Lakhs.
- Trend: Premium cars (above ₹15 Lakhs) form a very small portion of the dataset, indicating affordability-driven resale market.

## 6. Location Trends

- Insight: Metro cities show higher listings and slightly higher prices due to demand and supply dynamics.
- Trend: Smaller cities show fewer listings but offer more budget-friendly vehicles.

## 7. Popular Brands & Models

- Insight: Maruti Suzuki and Hyundai dominate the used car market.
- Trend: Popular models such as Swift, WagonR, and i20 have the most resale demand, reflecting buyer trust and affordability.

## Technologies Used for Analysis

The project leverages Big Data Analytics tools and PySpark for efficient handling of large datasets:

- Python: Core programming language

- PySpark: Distributed processing and scalable data manipulation
- Pandas: Data exploration and validation
- Matplotlib & Seaborn: Visualization of price distributions, fuel type shares, and ownership trends
- Jupyter Notebook: Interactive development and reporting

## Conclusion

The Cars24 Used Cars Analysis project reveals important insights into the resale car market in India:

- Majority cars are 5–10 years old, with petrol as the dominant fuel type
- Manual cars dominate, though automatic is steadily growing
- First-owner vehicles are the most attractive to buyers
- Metro cities drive higher resale values and volumes
- Maruti Suzuki and Hyundai lead the market in resale demand

These insights can help Cars24 and similar platforms to optimize their listings, pricing, and marketing strategies. This project also highlights how PySpark can efficiently analyze thousands of records to produce business insights.