

Power BI Engineer Training – DEPI

Tesla Project Brochure

*Sara Hani Farid (Data Cleaning and
power BI dashboard)*

*Rana Tarek Murad (Reporting Data
Visualization and Presentation Preparation)*

Eng: Mohamed Abdallah

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Project Overview:

Our project Tesla's electric vehicle performance showcases impressive sales and production trends, with the Model 3 leading as a best-seller. The Model Y is gaining popularity rapidly, while the Model S and Model X maintain niche appeal. Overall revenue growth reflects these trends, although Tesla's stock price has fluctuated significantly, mirroring market sentiment and company performance.

Key Models:

Model S: Luxury electric sedan known for its high performance and long range.

Model 3: Affordable electric vehicle targeted at mass-market consumers; it is Tesla's best-selling model.

Model X: An electric SUV featuring distinctive Falcon Wing doors and luxury elements.

Model Y: A compact SUV that is versatile for families and urban use.

CyberTracker: An upcoming electric truck designed for durability and rugged performance.

Data Cleaning Process (Conducted by Sara):

Sara undertook the data cleaning process to ensure the dataset was accurate and suitable for analysis.

The steps included:

- 1. Removing Duplicates:** Identified and removed any duplicate records to maintain data integrity.
- 2. Handling Missing Values:** Addressed missing data points by using techniques such as imputation, where applicable, or removal of records with excessive missing values.
- 3. Data Type Corrections:** Ensured that each attribute had the correct data type (e.g., dates were in date format, numerical values were not stored as text).
- 4. Standardizing Values:** Standardized categorical values (e.g., car model names, regions) to ensure consistency across the dataset.

Data Visualization (Conducted by sara):

Once the data was cleaned, I focused on creating a comprehensive Power BI report that includes visualizations to effectively communicate our findings.

The steps included:

1. Exploratory Data Analysis (EDA): Conducted preliminary analysis to understand the distribution and relationships of key variables within the dataset.

2.Data Modeling

Relationships Established

DAX Calculations

3.Creating Visualizations

Vehicle Performance*: Utilized bar charts to compare different Tesla models based on performance metrics like range, speed, and customer satisfaction ratings.

4.Dashboard Design: Integrated various visualizations into a cohesive dashboard that provides an overview of Tesla's performance metrics immediately. The dashboard is designed to be interactive, allowing users to filter by model, time, and other dimensions.

5. Interactivity Features :

Slicers and Filters: Allowed users to filter data by year and model, providing detailed insights into specific trends and performance metrics.

Tooltips: Enhanced user experience by providing additional context on metrics, such as year-over-year changes.

Reporting (Conducted by Rana):

The steps that Rana followed to create a report

Step 1: Define Objectives

Clearly define the purpose of the report. Are you focusing on financial performance, market analysis, technological innovations, or a combination of these? •

Step 2: Conduct In-depth Research

Gather comprehensive information about Tesla's business operations, financials, product offerings, and market trends. Use reliable sources to ensure accuracy. •

Step3: Organize Findings

Create a structured outline of the report, organizing findings into sections: Introduction, Key Models, Innovations, Environmental Impact, Financial Performance, Challenges, Prospects, and Actionable Steps.

Step4: Draft the Report

Write the report following the outline. Ensure clarity and coherence in presenting your analysis and insights.

Step5: Review and Edit

Proofread the report for grammatical errors, clarity, and consistency. Ensure that all sources are properly cited.

Step6: Prepare the Presentation

Develop a presentation summarizing key points from the report. Use slides to engage the audience and highlight essential insights.

Step7: Practice Delivery

Rehearse your presentation to ensure smooth delivery. Prepare for potential questions and discussions.

Step8: Finalize and Submit

Make final adjustments to both the report and presentation based on feedback or additional insights. Submit the report and prepare for the presentation.

Presentation Preparation (Conducted by Rana):

Rara will prepare a presentation to summarize our findings, focusing on the key insights derived from the visualizations and their implications for Tesla's strategy.

Feedback Session:

We plan to present our report and dashboard to our instructor, incorporating feedback to refine our analysis and presentation further.

Conclusion:

Our project aims to provide actionable insights based on the Tesla dataset through thorough data cleaning, effective reporting, and engaging visualizations. We believe our findings will contribute to a deeper understanding of Tesla's market dynamics and customer preferences