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Capstone Two Project Proposal

1. Problem Statement

By the end of 2025, identify at least three high-potential U.S. regions for EV market entry, using vehicle specifications and regional adoption data, and recommend targeted strategies that could increase adoption rates in those regions by at least 15% over the following year.

2. Context

The U.S. EV market is expanding but remains fragmented:

- Urban markets benefit from dense charging networks, incentives, and high consumer readiness.
- Rural markets face infrastructure gaps, long travel distances, and performance needs tailored to climate and terrain.

Washington State exhibits both extremes within its borders. Leveraging its data provides a cost-effective, evidence-based way to model national urban–rural dynamics and identify high-potential regions for EV penetration.

3. Criteria for Success

This project will be considered successful if the following goals are achieved by December 31, 2025:

1. Identification Goal: Determine at least three high-potential U.S. regions for EV market entry using a combination of vehicle specifications and regional adoption data.
2. Recommendation Goal: Develop three targeted go-to-market strategies for each identified region that align with local consumer behavior, infrastructure readiness, and market conditions.
3. Impact Goal: Ensure each recommended strategy is designed to potentially increase EV adoption rates in its target region by at least 15% within 12 months of implementation (hypothetical, for academic purposes).

4. Scope of Solution

This project will:

- Analyze EV performance specifications and Washington State adoption data as a case study.
- Segment the state's EV market based on consumer behavior, vehicle attributes, and geographic trends.
- Identify underserved market segments and recommend targeted go-to-market strategies for EV manufacturers, startups, and policymakers.

- Outline a framework for scaling the Washington State model to other U.S. states and regions.

This project will not:

- Cover non-U.S. markets.
- Include proprietary or confidential datasets.
- Build physical infrastructure or execute marketing campaigns.

5. Constraints

- Limited to publicly available datasets.
- Time-bound to the academic course schedule.
- No primary data collection (e.g., surveys or interviews).
- Analysis and recommendations are hypothetical and for academic purposes only.

6. Stakeholders

- EV Manufacturers & Startups: to guide R&D and marketing priorities.
- Regional Suppliers & Dealers: to align inventory and sales strategies.
- Policy Makers & Regulators: to inform incentives and infrastructure investment.
- Consumers: indirect beneficiaries through more tailored EV options.

7. Data Sources

1. Electric Vehicle Specifications Dataset 2025 (Kaggle)
   - Technical/performance data for EV models available or projected through 2025, including range, battery capacity, top speed, price, and charging capabilities.
2. State of Washington Electric Vehicle Population Data (Data.gov)
   - Regional EV registration numbers across Washington State by vehicle type, model, and ZIP code, reflecting real-world adoption trends and preferences.