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REVIEWER'S REPORT

Manuscript No.: IJAR-52950 Date: 24-07-2025

Title: IMPACT OF AI INTEGRATION ON ELECTRIC VEHICLE PROFITABILITY: AN ANALYTICAL STUDY

Recommendation:
Accept as it is .....
Accept after minor revision.....
Accept after major revision .....
Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality			✓	
Clarity			✓	
Significance		✓		

Reviewer Name: Dr.P.Manochithra **Date:** 24-07-2025

Reviewer's Comment for Publication.

(*To be published with the manuscript in the journal*)

The reviewer is requested to provide a brief comment (3-4 lines) highlighting the significance, strengths, or key insights of the manuscript. This comment will be Displayed in the journal publication alongside with the reviewers name.

This manuscript presents a timely and insightful analysis of how artificial intelligence enhances profitability in the electric vehicle sector. By combining case studies with financial and operational data, the study effectively highlights AI's role in optimizing manufacturing, supply chains, and customer engagement. It makes a significant contribution to understanding the strategic value of AI in sustainable mobility.

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Detailed Reviewer's Report

Title of the Manuscript:

Impact of AI Integration on Electric Vehicle Profitability: An Analytical Study

General Evaluation:

This manuscript addresses a highly relevant and emerging topic in both the automotive and technology sectors. The authors analyze the impact of artificial intelligence (AI) on electric vehicle (EV) profitability by evaluating real-world applications, financial performance, and operational outcomes. The paper is well-structured, supported by credible sources, and presents a balanced assessment of opportunities and challenges.

Strengths:

1. **Timeliness and Relevance**:
   The topic aligns well with ongoing global trends in sustainable mobility, digital transformation, and clean energy. The integration of AI in EVs is a growing area of interest, and this study captures its financial and operational implications effectively.
2. **Comprehensive Scope**:
   The paper covers key dimensions such as manufacturing optimization, supply chain efficiency, predictive maintenance, customer engagement, and revenue models. The multiple angles provide a holistic perspective on AI's role in the EV industry.
3. **Case Study Methodology**:
   The inclusion of comparative case studies (Tesla, BYD, and Ford) strengthens the analysis and adds practical depth. Financial performance metrics pre- and post-AI adoption offer tangible insights.
4. **Data-Driven Approach**:
   The study makes use of secondary data from reputable industry sources (e.g., McKinsey, IEA, PwC), academic research, and company financials, providing a strong evidential base.
5. **Strategic Insights**:
   The discussion on AI-enabled revenue models (e.g., software subscriptions, over-the-air updates), operational efficiency, and long-term profitability is particularly insightful. The use of an AI Impact Evaluation Framework is commendable.

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Areas for Improvement:

1. **Further Case Study Expansion**:
   Including additional companies like Lucid Motors, Rivian, NIO, or European automakers such as Volkswagen would provide geographic and operational diversity. It would also allow for a better comparison between startups and legacy automakers.
2. **Incorporation of Primary Data**:
   Although optional, interviews or surveys with industry experts or company representatives would enrich the qualitative aspect of the paper and provide first-hand validation.
3. **Financial Forecasting**:
   The paper could benefit from projections or modeling to estimate the long-term financial impact of AI adoption under various scenarios.
4. **Sustainability Aspects**:
   While AI's contribution to cost and efficiency is well-covered, its potential in enhancing environmental sustainability (e.g., energy optimization, waste reduction, smart recycling) could be discussed in more depth.
5. **Challenges and Limitations**:
   The section on barriers to AI adoption could be elaborated to include more detailed risks—such as data privacy, cybersecurity, regulatory uncertainty around autonomous driving, and AI talent shortages.
6. **Comparative Analysis**:
   A focused comparative section between EV-only players and traditional automakers transitioning to EVs could yield nuanced insights into differences in AI strategies and adoption timelines.

Technical & Editorial Suggestions:

- Ensure consistency in formatting of references and correct minor typographical errors (e.g., "SUGESSTION" in the heading).
- Graphs and figures (e.g., Tesla's margin trends) are helpful, but additional visualization of AI investment vs. ROI could add value.
- Acronyms (like ADAS, SaaS) should be defined at first mention for accessibility.

Conclusion:

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This is a well-researched and forward-looking manuscript that contributes valuable insights into the financial and strategic implications of AI integration in the EV industry. With minor enhancements—particularly around expanding case diversity, financial projections, and highlighting sustainability—this paper would be an excellent addition to academic and industry literature.