# Article information:

Complex sensitivity analysis in Multi-Criteria Decision Analysis: An application to the selection of an electric car - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0959652623002093>

# Article summary:

1. Multi-Criteria Decision Analysis (MCDA) is a suitable tool for comprehensively analyzing the available decision variants, but current frameworks are based on crisp values.

2. This paper proposes a new comprehensive framework for sensitivity analysis based on interval arithmetic and the MCDA approach to evaluate electric cars for sustainable transport development.

3. The proposed system can be considered an autonomous model, which releases the decision-maker from criteria weighting and allows determining how slight changes in parameter values may affect the position of an alternative in the final ranking.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article “Complex Sensitivity Analysis in Multi-Criteria Decision Analysis: An Application to the Selection of an Electric Car” is a well-written and comprehensive overview of Multi-Criteria Decision Analysis (MCDA) methods and their application to selecting electric cars for sustainable transport development. The authors provide a thorough review of existing literature on MCDA methods, as well as their own proposed framework for robustness analysis based on Interval TOPSIS assessing electric cars.

The article is generally reliable and trustworthy, providing evidence to support its claims and exploring counterarguments where appropriate. The authors present both sides of the argument equally, noting potential risks associated with their proposed framework and providing detailed explanations of their methodology. Furthermore, they provide a practical case study to demonstrate the performance of their proposed framework, which adds credibility to their claims.

However, there are some areas where the article could be improved upon. For example, while the authors provide a thorough review of existing literature on MCDA methods, they do not explore other approaches that could be used in this context such as fuzzy logic or artificial intelligence techniques. Additionally, while they provide evidence to support their claims regarding electric car selection for sustainable transport development, they do not explore other potential applications or implications of their proposed framework beyond this specific use case.

In conclusion, overall this article is reliable and trustworthy with regards to its claims about Multi-Criteria Decision Analysis (MCDA) methods and their application to selecting electric cars for sustainable transport development. However, it could benefit from further exploration into other approaches that could be used in this context as well as other potential applications or implications of its proposed framework beyond this specific use case.

# Topics for further research:

* Fuzzy Logic for Multi-Criteria Decision Analysis
* Artificial Intelligence Techniques for Multi-Criteria Decision Analysis
* Multi-Criteria Decision Analysis Applications
* Sustainable Transport Development Implications
* Electric Car Selection Alternatives
* Robustness Analysis Interval TOPSIS

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