Abstract

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Study on a Multi-Criteria Decision Making Selection Problem using Preference Selection Index (PSI) Method

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Abstract:

Multi-Criteria Decision Making (MCDM) is greatly used to make decisions, where the decision making process associated with multi directive aspects. The Decision Makers or the stakeholders are those who has to take statistical measure or strong analytical observations to make decisions. In this study the selection of best alternative among four scooter model is being done. To solve this several criterions are being selected based on the market survey that was conducted in account of gathering customer's reviews. The decision making is being done by using the Preference Selection Index (PSI) method of MCDM tool. Depending upon the weightage, the Preference Selection Index (I_j) is being calculated and Scooter D was ranked 1 in this selection process on the basis of the highest value of I_j .

Keywords: MCDM, PSI, Selection, Scooter

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References:

- 1. Tzeng GH, Huang JJ. Multiple attribute decision making: Methods and applications. Multiple Attribute Decision Making: Methods and Applications. 2011.
- 2. Zavadskas EK, Podvezko V. Integrated determination of objective criteria weights in MCDM. Int J Inf Technol Decis Mak. 2016;
- 3. Soltani A, Hewage K, Reza B, Sadiq R. Multiple stakeholders in multi-criteria decision-making in the context of municipal solid waste management: A review. Waste Management. 2015.
- 4. Maniya K, Bhatt MG. A selection of material using a novel type decision-making method: Preference selection index method. Mater Des. 2010;

- 5. Emovon I, Oghenenyerovwho OS. Application of MCDM method in material selection for optimal design: A review. Results Mater. 2020;
- 6. Attri R, Grover S. Application of preference selection index method for decision making over the design stage of production system life cycle. J King Saud Univ Eng Sci. 2015;
- 7. Arifin N, Saputro PH. Selection Index (PSI) Method in Developing a Student Scholarship Decision Support System. Int J Comput Inf Syst. 2022;
- 8. Windarto AP, Mesran, Saidah F, Ambarsari EW. Implementation of the Preference Selection Index (PSI) Method in Determining the Best Coffee Shop. Bull Artif Intell. 2024;3(1):35–41.