

ABSTRAK

Juliana Tampubolon, NM 4203230033 (2024), Sistem Pendukung Keputusan Pemilihan Laptop Terbaik dengan Pendekatan Gabungan AHP dan TOPSIS (Studi Kasus : FMIPA UNIMED)

Beragamnya pilihan laptop di pasaran menyebabkan mahasiswa FMIPA UNIMED mengalami kesulitan dalam memilih laptop yang sesuai dengan kebutuhan akademis mereka. Penelitian ini bertujuan mengembangkan sistem pendukung keputusan pemilihan laptop dengan mengintegrasikan metode *Analytical Hierarchy Process* (AHP) dan *Technique for Order of Preference by Similarity to Ideal Solution* (TOPSIS). Pengumpulan data dilakukan melalui penyebaran kuesioner dan observasi terhadap spesifikasi laptop yang tersedia di pasaran. AHP digunakan untuk pembobotan kriteria, sedangkan TOPSIS diimplementasikan untuk perankingan alternatif laptop. Hasil analisis menggunakan AHP menunjukkan konsistensi pembobotan kriteria dengan nilai Consistency Ratio (CR) sebesar 0.04. Implementasi TOPSIS menghasilkan peringkat alternatif laptop dengan nilai preferensi tertinggi diperoleh Lenovo (0.624), diikuti Acer (0.562), HP (0.416), dan ASUS (0.413). Penelitian ini membuktikan bahwa integrasi metode AHP-TOPSIS efektif dalam menghasilkan sistem pendukung keputusan yang membantu mahasiswa FMIPA UNIMED memilih laptop sesuai kebutuhan mereka.

Kata kunci : Sistem Pendukung Keputusan, AHP-TOPSIS, Pemilihan Laptop, Preferensi Mahasiswa, Multi-Kriteria



ABSTRACT

Juliana Tampubolon, NM 4203230033 (2024), Decision Support System for Best Laptop Selection Using a Combined Approach of AHP and TOPSIS (Case Study: FMIPA UNIMED)

The wide variety of laptop options available in the market poses challenges for FMIPA UNIMED students in selecting laptops that meet their academic needs. This research aims to develop a decision support system for laptop selection by integrating the Analytical Hierarchy Process (AHP) and the Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS). Data collection was conducted through questionnaires and observations of the specifications of laptops available in the market. AHP was utilized for weighting the criteria, while TOPSIS was implemented to rank the laptop alternatives. The AHP analysis results indicated consistency in criteria weighting, with a Consistency Ratio (CR) of 0.04. The TOPSIS implementation produced a ranking of laptop alternatives, with Lenovo achieving the highest preference score (0.624), followed by Acer (0.562), HP (0.416), and ASUS (0.413). This research demonstrates that the integration of AHP and TOPSIS methods effectively produces a decision support system that assists FMIPA UNIMED students in selecting laptops that meet their needs.

Keywords: Decision Support System, AHP-TOPSIS, Laptop Selection, Student Preferences, Multi-Criteria

