MULTI-CRITERIA DECISION MAKING FOR SMARTPHONE BRAND SELECTION USING NEUTROSOPHIC SOFT SET
(*Pembuatan Keputusan Pelbagai Kriteria untuk Pemilihan Jenama Telefon Pintar Menggunakan Set Lunak Neutrosophic*)

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ABSTRACT

This study explores the use of Neutrosophic Soft Set (NSS) in selecting the best smartphone brand for consumers, as the market is flooded with numerous brands and criteria, making it challenging for consumers to choose a smartphone that aligns with their preferences and interests. NSS is a mathematical tool that is effective in resolving decision-making problems involving uncertainty and inconsistent data. The study's objective is to demonstrate that NSS successfully handles complex decision-making problems involving uncertainty and inconsistent data. The study's results indicate that NSS can effectively manage high levels of uncertainty in smartphone selection, making it a valuable tool for consumers faced with such decisions. The result obtained by NSS for the chosen criteria and alternative is then used in comparative analysis to assess the accuracy of the method.

Keywords: multi criteria decision making; neutrosophic soft set; neutrosophic set

ABSTRAK

Kajian ini meneroka penggunaan Set Lunak Neutrosofik (NSS) dalam memilih jenama telefon pintar terbaik bagi pengguna, memandangkan pasaran dibanjiri dengan pelbagai jenama dan kriteria, menjadikan ia mencabar bagi pengguna untuk memilih telefon pintar yang selari dengan keutamaan dan minat mereka. NSS merupakan alat matematik yang berkesan dalam menyelesaikan masalah pembuatan keputusan yang melibatkan ketidakpastian dan data yang tidak konsisten. Objektif kajian ini adalah untuk membuktikan bahawa NSS berjaya mengendalikan masalah pembuatan keputusan yang kompleks yang melibatkan ketidakpastian dan data yang tidak konsisten. Hasil kajian menunjukkan bahawa NSS dapat menguruskan ketidakpastian yang tinggi dalam pemilihan telefon pintar dengan berkesan, menjadikannya alat yang berharga bagi pengguna yang dihadapi dengan keputusan sedemikian. Keputusan yang diperoleh oleh NSS berdasarkan kriteria dan alternatif yang dipilih kemudiannya dibandingkan melalui analisis perbandingan untuk melihat kejituan kaedah tersebut.

Katakunci: keputusan pelbagai kriteria; set lunak neutrosofik; set neutrosofik

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