

UNIVERSITI TEKNOLOGI MARA

**MOBILE TELECOMMUNICATION
RECOMMENDATION SYSTEM
USING COLLABORATIVE
FILTERING AND SENTIMENT
ANALYSIS VIA TWITTER**

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ABSTRACT

This study presents a web-based recommender system designed to address the challenge of selecting Malaysia's most suitable mobile telecommunication provider. The system combines Twitter sentiment analysis and collaborative filtering to provide personalized and informed recommendations to users. The background analysis reveals users' difficulty finding the right option amongst numerous providers while existing recommendation methods prove costly and inefficient. The research aims to design and implement a solution that leverages Twitter sentiment analysis to gather real-time user opinions and employs collaborative filtering to offer personalized options. Following a modified waterfall model, the study gathers requirements, conceptualizes the system, and collects data by analyzing tweets expressing user sentiments toward mobile telecommunication providers. The results demonstrate the system's effectiveness, achieving an impressive sentiment analysis accuracy of approximately 87.89% using the Logistic Regression model. The collaborative filtering approach generates personalized recommendations based on user interactions, assisting users in making well-informed decisions. In conclusion, the web-based recommender system successfully combines Twitter sentiment analysis and collaborative filtering, providing valuable assistance to users in selecting the best mobile telecommunication provider tailored to their needs in the competitive Malaysian market. Future research includes enriching the dataset, integrating hybrid recommendation techniques, implementing real-time sentiment analysis, and enhancing user feedback integration for continuous improvement. A user-friendly mobile application is also suggested to improve accessibility and user experience.

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