

Evaluating Internet Satisfaction of Sri Lankan Router Users: A Supervised Data Mining Approach

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Abstract

In this digital era, the internet transforms individual communication, access and obtaining formation, and other various activities. The primary objective of this study is to develop a model to determine internet satisfaction among users who use routers to connect to the Internet in Sri Lanka. The web interface was created to predict the satisfaction level and it helped to enhance and achieve the primary objective. A Google Sheet survey was done to collect data, focusing on a diverse sample including 1026 users. Supervised data mining algorithms, including Linear Regression, Lasso, Decision Tree, and Random Forest Regression, were used for this study. Then, collected data was analyzed enabling the identification of patterns and relationships among variables related to internet satisfaction. This research contributes to understanding internet satisfaction in the specific context of Sri Lanka. As the key determinants of internet satisfaction, this research identified, highlighting the pivotal role of internet speed, reliability, and the value for money that is spent on the internet. Various supervised data mining techniques enhance the predictive accuracy of satisfaction levels and provide a comprehensive perspective for targeted improvements in internet services. The final model's accuracy is 0.8924612. This study focused on specific variables and other unexplored factors that may influence internet satisfaction. Future studies could incorporate additional dimensions for a more holistic analysis. Based on findings, future research could explore the impact of cultural factors on internet satisfaction. Understanding how cultural nuances influence user preferences and expectations would contribute to more tailored and effective service improvements. Apart from that, this study only considers the provinces in the country. In the future, it is necessary to go deep and gather data covering all the districts. The study's outcomes have implications for internet service providers, and technology developers aiming to elevate user satisfaction among the Sri Lankan population.

Keywords: *Internet satisfaction, Linear Regression, Random Forest Regressor, Supervised data mining*