

Analisis Sentimen Berbasis Aspek Electronic Government Quality Terhadap Layanan Perpanjangan SIM Online Menggunakan Algoritma Machine Learning = Sentiment Analysis Based on Electronic Government Quality Aspects Toward Renewal of Indonesian Driving License Online Using Machine Learning Algorithms

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Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=9999920527453&lokasi=lokal>

Abstrak

Kepolisian Republik Indonesia (Polri) merupakan alat negara yang terus berusaha memberikan pelayanan publik secara prima salah satunya dengan melakukan inovasi dengan memanfaatkan teknologi dalam memberikan pelayanan SIM melalui aplikasi bernama Digital Korlantas Polri. Namun sejak aplikasi tersebut diluncurkan pada tahun 2021 hingga tahun 2022 terdapat pemberitaan di berita online terkait kendala pada aplikasi dalam perpanjangan SIM online yang tidak berjalan sebagaimana semestinya. Penelitian ini bertujuan untuk melihat bagaimana pandangan masyarakat sebagai pengguna layanan dari Twitter dan Play Store. Data yang digunakan dalam penelitian ini berasal dari Twitter dan Play Store sebanyak 5944 data. Analisis dilakukan dengan membangun model klasifikasi relevansi, aspek, dan sentimen pada aspek reliability, efficiency, trust, dan citizen support. Algoritma yang digunakan yaitu Decision Tree, Logistic Regression, dan SVM. Hasil pemodelan klasifikasi dengan performa yang paling tinggi dalam klasifikasi relevansi, aspek, dan sentimen pada tiap aspek dihasilkan oleh algoritma Logistic Regression dengan TF-IDF unigram dan SMOTE. Pada model klasifikasi relevansi didapatkan nilai accuracy sebesar 87.05%, precision sebesar 87.38%, recall sebesar 87.04%, dan f1 score sebesar 87.16%. Pada model klasifikasi aspek, nilai accuracy sebesar 74.28%, precision sebesar 75.93%, recall sebesar 74.27%, dan f1 score sebesar 74.70%. Pada model klasifikasi sentimen pada masing-masing aspek, model klasifikasi sentimen pada aspek citizen support mendapatkan nilai yang paling tinggi dibanding aspek lain yaitu dengan nilai accuracy sebesar 95.38%, precision sebesar 95.60%, recall sebesar 95.38%, dan f1-score sebesar 94.05%. Pada penelitian ini menghasilkan temuan sentimen pada masing-masing aspek dalam layanan perpanjangan SIM online di aplikasi Digital Korlantas Polri dimana reliability merupakan aspek yang paling banyak dikemukakan dan mendapat sentimen negatif, kemudian diikuti oleh aspek efficiency, citizen support, dan aspek trust.

.....The Indonesian National Police (Polri) continues to strive to provide excellent public services, one of which is by innovating by utilizing technology in providing SIM services through an application called Digital Korlantas Polri. However, since the application was launched in 2021 to 2022 there have been reports in online news regarding problems with applications, so it is necessary to conduct research regarding how the public views the application as service users and maps these views into aspects which affect the quality of government services so that service providers can take improvement to realize excellent service delivery. The data used in this study are from Twitter and Play Store as many as 5944 data. The analysis is carried out by building a classification model of relevance, aspect, and sentiment on the aspects of reliability, efficiency, trust, and citizen support. The algorithms used are Decision Tree, Logistic Regression, and SVM. The results of classification modeling with the highest performance in the classification of relevance, aspect, and sentiment for each aspect were produced by the Logistic Regression algorithm with

the TF-IDF unigram and SMOTE. In the relevance classification model, the accuracy value is 87.05%, precision is 87.38%, recall is 87.04%, and f1 score is 87.16%. In the aspect classification model, the accuracy value is 74.28%, precision is 75.93%, recall is 74.27%, and f1 score is 74.70%. In the sentiment classification model for each aspect, the sentiment classification model for the citizen support aspect gets the highest score compared to other aspects, namely with an accuracy value of 95.38%, a precision of 95.60%, a recall of 95.38%, and an f1-score of 94.05% . This study produced sentiment findings for each aspect of the online SIM service in the Digital Korlantas Polri application where reliability was the aspect that was most frequently raised and received negative sentiment, followed by aspects of efficiency, citizen support, and trust.