ABSTRAK

Widyantama, Gilang Raka. 2025. Klasifikasi Sentimen Opini Masyarakat Menggunakan Metode Naïve Bayes terhadap Pelayanan Pengujian Kendaraan Bermotor (Studi Kasus UPT PKB Dishub Jember). Tugas Akhir. Program Sarjana. Program Studi Teknik Informatika. Universitas Muhammadiyah Jember.

Pembimbing: Hardian Oktavianto, Ulya Anisatur Rosyidah.

Kualitas pelayanan publik merupakan aspek penting dalam mengevaluasi kinerja lembaga pemerintah, termasuk UPT Pengujian Kendaraan Bermotor (PKB) Kabupaten Jember. Penelitian ini bertujuan untuk mengklasifikasikan sentimen masyarakat terhadap pelayanan UPT PKB menggunakan algoritma *Multinomial Naïve Bayes*. Data diperoleh dari survei *Google Form* yang disebarkan pada 17–21 Februari 2025 dan menghasilkan 259 opini masyarakat. Penelitian ini melibatkan tahapan *preprocessing*, pelabelan dengan metode *lexicon-based*, pembobotan TF-IDF, dan klasifikasi menggunakan *Naïve Bayes*. Hasil menunjukkan 150 opini positif (57,9%), 59 netral (22,8%), dan 50 negatif (19,3%). Model dengan rasio 70:30 memberikan performa paling seimbang dengan *precision* sebesar 0,77, *recall* 0,42, dan *f1-score* 0,38. Meskipun akurasi tertinggi sebesar 0,69 dicapai pada rasio 90:10, hal ini kurang merepresentasikan keandalan model karena distribusi data yang tidak seimbang. Oleh karena itu, model 70:30 dinilai paling optimal dalam klasifikasi sentimen opini masyarakat terhadap pelayanan publik.

Kata kunci: Analisis Sentimen, *Naïve Bayes*, Pelayanan Publik, *Lexicon-Based*, TF-IDF.

ABSTRACT

Widyantama, Gilang Raka. 2025. Sentiment Classification of Public Opinion Using the Naïve Bayes Method on Motor Vehicle Inspection Services (Case Study: UPT PKB, Department of Transportation, Jember). Final Project. Undergraduate Program. Informatics Engineering Study Program. Universitas Muhammadiyah Jember.

Advisor: Hardian Oktavianto, Ulya Anisatur Rosyidah.

Public service quality is a crucial factor in evaluating the performance of government institutions, including the Motor Vehicle Inspection Technical Unit (UPT PKB) in Jember Regency. This study aims to classify public sentiment toward UPT PKB services using the Multinomial Naïve Bayes algorithm. The data were collected through a Google Form survey conducted from February 17 to 21, 2025, resulting in 259 public opinions. The research process involved preprocessing, labeling with a lexicon-based method, TF-IDF weighting, and classification using Naïve Bayes. The results showed 150 positive opinions (57.9%), 59 neutral (22.8%), and 50 negative (19.3%). The 70:30 ratio model delivered the most balanced performance, with a precision of 0.77, recall of 0.42, and f1-score of 0.38. Although the highest accuracy of 0.69 was achieved with the 90:10 ratio, it is considered less representative due to the imbalanced dataset. Therefore, the 70:30 ratio is regarded as the most optimal model for sentiment classification in this study.

Keywords: *Sentiment Analysis, Naïve Bayes, Public Service, Lexicon-Based, TF-IDF.*