

# Analisis Sentimen dan Pemodelan Topik pada Jasa Pengiriman Domestik di Era Covid-19 Berbasis Time Window Lexicon-TFIDF-SVM dan LDA-Mallet = Sentiment Analysis and Topic Modeling in Domestic Delivery Services in The Covid-19 Era Based on The Lexicon-TFIDF-SVM and LDA-Mallet Time Window

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## Abstrak

Pandemi covid-19 dan kebijakan-kebijakan penanggulangannya telah mengubah cara hidup dan kebiasaan banyak orang di seluruh dunia. Terbatasnya pergerakan dan aktivitas masyarakat mendorong mereka untuk mengandalkan sektor pengiriman barang dalam upaya pemenuhan kebutuhan. Hal ini menjadikan sektor usaha pengiriman barang menjadi bagian penting dalam pemenuhan kebutuhan masyarakat di tengah pandemi. Tersedianya akun layanan resmi tiap penyedia barang di media sosial Twitter sebagai wadah pengaduan dan aspirasi pelanggan, memungkinkan untuk dilakukan analisis tren kebutuhan hingga mengukur kepuasan pelanggan terhadap layanan sektor jasa ini sebelum dan selama pandemi. Penelitian mengenai analisis sentimen pelanggan terhadap suatu produk maupun jasa sudah banyak dilakukan, namun implementasi pendekatan analisis Time Window Lexicon-TFIDF-SVM dan pemodelan topik LDA-Mallet terintegrasi belum banyak dilakukan, terutama dalam konteks analisis sentimen pada sektor jasa pengiriman barang. Penelitian ini menggunakan data Twitter yang diperoleh dengan metode scrapping dengan rentang waktu Oktober 2019 - September 2020 pada lima penyedia layanan pengiriman barang paling populer di Indonesia. Pendekatan leksikon dipergunakan dalam pembentukan data latih, dimana dari data latih ini diperoleh model klasifikasi memperoleh tingkat akurasi 89,21% kemudian diinferensikan dengan pendekatan statistik TFIDF-SVM untuk memprediksi polaritas sentimen keseluruhan data. Penelitian ini memberikan hasil bahwa: (1) Pandemi covid-19 melalui parameter kebijakan penanganan pandemi secara signifikan meningkatkan aktivitas penyampaian keluhan/aspirasi dimana hal ini menunjukkan terjadinya peningkatan jumlah layanan yang diberikan; (2) sistem pelayanan pengiriman belum cukup kuat untuk menghadapi fluktuasi permintaan, dimana peningkatan jumlah pelayanan dibarengi juga dengan peningkatan ketidakpuasan yang terindikasi dari meningkatnya polaritas sentimen 'Negatif' selama pandemi. Pada periode tiga bulan kedua terlihat bahwa adaptasi dan perbaikan layanan hanya terjadi pada sebagian penyedia layanan saja; dan (3) terdapat beberapa perubahan topik keluhan/aspirasi yang dilihat pada rentang waktu sebelum pandemi, tiga bulan pertama pandemi, dan tiga bulan kedua pandemi.

.....The Covid-19 pandemic and activity restriction policies in an effort to contain its spread have changed the ways of life and habits of many people around the world. Limited movement and community activities encourage them to rely on the shipping sector to meet their needs. This makes the delivery of goods an important part of meeting people's needs in the midst of a pandemic. The availability of official service accounts of each goods provider on Twitter social media as a forum for complaints and customer aspirations, enabling analysis of service needs trends and measuring customer satisfaction with these service sector services before and during the pandemic. Research on customer sentiment analysis towards a product or service has been done a lot, but the implementation of the lexicon-tfidf-svm time window approach integrating with LDA-Mallet topic modeling has not been done much, especially in the context of sentiment

analysis in the freight forwarding sector. This research uses Twitter data obtained by the scrapping method from October 2019 - September 2020 on the five most popular delivery service providers in Indonesia. The lexicon approach is used in the formation of training data, where the classification model of this training data accurate rate of 89.21% is obtained which is then referred to predict the polarity of the overall sentiment of the data by the TFIDF-SVM statistical approach. This study provides the results that: (1) the Covid-19 pandemic through the parameters of the pandemic management policy significantly increased the activity of submitting complaints/aspirations, indicating an increase in the number of requests for services or services provided; (2) the delivery service system is not yet strong enough to deal with fluctuations in increased demand, where an increase in the number of services is accompanied by an increase in dissatisfaction, although it is not significant for all service providers. In the second three-months period, it appears that the process of adaptation and improvement of services only occurred in part of service providers; and (3) there were some changes in the topic of complaints/aspirations that were seen in the timeframe before the pandemic, the first three months of the pandemic, and the second three months of the pandemic.