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**Analisis Sentimen Media Sosial Menggunakan VADER dan LSTM untuk Mengoptimalkan Strategi Pemasaran
Produk Marjan pada PT Lasallefood Indonesia**
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Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

ABSTRAK

Efektivitas strategi marketing berbasis *brand activism* sangat bergantung pada kemampuan perusahaan dalam memitigasi risiko polarisasi respons konsumen di media sosial, namun metodologi evaluasi opini publik konvensional sering kali terbatas dalam menangkap kompleksitas bahasa kontekstual. Penelitian ini mengembangkan kerangka analisis hibrida berbasis *Natural Language Processing* (NLP) yang mengintegrasikan algoritma leksikon *Valence Aware Dictionary and Sentiment Reasoner* (VADER) dan jaringan saraf sekuensial *Long Short-Term Memory* (LSTM) untuk mengevaluasi dinamika pergeseran sentimen publik longitudinal. Menggunakan big data berupa 13.935 komentar dari kanal YouTube resmi Sirup Marjan (Marjan Boudoin, youtube.com) pada periode Ramadan 2025 dan 2026, penelitian ini memetakan transisi respons massa dari kekaguman estetika visual menuju polarisasi opini akibat narasi kritik sosial-politik. Hasil pemodelan menunjukkan dominasi kategori netral (56,49% pada 2025 dan 59,29% pada 2026), yang mengungkap adanya keterbatasan inheren pada leksikon asli VADER dalam memproses struktur kalimat kolokial bahasa Indonesia tanpa muatan emosi eksplisit. Meskipun sentimen positif tetap kuat didorong oleh antusiasme terhadap inovasi tema superhero, terjadi eskalasi sentimen negatif minor yang merepresentasikan metafora politik audiens digital. Dari aspek komputasional, evaluasi model LSTM dengan datasplit 80:20 menghasilkan akurasi validasi yang tertahan di angka 61,41% akibat fenomena *underfitting* dan *majority class prediction*, dipicu oleh tingginya variasi bahasa gaul (slang), sarkasme, serta masalah ketidakseimbangan data (*data imbalance*). Penelitian ini memberikan kontribusi teoritis dan praktis berupa metodologi evaluasi kampanye digital berbasis kecerdasan buatan, sekaligus menegaskan pentingnya peran adaptif komunikasi korporat yang responsif terhadap ambang batas kultural masyarakat.

Kata kunci: Marjan, Media Sosial, *Brand Activism*, Analisis Sentimen, *Natural Language Processing* (NLP), *Valence Aware Dictionary and Sentiment Reasoner* (VADER), *Long Short-Term Memory* (LSTM), Polarisasi Opini

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ABSTRACT

The effectiveness of brand activism-based marketing strategies depends heavily on a company's ability to mitigate the risk of consumer response polarization on social media, but conventional public opinion evaluation methodologies are often limited in capturing the complexity of contextual language. This study develops a hybrid analysis framework based on Natural Language Processing (NLP) that integrates the Valence Aware Dictionary and Sentiment Reasoner (VADER) lexicon algorithm and a Long Short-Term Memory (LSTM) sequential neural network to evaluate the dynamics of longitudinal public sentiment shifts. Using big data in the form of 13,935 comments from the official YouTube channel of Sirup Marjan (Marjan Boudoin, youtube.com) during the Ramadan period of 2025 and 2026, this study maps the transition of mass response from visual aesthetic admiration to opinion polarization due to socio-political criticism narratives. The modeling results show the dominance of the neutral category (56.49% in 2025 and 59.29% in 2026), which reveals an inherent limitation of the original VADER lexicon in processing colloquial Indonesian sentence structures without explicit emotional content. Although positive sentiment remained strong, driven by enthusiasm for the superhero-themed innovation, there was a minor escalation of negative sentiment that represented the political metaphor of the digital audience. From a computational aspect, the evaluation of the LSTM model with an 80:20 data split resulted in a validation accuracy that was stuck at 61.41% due to underfitting and majority class prediction phenomena, triggered by the high variation of slang, sarcasm, and data imbalance issues. This research provides theoretical and practical contributions in the form of an artificial intelligence-based digital campaign evaluation methodology, while also emphasizing the importance of the adaptive role of corporate communications that are responsive to the cultural thresholds of society.

Keywords: Marjan, Social Media, Brand Activism, Sentiment Analysis, Natural Language Processing (NLP), Valence Aware Dictionary and Sentiment Reasoner (VADER), Long Short-Term Memory (LSTM), Opinion Polarization