

ABSTRAK

Nama : Ryan Randy Suryono
Program Studi : Ilmu Komputer
Judul : Pengawasan *Fintech P2P Lending* di Indonesia Berbasis Berita Daring, Twitter, Dan Ulasan Google Playstore
Promotor : Dr. Indra Budi, S.Kom., M.Kom.

Otoritas Jasa Keuangan (OJK) sebagai pihak regulator mengeluarkan peraturan nomor 10 tahun 2022 tentang layanan pendanaan bersama berbasis teknologi informasi untuk mengawasi praktik *Fintech P2P Lending* di Indonesia. Saat ini pengawasan tersebut dilakukan dengan menerima laporan dari masyarakat yang mengirimkan dokumen dan bukti-bukti pengaduan baik melalui LAPOR!, beranda halaman situs Asosiasi *Fintech* Pendanaan Bersama Indonesia (AFPI) dan Satgas Waspada Investasi (SWI). Sedangkan masyarakat lebih banyak menyampaikan keluhan lewat media sosial. Untuk itu, regulator perlu menyusun strategi baru dalam melakukan pengawasan dengan kecerdasan komputer.

Penelitian ini bertujuan untuk membangun proses bisnis pengawasan *Fintech P2P Lending* di Indonesia berbasis Berita Daring, Twitter, dan Ulasan Google Playstore. Usulan Model pengawasan yang baru dijelaskan menggunakan *Business Process Modeling Notation (BPMN)*. Selanjutnya penerapan proses bisnis tersebut diimplementasikan dengan membuat prototipe. Pendekatan yang digunakan pada penelitian ini adalah pendekatan *Text Mining* seperti ekstraksi informasi dengan *Named Entity Recognition (NER)*, Analisis Sentimen dan Pemodelan Topik dengan *Latent Dirichlet Allocation (LDA)*.

Hasil eksperimen pada pendekatan NER menunjukkan Algoritma Multinomial Naïve Bayes mendapatkan F1-score tertinggi sebesar 90%, sedangkan pada pendekatan analisis sentiment model Naïve Bayes dan Random Forest terbukti memiliki akurasi yang tinggi yaitu diatas 91%. Hasil NER membuktikan bahwa platform Cashless, Yokke, Digital Artha Media, Koinworks, Moka, Privy id, PT Tunaiku Fintech Indonesia, PT Relasi Perdana Indonesia, PT Dynamic Credit Asia dan PT Progo Puncak Group tidak ada dalam daftar Fintech di Otoritas Jasa Keuangan. Sedangkan hasil Persentase positif untuk aplikasi Adakami, Easycash, Danamas, Dompеткиlat, dan Indodana berturut-turut adalah 47%, 59%, 28%, 24%, dan 29%. Dengan kata lain, aplikasi Adakami, Danamas, Dompеткиlat dan Indodana memiliki sentimen negative lebih besar dari 50%. Selanjutnya hasil eksperimen pemodelan topik memperoleh kata kunci nama platform, nama pemangku kepentingan, dan isu seperti data pribadi. Terakhir, penelitian ini memiliki kontribusi tentang usulan proses pengawasan baru berbasis Berita Daring, Twitter, dan Ulasan Google Playstore yang dapat mengidentifikasi platform ilegal, mengidentifikasi platform legal yang bermasalah dan menyajikan isu P2P Lending. Dengan demikian, penerapan proses pengawasan ini bermanfaat bagi pemangku kepentingan seperti Otoritas Jasa Keuangan, Kementerian Komunikasi dan Informatika (Kemenkominfo), Satgas Waspada Investasi (SWI) dan Asosiasi Fintech serta meningkatkan perlindungan konsumen.

Kata Kunci: *Fintech*, *P2P Lending*, Media sosial, *BPMN*, *Text Mining*

ABSTRACT

Name : Ryan Randy Suryono
Study Program: Ilmu Komputer
Title : Fintech P2P Lending Supervision in Indonesia Based on Online News, Twitter, and Google Playstore Reviews
Promotor : Dr. Indra Budi, S.Kom., M.Kom.

As a regulator, the Financial Services Authority (OJK) issued regulation number 10 of 2022 concerning information technology-based joint funding services to oversee Fintech P2P Lending practices in Indonesia. Currently, this supervision is carried out by receiving reports from the public who send documents and evidence of complaints either through LAPOR!, the homepage of the Indonesian Joint Funding Fintech Association (AFPI) website, or the Investment Alert Task Force (SWI). Meanwhile, more people submit complaints via social media. For this reason, regulators need to devise a new strategy for conducting supervision with computer intelligence.

This research aims to build a business process to supervise Fintech P2P Lending in Indonesia based on Online News, Twitter, and Google Playstore Reviews. The proposed supervisory model is explained using the Business Process Modeling Notation (BPMN). Furthermore, the implementation of the business process is implemented by making a prototype. The approach used in this study is the Text Mining approach, such as information extraction with Named Entity Recognition (NER), Sentiment Analysis, and Topic Modeling with Latent Dirichlet Allocation (LDA).

Experimental results on the NER approach show that the Naïve Bayes Multinomial Algorithm gets the highest F1-score of 90%. In contrast, the Naïve Bayes and Random Forest model sentiment analysis approaches are proven to have high accuracy, above 91%. The NER results demonstrate that the platforms Cashless, Yokke, Digital Artha Media, Koinworks, Moka, Privy id, PT Tunaiku Fintech Indonesia, PT Relasi Perdana Indonesia, PT Dynamic Credit Asia, and PT Progo Puncak Group are not on the Fintech list at the Financial Services Authority. While the positive percentage results for the Adakami, Easycash, Danamas, Dompеткиlat, and Indodana applications were 47%, 59%, 28%, 24%, and 29%, respectively. In other words, the Adakami, Danamas, Dompеткиlat, and Indodana applications have more than 50% negative sentiment. Furthermore, the results of the topic modeling experiment obtained keywords such as platform names, stakeholder names, and issues such as personal data. Finally, this research has contributed to the proposed new monitoring process based on Online News, Twitter, and Google Playstore Reviews which can identify illegal platforms, problematic legal platforms, and present P2P Lending issues. Thus, implementing this supervisory process benefits stakeholders such as the Financial Services Authority, the Ministry of Communication and Informatics (Kemenkominfo), the Investment Alert Task Force (SWI), and the Fintech Association, as well as enhancing consumer protection.

Kata Kunci: *Fintech, P2P Lending, social media, BPMN, Text Mining*