

ABSTRAK

Manajemen pengetahuan (*Knowledge Management*) merupakan aset penting bagi perusahaan dalam menjaga keberlangsungan informasi, terutama ketika pengetahuan masih melekat pada pegawai yang mungkin meninggalkan organisasi. Pada PT Neuronworks Indonesia, tantangan dalam proses *transfer knowledge*, keterbatasan waktu, serta tidak tersedianya media diskusi, mendorong perlunya solusi berbasis teknologi. Penelitian ini bertujuan untuk membangun *Knowledge Management System* (KMS) dengan mengintegrasikan metode pencarian *Term Frequency-Inverse Document Frequency* (TF-IDF) dan forum diskusi untuk mendukung proses *transfer knowledge* berbasis model SECI.

Sistem dikembangkan menggunakan pendekatan *Design Science Research* (DSR) melalui tahapan identifikasi masalah, perancangan, pengembangan, demonstrasi, evaluasi, dan komunikasi. *backend* dikembangkan menggunakan Flask Python dengan penerapan algoritma TF-IDF dan *Vector Space Model* (VSM) untuk pencarian dokumen, sedangkan *frontend* menggunakan Next.js. Evaluasi dilakukan menggunakan *Mean Average Precision* (MAP) dengan hasil efektivitas mencapai 94,67%, dan pengujian performa menunjukkan kecepatan rata-rata pencarian dokumen sebesar 1.43 detik. Selain itu, tingkat kepuasan pengguna terhadap sistem juga dinilai positif berdasarkan hasil kuesioner.

Hasil penelitian menunjukkan bahwa integrasi TF-IDF mampu meningkatkan relevansi pencarian dokumen, mempercepat akses informasi, serta forum diskusi berhasil menjadi sarana pertukaran *Tacit knowledge* antar pegawai. Dengan demikian, sistem ini diharapkan mampu meningkatkan efisiensi, efektivitas, dan kolaborasi dalam pengelolaan pengetahuan di perusahaan.

Kata kunci: *knowledge management*, SECI, *text mining*, TF-IDF, VSM

ABSTRACT

Knowledge management is a vital asset for companies in ensuring the sustainability of information, especially when knowledge is still attached to employees who may leave the organization. At PT Neuronworks Indonesia, challenges in knowledge transfer processes, limited time, and the absence of discussion media prompted the need for a technology-based solution. This research aims to develop a Knowledge Management System (KMS) that integrates the Term Frequency-Inverse Document Frequency (TF-IDF) search method and a discussion forum to support knowledge transfer based on the SECI model.

The system was developed using the Design Science Research(DSR) approach through the stages of problem identification, Design , development, demonstration, evaluation, and communication. The backend was built using Flask Python implementing the TF-IDF algorithm and the Vector Space Model (VSM) for document retrieval, while the frontend was developed using Next.js. Evaluation results show the effectiveness of the search process with a Mean Average Precision (MAP) score of 94.67%, and an average search performance speed of 1.43 seconds. Additionally, user satisfaction levels with the system were reported to be positive based on a conducted questionnaire.

The findings indicate that the integration of TF-IDF improves the relevance of document searches, accelerates access to information, and that the discussion forum successfully facilitates Tacit knowledge exchange among employees. Therefore, this system is expected to enhance efficiency, effectiveness, and collaboration in corporate knowledge management.

Keywords: knowledge management, SECI, text mining, TF-IDF, VSM