

ABSTRAK

Astuti, Ni Wayan (2026), *Pengembangan Knowledge Management System Menggunakan Tiwana Roadmap Dengan Implementasi Metode Agile Scrum Studi Kasus Hp Service Center Denpasar*. Tesis, Ilmu Komputer, Program Pascasarjana, Universitas Pendidikan Ganesha.

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Kata kunci: *Knowledge Management System, Tiwana Roadmap, Agile Scrum*, aturan produksi *IF-THEN, TF-IDF, UEQ, CTA*

HP Service Center Denpasar menghadapi permasalahan dalam pengelolaan pengetahuan karena sebagian besar pengetahuan teknis masih tersimpan dalam bentuk *tacit knowledge* yang dimiliki oleh teknisi senior dan belum terdokumentasi secara sistematis. Kondisi tersebut berpotensi menyebabkan *knowledge loss*, memperlambat proses adaptasi staf baru, serta menimbulkan ketergantungan terhadap individu tertentu dalam penyelesaian masalah teknis. Penelitian ini bertujuan mengembangkan *Knowledge Management System* yang mampu mengakuisisi, mendokumentasikan, menyimpan, mengelola, dan mendistribusikan pengetahuan organisasi secara efektif sehingga dapat mendukung proses *knowledge sharing* dan meningkatkan kualitas layanan. Penelitian ini menggunakan *The 10-Step Knowledge Management Roadmap* sebagai kerangka kerja pengembangan manajemen pengetahuan dan *Agile Scrum* sebagai metode pengembangan perangkat lunak. Akuisisi pengetahuan dilakukan melalui wawancara, observasi, *Focus Group Discussion* (FGD), dan studi dokumentasi terhadap teknisi, staf administrasi, serta staf logistik. Pengetahuan yang diperoleh dieksternalisasi menjadi *explicit knowledge* dalam bentuk aturan produksi IF-THEN dan disimpan pada repositori pengetahuan berbasis web. Sistem dilengkapi mekanisme temu kembali informasi menggunakan algoritma *Term Frequency-Inverse Document Frequency* (TF-IDF) untuk menghasilkan pencarian solusi yang lebih relevan terhadap permasalahan pengguna. Evaluasi sistem dilakukan menggunakan *User Experience Questionnaire* (UEQ), *Concurrent Think Aloud* (CTA), serta uji validitas isi instrumen menggunakan metode Gregory. Hasil penelitian menunjukkan bahwa KMS yang dikembangkan mampu mendukung proses dokumentasi dan pelestarian pengetahuan organisasi, mempercepat proses pencarian solusi teknis, memfasilitasi transfer pengetahuan antar staf, serta mengurangi risiko kehilangan pengetahuan ketika terjadi pergantian personel. Berdasarkan hasil evaluasi, sistem memperoleh pengalaman pengguna yang berada pada kategori sangat baik, didukung oleh hasil CTA yang menunjukkan sistem mudah dipelajari dan digunakan, serta instrumen penelitian dinyatakan memiliki validitas isi yang tinggi berdasarkan pengujian Gregory. Dengan demikian, sistem yang dikembangkan dinilai layak sebagai media pengelolaan pengetahuan yang berkelanjutan sekaligus mendukung peningkatan efektivitas operasional dan kualitas layanan pada HP Service Center Denpasar.

ABSTRACT

Astuti, Ni Wayan (2026). Development of a Knowledge Management System Using the Tiwana Roadmap with Agile Scrum Implementation: A Case Study at HP Service Center Denpasar. Master's Thesis, Computer Science, Postgraduate Program, Universitas Pendidikan Ganesha.

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Keywords: Knowledge Management System, Tiwana Roadmap, Agile Scrum, IF3 THEN Production Rules, TF-IDF, UEQ, CTA

HP Service Center Denpasar faces challenges in knowledge management because most technical knowledge remains in the form of tacit knowledge possessed by senior technicians and has not been systematically documented. This condition may lead to knowledge loss, slow the adaptation process of new staff, and create dependency on certain individuals in resolving technical issues. This study aims to develop a Knowledge Management System (KMS) capable of effectively acquiring, documenting, storing, managing, and distributing organizational knowledge to support knowledge sharing and improve service quality. The study employs the 10-Step Knowledge Management Roadmap as the knowledge management development framework and Agile Scrum as the software development methodology. Knowledge acquisition was conducted through interviews, observations, Focus Group Discussions (FGDs), and document analysis involving technicians, administrative staff, and logistics personnel. The acquired knowledge was externalized into explicit knowledge represented as IF-THEN production rules and stored in a web-based knowledge repository. The system incorporates an information retrieval mechanism based on the Term Frequency-Inverse Document Frequency (TF-IDF) algorithm to provide more relevant solutions to users' problems. System evaluation was carried out using the User Experience Questionnaire (UEQ), Concurrent Think Aloud (CTA), and content validity testing of the research instruments using the Gregory method. The results demonstrate that the developed KMS effectively supports the documentation and preservation of organizational knowledge, accelerates the retrieval of technical solutions, facilitates knowledge transfer among staff, and reduces the risk of knowledge loss resulting from personnel turnover. The evaluation results indicate that the system achieved a "Very Good" user experience rating, supported by CTA findings showing that the system is easy to learn and use, while the research instruments demonstrated high content validity based on the Gregory method. Therefore, the developed system is considered suitable as a sustainable knowledge management platform that supports improved operational effectiveness and service quality at HP Service Center Denpasar.