

ABSTRAK

Penerapan kecerdasan buatan pada UMKM retail sering terhambat oleh risiko halusinasi data dan rendahnya literasi digital, diperparah oleh pencatatan manual yang memicu fragmentasi persediaan. Penelitian ini bertujuan merancang dan mengevaluasi sistem pendukung keputusan terintegrasi asisten digital yang menggabungkan keandalan *Rule-Based Decision Support System* (RB-DSS) dan keluwesan *Large Language Model* (LLM) pada Toko Nizar Mebel. Sistem dikembangkan dengan metode *Prototyping*, menerapkan mesin inferensi berbasis *Weighted Moving Average* (WMA) dan *Reorder Point* (ROP) untuk kalkulasi inventaris. Halusinasi AI dimitigasi melalui *Prompt Engineering*, memfungsikan LLM sebagai *Explanation Facility* yang mengubah hasil perhitungan menjadi bahasa percakapan alami via *chatbot* dan notifikasi otomatis. Evaluasi penerimaan diukur menggunakan *Technology Acceptance Model* (TAM) melalui pendekatan kualitatif (*in-depth interview*) dengan mengadopsi instrumen Davis (1989). Hasil pengujian menunjukkan integrasi sistem berhasil meminimalkan subjektivitas intuisi operasional serta mewujudkan tata kelola bisnis berbasis data. Validasi TAM membuktikan asisten digital memiliki tingkat *Perceived Usefulness* dan *Perceived Ease of Use* yang tinggi, sehingga efektif memfasilitasi pengguna awam dalam mengambil keputusan operasional secara proaktif.

Kata Kunci: Asisten Digital, *Large Language Model*, *Rule-Based System*, Sistem Penjualan, *Technology Acceptance Model*.

ABSTRACT

The application of artificial intelligence in retail MSMEs is often hindered by data hallucination risks and low digital literacy, compounded by manual recording that triggers stock fragmentation. This research aims to design and evaluate an integrated decision support system with a digital assistant combining the reliability of a Rule-Based Decision Support System (RB-DSS) and the flexibility of a Large Language Model (LLM) at Nizar Mebel Store. Developed using the Prototyping method, the system applies an inference engine based on Weighted Moving Average (WMA) and Reorder Point (ROP) for inventory forecasting. AI hallucination is mitigated through Prompt Engineering, functioning the LLM as an Explanation Facility that transforms RB-DSS calculations into natural conversational language via chatbots and automated notifications. Technology acceptance was evaluated using the Technology Acceptance Model (TAM) through a qualitative approach (in-depth interview) adopting Davis's (1989) instrument. The results indicate that the system integration successfully minimizes the subjectivity of operational intuition and actualizes data-driven business governance. TAM validation proves that the digital assistant possesses high Perceived Usefulness and Perceived Ease of Use, effectively helping lay users make proactive operational decisions.

Keywords: Digital Assistant, Large Language Model, Rule-Based System, Sales System, Technology Acceptance Model.