

ABSTRAK

Perkembangan teknologi informasi mendorong transformasi digital pada sektor bisnis jual beli mobil bekas. Namun, Showroom Menara Mobil masih menjalankan operasional secara konvensional, seperti promosi terbatas via Status WhatsApp dan Facebook Marketplace, pencatatan stok dan pembukuan manual di buku besar, hingga risiko hilangnya dokumen transaksi fisik. Hal ini menyebabkan keterlambatan respons admin (*slow response*) terhadap belasan pertanyaan stok yang berulang, negosiasi harga yang tidak terstruktur di luar batas *bottom price*, serta tidak akuratnya kalkulasi Harga Pokok Penjualan (HPP) akibat biaya perbaikan (*repairing cost*) yang tidak terintegrasi. Penelitian ini bertujuan untuk merancang dan membangun sistem informasi manajemen penjualan berbasis web yang terintegrasi dengan *chatbot* WhatsApp sebagai layanan mandiri (*self-service*) 24 jam bagi pelanggan. Pengembangan sistem ini mengadopsi metode *Rapid Application Development* (RAD) yang meliputi tiga tahapan utama, yaitu *Requirements Planning*, *RAD Design Workshop*, dan *Implementation*. Sistem berbasis web dibangun menggunakan *framework* Laravel 11 dengan basis data MySQL. Sementara itu, fitur pesan otomatis WhatsApp diintegrasikan secara asinkron menggunakan *platform workflow automation* n8n, dan Groq API (*Large Language Model*) untuk merespons percakapan alami serta pertanyaan umum pelanggan. Pengujian fungsionalitas sistem dilakukan menggunakan metode *Black Box Testing* pada seluruh modul *website* dan alur percakapan *chatbot*. Hasil penelitian menunjukkan bahwa sistem informasi yang dibangun berhasil mendigitalisasi operasional Showroom Menara Mobil melalui etalase katalog publik yang transparan, modul manajemen inventaris stok, kalkulator *repairing cost* otomatis untuk menghitung HPP secara akurat, serta otomatisasi cetak faktur penjualan digital berbasis PDF. Selain itu, *chatbot* WhatsApp yang terhubung langsung ke basis data lokal berhasil menyajikan informasi stok *ready*, spesifikasi kendaraan, serta melakukan verifikasi penawaran harga (*bottom price*) secara *real-time*. Hasil pengujian *Black Box Testing* membuktikan bahwa seluruh fungsi pada aplikasi *website* dan respons *chatbot* WhatsApp berstatus valid dan berjalan sesuai kebutuhan fungsional operasional *showroom*.

Kata kunci: *Chatbot* WhatsApp, Laravel 11, *Rapid Application Development*, Sistem Informasi Manajemen, *Website*.

ABSTRACT

The rapid advancement of information technology drives digital transformation in the used car dealership business sector. However, Showroom Menara Mobil still operates conventionally, relying on limited promotional channels via WhatsApp Status and Facebook Marketplace, manual stock recording in ledgers, and facing the risk of losing physical transaction documents. Consequently, this causes admin response delays (slow response) to repetitive stock inquiries, unstructured price negotiations exceeding the bottom price threshold, and inaccurate Cost of Goods Sold (COGS) calculations due to unintegrated repairing costs. This study aims to design and develop a web-based sales management information system integrated with a WhatsApp chatbot to serve as a 24-hour self-service facility for customers. The system development adopts the Rapid Application Development (RAD) method, which consists of three main phases: Requirements Planning, RAD Design Workshop, and Implementation. The web-based application was built using the Laravel 11 framework and a MySQL database. Meanwhile, the automated WhatsApp messaging feature was asynchronously integrated using the n8n workflow automation platform and the Groq API (Large Language Model) to handle natural conversational flows and general inquiries from customers. Functional evaluation was conducted using the Black Box Testing method across all website modules and chatbot conversation flows. The results indicate that the developed system successfully digitized the operational management of Showroom Menara Mobil through a transparent public catalog display, stock inventory management modules, an automated repairing cost calculator to accurately compute COGS, and automated PDF invoice generation. Furthermore, the WhatsApp chatbot connected directly to the local database successfully delivers real-time stock availability, vehicle specifications, and automated bottom price verification. The Black Box Testing results demonstrate that all functionalities on the website application and WhatsApp chatbot are 100% valid and operate according to the showroom's functional requirements.

Keywords: WhatsApp Chatbot, Laravel, Management Information System, Rapid Application Development, Website.