

RANCANG BANGUN SISTEM PERDAGANGAN *BUSINESS-TO-BUSINESS* (B2B) PADA PT TOKODA MASUKA SUGGA DENGAN METODE *WATERFALL*

ABSTRAK

Perkembangan teknologi informasi mendorong perusahaan manufaktur di Indonesia untuk mengadopsi sistem digital guna meningkatkan efisiensi operasional. PT Tokoda Masuka Sugga, produsen kemasan karton dan plastik berukuran besar dengan strategi *Make-to-Order* (MTO) dan *Engineering-to-Order* (ETO), masih menggunakan sistem pemesanan manual melalui email dan pencatatan Excel. Kondisi ini berpotensi menghambat produksi serta menimbulkan risiko kehilangan dan duplikasi data. Penelitian ini bertujuan merancang sistem perdagangan B2B berbasis web yang mampu mengakomodasi pemesanan produk kustom, mendukung kelancaran proses bisnis, dan meminimalisasi kesalahan operasional. Metode pengembangan menggunakan *waterfall* dengan tahapan analisis kebutuhan, perancangan, implementasi, dan pengujian. Data dikumpulkan melalui wawancara, observasi, dan studi literatur, lalu dianalisis menggunakan pendekatan PIECES. Sistem diimplementasikan dengan PHP berbasis *framework* Laravel dan MySQL sebagai basis data. Fitur utama mencakup pemesanan produk kustom, *approval* desain, penawaran harga, pembayaran, serta modul Admin, Manufaktur, dan Direktur. Pengujian fungsionalitas menggunakan metode *black box testing* terhadap 58 skenario menunjukkan tingkat keberhasilan 100%. Sementara itu, *user acceptance testing* (UAT) menghasilkan persentase 96,25%, menandakan sistem sangat baik dalam memenuhi harapan pengguna. Dengan demikian, sistem perdagangan B2B ini layak diimplementasikan untuk mendukung operasional PT Tokoda Masuka Sugga.

Kata Kunci : B2B, *Engineering-to-Order*, *Make-to-Order*, sistem perdagangan, metode *waterfall*

ABSTRACT

The advancement of information technology has encouraged manufacturing companies in Indonesia to adopt digital systems to enhance operational efficiency. PT Tokoda Masuka Sugga, a producer of large-sized cardboard and plastic packaging with Make-to-Order (MTO) and Engineering-to-Order (ETO) strategies, still relies on manual ordering through email and Excel records. This practice risks slowing production and causing data loss or duplication. This study aims to design a web-based B2B commerce system capable of accommodating custom product orders, supporting smooth business processes, and minimizing operational errors. The development method employed is the Waterfall model, consisting of requirements analysis, design, implementation, and testing. Data were collected through interviews, observation, and literature review, then analyzed using the PIECES framework. The system was implemented using PHP with the Laravel framework and MySQL as the database management system. Key features include custom product ordering, design approval, price quotation, payment, and modules for Admin, Manufacturer, and Director roles. Functional testing with the Black Box Testing method across 58 scenarios demonstrated a 100% success rate. Meanwhile, User Acceptance Testing (UAT) achieved 96.25%, indicating the system is highly effective in meeting user expectations. Therefore, the B2B commerce system is considered feasible and ready to be implemented in PT Tokoda Masuka Sugga's operations.

Keywords: B2B, Engineering-to-Order, Make-to-Order, commerce system, waterfall method