

ABSTRAK

Pengelolaan stok barang merupakan salah satu kegiatan penting dalam mendukung kelancaran operasional perusahaan, khususnya pada Departemen *Plant* dan Logistik PT. Lematang Coal Lestari (LCL). Berdasarkan hasil observasi, proses pengelolaan stok barang masih dilakukan menggunakan *Microsoft Excel* sehingga menimbulkan beberapa permasalahan, seperti ketidakakuratan data, keterlambatan penyusunan laporan, kesulitan pencarian informasi, serta belum tersedianya pemantauan stok secara otomatis. Penelitian ini bertujuan merancang dan membangun aplikasi pengelolaan stok barang berbasis website yang mampu membantu proses pengelolaan data persediaan secara lebih efektif dan terintegrasi. Metode pengembangan sistem yang digunakan adalah *Waterfall* yang terdiri atas tahapan analisis kebutuhan, perancangan sistem, implementasi, pengujian, dan pemeliharaan. Aplikasi dikembangkan menggunakan Framework *Laravel*, bahasa pemrograman *PHP*, serta database *MySQL*. Pengujian sistem dilakukan menggunakan metode *Black Box Testing* terhadap seluruh fungsi utama aplikasi. Hasil penelitian menunjukkan bahwa seluruh fungsi yang diuji berhasil berjalan sesuai dengan kebutuhan pengguna. Aplikasi mampu mengelola data barang, transaksi barang masuk, transaksi barang keluar, monitoring stok secara *real-time*, notifikasi stok minimum, serta menghasilkan laporan dalam format PDF. Dengan adanya aplikasi ini, proses pengelolaan stok barang menjadi lebih terstruktur, mempermudah pencarian data, mengurangi kesalahan pencatatan, dan mempercepat penyusunan laporan persediaan barang.

Kata Kunci: Pengelolaan Stok Barang, Website, Laravel, MySQL, Waterfall, Sistem Informasi.

ABSTRACT

Inventory management is a crucial activity for ensuring smooth company operations, particularly within the Plant and Logistics Department of PT. Lematang Coal Lestari (LCL). Observations revealed that the inventory management process was still being conducted using Microsoft Excel, leading to issues such as data inaccuracies, delays in report generation, difficulties in information retrieval, and the absence of automated stock monitoring. This research aims to design and develop a web-based inventory management application capable of facilitating a more effective and integrated inventory data management process. The Waterfall system development method was employed, comprising the stages of requirements analysis, system design, implementation, testing, and maintenance. The application was developed using the Laravel framework, the PHP programming language, and a MySQL database. System testing was conducted using the Black Box Testing method on all primary application functions. The results indicate that all tested functions operated successfully in accordance with user requirements. The application is capable of managing item data, inbound and outbound transactions, real-time stock monitoring, and minimum stock notifications, as well as generating reports in PDF format. The implementation of this application structures the inventory management process, simplifies data retrieval, reduces recording errors, and accelerates the preparation of inventory reports.

Keywords: Inventory Management, Website, Laravel, MySQL, Waterfall, Information System.