

PENGEMBANGAN SISTEM INVENTORY CONTROL PADA UMKM ELLIV COOKIES

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ABSTRAK

Sektor Usaha Mikro, Kecil, dan Menengah (UMKM) merupakan pilar krusial bagi stabilitas ekonomi di Indonesia. Namun, tantangan operasional sering menghambat pertumbuhan bisnis ini, salah satunya manajemen internal yang masih konvensional. Elliv Cookies menghadapi kendala ketidakakuratan saldo persediaan bahan baku akibat pencatatan manual yang rentan terhadap kesalahan manusia (*human error*) serta ketidakpastian waktu pemesanan bahan baku. Penelitian ini bertujuan membangun sistem informasi *inventory control* berbasis web terintegrasi menggunakan metode *Rapid Application Development* (RAD) dan kerangka analisis PIECES. Sistem dikembangkan menggunakan bahasa pemrograman PHP (*framework* Laravel) dan basis data MySQL. Fitur utama yang diintegrasikan mencakup otomatisasi perhitungan pemotongan stok bahan baku melalui *Bill of Materials* (BoM) berbasis resep kue, serta pengendalian pasokan gudang menggunakan algoritma *Buffer Stock* dan *Reorder Point* (ROP). Pengujian fungsionalitas menggunakan *Black Box Testing* yang mencakup skenario *positive* dan *negative test cases* menunjukkan seluruh fitur aplikasi beserta fungsi validasi penanganan kesalahan berjalan dengan baik sesuai rancangan. Evaluasi penerimaan pengguna akhir melalui kuesioner *User Acceptance Testing* (UAT) berbasis Skala Likert 5 Poin terhadap 5 responden (1 Admin, 1 Owner, 3 Chef) menghasilkan tingkat kelayakan sebesar 95,7%. Hasil tersebut mengategorikan sistem ini "Sangat Layak" untuk digunakan sebagai alat bantu digital dalam pengelolaan logistik dan operasional harian pada UMKM Elliv Cookies.

Kata Kunci: *Inventory Control, Bill of Materials (BoM), Buffer Stock, Reorder Point (ROP), Rapid Application Development (RAD), Laravel.*

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ABSTRACT

The Micro, Small, and Medium Enterprises (MSMEs) sector stands as a crucial pillar for economic stability in Indonesia. However, operational challenges frequently hinder business growth, particularly conventional internal management. Elliv Cookies faces critical issues regarding inaccurate raw material inventory balances due to manual recording prone to human error and uncertain replenishment timing. This study aims to construct an integrated web-based inventory control information system utilizing the Rapid Application Development (RAD) method and the PIECES analysis framework. The system was developed using PHP with the Laravel framework and MySQL database. The core features integrated within the application include automated raw material deduction via a Bill of Materials (BoM) based on pastry recipes, alongside supply control utilizing Buffer Stock and Reorder Point (ROP) algorithms. Functional testing via Black Box Testing incorporating both positive and negative test cases demonstrated that all features and error validation mechanisms function as expected according to the design. Furthermore, the final evaluation using User Acceptance Testing (UAT) questionnaires based on a 5-point Likert scale with 5 respondents (1 Admin, 1 Owner, 3 Chefs) yielded an overall feasibility score of 95.7%. These results classify the system as "Very Feasible" for daily operational use at Elliv Cookies.

Keywords: Inventory Control, Bill of Materials (BoM), Buffer Stock, Reorder Point (ROP), Rapid Application Development (RAD), Laravel.