

PERANCANGAN *USER INTERFACE* BERBASIS *BUSINESS PROCESS MODEL AND NOTATION* (BPMN) DAN *PENGUJIAN HUMAN CENTERED DESIGN* (HCD) MENGGUNAKAN *USABILITY TESTING*

(Studi kasus: Toko Bin Sungkar)

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Abstrak

Pengelolaan stok secara manual pada UMKM Toko Bin Sungkar memunculkan berbagai permasalahan, seperti ketidakakuratan data, kesalahan perhitungan fisik, dan proses pencarian informasi yang memakan waktu. Untuk mengatasi hal tersebut, digunakan pendekatan perancangan sistem informasi berbasis *Business Process Model and Notation* (BPMN) serta evaluasi *Human-Centered Design* (HCD) melalui *usability testing*. Perancangan dilakukan dengan menyusun ulang alur pencatatan stok agar lebih sistematis dan digital, serta mengembangkan UI yang sesuai dengan kebutuhan operasional toko berdasarkan model proses bisnis yang dibangun. Evaluasi kualitas sistem dilakukan melalui pengujian efektivitas, efisiensi, dan kepuasan pengguna. Dengan menghilangkan beberapa proses bisnis BPMN mampu menggambarkan kebutuhan sistem secara tepat serta menyederhanakan alur kerja. Desain UI dinilai menggunakan kuesioner QUIS, dengan Desain 3 memperoleh skor tertinggi yaitu 7,55 dari skala 9, menunjukkan tingkat kepuasan yang baik. Sementara itu, pengujian usability berbasis skenario tugas menunjukkan efektivitas dan efisiensi 100%, di mana seluruh pengguna berhasil menyelesaikan tugas dengan benar. Skor *System Usability Scale* (SUS) sebesar 69,5 menunjukkan bahwa sistem berada pada kategori “marginally acceptable”. Hasil menunjukkan bahwa sistem informasi yang dirancang berpotensi meningkatkan efisiensi operasional dan akurasi data, meskipun masih diperlukan penyempurnaan lebih lanjut pada beberapa aspek sesuai umpan balik pengguna.

Kata Kunci: *Business Process Model and Notation* (BPMN), *Human-Centered Design* (HCD), *Questionnaire User Interface Satisfaction* (QUIS), Rancangan UI, *Usability Testing*

USER INTERFACE DESIGN BASED ON BUSINESS PROCESS MODEL AND NOTATION (BPMN) AND HUMAN-CENTERED DESIGN EVALUATION USING USABILITY TESTING

(Case Study: Toko Bin Sungkar)

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Abstract

Manual stock management at the MSME (Micro, Small, and Medium Enterprise) Toko Bin Sungkar has led to several operational issues, such as data inaccuracies, miscalculations in physical inventory, and time-consuming data retrieval. To address these challenges, a system design approach was adopted using *Business Process Model and Notation* (BPMN), along with a *Human-Centered Design* (HCD) evaluation through usability testing. The design process involved restructuring the stock recording workflow to be more systematic and digitized, as well as developing a user interface (UI) tailored to the store's operational needs based on the modeled business processes. System quality was evaluated in terms of effectiveness, efficiency, and user satisfaction. By eliminating several business process steps, the BPMN-based model accurately captured system requirements and simplified the workflow. The UI design was assessed using the QUIS questionnaire, with Design 3 achieving the highest score—7.55 out of 9—indicating a high level of user satisfaction. Usability testing with task-based scenarios demonstrated 100% effectiveness and efficiency, as all users successfully completed the assigned tasks. The System Usability Scale (SUS) score of 69.5 placed the system in the “marginally acceptable” category. These results suggest that the proposed information system has the potential to enhance operational efficiency and data accuracy. However, further improvements are needed in certain areas based on user feedback.

Keyword: Business Process Model and Notation (BPMN), Human-Centered Design (HCD), Questionnaire User Interface Satisfaction (QUIS), UI Design, Usability Testing