

***USER ACCEPTANCE TESTING (UAT) DAN FAILURE MODE AND EFFECT ANALYSIS (FMEA) UNTUK EVALUASI KUALITAS SOFTWARE WAREHOUSE MANAGEMENT SYSTEM (WMS) DI GUDANG AGROINDUSTRI***

**INTISARI**

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*Software Warehouse Management System (WMS)* pada Laboratorium Sistem Produksi Teknologi Industri Pertanian Universitas Gadjah Mada saat ini masih berada dalam tahap pengembangan dan belum digunakan sebagai media pembelajaran untuk praktikum. Hal ini disebabkan belum dilakukannya uji akhir terhadap perangkat lunak sehingga belum dapat dinyatakan layak dan diterima oleh pengguna. Penelitian ini bertujuan untuk mengidentifikasi potensi kegagalan, faktor penyebabnya, dan merumuskan rekomendasi perbaikan untuk meningkatkan kualitas *software WMS* gudang agroindustri menggunakan pendekatan metode *User Acceptance Testing (UAT)*.

Pengujian UAT dilakukan menggunakan metode *alpha testing* dengan *black box method* oleh 4 responden dan *usability testing* dengan *System Usability Scale (SUS)* oleh 30 responden. Data potensi kegagalan dianalisis lebih lanjut menggunakan *Failure Mode and Effect Analysis (FMEA)* dengan penilaian rating *severity*, *occurrence*, dan *detection* untuk memperoleh *Risk Priority Number (RPN)*, lalu diprioritaskan menggunakan Diagram Pareto.

Hasil kedua pengujian menunjukkan 8 potensi mode kegagalan yang dikelompokkan berdasarkan parameter *functionality*, *usability*, dan *pleasure*. Melalui diagram pareto, ditemukan 6 prioritas potensi kegagalan yang perlu diberikan rekomendasi perbaikan untuk mengurangi RPN sehingga mampu meningkatkan kepercayaan pengguna terhadap *software WMS*.

Kata kunci: *Alpha testing*, FMEA, SUS, *user acceptance testing*, *warehouse management system*

**USER ACCEPTANCE TESTING (UAT) AND FAILURE MODE AND EFFECT ANALYSIS (FMEA) FOR EVALUATING THE QUALITY OF WAREHOUSE MANAGEMENT SYSTEM (WMS) SOFTWARE IN AGRO-INDUSTRIAL WAREHOUSE**

**ABSTRACT**

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The Warehouse Management System (WMS) software at the Production Systems Laboratory, Department of Agricultural Industrial Technology, Gadjah Mada University is currently still under development and not yet used as a learning medium for practical sessions. This is because the software hasn't undergone final testing, meaning it cannot yet be declared viable and acceptable to users. This research aims to identify potential failures, their root causes, and formulate recommendations for improvements to enhance the quality of the WMS software in agro-industrial warehouse using a User Acceptance Testing (UAT) approach.

UAT was conducted using the alpha testing with the black box method approach by 4 respondents and usability testing with the System Usability Scale (SUS) by 30 respondents. Data on potential failures were further analyzed using Failure Mode and Effect Analysis (FMEA) with ratings for severity, occurrence, and detection to obtain the Risk Priority Number (RPN). These were then prioritized using a Pareto Diagram.

The results from both tests identified 8 potential failure modes, categorized by functionality, usability, and pleasure parameters. Through the Pareto diagram, 6 priority potential failures were found that require improvement recommendations to reduce their RPN, thereby increasing user trust in the WMS software.

**Keywords:** Alpha testing, FMEA, SUS, user acceptance testing, warehouse management system