Jurnal Esensi Infokom Vol 10 No. 2 Oktober 2026
e-ISSN: 2828-6707
https://esensijournal.com/index.php/infokom
DOI: 10.55886/infokom.v10i2.541

Implementation of a Web-Based Warehouse Management System Using the Reorder Point Method for Inventory Optimization at CV. Dena Sukses Mandiri

Dian Gustina[1], Hafizhul Akmal[2]

Information Systems Study Program, Universitas Persada Indonesia Y.A.I.
Jl. Salemba Raya No.9A 1, Paseban, Kec. Senen, Central Jakarta 10440
[1*]dgus4006@gmail.com, [2]hafizhulakmal@gmail.com
*) Corresponding Author

***Abstract*— Inventory management at CV. Dena Sukses Mandiri previously relied on separate spreadsheets, creating risks of stock discrepancies, delayed procurement, and difficulty distinguishing READY and INDENT items. This study develops a web-based Warehouse Management System using the Reorder Point (ROP) method to determine replenishment timing from average usage, supplier lead time, and safety stock. The system was developed with the Waterfall model using PHP, MySQL, Bootstrap, and XAMPP. Its implementation covers master data, incoming and outgoing transactions with approval, stocktaking, real-time stock monitoring, reorder alerts, automatic purchase requests, reports, and audit logs. Black Box testing of 24 scenarios found all functions valid. A System Usability Scale evaluation involving 11 respondents produced an average score of 80.45, corresponding to Grade A, Excellent and Acceptable categories, and an NPS classification of Promoter. These results indicate that the system satisfies its functional requirements and is acceptable to users for supporting data-driven inventory control.**

Keywords— Warehouse Management System, Reorder Point, Inventory, System Usability Scale, Web.

***Intisari*— Pengelolaan persediaan barang di CV. Dena Sukses Mandiri sebelumnya mengandalkan pencatatan dokumen spreadsheet yang terpisah, sehingga menimbulkan berbagai kendala operasional seperti risiko ketidaksesuaian jumlah stok fisik dengan data, keterlambatan proses pengadaan barang, serta kesulitan dalam membedakan status barang READY dan INDENT. Penelitian ini bertujuan untuk merancang dan membangun sebuah Warehouse Management System (WMS) berbasis web dengan menerapkan metode Reorder Point (ROP) dan Safety Stock guna menentukan waktu pemesanan kembali barang secara tepat berdasarkan analisis pemakaian rata-rata, lead time pengiriman pemasok, serta stok pengaman. Sistem dikembangkan menggunakan model Waterfall dengan bahasa pemrograman PHP, basis data MySQL, framework antarmuka Bootstrap, dan web server lokal XAMPP. Ruang lingkup implementasi sistem mencakup manajemen data master barang, pencatatan transaksi masuk dan keluar yang dilengkapi mekanisme persetujuan (approval), stock opname berkala, pemantauan status stok secara real-time, pemberian notifikasi reorder otomatis, pembuatan purchase request otomatis, rekapitulasi laporan, serta pencatatan jejak audit log. Pengujian Black Box pada 24 skenario pengujian fungsional menunjukkan seluruh fitur sistem berjalan dengan valid dan bebas dari kesalahan logika. Evaluasi kegunaan sistem menggunakan System Usability Scale (SUS) dengan melibatkan 11 responden menghasilkan skor rata-rata sebesar 80,45 yang masuk dalam kategori Grade A, predikat Excellent, tingkat penerimaan Acceptable, serta klasifikasi NPS Promoter. Hasil penelitian ini membuktikan bahwa sistem yang dikembangkan berhasil memenuhi seluruh kebutuhan fungsional gudang dan dapat diterima dengan sangat baik oleh pengguna dalam mendukung efisiensi pengendalian persediaan berbasis data.**

Kata kunci— Warehouse Management System, Reorder Point, Persediaan, System Usability Scale, Web.

I. INTRODUCTION

The growth of the lighting industry has increased distributors' need to provide products in the right types, quantities, and timeframes. CV. Dena Sukses Mandiri distributes LED lamps, downlights, drivers, ballasts, and complementary components identified by EAN codes. Its business activities include receiving customer purchase orders, procurement from suppliers, receiving goods, packaging, and delivery, with READY status used for items available for shipment and INDENT for items that are still on order.

Observation showed that inventory records and warehouse transactions were still maintained in spreadsheets across multiple separate sheets. This approach created risks of discrepancies between physical and recorded stock, delayed information about incoming goods, difficulty monitoring fast-moving products, and the absence of automatic warnings when stock approached its minimum threshold. Consequently, report preparation took longer and procurement decisions depended heavily on manual checking.

The procurement lead time parameter used in the ROP calculation was determined based on direct interviews with the warehouse supervisor and purchasing staff, supplemented by historical supplier delivery records. This approach ensures that the lead time value reflects actual operational conditions rather than arbitrary assumptions.

Previous studies have shown that applying ROP in web-based inventory systems can help reduce stockout risk and improve

replenishment timing [1]–[3]. In response to these needs, this study aims to develop a web-based WMS that integrates warehouse transactions, performs ROP calculations automatically, and provides a real-time inventory dashboard to support warehouse supervisors and the purchasing function.

The primary requirement is not merely to replace spreadsheets with a digital application, but also to consolidate warehouse transaction flows that were previously separated. The system must preserve READY and INDENT statuses, record supplier lead times, enforce role-based authorization, and provide traceable activity records. This integration is necessary so that procurement decisions are not based on delayed or inconsistent information.

The contribution of this study is the direct integration of ROP into the workflow of a lighting-product distributor's WMS. The calculation is not limited to displaying an inventory threshold; it is connected to critical-stock notifications and automatic purchase-request generation. The system is also evaluated functionally through positive and negative scenarios and from the usability perspective using SUS, validity testing, and reliability testing.

II. LITERATURE REVIEW

Warehouse Management System

A Warehouse Management System is an information system that integrates the receiving, storage, movement, picking, and shipping of goods. A WMS provides real-time inventory visibility, enabling more accurate stock records, easier transaction tracing, and operational decisions based on current data [4]. In this study, the WMS integrates item, supplier, customer, stock transaction, purchase-request, stocktaking, and user-activity data.

Reorder Point and Safety Stock

Reorder Point is the inventory level that signals the need to place a replenishment order so that stock remains available during supplier lead time [5]. The ROP value is calculated using ROP = (d × LT) + SS, where d represents average item usage, LT represents supplier lead time, and SS represents safety stock. Safety stock serves as a buffer against demand fluctuations and supply delays [6]. In the developed system, stock reaching or falling below the ROP triggers a notification and automatic purchase-request generation.

Functional and Usability Testing

Previous Studies

TABLE I. SUMMARY OF PREVIOUS STUDIES

Researcher	Focus	Result
Maulidi & Listianti (2023)	Web-based stock control + ROP	ROP reduces stockout risk
Faiz et al. (2021)	Web-based inventory + EOQ/ROP	Order quantity and timing
Sahputra et al. (2022)	ROP in web-based inventory	More accurate replenishment
Setyadi et al. (2024)	EOQ/ROP in an inventory system	More efficient inventory management
Afrizal et al. (2025)	Safety stock + ROP	Maintains stock availability

Earlier studies generally demonstrate the usefulness of ROP for inventory control. This study extends that application by integrating READY and INDENT statuses, outgoing-item approval, stocktaking, audit logging, and automatic purchase requests within a single WMS, followed by a measured evaluation of user acceptance.

Black Box Testing evaluates whether functional inputs produce the expected outputs without examining the program's internal logic [11]. Usability is measured using the System Usability Scale, which consists of ten statements rated on a 1–5 Likert scale. For odd-numbered items, the contribution is calculated by subtracting one from the response, whereas for even-numbered items, the contribution is calculated by subtracting the response from five. The contributions are summed and multiplied by 2.5 to obtain a score from 0 to 100 [12].

III. RESEARCH METHODOLOGY

Research data were collected through interviews with the warehouse supervisor and purchasing staff, observation of inventory processes and spreadsheet records, a literature review, and questionnaires administered to prospective users. Sensitive company information, including supplier names, customer names, and actual prices, was anonymized without altering the data structure used for development and testing.

The system was developed using the Waterfall model, consisting of requirements analysis, system design, implementation, testing, and maintenance. Requirements analysis identified three user roles: Admin, Warehouse Supervisor, and Purchasing. The design used UML and ERD, while implementation employed PHP, HTML, CSS, JavaScript, Bootstrap, MySQL, and XAMPP. Functional testing was conducted through 24 Black Box scenarios. The SUS evaluation involved 11 respondents consisting of warehouse staff, purchasing staff, and an administrator.

The requirements-analysis stage identified goods-receiving, goods-issuing, stocktaking, lead-time, average-usage, and user-specific information requirements. The output of this stage was a set of functional and non-functional requirements that defined the scope of development.

The design stage produced business-process, interface, database, and UML models consisting of use case, activity, class, and sequence diagrams. The ERD was used to ensure that transaction, inventory, supplier, customer, and user relationships were structured without unnecessary duplication.

During implementation, the design was translated into a PHP application backed by a MySQL database. Bootstrap was used to maintain interface consistency, while JavaScript supported page interactions. XAMPP provided the local environment used throughout development and testing.

The testing stage compared actual results with expected results for each function. In addition to normal workflows, testing covered incorrect credentials, duplicate EAN codes, empty required fields, and attempts by unauthorized roles to access restricted menus. The usability evaluation was conducted after respondents had used the system.

The maintenance stage covers bug fixing, performance optimization, adjustment to user requirements, and updating ROP parameters when usage patterns or lead times change. Maintenance is necessary to keep procurement recommendations aligned with operational conditions.

IV. RESULTS AND DISCUSSION

The existing system presented five main problems: repeated data entry across multiple sheets, limited visibility of READY and INDENT statuses, no automatic reorder notification, difficulty analyzing item-usage history, and the need to manually consolidate data when preparing reports. The proposed system integrates EAN-based item master data, suppliers and lead times, customers, incoming transactions, outgoing requests and approvals, ROP calculations, stocktaking, notifications, purchase requests, reports, and audit logs.

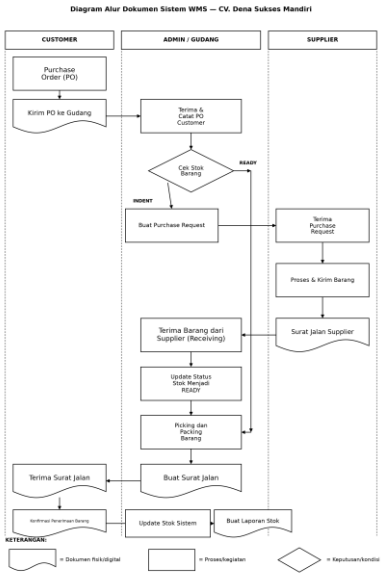


Figure 1. WMS Document Flow Diagram

The document-flow diagram illustrates the movement of information from order receipt and availability checking through procurement, goods receipt, and delivery. The system records status changes for each transaction so that READY items can be distinguished from INDENT items and the process history can be traced.

Functional Requirements Analysis

The Admin manages user accounts, categories, items, suppliers, customers, incoming goods, outgoing goods, ROP, purchase requests, stocktaking, reports, and audit logs. The Warehouse Supervisor monitors inventory, verifies outgoing goods, performs stocktaking, and views reports. Purchasing submits outgoing-item requests, monitors request status, reviews reorder notifications, and follows up on purchase requests.

Non-Functional Requirements Analysis

The system must run through a browser in a local environment, use account-based authentication, restrict menus according to user roles, maintain transaction consistency, provide an understandable interface, and support report export. The code and database structures are also designed to be maintainable and extensible to an internal network server.

Data Security and Validation

Authentication is the first protection layer before users can access system modules. The role information associated with an account determines which menus and processes are permitted. Authorization checks are also enforced on the server side so that changing a page address cannot be used to execute functions outside the user's authority.

Data validation is applied to required fields, value types, unique EAN codes, transaction quantities, and process statuses. Incomplete data are rejected before storage. For outgoing transactions, the system also checks stock availability and approval status so that quantities are not deducted before the supervisor's decision has been recorded.

Stock consistency is maintained through transaction-specific update rules. READY receipts increase available stock, INDENT receipts add items to the on-order record, ARRIVED confirmation transfers the quantity into READY stock, and approval of outgoing goods decreases stock. Each significant change is recorded in the transaction history and audit log.

Database backup and account administration remain the administrator's responsibility during deployment. When the system is moved to an internal server, the company should additionally implement password policies, periodic backups, network-access restrictions, and secure server configuration so that protection does not depend solely on the application.

Jurnal Esensi Infokom Vol 10 No. 2 Oktober 2026
e-ISSN: 2828-6707
https://esensijournal.com/index.php/infokom
DOI: 10.55886/infokom.v10i2.541



Figure 2. WMS Use Case Diagram

The use cases in Figure 2 divide access rights according to user responsibilities. The Admin manages master data and configuration, the Warehouse Supervisor verifies outgoing goods and physical stock, while Purchasing submits outgoing-item requests and follows up on purchasing needs. Separating access rights helps maintain data consistency and prevents users from executing functions beyond their authority.

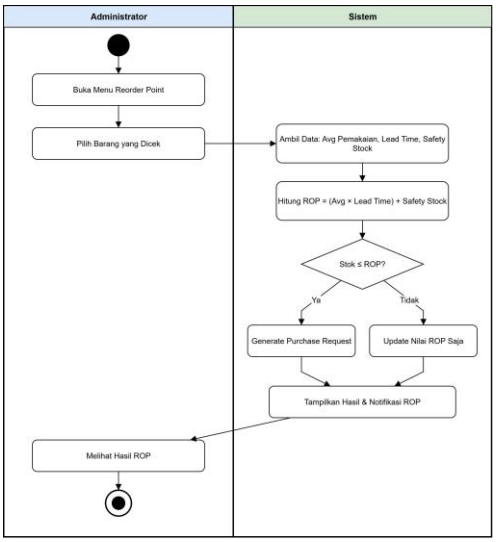


Figure 3. Reorder Point Calculation Activity Diagram

The ROP process begins when a user opens the ROP module and selects the calculation process. The system retrieves usage history, supplier lead time, and safety stock, then calculates the reorder threshold. The result is stored and compared with current stock. Items whose stock is less than or equal to the ROP are placed on the critical-item list.

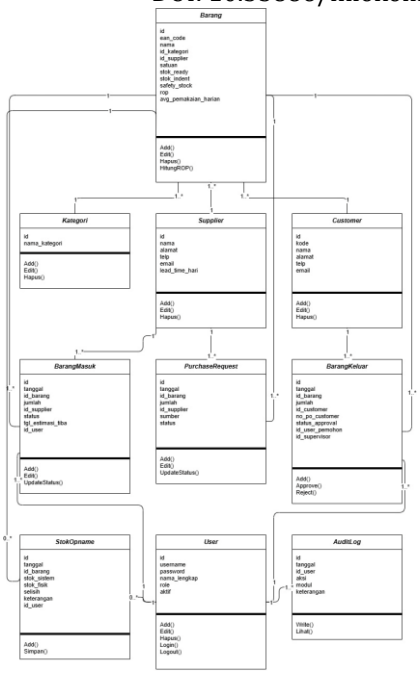


Figure 4. WMS Class Diagram

The class diagram models the attributes, methods, and relationships of the main classes. Separating master-data, transaction, inventory, and user classes supports a more structured codebase. The ERD then translates these data requirements into relational tables in MySQL.

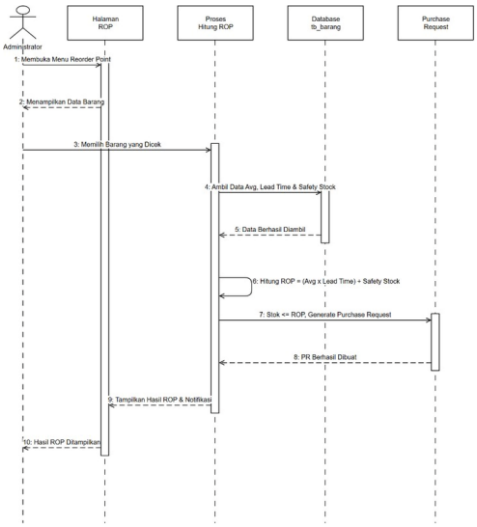


Figure 5. Reorder Point Calculation Sequence Diagram

The sequence diagram in Figure 6 shows the communication sequence when the ROP value is calculated. The user sends a request through the interface, the controller retrieves usage history and item parameters from the database, and the calculation service produces the ROP value. The value is stored and returned to the interface for comparison with current stock.

Database Design

TABLE II. MAIN DATABASE STRUCTURE

Table	Main Function
users	Accounts, roles, authentication
kategori	Item classification
barang	EAN, stock, safety stock, ROP
supplier	Supplier identity and lead time
customer	Customer identity
barang_masuk	READY/INDENT receipts
barang_keluar	Requests and approval
purchase_request	Procurement requirements
stok_opname	Physical stock and discrepancies
audit_log	User activity trail

The item table serves as the central inventory-information repository and is linked to categories and transaction history. Supplier data provide the lead time required for the calculation, while incoming and outgoing transactions form the usage history. Purchase requests record follow-up procurement needs, and the audit log records significant user changes.

Separating master and transaction tables reduces data repetition and facilitates validation. EAN codes in the item table are constrained to be unique. Linking users to transactions makes every change traceable to the responsible actor, while transaction statuses preserve stages such as PENDING, APPROVED, READY, INDENT, ARRIVED, open, and other statuses required by the business process.

Reorder Point Calculation Logic

The system obtains total item usage from outgoing-transaction history and divides it by the observation period to determine average usage. This value is multiplied by supplier lead time, and the safety stock stored in the item master is then added. The resulting value is recorded as the active ROP.

After calculation, the system compares READY stock with the ROP value. If stock remains above the ROP, the item is not placed on the critical list. If stock is equal to or below the ROP, the system displays a notification and checks whether an open purchase request already exists for that item. This check prevents duplicate requests from being generated for the same stock condition.

Usage, lead-time, and safety-stock parameters can be updated when operating conditions change. Therefore, the calculated result is not treated as a permanent value, but as a threshold that should be reviewed periodically using the latest data and the company's inventory policies.

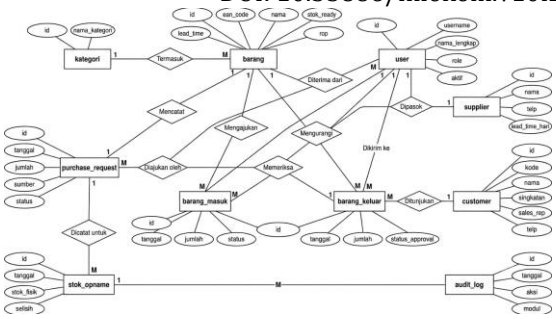


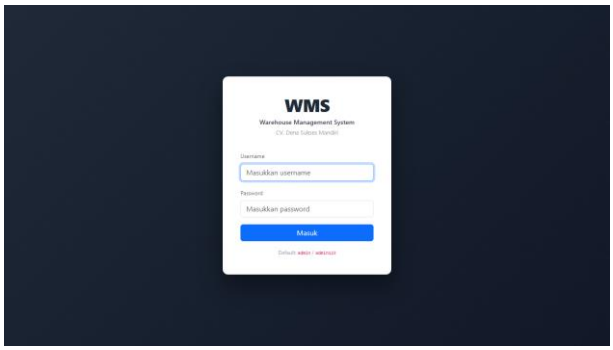
Figure 6. WMS Entity Relationship Diagram

The database structure in Figure 3 connects the user, item, category, supplier, customer, incoming transaction, outgoing transaction, purchase request, stocktaking, and audit-log entities. These relationships allow stock changes to be traced back to the transaction and the user who performed it.

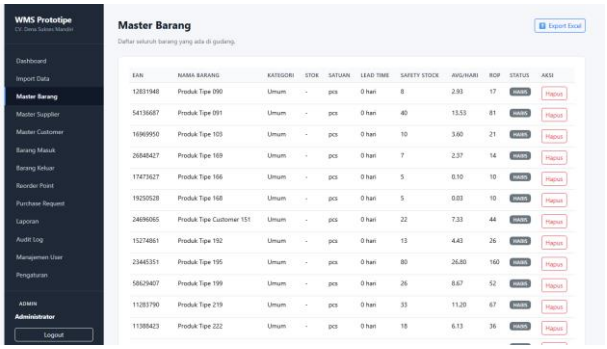
IMPLEMENTATION, TESTING, AND EVALUATION

System Implementation

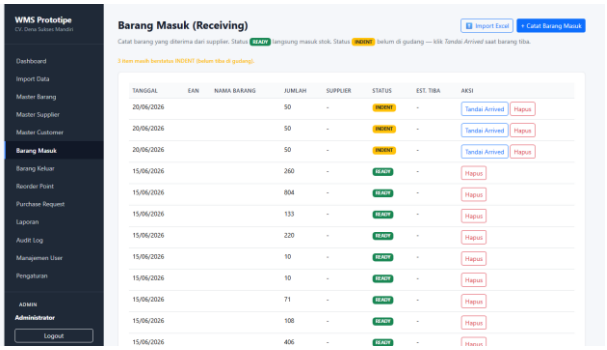
The implementation produced a web-based application with 13 main modules. The dashboard displays total items and stock, critical items, pending transactions, purchase requests, and stock-status charts according to the user's role. Incoming transactions distinguish READY and INDENT statuses, while outgoing transactions require supervisor approval. Stocktaking compares physical quantities with system quantities and records adjustment results.



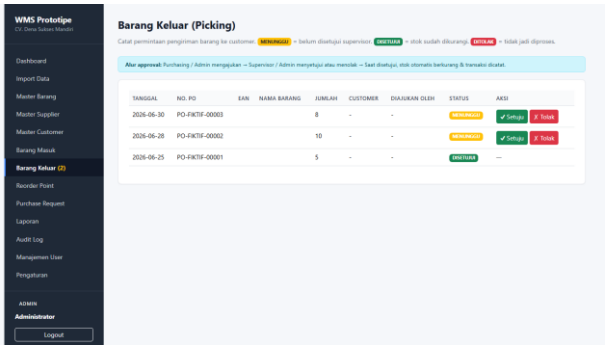
The login page verifies the username and password before directing the user to a dashboard based on access rights. When credentials are invalid, the system denies access and displays an error message without exposing internal menus.



The item master stores the EAN code, item name, category, unit, stock, safety stock, and ROP value. EAN validation prevents the same product code from being stored more than once, while the Excel import facility supports initial data loading.



Incoming goods can be recorded as READY or INDENT. READY goods immediately increase available stock. INDENT goods are recorded separately and only increase READY stock after their arrival is confirmed, keeping the supply status visible.



Outgoing goods follow an approval workflow. Purchasing submits a transaction with PENDING status, after which the Warehouse Supervisor performs verification. Stock is reduced only after the request is approved, preventing an outgoing transaction from being recorded before authorization.

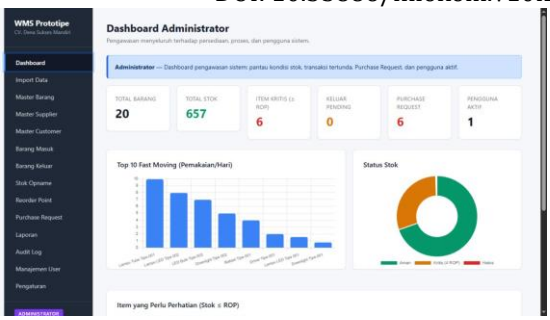


Figure 7. Real-Time Inventory Dashboard

The dashboard in Figure 11 consolidates information that was previously distributed across multiple sheets. The administrator can view total items and stock, critical items, pending transactions, purchase requests, active users, and stock-status charts without manually compiling the data.

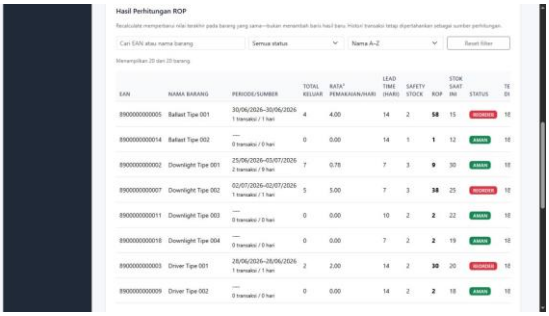


Figure 8. Reorder Point Calculation Implementation

The ROP page in Figure 12 displays the formula, data source and observation period, total usage, average daily usage, lead time, safety stock, ROP value, stock status, and the latest calculation time. This information makes the calculation traceable before procurement needs are acted upon.

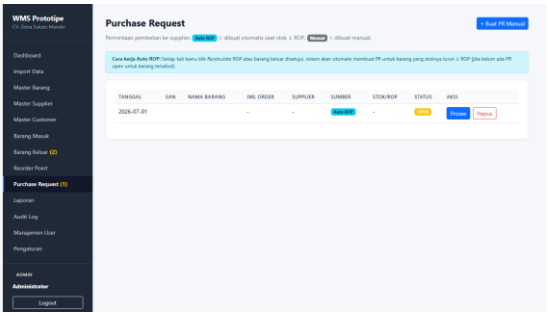
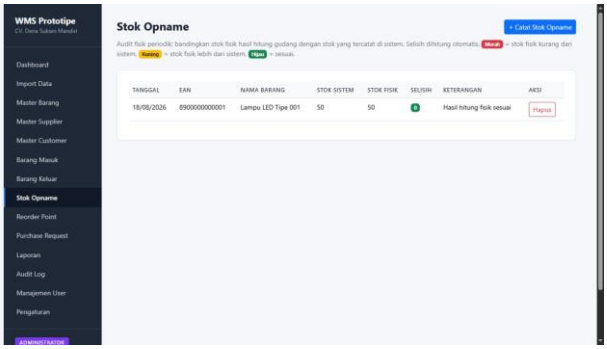
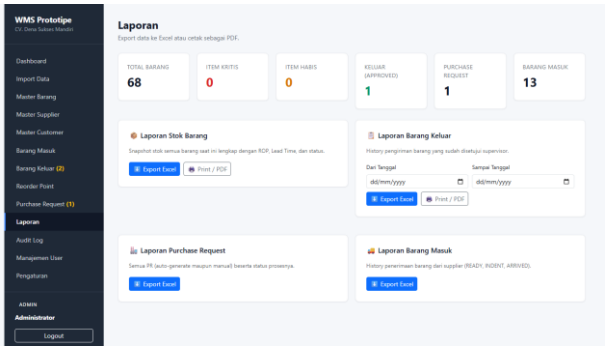


Figure 9. Purchase Request Generated by Automatic Reorder

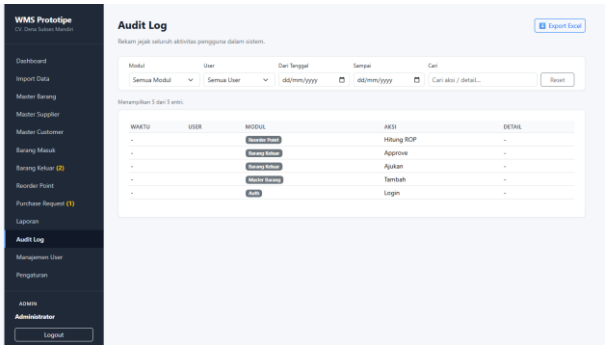
The purchase request shown in Figure 13 can be generated automatically with auto-rop as its source and open as its status. This feature connects inventory analysis to procurement action, reducing dependence on manual checks.



Stocktaking compares physical quantities with stored quantities. Any discrepancy is recorded in the history, and authorized users can synchronize the quantities. This mechanism helps correct differences without removing the adjustment trail.



The reporting module provides stock and transaction data that can be filtered and exported to Excel or PDF. Integrated reporting reduces the need to manually combine information from multiple sheets.



The audit log stores the user identity, module, activity, and execution time. This information supports tracing data changes and monitoring system use.

Module Integration Discussion

Integration across modules ensures that each transaction produces consistent changes in related components. READY receipts increase available stock, whereas INDENT receipts remain recorded as stock that cannot yet be used until arrival is confirmed. Approved outgoing transactions reduce stock and become part of the usage history for subsequent calculations.

Reorder notifications use the same stock data as the dashboard and reports. Because the data source is centralized, the critical-item list does not need to be compiled again. Automatic purchase requests also retain auto-rop as their source, allowing them to be distinguished from manual requests and making the reason for their creation traceable.

Applying approval to outgoing goods provides a control point before stock is reduced. Separating the requester from the approver reduces the risk of unverified transactions. Role restrictions at both the menu and server-process levels ensure that sensitive functions are not merely hidden from the interface but also cannot be executed by unauthorized accounts.

Stocktaking complements transaction controls by verifying physical conditions. When a discrepancy is found, the system stores the system-stock value, physical-stock value, and adjustment result. The audit log then provides context about the user and time of the change, ensuring that stock corrections are not made without a trace.

Operationally, the combination of the dashboard, ROP, notifications, purchase requests, and reports creates a shorter decision-making flow. The supervisor can review inventory conditions and approve transactions, while purchasing receives procurement-need information from thresholds calculated using usage and lead-time data.

Black Box Testing Results

TABLE III. BLACK BOX TESTING SUMMARY

Category	Test
Authentication	Valid/invalid login, logout
Master data	Items, suppliers, customers, EAN
Transactions	READY/INDENT, conversion, approval
ROP and PR	ROP calculation, notifications, auto-PR
Controls	Stocktaking, audit log, access rights
Data and reports	Data import and export

All 24 test scenarios produced a valid status. The system accepts correct inputs, rejects invalid credentials and data, updates stock according to transaction status, generates notifications and purchase requests when the ROP threshold is reached, and enforces role-based access restrictions. These results indicate that the main functions operate according to the identified operational requirements.

TABLE IV. NEGATIVE TEST SCENARIOS

Case	Input	Response
Incorrect login	Incorrect username/password	Access denied
Duplicate EAN	EAN already registered	Storage rejected

Case	Input	Response
Empty input	Quantity not entered	Required-field validation
Role access	Access to User Data menu	Returned to dashboard
Approval role	Approval by non-supervisor	Button unavailable

Negative testing confirmed that the system not only operates with valid inputs but also rejects conditions that could compromise data consistency or violate authorization. All actual responses matched the expected results.

System Usability Scale Evaluation Results

TABLE V. SUS SCORES BY RESPONDENT

Respondent	SUS	NPS
R1	77.5	Passive
R2	82.5	Promoter
R3	75.0	Passive
R4	87.5	Promoter
R5	72.5	Passive
R6	85.0	Promoter
R7	70.0	Passive
R8	82.5	Promoter
R9	87.5	Promoter
R10	75.0	Passive
R11	90.0	Promoter
Average	80.45	Promoter

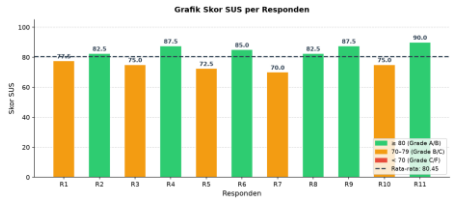


Figure 10. SUS Score Distribution by Respondent

TABLE VI. SUS RESULT INTERPRETATION

Dimension	Result
Average score	80.45
Grade Scale	A
Adjective Rating	Excellent
Acceptability	Acceptable
NPS	Promoter

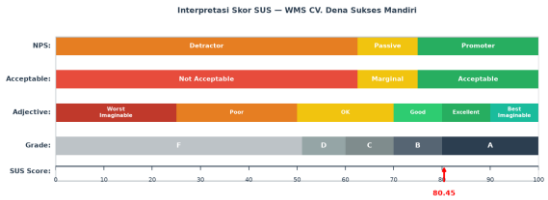


Figure 11. Interpretation of WMS SUS Scores

The 11 respondents produced SUS scores ranging from 70.0 to 90.0, with an average of 80.45. This score corresponds to Grade A, an Excellent adjective rating, an Acceptable acceptability range, and the NPS Promoter category. Validity testing produced item coefficients ranging from 0.607 to 0.683, all above the r-table value of 0.602. Cronbach's Alpha was 0.724, also above the 0.7 reference value. Thus, the instrument was considered valid and reliable, while the system was assessed as easy to learn, easy to use, and well integrated.

SUS scoring was performed by converting odd-numbered responses to the response minus one and even-numbered responses to five minus the response. The odd- and even-item contributions were then summed and multiplied by 2.5. The average contribution before multiplication was 32.18, producing a final score of 80.45.

TABLE VII. SUS QUESTIONNAIRE VALIDITY TEST RESULTS (R-TABLE = 0.602)

Item	Calculated r
Q1	0.624
Q2	0.618
Q3	0.671
Q4	0.639
Q5	0.683
Q6	0.612
Q7	0.651
Q8	0.629
Q9	0.658
Q10	0.607

All calculated r values exceeded the r-table value of 0.602; therefore, all ten items were considered valid. Cronbach's Alpha of 0.724 was higher than the 0.7 reference value, indicating good internal consistency and supporting the reliability of the instrument.

Discussion of Test Results

The success of all 24 Black Box scenarios indicates that the relationships among modules operated according to the defined process rules. Transaction validation did more than display interface messages; it also preserved data conditions when inputs were rejected. Role testing showed that the separation of responsibilities among the Admin, Warehouse Supervisor, and Purchasing roles was enforced for the tested functions.

The SUS score range of 70.0–90.0 indicates that all respondents rated the system within an acceptable level, although their individual experiences were not identical. Six respondents were classified as Promoters and five as Passives, with no Detractors. The average score of 80.45 indicates strong user acceptance while still leaving room for refinement based on user feedback.

The combination of functional and usability results provides two complementary forms of evidence. Black Box testing confirms that functions produced the expected outputs under the tested conditions, whereas SUS captures users' perceptions of ease of use and feature integration. Validity and reliability testing further support the use of the questionnaire results for interpretation within the study's respondent group.

Regarding the study objectives, the results show that the system provides integrated recording, automatic ROP calculation, READY and INDENT separation, a real-time dashboard, and procurement decision support. Its long-term effect on reducing stockouts and operational processing time still needs to be measured after sustained use in a production environment.

V. CONCLUSION

The study produced a web-based WMS integrating 13 main modules and three user roles in accordance with the business processes of CV. Dena Sukses Mandiri. The Reorder Point method was successfully integrated into the system workflow, enabling automatic replenishment alerts and purchase request generation based on average usage patterns and supplier lead times. Black Box testing confirmed that all 24 functional scenarios produced valid results, while the System Usability Scale evaluation yielded an average score of 80.45 (Grade A, Excellent), indicating that the system is well-accepted by users and effectively supports data-driven inventory control decisions.

Recommendations

Future development may include barcode or QR-code scanning, migration from localhost to an internal network server, procurement notifications through email or short messages, and demand forecasting to adjust safety stock and ROP more adaptively.

Research Limitations

The system is still operated on localhost and has not been tested for concurrent access through a production server. The data were obtained from a single lighting-product distributor, so usage patterns, lead times, and module requirements may not represent the full range of warehouse-company characteristics. The SUS evaluation involved 11 users directly connected to operational processes; therefore, interpretation is limited to the research-partner context.

The ROP method uses predetermined average usage, lead time, and safety stock values. The system does not yet implement demand forecasting, order-quantity optimization, or automatic safety-stock adjustment. Nevertheless, these limitations do not diminish the study's role as an initial implementation of reorder-point control and integrated web-based warehouse transactions.

REFERENCES

[1] R. Maulidi and P. Listianti, "Optimasi Pengendalian Persediaan dengan Metode Reorder Point dalam Pengembangan Aplikasi Kontrol Stok Berbasis Web," Journal of Applied Informatics and Computing, vol. 7, no. 1, 2023.

[2] M. N. Faiz, S. A. Rachmawati, and L. Syafirullah, "Sistem Pengendalian Persediaan Barang Berbasis Website dengan Metode Economic Order Quantity dan Reorder Point," Jurnal Ilmu Komputer, vol. 14, no. 2, 2021.

[3] M. R. Sahputra, E. Rahayu, and Nurjamiyah, "Penerapan Metode Reorder Point pada Persediaan Stok Barang Berbasis Website," JiTEKH, vol. 10, no. 2, 2022. doi: 10.35447/jitekh.v10i2.579.

[4] E. H. Frazelle, Supply Chain Strategy: Unleash the Power of Business Integration, 2nd ed. New York: McGraw-Hill, 2021.

[5] W. J. Stevenson, Operations Management, 14th ed. New York: McGraw-Hill, 2021.

[6] E. A. Silver, D. F. Pyke, and D. J. Thomas, Inventory and Production Management in Supply Chains, 4th ed. Boca Raton: CRC Press, 2020.

[7] H. A. Setyadi, B. Al Amin, and P. Widodo, "Implementation Economic Order Quantity and Reorder Point Methods in Inventory Management Information Systems," Journal of Information Systems and Informatics, vol. 6, no. 2, 2024.

[8] N. Afrizal, J. Minardi, and D. Mahendra, "Safety Stock and Reorder Point System for RF Media Stock Optimization," Scientific Journal of Informatics, vol. 12, no. 2, pp. 339–348, 2025. doi: 10.15294/sji.

[9] A. Bernard, J. T. Beng, N. J. Perdana, and R. Nurkholiza, "Penerapan Metode Reorder Point dan Safety Stock dalam Sistem Inventory Web pada Biofilter Mandiri Fibertech," INTECOMS: Journal of Information Technology and Computer Science, 2025.

[10] D. Norfatah, F. Nugraha, and N. Latifah, "Implementasi Metode Reorder Point (ROP) dan Safety Stock pada Warehouse Management System (WMS)," Jurnal Sains Informatika Terapan, vol. 1, no. 1, 2026.

[11] R. S. Pressman and B. R. Maxim, Software Engineering: A Practitioner's Approach, 9th ed. New York: McGraw-Hill, 2020.

[12] J. Brooke, "SUS: A 'Quick and Dirty' Usability Scale," in Usability Evaluation in Industry, P. W. Jordan, B. Thomas, B. A. Weerdmeester, and I. L. McClelland, Eds. London: Taylor & Francis, 1996, pp. 189–194.

[13] Y. Situmorang, W. Agustin, M. Anam et al., "Sistem Pengendalian Persediaan Perlengkapan Perorangan Lapangan Menggunakan Metode Economic Order Quantity dan Reorder Point," JURIKOM, vol. 9, no. 6, pp. 2092–2099, 2022.

[14] S. Sumaryanto, N. Susanti, and H. Wahyuningsih, "Sistem Informasi Manajemen Persediaan Menggunakan Metode Economic Order Quantity dan Reorder Point," Jurnal Tekno Kompak, vol. 18, no. 2, p. 208, 2024.

[15] R. Virgianto and D. Gustina, "Perancangan Sistem Informasi Penjualan Barang pada Toko Ibu Lina Berbasis Web," Jurnal Ilmiah Teknik Informatika (TEKINFO), vol. 22, no. 2, pp. 69–76, 2021.