**Document 1: Business Case Document Template**

**Project Initiation**

Development of Highrise ERP system for managing and tracking the procurement project was initiated to address the inefficiencies and inaccuracies of the current manual entry system. By creating a secure, user-friendly portal. The project aims to streamline the supply chain process, reduce errors, and provide remote access, reduce timelines to procure the objectives and manage the workflow for the approval. This will also enable to manage the confidential documents and for forming the centralized sourcing system with effective rates.

**Current Problem**

The current supply chain/ procurement process is manual, time-consuming, and lacks efficiency, taking 7-8 days to release a purchase order. Tracking procurement status, approvals, and delays is difficult, and the absence of a centralized system hampers visibility. The process requires extensive physical documentation, leading to inefficiencies and a reliance on person-specific tasks rather than a system-oriented approach. Generating timely reports and management insights is challenging due to cumbersome centralized tracking and manual updates. Globalized rate contracts are not tracked, and there is no automation or document repository. Additionally, the workflow is not mapped, and roles and responsibilities are unclear. The system is inflexible, unable to accommodate urgent business needs or changes.

**Problems solutions**

The current procurement process is slow, manual, and error-prone, leading to delays and inefficiencies. To address this, we propose automating and optimizing the entire procurement workflow. Key improvements include:

* Faster PO Generation: Reduce order creation time from 7-8 days to 3-4 days.
* Efficient Role Mapping: Clearly define responsibilities to improve accountability.
* Eliminate Manual Tasks: Digitally automate workflows to reduce errors and time.
* Global Rate Mapping: Access cost-effective global procurement rates.
* Cloud Storage: Secure long-term data storage for easy analysis and reporting.
* Faster Reporting: Generate detailed MIS reports in hours, not days.
* Flexible usage: System can be accessible remotely and ease of use.

This solution will streamline supply chain/ procurement, improve accuracy, and provide real-time insights, driving operational efficiency and cost savings.

**Resources Required:**

1. Human Resources
* Project Manager: Oversees project delivery.
* Business Analyst: Gathers and analyses requirements.
* Developers: Build and implement the system.
* UI/UX Designers: Design user-friendly interfaces.
* Testers: Ensure system functionality.
* IT Support: Handle deployment and technical support.
* Trainers: Provide user training.

2. Technical Resources

* Development Tools: Software frameworks and IDEs for development.
* Design Tools: Tools for UI/UX design (e.g., Figma).
* Testing Tools: Automated and manual testing resources.
* Hosting Infrastructure: Servers, cloud storage, and databases.
* Security Tools: Data protection and encryption software.

3. Financial Resources

* Budget: For salaries, licenses, hardware, and training materials.

4. Physical Resources

* Workspace: Office or remote setups.
* Hardware: Computers, servers, and networking equipment.

5. Documentation and Training Materials

* User Manuals: Guides for system use.
* Training Programs: Structured sessions for system training.

**Required organizational changes:**

1. Process Changes

* Automated Workflow: Transition to automated procurement.
* Faster PO Generation: Instant purchase order creation.

2. Training and Support

* User Training: Train staff on the new system.
* Ongoing Support: Continuous support team assistance.

3. Roles and Responsibilities

* New Roles: System administrators.
* Adjusted Roles: Staff adapt to digital tasks.
* Centralized Maintenance Team: Dedicated staff for system upkeep and troubleshooting.

4. Communication and Collaboration

* Enhanced Communication: Improved coordination between teams.
* Stakeholder Involvement: Active planning and implementation participation.

5. Technology Integration

* IT Infrastructure: Upgrade systems for automation.
* Data Management: New data storage and security protocols

**ROI Timeframe:**

Achieve positive ROI within 36 months by reducing procurement cycle times, minimizing manual errors, lowering operational costs, and improving efficiency through automation. The streamlined process will result in significant time and cost savings, with faster PO generation, better vendor management, and enhanced decision-making, driving long-term value for the organization.

**Stakeholders:**

**1.** Primary Stakeholders

* Procurement Team: Uses the system for managing purchase orders and requisitions.
* IT Support Team: Handles deployment, maintenance, and troubleshooting.
* Project Manager: Oversees the project and ensures alignment with business goals.

2. Secondary Stakeholders

* Finance Team: Tracks costs, budgets, and payment processing.
* Department Heads/Managers: Use procurement data for decision-making and budgeting.
* Vendors/Suppliers: Benefit from faster and more efficient purchase order management.

3. Tertiary Stakeholders

* Executive Leadership (CEO, CFO, COO): Approves budgets and monitors ROI.
* Audit and Compliance Team: Ensures compliance with internal and external regulations.
* Software Vendors/Third-party Providers: Provide the automation platform and ongoing support.

4. Project Team

* Business Analyst: Gathers requirements and ensures the system meets needs.
* Developers: Build and integrate the automated system.
* UI/UX Designers: Design the user interface for ease of use.
* Testers: Ensure the system functions correctly.
* Trainers: Conduct user training for smooth adoption.

**Document 2: BA Approach Strategy**

1. **Project Initiation:**
* Understand Project Objectives: Define clear goals, scope, and limitations for the ERP development project, aligning with organizational needs.
* Identify Key Stakeholders: Identify all relevant stakeholders, including business units, IT, and end-users, and establish communication channels for effective collaboration.
* Preliminary Business Needs Assessment: Assess existing systems, gather requirements from departments, and identify key business processes to be integrated into the new ERP system.
1. **Elicitation Technique:**
* Interviews:
	+ Conduct one-on-one interviews with department heads, supply chain managers, and IT staff.
	+ Gather detailed insights into current processes, pain points, and specific requirements.
* Surveys:
	+ Distribute surveys to a broader group of stakeholders, including employees and supply chain partners.
	+ Collect quantitative data on needs, expectations, and challenges in the current system.
* Focus Groups:
	+ Facilitate discussions with department heads, managers, and IT staff.
	+ Collaboratively identify challenges, propose solutions, and gather feedback on ERP features.
* Workshops:
	+ Host interactive sessions with key stakeholders to brainstorm ideas.
	+ Define, prioritize, and refine ERP system requirements for both development and supply chain streamlining.
* Observation:
	+ Observe current workflows in procurement, inventory management, and other supply chain functions.
	+ Identify inefficiencies and areas for improvement in existing processes.
* Document Analysis:
	+ Review existing documentation, including current ERP specs and supply chain process documents.
	+ Understand existing gaps and how they impact the development of the new system.
* Prototyping:
	+ Develop ERP system prototypes and supply chain management features.
	+ Present prototypes to stakeholders for feedback and refinement of system requirements.
* Brainstorming:
	+ Organize sessions with the project team and stakeholders.
	+ Generate innovative ideas and solutions for optimizing both ERP functionality and the supply chain process.
1. **Stakeholder Analysis using RACI/ILS:**
* Identify stakeholders and their roles using RACI (Responsible, Accountable, Consulted, Informed) or ILS (Influencer, Leader, Supporter) matrices.
* Determine each stakeholder's level of involvement and expectations regarding the project.
* Need to use this analysis to allocate responsibilities, manage expectations, and ensure effective communication.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Resource** | **Project Manager** | **Business Analyst** | **Developers** | **UI/UX Designers** | **Testers** | **IT Support** | **Trainers** | **Budget** | **Workspace** | **Hardware** | **User Manuals** | **Training Programs** |
| **Project Manager** | A | C | I | I | I | I | I | I | I | I | I | I |
| **Business Analyst** | C | A | I | I | I | I | I | C | I | I | I | I |
| **Developers** | I | C | A | C | I | C | I | I | I | R | I | I |
| **UI/UX Designers** | I | C | C | A | I | I | I | I | I | I | I | I |
| **Testers** | I | C | C | C | A | I | I | I | I | I | I | I |
| **IT Support** | I | I | I | I | I | A | I | I | I | R | I | I |
| **Trainers** | I | I | I | I | I | I | A | I | I | I | C | R |
| **Budget** | A | C | I | I | I | I | I | R | I | I | I | I |
| **Workspace** | I | I | I | I | I | I | I | I | A | I | I | I |
| **Hardware** | I | I | I | I | I | I | I | I | I | A | I | I |
| **User Manuals** | I | I | I | I | I | I | I | I | I | I | A | C |
| **Training Programs** | I | C | I | I | I | I | R | I | I | I | C | A |

1. **Documents to write:**
* Business Requirements Document (BRD)
* Functional Requirements Specification (FRS)
* Use Case Documents
* User Stories
* Project Charter
* System Architecture Design Document
* Data Flow Diagram (DFD)
* Test Plan
* User Acceptance Testing (UAT) Plan
* Training Plan & Materials
* Project Management Plan
* Risk Management Plan
* Change Management Plan
* Communication Plan
* Deployment Plan
* Post-Implementation Support Plan
* System Integration Plan
* Security and Compliance Documentation
* Go-Live Plan
* Post-Go-Live Evaluation Report
1. **Documents sign-off process**
* Share Draft
	+ Distribute the draft document to stakeholders for review.
* Review and Feedback
	+ Stakeholders provide feedback within a specified period (e.g., 5-7 days).
* Incorporate Feedback
	+ Revise the document based on stakeholder feedback and discuss significant changes.
* Formal Sign-Off
	+ Request formal approval from stakeholders through email or a sign-off sheet.
* Version Control
	+ Assign version numbers and store the final signed-off document in a centralized repository.
* Record Keeping
	+ Archive signed documents and maintained approval logs for tracking.
1. **Client Approvals:**
* Present finalized ERP system documents (BRD, FRS, etc.) to the client for approval.
* Offer explanations and clarifications to ensure the client understands the scope, requirements, and system functionality.
* Obtain formal approval from the client via signed agreements or email confirmation.
1. **Communication Channels:**
* Schedule regular meetings with stakeholders to discuss project progress, issues, and updates.
* Use email, project management software, and collaboration tools for asynchronous communication.
* Maintain an open-door policy for stakeholders to raise concerns or provide feedback.
1. **Change Request Handling:**
* Implement a formal change management process to capture, evaluate, and prioritize change requests.
* Assess the impact of proposed changes on project scope, timeline, and budget.
* Obtain approval from the Change Control Board before implementing any changes.
1. **Progress Reporting to Stakeholders:**
* Provide regular updates on project milestones, deliverables, and risks to stakeholders.
* Use status reports, dashboards, and presentations to communicate progress clearly.
* Highlight achievements, challenges, and upcoming tasks to keep stakeholders informed and aligned.
1. **UAT - Client Project Acceptance:**
* Coordinate User Acceptance Testing (UAT) with the client to validate the ERP system against the requirements.
* Provide detailed instructions and test cases for the client to execute during UAT.
* Obtain sign-off on the UAT - Client Project Acceptance Form once the client confirms satisfaction with the ERP system’s functionality.

**Document 3: Functional Specification**

|  |  |
| --- | --- |
| Project Name | Development of the ERP software |
| Customer Name | Godrej Interio |
| Project Version | 1.0 |
| Project Sponsor | Godrej Interio |
| Project Manager | Ravi Varadarajan |
| Project Initiation Date | 13/01/2025 |

**Functional Specification:**

|  |  |  |  |
| --- | --- | --- | --- |
| Req ID | Req Name | Req Description | Priority |
| FR001 | User Authentication | The system should implement secure login with multi-factor authentication (MFA) and role-based access control (RBAC). Passwords should be encrypted for security. | 10 |
| FR002 | Supplier Management | The system should manage supplier profiles, including contact details, performance metrics, and contract history. It should support supplier categorization and evaluation. | 10 |
| FR003 | Purchase Order Creation | The system should allow users to create and modify purchase orders, support bulk order creation, and auto-suggest suppliers based on previous orders. | 10 |
| FR004 | Procurement Workflow | The system should automate procurement workflows, including approval routing, budget checks, and document generation. Notifications should be sent for approval actions. | 10 |
| FR005 | Inventory Management | The system should track inventory levels in real-time, update stock movements, and support barcode/RFID tracking. Alerts should be triggered for low or excess stock. | 10 |
| FR006 | Purchase Order Approval | The system should enable multi-level approval for purchase orders based on defined thresholds. It should notify users when approval is required. | 9 |
| FR007 | Material Tracking | The system should track materials in real-time via barcode/RFID scanning, triggering alerts for shipment delays or discrepancies. | 9 |
| FR008 | Budgeting & Cost Control | The system should compare procurement costs with budgets and trigger alerts when costs exceed budget limits. | 9 |
| FR009 | Invoice Management | The system should match purchase orders to invoices, notify users of mismatches, and alert users of pending approvals. | 9 |
| FR010 | Supply Chain Reporting | The system should generate real-time, customizable reports for procurement, vendor performance, and inventory. Reports should be auto-generated and sent to stakeholders. | 8 |
| FR011 | Project Milestone Integration | The system should link procurement activities with project milestones, triggering alerts for material delivery deadlines. | 9 |
| FR012 | Shipping & Logistics Tracking | The system should integrate with carrier APIs for real-time shipping updates and alert users of shipment delays or early arrivals. | 9 |
| FR013 | Compliance Management | The system should track procurement compliance with regulations, sending alerts for non-compliance issues. | 8 |
| FR014 | Risk Management | The system should identify procurement risks, such as supplier issues or price increases, and trigger alerts for potential risks. | 8 |
| FR015 | Supplier Contract Management | The system should store supplier contracts and terms, sending reminders for contract renewals and performance tracking. | 8 |
| FR016 | Demand Forecasting | The system should use historical data to forecast material demand, triggering alerts when forecasted demand exceeds stock. | 8 |
| FR017 | Vendor Evaluation and Rating | The system should evaluate vendors based on delivery times, cost, and quality, triggering alerts when ratings fall below thresholds. | 7 |
| FR018 | Multi-currency & Multi-language Support | The system should support multi-currency and real-time exchange rates. It should also support multilingual interfaces. | 8 |
| FR019 | Integration with Financial Systems (ERP) | The system should integrate with external ERP and financial systems via APIs to synchronize procurement and payment data. | 9 |
| FR020 | Integration with SIS (Supply Information System) | The system should integrate with external SIS to exchange real-time supplier and product data, supporting bi-directional data flow. | 9 |
| FR021 | Notification & Alerts System | The system should provide centralized notifications for events like approval requests, stock levels, and delivery delays. Alerts should be customizable. | 9 |
| FR022 | API Integration for Third-party Systems | The system should expose APIs for integration with third-party systems like carriers, vendors, and financial platforms. | 9 |
| FR023 | Mobile Application | The system should offer a mobile app for procurement teams to track orders, approve POs, and view inventory on the go. The app should support push notifications. | 6 |

**Document 4: Requirements Traceability Matrix**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Req ID | Req Name | Req Description | Design | D1 | T1 | D2 | T2 | UAT | Priority |
| FR001 | User Authentication | The system should implement secure login with multi-factor authentication (MFA) and role-based access control (RBAC). Passwords should be encrypted for security. | Yes | Yes | Yes | No | No | Pending | 10 |
| FR002 | Supplier Management | The system should manage supplier profiles, including contact details, performance metrics, and contract history. It should support supplier categorization and evaluation. | Yes | Yes | Yes | No | No | Pending | 10 |
| FR003 | Purchase Order Creation | The system should allow users to create and modify purchase orders, support bulk order creation, and auto-suggest suppliers based on previous orders. | Yes | Yes | Yes | No | No | Pending | 10 |
| FR004 | Procurement Workflow | The system should automate procurement workflows, including approval routing, budget checks, and document generation. Notifications should be sent for approval actions. | Yes | Yes | Yes | No | No | Pending | 10 |
| FR005 | Inventory Management | The system should track inventory levels in real-time, update stock movements, and support barcode/RFID tracking. Alerts should be triggered for low or excess stock. | Yes | Yes | Yes | No | No | Pending | 10 |
| FR006 | Purchase Order Approval | The system should enable multi-level approval for purchase orders based on defined thresholds. It should notify users when approval is required. | Yes | Yes | Yes | No | No | Pending | 9 |
| FR007 | Material Tracking | The system should track materials in real-time via barcode/RFID scanning, triggering alerts for shipment delays or discrepancies. | Yes | Yes | Yes | No | No | Pending | 9 |
| FR008 | Budgeting & Cost Control | The system should compare procurement costs with budgets and trigger alerts when costs exceed budget limits. | Yes | Yes | Yes | No | No | Pending | 9 |
| FR009 | Invoice Management | The system should match purchase orders to invoices, notify users of mismatches, and alert users of pending approvals. | Yes | Yes | Yes | No | No | Pending | 9 |
| FR010 | Supply Chain Reporting | The system should generate real-time, customizable reports for procurement, vendor performance, and inventory. Reports should be auto-generated and sent to stakeholders. | Yes | Yes | Yes | No | No | Pending | 8 |
| FR011 | Project Milestone Integration | The system should link procurement activities with project milestones, triggering alerts for material delivery deadlines. | Yes | Yes | Yes | No | No | Pending | 9 |
| FR012 | Shipping & Logistics Tracking | The system should integrate with carrier APIs for real-time shipping updates and alert users of shipment delays or early arrivals. | Yes | Yes | Yes | No | No | Pending | 9 |
| FR013 | Compliance Management | The system should track procurement compliance with regulations, sending alerts for non-compliance issues. | Yes | Yes | Yes | No | No | Pending | 8 |
| FR014 | Risk Management | The system should identify procurement risks, such as supplier issues or price increases, and trigger alerts for potential risks. | Yes | Yes | Yes | No | No | Pending | 8 |
| FR015 | Supplier Contract Management | The system should store supplier contracts and terms, sending reminders for contract renewals and performance tracking. | Yes | Yes | Yes | No | No | Pending | 8 |
| FR016 | Demand Forecasting | The system should use historical data to forecast material demand, triggering alerts when forecasted demand exceeds stock. | Yes | Yes | Pending | No | No | Pending | 8 |
| FR017 | Vendor Evaluation and Rating | The system should evaluate vendors based on delivery times, cost, and quality, triggering alerts when ratings fall below thresholds. | Yes | Yes | Pending | No | No | Pending | 7 |
| FR018 | Multi-currency & Multi-language Support | The system should support multi-currency and real-time exchange rates. It should also support multilingual interfaces. | Yes | Yes | Pending | No | No | Pending | 8 |
| FR019 | Integration with Financial Systems (ERP) | The system should integrate with external ERP and financial systems via APIs to synchronize procurement and payment data. | Yes | Yes | Pending | No | No | Pending | 9 |
| FR020 | Integration with SIS (Supply Information System) | The system should integrate with external SIS to exchange real-time supplier and product data, supporting bi-directional data flow. | Yes | Yes | Pending | No | No | Pending | 9 |
| FR021 | Notification & Alerts System | The system should provide centralized notifications for events like approval requests, stock levels, and delivery delays. Alerts should be customizable. | Yes | Yes | Pending | No | No | Pending | 9 |
| FR022 | API Integration for Third-party Systems | The system should expose APIs for integration with third-party systems like carriers, vendors, and financial platforms. | Yes | Yes | Pending | No | No | Pending | 9 |
| FR023 | Mobile Application | The system should offer a mobile app for procurement teams to track orders, approve POs, and view inventory on the go. The app should support push notifications. | Yes | Yes | Pending | No | No | Pending | 6 |

**Document 5: Business Requirement Document**

**Highrise ERP – Procurement & Supply chain ERP**

**WLMS-COEPD-2025**

**Version 1.0**

**Ashay Pillewan**

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## **Document Revision**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Revision Number** | **Date** | **Author** | **Description of Changes** | **Reviewer** | **Approval Date** |
| 0.1 | 08-12-2024 | Ashay Pillewan | Initial draft of the project documentation | RV | 10-12-2024 |
| 0.2 | 14-12-2024 | Ashay Pillewan | Added project objectives and success criteria | RV | 16-12-2024 |
| 0.3 | 20-12-2024 | Ashay Pillewan | Included stakeholder analysis and elicitation techniques | RV | 22-12-2024 |
| 0.4 | 26-12-2024 | Ashay Pillewan | Completed functional requirements and requirement traceability matrix | RV | 28-12-2024 |
| 0.5 | 01-01-2025 | Ashay Pillewan | Updated priority and status in requirement traceability matrix | RV | 03-01-2025 |
| 0.6 | 07-01-2025 | Ashay Pillewan | Added detailed business requirements | RV | 09-01-2025 |
| 0.7 | 13-01-2025 | Ashay Pillewan | Incorporated appendices and finalized document | RV | 15-01-2025 |

## **Approvals**

|  |  |  |  |
| --- | --- | --- | --- |
| **Role** | **Name** | **Signature** | **Date** |
| Project Sponsor | Ravi Kumar | [Signature] | 01-01-2025 |
| Business Owner | Priya Sharma | [Signature] | 01-01-2025 |
| Project Manager | Ravi Varadarajan | [Signature] | 02-01-2025 |
| Business Analyst | Ashay Pillewan | [Signature] | 02-01-2025 |
| Technical Lead | Rajesh Gupta | [Signature] | 03-01-2025 |
| Quality Assurance Lead | Anita Verma | [Signature] | 04-01-2025 |
| Stakeholder Representative | Sandeep Joshi | [Signature] | 05-01-2025 |
| IT Department Head | Aakash Desai | [Signature] | 06-01-2025 |

## **RASCI Chart for this document**

Codes Used in RASCI Chart:

* + R: Responsible
	+ A: Accountable
	+ C: Consulted
	+ I: Informed

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Stakeholder** | **Responsible (R)** | **Accountable (A)** | **Consulted (C)** | **Informed (I)** |
| Project Manager | R | A | C | I |
| Business Analyst | R |   | C | I |
| Developers | R |   | C | I |
| UI/UX Designers | R |   | C | I |
| Testers | R |   | C | I |
| IT Support | R |   | C | I |
| Trainers | R |   | C | I |
| Budget | C | A |   | I |
| Workspace | C | A |   | I |
| Hardware | C | A |   | I |
| User Manuals | C | A |   | I |
| Training Programs | C | A |   | I |

In this RASI chart:

* Project Manager is Accountable for the overall project success and making final decisions.
* Business Analyst, Developers, UI/UX Designers, Testers, IT Support, Trainers are Responsible for their respective roles (gathering requirements, coding, designing, testing, etc.).
* Project Manager is Responsible for managing the project and informs all stakeholders about progress.
* Budget, Workspace, Hardware, User Manuals, and Training Programs are Accountable for managing resources, hardware, documentation, and training.
* Project Manager, Business Analyst, Developers, UI/UX Designers, Testers, IT Support, Trainers are Consulted for input and feedback during the project.
* Budget, Workspace, Hardware, User Manuals, and Training Programs are Consulted for resource and document-related decisions.

## **Introduction:**

The Highrise ERP System is a comprehensive software solution designed to streamline the procurement and supply chain management processes for businesses. This project aims to develop an efficient and scalable ERP system that automates procurement workflows, enhances supply chain visibility, and improves overall operational efficiency. The system will integrate various departments, from purchasing and inventory to vendor management, ensuring seamless collaboration and data flow. The project will also focus on user-friendly interfaces, real-time data analytics, and robust reporting capabilities, making it an essential tool for organizations to optimize their procurement strategies and enhance decision-making.

### **4.1 Business Goals**

The business goal of the **Highrise ERP System** is to optimize procurement and supply chain operations by automating processes, improving efficiency, and reducing costs. The system aims to enhance visibility across the supply chain, foster stronger vendor relationships, and enable data-driven decision-making. By integrating key business functions and providing real-time analytics, it will streamline operations, ensure scalability, and support compliance, ultimately driving growth and improving overall business performance.

### **4.2 Business Objectives**

* Automate Procurement: Streamline procurement processes to reduce manual intervention, improve efficiency, and cut operational costs.
* Enhance Decision-Making: Provide real-time reporting and analytics for faster, data-driven business decisions.
* Improve User Adoption: Ensure easy system adoption with an intuitive user interface and comprehensive training.
* Ensure Scalability and Flexibility: Develop a scalable system that can adapt to business growth and evolving needs.
* Strengthen Data Security and Compliance: Safeguard sensitive procurement data while ensuring compliance with industry regulations.
* Optimize System Performance: Ensure the ERP system performs efficiently under high volumes of data and transactions.
* Facilitate Seamless Integration: Integrate the ERP with existing systems for smooth data flow and collaboration.
* Maintain Continuous Support: Provide post-implementation support to address issues, updates, and system enhancements.

### **4.3 Business Rules**

* Role-Based Access Control: Users can access only data and functions relevant to their roles (e.g., procurement managers, vendors).
* Data Validation: All procurement entries must pass validation checks (e.g., correct vendor, price) before saving.
* Automatic Logout: Users will be logged out after a specified period of inactivity (e.g., 15 minutes).
* Approval Workflow: All purchase orders and requests must be approved by designated roles before finalization.
* Audit Trail: The system will track all changes and transactions for accountability.
* Data Integrity: Critical data changes must be tracked and authorized.
* System Notifications: Automated notifications will alert users of key events (e.g., order approvals, inventory levels).
* Vendor Management: New vendors must be approved before being added to the system.
* Inventory Replenishment: Automatic replenishment triggers when stock falls below predefined levels.
* Reporting Compliance: Reports must meet organizational standards and be verified for accuracy.

### **4.4 Background**

The development of the Highrise ERP System was driven by challenges in manual procurement processes, lack of real-time data visibility, and fragmented systems across departments. Businesses faced inefficiencies, errors, and high operational costs due to disconnected workflows. As organizations grew, existing systems couldn't scale to manage increased transactions and complexity. Additionally, compliance and data security risks became more prominent. The Highrise ERP System was created to automate procurement, improve data accessibility, streamline operations, and ensure scalability, security, and compliance.

### **4.5 Project Objectives**

* Automate Procurement Processes: Streamline procurement workflows to improve efficiency, reduce manual errors, and minimize operational costs.
* Enhance Decision-Making: Provide real-time reporting and analytics to support faster, data-driven business decisions.
* Ensure Seamless Integration: Develop a scalable system that integrates with existing infrastructure and systems for improved data flow across departments.
* Improve User Experience: Design an intuitive user interface (UI) and user experience (UX) to ensure ease of use and quick adoption by all stakeholders.
* Strengthen Data Security: Implement robust security measures to safeguard sensitive procurement data and ensure compliance with industry regulations.
* Optimize System Performance: Ensure the ERP system performs optimally under high loads through performance optimization and load testing.
* Facilitate Scalable Growth: Build a flexible ERP solution that can scale with business growth and adapt to evolving market demands.
* Support Continuous Improvement: Establish post-implementation support and maintenance plans to address issues, updates, and system enhancements.
* Provide Comprehensive Training: Develop training programs and documentation to ensure smooth onboarding and effective use of the system.
* Enable Data Migration: Ensure seamless integration and accurate migration of data from legacy systems to the new ERP system.

### **4.6 Project Scope**

The Highrise ERP System project focuses on automating procurement and supply chain management processes. It will involve the development and integration of the ERP system to streamline workflows for procurement, inventory, vendor management, and invoicing. The system will include real-time reporting, analytics, and a user-friendly interface for seamless adoption.

Security protocols will be implemented to safeguard data, ensuring compliance with relevant regulations. Comprehensive training and documentation will be provided, and post-implementation support will address updates and system enhancements.

The scope excludes non-procurement functionalities and hardware infrastructure development, with data migration from legacy systems included.

### **4.6.1 In scope functionality**

* User Authentication & Authorization: Secure login with role-based access control.
* Procurement Management: Create, update, and manage purchase orders and requisitions.
* Inventory Management: Track and manage inventory levels and stock movement.
* Vendor Management: Maintain and evaluate vendor information and performance.
* Invoicing & Payment Processing: Automate invoice generation and payment tracking.
* Real-time Reporting & Analytics: Dashboards for monitoring procurement and supply chain metrics.
* Integration with Legacy Systems: Data migration and integration with existing tools.
* User Interface (UI): Responsive design for desktop, tablet, and mobile.
* Security Measures: Data encryption, audit trails, and compliance with security standards.
* Compliance Reporting: Ensure procurement processes meet regulatory requirements.
* Training & Support: User guides, documentation, and ongoing technical support.
* Scalability: Designed for growing data volumes and user loads.
* API Development: APIs for future integrations with external systems.

### **4.6.1 Out Scope functionality**

* Hardware Infrastructure: No development or procurement of hardware for end-users.
* Non-Procurement Modules: No development of non-procurement functionalities like HR or finance.
* Non-Procurement Integrations: No integration with third-party systems unrelated to procurement, inventory, or supply chain.
* Extended Customization: No customizations beyond the predefined ERP features for procurement and supply chain management.

## **Assumptions**

* **User Readiness:** Users are computer literate and ready to adopt the new system.
* **System Compatibility:** Existing legacy systems are compatible for integration.
* **Data Availability:** Required procurement, inventory, and vendor data is accessible for migration.
* **Vendor Cooperation:** Vendors will provide necessary data for integration.
* **Security Compliance:** Security and compliance protocols are in place.
* **Infrastructure Support:** Required hardware and network infrastructure will be available.
* **Training Participation:** Users will engage in training and have access to documentation.
* **Ongoing Support:** Resources will be allocated for post-implementation support.

## **Constraint**

* **Budget:** Must stay within the allocated budget.
* **Timeline:** Must be completed within the agreed time limit.
* **Resource Availability:** Limited internal resources for implementation.
* **System Downtime:** Minimal downtime during transition.
* **Third-Party Dependencies:** Timeline dependent on third-party vendor support.
* **Compliance:** Must meet regulatory compliance.
* **Data Migration:** Data migration must not disrupt operations.

## **Risk**

### **7.1 Technological Risks**

* Integration Challenges: Difficulty in integrating the ERP with existing systems.
* Scalability: Ensuring the system can handle increasing data and users.
* Data Security: Protecting sensitive procurement and supply chain data from breaches.
* System Performance: Risk of slow system performance under high transaction volumes.
* Cloud Reliability: Potential issues with cloud service providers impacting system uptime.

### **7.2 Skill Risks**

* Technical Expertise: Availability of skilled developers proficient in required technologies.
* Training and Support: Ensuring users can effectively adopt the new system.
* Project Management: Ensuring experienced project managers lead the implementation.
* Knowledge Transfer: Risk of inadequate transfer of knowledge to internal teams for ongoing support.
* Staff Turnover: Risk of losing key team members with specialized knowledge during the project.

### **7.3 Reliability Risks**

* System Reliability & Uptime: Ensuring the ERP system is consistently available and performs well.
* Technology Obsolescence: Risk of chosen technologies becoming outdated quickly.
* Data Integrity: Ensuring the accuracy and consistency of data throughout the system.
* Disaster Recovery: Inadequate disaster recovery planning, leading to data loss or downtime in emergencies.

### **7.4 Political Risks**

* Policy Changes: Changes in regulations or policies affecting system usage.
* Stakeholder Support: Ensuring continued support from all involved stakeholders.
* Regulatory Compliance: Meeting local, state, and federal regulations for data protection and procurement processes.
* Government Intervention: Potential government-imposed changes in procurement practices or compliance requirements.
* Organizational Change: Shifts in organizational priorities or leadership impacting project direction.

### **7.5 Business Risks**

* Cost Overruns: Project exceeding budget due to unforeseen issues or scope changes.
* Market Acceptance: Resistance from users affecting adoption and utilization.
* Return on Investment (ROI): Failure to meet expected financial benefits or process improvements.
* Vendor Dependence: Over-reliance on third-party vendors causing delays or increased costs.
* Resource Allocation: Difficulty in allocating sufficient internal resources for successful implementation.
* Change Management: Challenges in managing change within the organization, leading to disruptions.

### **7.6 Requirements Risks**

* Changing Requirements: Evolving needs causing scope creep and delays.
* Incomplete Requirements: Initial requirements not capturing all user needs, leading to rework.
* Requirement Conflicts: Conflicting requirements from different stakeholders complicating development.
* Unclear Priorities: Ambiguity in stakeholder priorities causing delays or misalignment.
* Missed Requirements: Critical requirements overlooked during the planning phase.

### **7.7 Other Risks**

* Project Timeline: Unforeseen delays impacting the project timeline.
* User Adoption: Resistance to using the new system, resulting in underutilization.
* Maintenance and Support: Ensuring ongoing support and bug fixes post-launch.
* Competition: Competitors releasing similar solutions, impacting market position.
* Cultural Barriers: Variations in technology adoption across different regions or departments.
* Vendor Lock-In: Dependence on a single vendor for critical components, leading to long-term risks.

## **Business Process Overview**

### **8.1. Legacy System (AS-IS)**

The current procurement and supply chain management system is characterized by outdated, manual processes and disconnected tools, resulting in inefficiencies, data inconsistencies, and limited scalability. The key challenges include:

* Manual Data Entry: Procurement, inventory, and vendor data are manually entered, increasing the risk of human errors and inefficiencies.
* Lack of Integration: Systems for procurement, inventory, and invoicing operate in isolation, leading to delays in data exchange and decision-making.
* Data Accessibility Issues: Information is stored across different systems, making it difficult for teams to access and update data in real-time.
* Limited Reporting: Reporting capabilities are basic and often require manual data aggregation, leading to outdated or incomplete insights.
* Security Risks: Sensitive procurement and vendor data is vulnerable to breaches due to weak security protocols.
* Scalability Challenges: The existing system is unable to handle increased transaction volumes and growing data needs as the organization expands.
* Inefficient Communication: Information regarding procurement, inventory, and vendor status is often communicated via email or printed reports, which leads to delays and misunderstandings.
* Lack of Process Standardization: Different departments use varying methods for procurement and supply chain management, resulting in inconsistent practices and inefficiencies.
* Vendor Management: Managing vendor relationships and performance is handled manually, making it difficult to track performance metrics or address issues in a timely manner.

The transition to an integrated ERP system is necessary to automate processes, streamline workflows, and enhance the overall procurement and supply chain management process.

### **8.2. Proposed Recommendations (TO-BE)**

To resolve the challenges posed by the legacy system, the proposed ERP solution introduces automation, integration, and enhanced functionality to streamline procurement and supply chain processes. Key recommendations include:

* Automated Data Entry: Implement digital forms and automated workflows for procurement, inventory, and invoicing to reduce human error and increase data accuracy.
* Integrated ERP System: Centralize procurement, inventory, vendor management, and invoicing into a unified system, allowing real-time updates, improved data accuracy, and seamless collaboration across departments.
* Real-Time Reporting & Analytics: Introduce dynamic dashboards and customizable reports, providing stakeholders with up-to-date insights into procurement, inventory, and vendor performance.
* Regular Security Audits: Implement advanced security protocols including data encryption, multi-factor authentication, and role-based access to protect sensitive data, and conduct regular audits to detect vulnerabilities.
* Mobile Access: Provide mobile access to the ERP system to allow users to manage procurement and supply chain tasks and access key data from smartphones and tablets.
* Cloud-Based Solution: Utilize a scalable cloud infrastructure to host the ERP system, ensuring high availability, redundancy, and scalability to support growing data volumes and user traffic.
* Performance Monitoring: Deploy performance monitoring tools to track system health, identify bottlenecks, and proactively address any performance issues to ensure seamless operation.
* Training and Support: Offer comprehensive training to all users, along with in-depth user guides and 24/7 technical support to ensure smooth adoption and effective utilization of the new system.
* Feature Enhancements: Regularly update the ERP system with new features and functionality based on feedback from users and evolving business needs.
* Load Testing: Perform regular load testing to validate system performance under peak usage scenarios, ensuring that the system can handle increased traffic without degradation.
* Vendor Management Tools: Implement tools to track and evaluate vendor performance, streamline communication, and ensure timely payments and deliveries.
* Inventory Optimization: Implement advanced inventory tracking and forecasting features to minimize stockouts, reduce excess inventory, and improve supply chain efficiency.
* Compliance & Regulatory Features: Ensure the system adheres to local, state, and federal regulations concerning procurement, data security, and vendor management.
* Audit Trails: Maintain comprehensive audit trails of all procurement and supply chain activities for transparency, accountability, and compliance purposes.
* Process Standardization: Standardize procurement and supply chain processes across departments to ensure consistency and improve operational efficiency.

## **Business Requirement**

|  |  |  |  |
| --- | --- | --- | --- |
| Req ID | Requirement | Description | Priority |
| BR0001 | User Authentication | The system must provide secure login mechanisms for users, including password protection and multi-factor authentication. | High |
| BR0002 | Role-Based Access Control | The system should support role-based access control, allowing different levels of access for different user roles. | High |
| BR0003 | Automated Procurement Workflow | The system must automate the end-to-end procurement process, from requisition to purchase order approval. | High |
| BR0004 | Vendor Management | The system should allow for easy onboarding, tracking, and performance evaluation of vendors. | High |
| BR0005 | Inventory Management | The system should manage inventory levels, track stock movements, and provide real-time inventory updates. | High |
| BR0006 | Purchase Order Generation | The system must automatically generate purchase orders based on approved requisitions. | High |
| BR0007 | Invoice Processing | The system should support automated invoice matching and approval against purchase orders and receipts. | High |
| BR0008 | Supplier Payment Tracking | The system must track payment schedules and amounts due to vendors, ensuring timely payments. | High |
| BR0009 | Real-Time Reporting & Analytics | The system must provide real-time reporting and analytics on procurement, inventory, and vendor performance. | High |
| BR0010 | Data Security & Encryption | The system must ensure data is encrypted and protected with robust security protocols. | High |
| BR0011 | Approval Workflow | The system must include multi-level approval workflows for purchase orders, invoices, and requisitions. | High |
| BR0012 | Mobile Access | The system should have a mobile-friendly version to allow users to access procurement and supply chain data on-the-go. | Medium |
| BR0013 | Order Tracking & Status Updates | The system should provide real-time order status updates, from order creation to delivery and invoicing. | Medium |
| BR0014 | Budget Management | The system must include features to track procurement spending against allocated budgets. | Medium |
| BR0015 | Demand Forecasting | The system should have the capability to forecast demand and adjust inventory levels accordingly. | Low |
| BR0016 | Supplier Performance Evaluation | The system must allow the tracking and evaluation of supplier performance metrics like delivery time, quality, and price. | High |
| BR0017 | Purchase Requisition Management | The system should allow users to submit, review, and approve procurement requisitions digitally. | High |
| BR0018 | Audit Trails | The system must maintain detailed logs of all actions and changes to ensure transparency and compliance. | High |
| BR0019 | Compliance with Regulations | The system must comply with all local, national, and international regulations related to procurement and data privacy. | High |
| BR0020 | Customizable Dashboards | The system must allow users to create customizable dashboards to track procurement and supply chain KPIs. | Medium |
| BR0021 | Supplier Contract Management | The system must provide tools to manage vendor contracts, including contract terms, renewals, and compliance monitoring. | Medium |
| BR0022 | Purchase Order Confirmation | The system must allow for purchase order confirmations from vendors and track them within the system. | High |
| BR0023 | Inventory Replenishment Automation | The system must automatically suggest inventory replenishment based on predefined thresholds. | Low |
| BR0024 | Multi-Currency Support | The system must support multiple currencies for international vendor transactions. | Low |
| BR0025 | System Scalability | The system must be scalable to handle increasing transaction volumes and user loads as the business grows. | High |

## **Appendices**

### **10.1. List of Acronyms**

* ERP - Enterprise Resource Planning
* PO - Purchase Order
* RFQ - Request for Quotation
* SLA - Service Level Agreement
* API - Application Programming Interface
* UI - User Interface
* SKU - Stock Keeping Unit
* VMS - Vendor Management System
* UAT - User Acceptance Testing
* BRD - Business Requirement Document
* BR - Business Requirement
* OEM - Original Equipment Manufacturer
* RFP - Request for Proposal
* TCO - Total Cost of Ownership
* KPI - Key Performance Indicators

### **10.2. Glossary of Terms**

* ERP (Enterprise Resource Planning): Software for managing business processes like procurement and inventory.
* Procurement: The process of acquiring goods and services.
* PO (Purchase Order): A formal request for products or services.
* RFQ (Request for Quotation): A request to suppliers for pricing.
* VMS (Vendor Management System): Software for managing vendors and contracts.
* Inventory Management: Managing stock levels and orders.
* Invoice: A document detailing products/services provided and amount due.
* Data Validation: Ensuring data accuracy and consistency.
* User Role: Permissions defining access to system functions.
* Vendor Portal: Platform for vendors to manage products and invoices.
* Lead Time: Time from order placement to receipt of goods.
* Supply Chain Optimization: Improving supply chain efficiency and effectiveness.
* Requisition: Internal request for goods or services.

### **Related Documents**

* Functional Specifications
* Technical Design Document
* Business Requirements Document (BRD)
* Stakeholder Analysis
* Risk Management Plan
* Data Migration Plan
* User Training Materials
* Change Management Plan