**Waterfall Model Documents**

**Document 1 : Business Case Document Template**

1. Project Initiation :

* To enhance efficiency in seafood procurement, processing, and distribution.
* To ensure compliance with sea food safety and regulatory standards (e.g. FDA, EU regulations).
* To improve inventory management, reduce wastage, and optimize supply chain operations.
* To integrate all seafood business operations into single ERP system for better visibility and decision – making.

1. Current Problems :

* Lack of Traceability : Difficulty tracking seafood from source to sale.
* Regulatory Compliance Issues : Manual record-keeping leads to errors and non-compliance forecasting.
* Inventory Management Challenges : Spoilage and overstocking due to poor demand forecasting.
* Inefficient Supply Chain : Delays in procurement and distribution due to lack of real-time data.
* High Operational Costs : Manual processes increases labor costs and reduce efficiency.

1. Problem Solution Scope :

* End – to – End Traceability : Automates tracking from fishing vessels to end customers.
* Regulatory Compliance Automation : Generates necessary compliance reports and ensures quality control.
* Inventory Optimization : Real – time stock monitoring reduces spoilage and optimizes storage.
* Streamlined Supply Chain : Automates procurement, vendor management, and order fulfillment.
* Cost Reduction & Efficiency : Reduces manual effort, improves data accuracy, and enhances productivity.

1. Required Resources :

* Technology : ERP software ( Cloud-based / On-premise ), Data Servers, IoT Sensors ( for cold chain monitoring ).
* Human Resources : ERP Consultants, IT Team, Business Analysts, Trainers, and End Users.
* Financial Resources : Implementation costs, licensing fees, training expenses, and maintenance budget.
* Infrastructure : Internet connectivity, hardware ( servers, workstations, barcode scanners ).

1. Organizational Change Required :

* Process Reengineering : Redefining workflows to fit ERP system capabilities.
* Training & Change Management : Employees need training to adapt to new digital process.
* Stakeholder Buy-in : Involvement of top management, seafood suppliers, and logistics teams.
* Integration with Existing Systems : Aligning ERP with current accounting, HR, and supply chain tools.

1. Financial Viability :

Time frame required to recover ROI ?

* Short – Term (0-6 months) : Reduction in manual processing and improved inventory control.
* Mid – Term (6-12 months) : Increased operational efficiency and lower regulatory penalties .
* Long – Term (12-24 months) : Full ROI through enhanced profitability, optimized supply chain, and reduced wastage.

1. Stakeholder Identification :

* Internal Stakeholders :
* Business Owners & Executives
* Operations & Supply Chain Managers
* IT & ERP Implementation Team
* Compliance & Quality Control Officers
* Finance & Accounting Teams
* External Stakeholders :
* Seafood Suppliers & Fishermen
* Distributors & Retailers
* Customers ( Restaurants, Supermarkets )
* Regulatory Bodies & Certification Authorities

**Document 2 : BA Strategy**

* Steps to Complete the Project :

1. Requirement Gathering & Analysis :

* Identify business needs , challenges, and key objectives.
* Conduct stakeholder interviews, workshops, and document analysis.

1. Stakeholder Engagement & Analysis :

* Identify key stakeholders and define their roles .
* Establish communication channels for seamless interaction.

1. Requirement Documentation & Validation :

* Prepare Business Requirement Document (BRD), Functional Requirement Specification (FRS), and Use Cases.
* Obtain stakeholder sign-off through formal review meetings.

1. Solution Design & Approval :

* Collaborate with technical teams to define system architecture.
* Conduct feasibility analysis and gap analysis.

1. Implementation & Change Management :

* Support development and testing teams with requirement clarification.
* Manage change requests through formal impact assessment and approvals.

1. User Acceptance Testing (UAT) & Client Approval :

* Facilitate UAT sessions with stakeholders.
* Document feedback and get formal sign-off on UAT and Project Acceptance Form.

1. Post-Implementation Support & Handover :

* Assist in training end-users and preparing user manuals.
* Monitor system performance and gather feedback for enhancements.
* Elicitation Techniques to Apply :

|  |  |
| --- | --- |
| **Technique** | **Purpose** |
| **Interviews** | Gather insights from key stakeholders (Operations, Finance, IT, Quality Assurance). |
| **Workshops** | Conduct group discussions to refine requirements and identify potential gaps. |
| **Document Analysis** | Review existing reports, SOPs, and compliance requirements. |

* Stakeholder Analysis :

RACI Matrix :

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Task** | **Responsible (R)** | **Accountable (A)** | **Consulted (C)** | **Informed (I)** |
| Requirements Gathering | BA | Project Sponsors | IT Team, Operations | All Stakeholders |
| Document Sign-off | BA | Client/PM | Business Owners | Development Team |
| UAT Testing | BA, QA | Client | IT Team, End Users | Business Owners |
| Change Request Approval | BA | Client | IT Team , PM | Stakeholders |
| Project Acceptance | BA, PM | Client | IT Team, Operations | Business Owners |

ILS Model :

|  |  |  |  |
| --- | --- | --- | --- |
| **Stakeholder** | **Interest** | **Influence** | **Support Level** |
| Business Owner | High | High | High |
| Operations Manager | High | Medium | High |
| IT Team | Medium | High | Medium |
| Finance Team | Medium | Low | Low |
| End Users | High | Low | Medium |

* Documents to Prepare :

|  |  |  |
| --- | --- | --- |
| **Document** | **Purpose** | **Sign-off Required Form** |
| Business Requirement Document (BRD) | Captures business needs & high-level requirements. | Client, Project Sponsor |
| Functional Requirement Specification (FRS) | Detailed functional needs and system behavior. | Client, IT Team |
| Use Case Documents | Describes system interactions. | Client, Development Team |
| Process Flow Diagrams | Visualizes Workflows. | Client, IT Team |
| UAT Test Cases | Defines testing scenarios for validation. | QA Team, Client |
| Change Request Document | Tracks changes and impact analysis. | Client, PM |
| Project Acceptance Form | Confirms project completion & approval | Client |

* Process for Document Sign-off & Client Approval :
* Draft Document : BA prepares the document based on gathered requirements.

* Internal Review : Review by project manager, IT team, and key stakeholders.
* Client Review : Share document with client for feedback.
* Revisions & Updates : Modify based on feedback.
* Formal Approval : Obtain client’s sign-off through email or e-signature system.
* Communication Strategy & Implementation :

|  |  |  |  |
| --- | --- | --- | --- |
| **Communication Type** | **Purpose** | **Medium** | **Frequency** |
| Weekly Status Updates | Project progress & blockers | Email, Reports | Weekly |
| Stakeholder Meetings | Requirement discussions & feedback | Virtual Meetings ( Zoom, MS Teams ) | Bi-weekly |
| Change Request Discussions | Impact assessment & approval | Email, jira / Confluence | As Needed |
| UAT Feedback Sessions | Address testing concerns | On-site, Virtual Meetings | As Needed |

* Handling Change Requests (CRs) :
* CR Submission : Stakeholders submit change requests via Jira, Confluence, or Email.
* Impact Analysis : BA assesses impact on scope, cost, and timeline.
* Approval Process : If minor – Approved by BA & PM.

If major – Requires Client & Sponsor approval.

* Implementation & Testing : Development team implements changes, followed by testing.
* Sign-off & Documentation : Updated requirement documents and approvals logged.
* Project Progress Updates to Stakeholders :
* Weekly Status Reports : Progress, risks, and dependencies.
* Monthly Steering Committee Meetings : Review project milestones.
* Dashboards & Metrics : Use Jira, Trello, or ERP reporting tools.
* Email Updates & Newsletters : For broader organizational updates.
* UAT & Client Project Acceptance Process :
* UAT Plan Creation : Define testing scenarios, success criteria, and expected results.
* UAT Execution : Client/end –users test ERP features.
* Defect Logging & Fixing : Identify issues and ensure resolution.
* UAT Feedback Review : Conduct review meetings for validation.
* Final Sign-off : Client signs the UAT Sign-off Form confirming system acceptance.

Project closure document signed, marking successful implementation.

* Conclusion :

This BA Strategy Document provides a structured approach to ensure that the smooth execution of the seafood management ERP project, from requirement gathering to final sign-off. The focus is on clear stakeholder engagement, communication, document approvals, and change management, ensuring project success.

**Document 3 : Functional Specifications**

|  |  |
| --- | --- |
| Project Name | Ambrosia |
| Customer Name | Apex Frozen Seafood |
| Project Version | 1.1.0 |
| Project Sponsor | Apex Frozen Seafood |
| Project Manager | Mr. Shivanand Bicchewar |
| Project Initiation Date | 01/03/2021 |

* Functional Requirement Specification :

|  |  |  |  |
| --- | --- | --- | --- |
| Req ID | Req Name | Req Description | Priority |
| FR0001 | Login | User should be able to login to the application to do inventory operations. | 10 |
| FR0002 | Products | User should be able to view all products available. | 10 |
| FR0003 | Raw Materials | User should be able to see all purchased quantity and available quantity of raw material. | 9 |
| FR0004 | Reports | User should be able to view all inventory reports and sales reports. | 10 |
| FR0005 | Wastage | User should be able to se all wastage after product. | 9 |

**Document 4 : Requirement Traceability Matrix**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Req ID | Req Name | Req Description | Design | D1 | T1 | D2 | T2 | UAT |
| FR0001 | Login | User must be able to login to access the application. | Yes | Yes | Yes | Yes | Yes | Yes |
| FR0002 | Products | User must be able to view all available products. | Yes | Yes | yes | yes | yes | Yes |
| FR0003 | Raw materials | User must be able to see available raw material | Yes | Yes | Yes | Yes | Yes | Yes |
| FR0004 | Reports | User must be able to see all purchase and sales reports. | Yes | Yes | Yes | Yes | Yes | Yes |
| FR0005 | Wastage | User must be able to see wastage. | Yes | Yes | Yes | Yes | Yes | Yes |

**Document 5 – BRD Template**

**Ambrosia**

**PROJECT-AMB**

**V1.0.1**

Contents

1. Document Revisions.............................................................................................................8

2. Approvals..............................................................................................................................8

3. RASCI Chart for This Document ............................................................................................8

Codes Used in RASCI Chart.....................................................................................................9

RASCI Chart............................................................................................................................9

4. Introduction..........................................................................................................................9

4.1. Business Goals ..................................................................................................................9

4.2. Business Objectives...........................................................................................................9

4.3. Business Rules.................................................................................................................10

4.4. Background.....................................................................................................................10

4.5. Project Objective............................................................................................................10

4.6. Project Scope .................................................................................................................10

4.6.1. In Scope Functionality .................................................................................................10

4.6.2. Out Scope Functionality ..............................................................................................10

5. Assumptions ......................................................................................................................10

6. Constraints.........................................................................................................................10

7. Risks...................................................................................................................................10 Technological Risks................................................................................................................11

Skills Risks………………………………………………………………………………………………………………………..11

Political Risks……………………………………………………………………………………………………………………11

Business Risks………………………………………………………………………………………………………………….11

Requirements Risks…………………………………………………………………………………………………………11

Other Risks………………………………………………………………………………………………………………………11

8.Business Process Overview ................................................................................................11

8.1. Legacy System (AS-IS).....................................................................................................11

8.2. Proposed Recommendations (TO-BE) ...........................................................................11

9. Business Requirements.....................................................................................................11

10. Appendices......................................................................................................................12

10.1. List of Acronyms......................................................................................................12

10.2. Glossary of Terms....................................................................................................12

10.3. Related Documents .................................................................................................12

1. **Document Revisions**

|  |  |  |
| --- | --- | --- |
| Date | Version Number | Document Changes |
| 01/03/2021 | 0.1 | Initial Draft |
| 07/03/2021 | 0.2 | Added stakeholder feedback |
| 11/03/2021 | 0.3 | Revised functional requirements |
| 17/03/2021 | 0.4 | Finalized document for approval |

1. **Approvals**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Role | Name | Title | Signature | Date |
| Project Sponsor | Mr. Thomas |  | 17/03/2021 |  |
| Business Owner | Mr. John |  | 17/03/2021 |  |
| Project Manager | Mr. Shivanand |  | 17/03/2021 |  |
| System Architect | Mr. krishna |  | 17/03/2021 |  |
| Development Lead | Mr. Ganesh |  | 17/03/2021 |  |
| User Experience Lead | Mr. Vaibhav |  | 17/03/2021 |  |
| Quality Lead | Mr. Govind |  | 17/03/2021 |  |
| Content Lead | Ms. Julie |  | 17/03/2021 |  |

1. **RACI Chart**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Name** | **Position** | **\*** | **R** | **A** | **S** | **C** | **I** |
| **Mr. Thomas** | **Project Sponsor** | **Y** |  |  |  |  |  |
| **Mr. John** | **Business Owner** |  |  | **Y** |  |  |  |
| **Mr. Shivanand** | **Project Manager** |  | **Y** |  |  |  |  |
| **Mr. Purbhaji** | **Business Analyst** |  | **Y** |  |  |  |  |
| **Mr. Krishna** | **System Architect** |  |  |  |  | **Y** |  |
| **Mr. Ganesh** | **Development Lead** |  |  |  |  |  | **Y** |
| **Mr. Vaibhav** | **User Experience Lead** |  |  |  |  | **Y** |  |
| **Mr. Govind** | **Quality Lead** |  |  |  |  |  | **Y** |
| **Ms. Julie** | **Content Lead** |  |  |  | **Y** |  |  |

1. **Introduction** 
   1. **Business Goals :**

* Improve Operational Efficiency – Automate seafood procurement, inventory tracking, and order processing.
* Enhance Supply Chain Visibility – Enable real-time of seafood from sourcing to final delivery.
* Ensure Regulatory Compliance – Adhere to industry regulations such as HACCP, FDA, and local food safety laws.
* Improve Quality Control – Implement quality checkpoints for seafood handling, storage, and transportation.
* Improve Cost Management – Reduce procurement costs by tracking supplier performance and pricing trends.
* Enhance Customer Satisfaction – Prove customers with accurate order tracking and timely deliveries.
* Data – Driven Decision Making – Implement advanced reporting and analytics to track key business metrics.
* Scalability & Business Growth – Ensure the ERP system can support future expansion to new markets or product lines.
  1. **Business Objectives :**
* To provide an IT solution for : Apex Frozen Seafood.
* Automate and streamline Seafood Operations.
* Enhance Traceability and Compliance.
* Optimize Inventory and Reduce Waste.
* Improve Supplier and Procurement Management.
* Increase Sales and Customer Satisfaction.
* Implement Data-Driven Decision Making.
* Ensure System Scalability and Integration.
* Reduce Operational Costs.
* Web application for Windows and Mac.
  1. **Business Rules :**
* Procurement Rules :
* Purchase orders must be approved by the procurement manager before processing.
* Vendors must be verified and comply with regulatory standards.
* Inventory Management Rules :
* Inventory levels must be updated in real-time upon receipt, transfer, or sale.
* Expired or spoiled seafood products must be flagged and removed automatically.
* Quality Control Rules :
* Each seafood batch must pass a quality check before being added to inventory.
* Any failed quality check must trigger an alert for review and corrective action.
* Sales & Order Processing Rules :
* Orders must be validated for stock availability before confirmation.
* Discounts and pricing changes must be authorized by sales manager.
* Compliance & Traceability Rules :
* All seafood products must have a traceable lot number for tracking.
* FDA compliance reports must be generated automatically for audits.
* Payment & Billing Rules :
* Invoices must be generated automatically upon order fulfillment.
* Payments must be recorded in the ERP and reconciled with financial reports.
* User Access & Security Rules :
* System logs must record all critical user actions for security audits.
* Only administrators can modify business rules and system configurations.
  1. **Background :**

The seafood industry faces significant challenges in managing procurement, inventory, quality control, and compliance with strict regulatory requirements. Many seafood businesses still rely on manual processes or outdated systems, leading to inefficiencies, waste, and compliance risks.

To address these challenges, the **Seafood Management ERP Project** was proposed to streamline operations, improve traceability, and ensure compliance with food safety standards such as **HACCP, FDA, and local seafood regulations.** The project was initiated based on industry demand for a centralized system that integrates procurement, inventory, sales, and reporting into a single digital platform.

* Business Issues & Problems Identified :
* Manual & Disconnected Processes.
* Inventory Management Challenges.
* Lack of Supply Chain Visibility.
* Limited Data-Driven Decision Making.

* Expected Benefits of Implementing the ERP :
* Automation & Efficiency
* Improved Traceability
* Regulatory Compliance
* Reduced Waste & Cost Optimization
* Enhanced Customer Satisfaction
* Scalability & Growth

The project is expected to **enhance profitability, reduce risks, and improve operational efficiency** in the sea food management industry.

* 1. **Business Objective :**

The **Seafood Management ERP Project** aims to develop a centralized, automated system that optimizes seafood procurement, inventory management, sales, compliance, and reporting. The system will enhance operational efficiency, ensure regulatory compliance, and provide real-time insights for better decision-making.

* Alignment with Business Objectives :
* Automate seafood operations to reduce manual efforts and improve accuracy.
* Enhance supply chain visibility to track seafood from sourcing to delivery.
* Improve inventory management by reducing waste and spoilage.
* Ensure regulatory compliance with HACCP, FDA, and other industry standards.
* System Interaction Requirements :
* The ERP system must integrate with existing accounting, warehouse, and logistics platforms.
* The system should support API-based integration with third-party vendors and regulatory bodies for seamless data exchange.
* Mobile and web-based access must be available for real-time monitoring and approvals.

* 1. **Project Scope :**

The scope of this project defines the functionalities to be developed within the ERP system, as well as those that are excluded from the current phase.

4.6.1 **In-Scope Functionality :**

* **User Management & Authentication** (Role-based access control)
* **Procurement Management** (Supplier on boarding, purchase order processing)
* **Inventory Management** (Real-time stock tracking, spoilage management)
* **Quality Control** (Automated quality checks, compliance tracking)
* **Sales & Order Processing** (Customer order, invoicing, payments)
* **Regulatory Compliance & Reporting**  (Automated HACCP/FDA reports, audit logs)
* **Analytics & Dashboard** (Real-time business insights, inventory forecasts)
* **System Integration** (API support for third-party logistics and finance systems)

4.6.2 **Out-of-Scope Functionality :**

* **AI-based Predictive Analytics** (Advanced demand forecasting for future inventory needs)
* **Block chain-based Traceability** (End-to-end tracking using blockchain technology)
* **Third-party Logistics Automation**  (Direct warehouse automation and delivery scheduling)
* **Custom Mobile App Development** (Only web-based access will be provided in this phase)
* **Multi-Language Support** (System will be available only in English initially)

1. **Assumptions :**

* Business & Operational Assumptions :
* The organization has **well-defined procurement, inventory, sales, and quality control processes** that the ERP will automate.
* Regulatory requirements (e.g. HACCP, FDA, local seafood laws) are stable and will not undergo major changes during implementation.
* All relevant **stakeholders** (procurement, inventory, sales, compliance teams) will provide timely input and approvals.
* Users will be **trained adequately** to adapt and effectively use the new ERP system.
* There is a **dedicated project team** for implementation, testing, and change management.
* Technical Assumptions :
* The ERP system will be **cloud-based** or hosted on an infrastructure that meets business needs.
* Necessary **hardware and network infrastructure** will be available for deployment.
* The ERP will support **API-based integrations** with third-party logistics, finance, and compliance systems.
* System performance will be **optimized for at least 500+ concurrent users** in the initial phase.
* The ERP will be accessible through **modern web browsers and mobile-friendly interfaces.**
* Implementation & Support Assumptions :
* User roles and permissions will be **clearly defined** before system deployment.
* A **data migration strategy** will be in place for transitioning from legacy systems.
* **Regular systems updates and maintenance** will be scheduled post-go-live.
* The project timeline will be **adhered to without major delays** due to external factors.

1. **Constraints :**

* Business Constraints :
* Budget Limitations – The project must be completed within the allocated financial resources.
* Regulatory Compliance – The ERP must comply with **HACCP, FDA, and local seafood regulations**, which may introduce complexity in system design,
* Stakeholder Availability – Business users and key decision-makers must be available for requirement gathering, testing, and approvals.
* Operational Downtime – System implementation must minimize disruptions to daily seafood operations.
* Technical Constraints :
* Integration Limitations – the ERP must integrate with existing **financial, logistics, and compliance systems,** but some legacy systems may have limited API support.
* Performance Requirements – The system must support **real-time inventory tracking and handle high transaction volumes** efficiency.
* Data Migration Challenges – Historical data from legacy systems must be migrated without errors or loss.
* Security & Access Control – The system must comply with **data protection policies,** including role-based access and secure authentication.
* Project & Implementation Constraints :
* Time Constraints – The project must be delivered within the agreed timeline, with **go-live expected within [X] months.**
* Scope Management – Additional features or change requests beyond the initial scope may require separate approval and budget allocation.
* User Training & Adoption – Employees must be trained to use new system effectively before full deployment.
* Infrastructure Readiness – The organization must ensure **sufficient server capacity, internet bandwidth, and device compatibility** for smooth system performance.

1. **Risks :**

* Technological Risks

|  |  |  |  |
| --- | --- | --- | --- |
| Risk | Likelihood | Impact | Strategy |
| Compatibility issues with existing legacy systems. | High | High | **Mitigate –** Conduct early integration testing, ensure API compatibility. |
| System performance issues under high transaction loads. | Medium | High | **Mitigate –** Perform load testing and optimize infrastructure. |
| Data migration challenges from legacy systems. | High | High | **Mitigate –** Develop phased migration plan with through validation. |
| Cyber security threats (hacking, data breaches) | Medium | High | **Avoid –** Implement strict access controls, encryption, and security audits. |

* Skills Risks

|  |  |  |  |
| --- | --- | --- | --- |
| **Risks** | **Likelihood** | **Impact** | **Strategy** |
| Lack of expertise to manage ERP implementation. | Medium | High | **Mitigate –** Provide training for internal teams or hire external consultants. |
| Resistance to change from employees. | High | Medium | **Mitigate –** Conduct change management programs and training. |
| Insufficient user training leading to adoption challenges. | Medium | High | **Mitigate –** Develop comprehensive user manuals and conduct hands-on training. |

* Political Risks

|  |  |  |  |
| --- | --- | --- | --- |
| **Risk** | **Likelihood** | **Impact** | **Strategy** |
| Changes in government regulations affecting seafood compliance. | Medium | High | **Accept –** Continuously monitor regulatory updates and adjust system accordingly. |
| Internal company politics delaying approvals. | Medium | Medium | **Mitigate –** Establish clear stakeholder responsibilities and approval workflows. |
| Disruptions due to external political instability ( trade policies, import/export restrictions ). | Low | High | **Transfer –** Work with legal advisors and supply chain partners for contingency planning. |

* Business Risks

|  |  |  |  |
| --- | --- | --- | --- |
| **Risks** | **Likelihood** | **Impact** | **Strategy** |
| Project cancellation due to budget constraints. | Medium | High | **Mitigate –** Phase the project to ensure ROI at each stage. |
| Failure to meet ROI expectations within the defined timeframe. | Medium | High | **Mitigate –** Implement detailed financial analysis and KPIs to track success. |
| Poor stakeholder engagement leading to project delays. | High | High | **Mitigate –**Regularly communicate project progress and align expectations. |

* Requirements Risks

|  |  |  |  |
| --- | --- | --- | --- |
| **Risks** | **Likelihood** | **Impact** | **Strategy** |
| Misinterpretation of business requirements leading to rework. | High | High | **Mitigate –** Conduct detailed requirement reviews and validations. |
| Scope creep due to unclear or evolving requirements. | High | High | **Avoid –** Define clear requirements , implement a strict change management process. |
| Lack of consensus among stakeholders on key features. | Medium | High | **Mitigate –** Hold workshops to align expectations and finalize requirements. |

* Other Risks

|  |  |  |  |
| --- | --- | --- | --- |
| **Risk** | **Likelihood** | **Impact** | **Strategy** |
| Natural disasters affecting seafood supply chain operations | Low | High | **Accept –** Develop contingency plans for emergency situations. |
| Vendor dependency risks (ERP provider discontinuing support) | Medium | High | **Mitigate –** Ensure vendor has long-term support plans or choose an alternative provider. |
| Project delays due to unexpected resource constraints. | Medium | High | **Mitigate –** Establish a risk buffer in the project timeline. |

1. **Business Process Overview :**

This section describes the overall process flow of the **Seafood Management ERP Project,** covering the **current (AS-IS) process** and the **proposed (TO-BE) improvements.**

* 1. **Legacy System (AS-IS) :**

Current challenges in Legacy System –

* **Procurement :** Manual purchase order creation and approval delays.
* **Inventory Management :** Lack of real-time stock updates, leading to spoilage and overstocking.
* **Quality Control :** Paper-based inspection records with high chances of data errors.
* **Sales & Order Processing :** Delays in order confirmation, invoicing, and shipment tracking.
* **Regulatory Compliance :** Manual record-keeping for HACCP, FDA, and other food safety standards.
* **Reporting & Analytics :** No centralized dashboard for data-driven decision-making.
* **AS-IS Process Flow Diagram :**

Start **--->** Purchase Request Created (Manual Entry) **--->** Manager Approval (Email/Offline) **--->** Vendor Selection (Manual) **--->** Purchase Order Issued (Excel) **--->** Goods Received (Manual Entry) **--->** Inventory Updated (Excel) **--->** Quality Check (Paper Records) **--->** Stock Available for Sale

* **Limitations :**
* **Manual data entry** increases errors and delays.
* **Lack of integration** with other business functions (finance, logistics).
* **No real-time visibility** into stock levels and procurement status.
  1. **Proposed Recommendations (TO-BE) :**

How the ERP system addresses legacy challenges –

* **Automated Procurement & Approvals :** Digital purchase request with automated workflow approvals and vendor management system for price comparison and order tracking.
* **Real-time Inventory Management :** Automated stock updates, reducing wastage and overstocking. Inventory tracking with expiration alerts.
* **Integrated Quality Control :** Digital checklists and automated quality inspection workflows. Instant recording of test results with compliance tracking.
* **Efficient Sales & order Processing :**  Integrated order management system with **real-time stock visibility.** Automated invoicing and shipment tracking.
* **Regulatory Compliance & Reporting :** Pre-configured reports for **HACCP, FDA, and local seafood laws.**
* **Data-Driven Decision-Making :** Centralized dashboard with analytics for procurement, inventory, and sales. AI-powered demand forecasting to optimize stock levels.
* **TO-BE Process Flow Diagram :**

Start **--->** Digital Purchase Request (ERP) **--->** Automated Approval Workflow **--->** Vendor Selection (ERP-Integrated) **--->** Purchase Order Issued (ERP) **--->** Goods Received (Barcode Scanning) **--->** Inventory Auto-Updated (ERP) **--->** Quality Check (Digital Checklist) **--->** Stock Available for Sale

* **AS-IS VS. TO-BE :**

|  |  |  |
| --- | --- | --- |
| Aspect | AS-IS (Current State) | TO-BE (Future State) |
| Inventory Tracking | Manual entry in Excel | Automated real-time updates |
| Quality Checks | Paper-based checklists | Digital checklists with real-time updates |
| Stock Visibility | Sales team calls warehouse for stock | Sales team accesses live stock in ERP |
| Compliance Reporting | Manually created reports | Auto-generated reports |

* **Key Benefits of the ERP Implementation :**
* **Faster Processing Time**
* **Better Compliance**
* **Improved Accuracy**
* **Higher Efficiency**
* **Scalability & Growth**

1. **Business Requirements :**

Business requirements outlines the **specific business requirements** gathered from stakeholders, categorized by **priority and functional area.** These requirements define what the **Seafood Management ERP** must achieve to improve operations and address existing challenges.

* 1. **Business Requirement Categories :**

1. **Procurement & Vendor Management**
2. **Inventory & Warehouse Management**
3. **Sales & Order Processing**
4. **Quality Control & Compliance**
5. **Finance & Reporting**
6. **User Management & Security**

Each requirement is assigned a **Priority level :**

* **High (H)** – Critical to project success; must be implemented.
* **Medium (M)** – Important but can be deferred if necessary.
* **Low (L)** – Nice-to-have features for future phases.
  1. **Business Requirements List :**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Req ID** | **Requirement Name** | **Requirement Description** | **Functional Area** | **Priority** |
| BR001 | Automated Purchase Orders | The system must allow users to generate POs automatically based on stock levels and demand forecasts. | Procurement | H |
| BR002 | Vendor Price Comparison | The system should provide vendor price comparison for better cost management. | Procurement | M |
| BR003 | Real-time Inventory Tracking | The system must update stock levels in real-time as goods are received or sold. | Inventory Management | H |
| BR004 | Expiry & Batch Tracking | The system must track seafood batches with expiration dates to reduce wastage. | Inventory Management | H |
| BR005 | Automated Quality Checks | The system should integrate digital checklists for quality inspection. | Quality Control | M |
| BR006 | Compliance Reporting | The system must generate HACCP and FDA compliance reports automatically. | Compliance | H |
| BR007 | Customer Order Tracking | The system must allow customers to track their orders in real time. | Sales & Order Processing | H |
| BR008 | Role-Based Access Control | The system should support role-based access to restrict unauthorized access. | User Management | H |
| BR009 | Integration with Accounting Systems | The system must integrate with third-party financial software (e.g. SAP, QuickBooks). | Finance | M |
| BR010 | Dashboard & Analytics | The system should provide real-time analytics for procurement, inventory, and sales. | Reporting | M |

* 1. **Requirement Traceability Matrix (RTM) :**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Req ID | Requirement Name | Design Status | Development Status | Testing Status | UAT Status |
| BR001 | Automated Purchase Orders | Pending | Not Started | No | No |
| BR002 | Vendor Price Comparison | Completed | In Progress | No | No |
| BR003 | Real-time Inventory Tracking | In Progress | Not Started | No | No |
| BR004 | Expiry & Batch Tracking | Pending | Not started | No | No |

* 1. **References & Supporting Documents :**
* **Use Case Diagrams :** Link to detailed use cases.
* **Process Flow Diagrams :** AS-IS & TO-BE Workflows.
* **Regulatory Guidelines :** HACCP, FDA, and other compliance requirements.
* **Stakeholder Feedback :** Documented meeting notes and requirement validation sessions.

1. **Appendices :** 
   1. **List of Acronyms :**

|  |  |
| --- | --- |
| **Acronym** | **Full Form** |
| ERP | Enterprise Resource Planning |
| HACCP | Hazard Analysis and Critical Control Points |
| FDA | Food and Drug Administration |
| PO | Purchase Order |
| UAT | User Acceptance Testing |
| RTM | Requirement Traceability Matrix |
| ROI | Return On Investment |
| API | Application Programming Interface |
| FIFO | First In, First Out (Inventory Method) |
| LIFO | Last In, First Out (Inventory Method) |
| QC | Quality Control |
| KPI | Key Performance Indicator |
| SLA | Service Level Agreement |
| GDPR | General Data Protection Regulation |
| WMS | Warehouse Management System. |

* 1. **Glossary Of Terms :**

|  |  |
| --- | --- |
| **Term** | **Definition** |
| Enterprise Resource Planning (ERP) | A software system that integrates core business processes such as procurement, inventory, sales, finance, and compliance. |
| HACCP Compliance | A food safety management system ensuring safe handling, processing, and storage of seafood products. |
| Purchase Order (PO) | A formal document issued to suppliers for procurement of goods and services. |
| User Acceptance Testing (UAT) | The final phase of testing where end-users validate the system before deployment. |
| Requirement Traceability Matrix (RTM) | A document that maps business requirements to system functionalities to ensure full coverage. |
| Return On Investment (ROI) | A measure of the financial benefits gained from the ERP implementation. |
| Warehouse Management System (WMS) | A system designed to manage inventory and warehouse operations efficiently. |
| Service Level Agreement (SLA) | A contract between a service provider and a customer outlining service expectations and guarantees. |
| Data Migration | The process of transferring data from legacy systems to the new ERP. |
| Integration | The process of connecting ERP with external systems such as accounting, logistics, and third-party vendors. |

* 1. **Related Documents :**

|  |  |  |
| --- | --- | --- |
| **Document Name** | **Description** | **Reference ID** |
| Business Case Document | Justification for implementing the Seafood Management ERP. | BC-001 |
| Stakeholder Analysis | Identification and classification of project stakeholders. | SA-001 |
| Requirements Document (BRD) | Detailed list of business requirements, functional and non-functional specifications. | BRD-001 |
| Process Flow Diagrams | AS-IS and TO-BE workflows for seafood management operations. | PFD-001 |
| Requirement Traceability Matrix (RTM) | Mapping of business requirements to system functionalities. | RTM-001 |
| Change Management Plan | Guidelines for handling changes to project scope and requirements. | CMP-001 |
| UAT Test Cases | Test scripts and scenarios for validating system functionality with end-user. | UAT-001 |
| Regulatory Compliance Guide | Summary of HACCP, FDA, and other compliance requirements. | RC-001 |