BRD - Executive Summary, Project Objectives, Scope, and Key Assumptions

Executive Summary

This Business Requirements Document (BRD) outlines the necessary enhancements to our logistics operations aimed at improving efficiency, customer satisfaction, and overall productivity. By implementing automated systems for order validation, real-time inventory management, and route optimization, we seek to address current gaps and streamline processes. This project is essential for maintaining a competitive edge and ensuring a seamless experience for our customers.

Project Objectives (SMART Goals)

1. **Specific:** Implement an automated order validation system to reduce order errors.
2. **Measurable:** Achieve a 30% reduction in order processing errors within the first three months post-implementation.
3. **Achievable:** Utilize existing technology and resources to develop and integrate new systems.
4. **Relevant:** Align with our goal of enhancing logistics efficiency and customer satisfaction.
5. **Time-bound:** Complete the implementation of all systems within six months.

Project Scope

- **In-Scope:**
  - Development and integration of automated order validation systems.
  - Implementation of real-time inventory management solutions.
  - Deployment of automated route optimization tools.
  - Establishment of a centralized communication platform.
  - Introduction of real-time delivery tracking features for customers.
  - Creation of an automated delivery confirmation process.

- **Out-of-Scope:**
    - Development of advanced analytics dashboards.
    - Integration with non-essential third-party systems.
    - Features unrelated to the logistics process as defined in this BRD.

Key Assumptions/Constraints

Assumptions

Stakeholder Buy-In:

- All key stakeholders will support the proposed changes and provide necessary resources for implementation.

Technology Compatibility:

- Existing systems will be compatible with new solutions, allowing for seamless integration.

Training and Adaptation:

- Users will receive adequate training on new systems, ensuring a smooth transition and effective use of the technology.

Budget Allocation:

- Sufficient budget will be allocated to cover the costs associated with development, integration, and training

Constraints:

- Budget limitations may affect the scope of certain features.
- Potential delays in technology integration could impact on the timeline.
- Resistance to change from staff may slow down the implementation process.

Aligning Objectives and Scope with Stakeholder Goals

Alignment of Objectives with Stakeholder Goals

1. **Enhanced Operational Efficiency**
   - **Stakeholder Goal:** Stakeholders prioritize reducing operational costs and improving process efficiency.
   - **Objective Alignment:** Our SMART goal to reduce order processing errors by 30% through automation directly supports this aim.
2. **Improved Customer Satisfaction**
   - **Stakeholder Goal:** Stakeholders want to enhance customer experience and loyalty.
   - **Objective Alignment:** The implementation of real-time delivery tracking and timely updates aligns with the goal of increasing customer satisfaction.
3. **Integration of Modern Technologies**
   - **Stakeholder Goal:** Stakeholders seek to leverage technology for competitive advantage.
   - **Objective Alignment:** The focus on implementing advanced systems for order validation and inventory management meets this objective by modernizing our logistics processes.

Alignment of Scope with Stakeholder Goals

- **In-Scope Items:**
  - **Automated Order Validation:** Aligns with the goal of reducing errors and improving efficiency.
  - **Real-Time Inventory Management:** Supports the need for accurate inventory data, enhancing customer service.
  - **Automated Route Optimization:** Contributes to cost reduction and timely deliveries, key concerns for stakeholders.
- **Out-of-Scope Items:**

- ○ **Advanced Analytics Dashboards:** While useful, this feature is not critical for immediate stakeholder goals, allowing us to focus resources on more impactful areas.
- ○ **Integration with Non-Essential Third-Party Systems:** Ensures we prioritize core logistics enhancements that align with stakeholder needs without diverting resources.

Functional Requirements (What the System Shall Do)

The requirements listed are related to a specific business need.

Functional Requirement	Business Need Addressed
The system shall automatically generate optimized delivery routes based on real-time traffic data and delivery locations.	Enhance Process Efficiency.
The system shall flag incomplete or inconsistent order information.	Improve Data Accuracy and Accessibility.
The system shall provide real-time tracking updates for shipments, accessible by both internal teams and customers.	Increase Visibility and Transparency.
The system shall implement a feedback mechanism for customer reviews.	Establish a Robust Customer Feedback Mechanism.
The system shall include a messaging feature that allows team members to communicate directly within the platform.	Enhance Communication and Collaboration.
The system shall allow dispatchers to modify routes based on real-time conditions	Improve Operational Flexibility.

Functional Requirement	Business Need Addressed
The system shall provide drivers with access to real-time route details and updates on a mobile platform.	Increase Efficiency and Reduce Delays.
The system shall notify drivers of safety regulations and compliance requirements.	Ensure Safety and Regulatory Compliance.
The system shall facilitate real-time inventory tracking and updates from suppliers.	Improve Data Accuracy and Supply Chain Efficiency.
The system shall provide customers with real-time updates on their shipments.	Increase Visibility and Transparency.
The system shall allow customers to submit feedback easily.	Foster Continuous Improvement.
The system shall implement role-based access control.	Optimize Resource Utilization.
The system shall generate analytics reports on delivery performance.	Foster Continuous Improvement and Strategic Decision-Making.
The system shall track shipping costs and generate financial reports.	Optimize Resource Utilization and Manage Budgets.

## Non-Functional Requirements (How the System Should Behave)

Non-Functional Requirement	How the System Should Behave
Performance	● The system shall support a minimum of 500 simultaneous users without degradation in performance.

	● The system shall respond to user requests within 2 seconds under normal load conditions. ● The GPS-based driver location updates must be updated every 30 seconds, and system notifications must be sent to customers, drivers, and dispatchers within 5 seconds of event occurrence.
Security	● The system shall implement encryption for all sensitive data both in transit and at rest. ● The system shall require multi-factor authentication for all user logins to enhance security.
Usability	● The system shall provide an intuitive user interface that requires no more than two clicks to access primary functions and will require no more than 20 minutes of training for first-time users. ● The system shall include accessibility features to support users with disabilities, adhering to WCAG 2.1 standards. ● The dispatch dashboard shall support a drag and drop route reassignment and real time map views.
Reliability	● The system shall ensure 99.9% uptime, excluding scheduled maintenance periods.

|	● The system shall have a backup and recovery process to restore data within 2 hours of a failure.
Scalability	● The system shall accommodate a 25% increase in user load without requiring significant reconfiguration. ● The system shall support the addition of new features with minimal disruption to existing functionalities.
Maintainability	● The system shall allow for updates and patches to be deployed without downtime. ● The system shall have comprehensive documentation to facilitate maintenance and onboarding of new team members.

QuickShip Logistics As-Is Process

The As-Is process map visually depicts inventory management and customer order placement workflow, highlighting existing steps, flow, and decision points for improvement and reducing inefficiencies.

QuickShip Logistics (As- Is) Workflow Process
(Current Workflow Process Before Improvement)
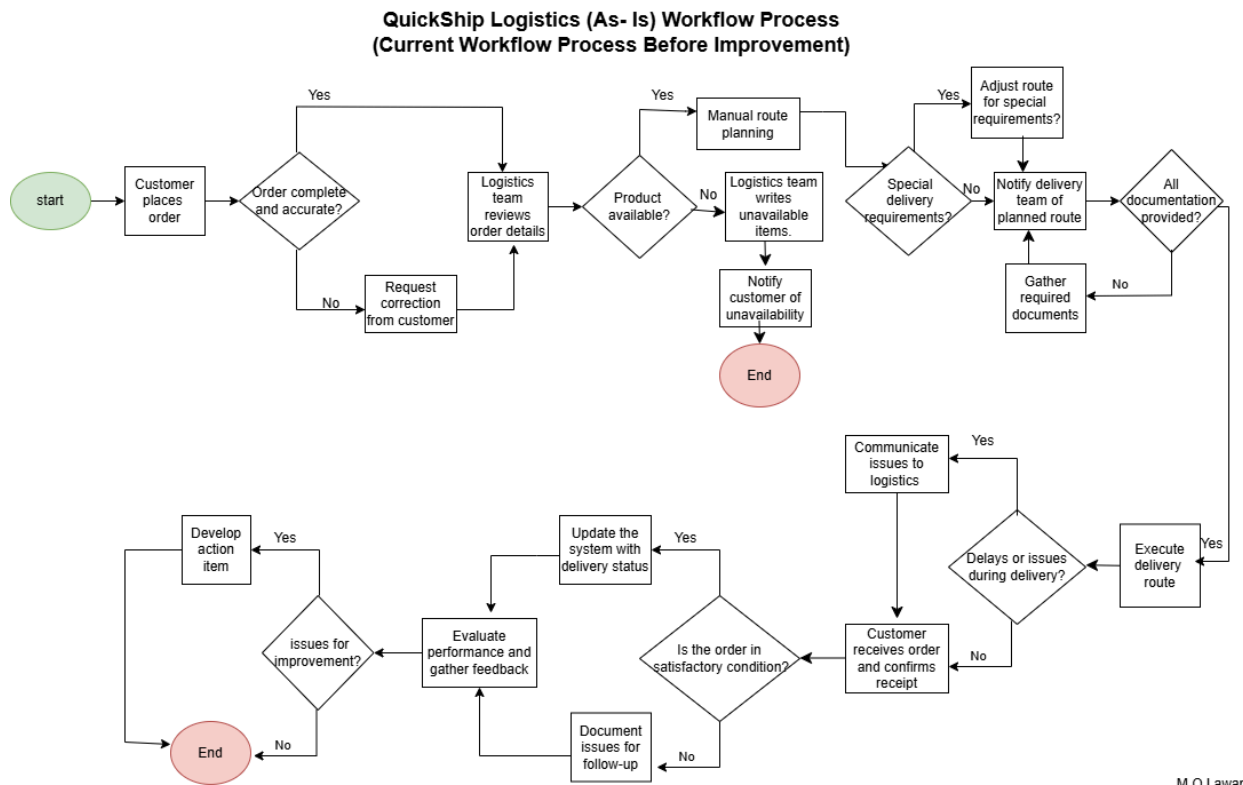
M.O.Lawan

QuickShip Logistics To-Be Process

The To-Be process outlines the implementation of the recommended system in a real business setting, enhancing accuracy and efficiency in daily tasks for various roles.

QuickShip Logistics (To - Be) Workflow Process
(Future Workflow Process After Improvement)
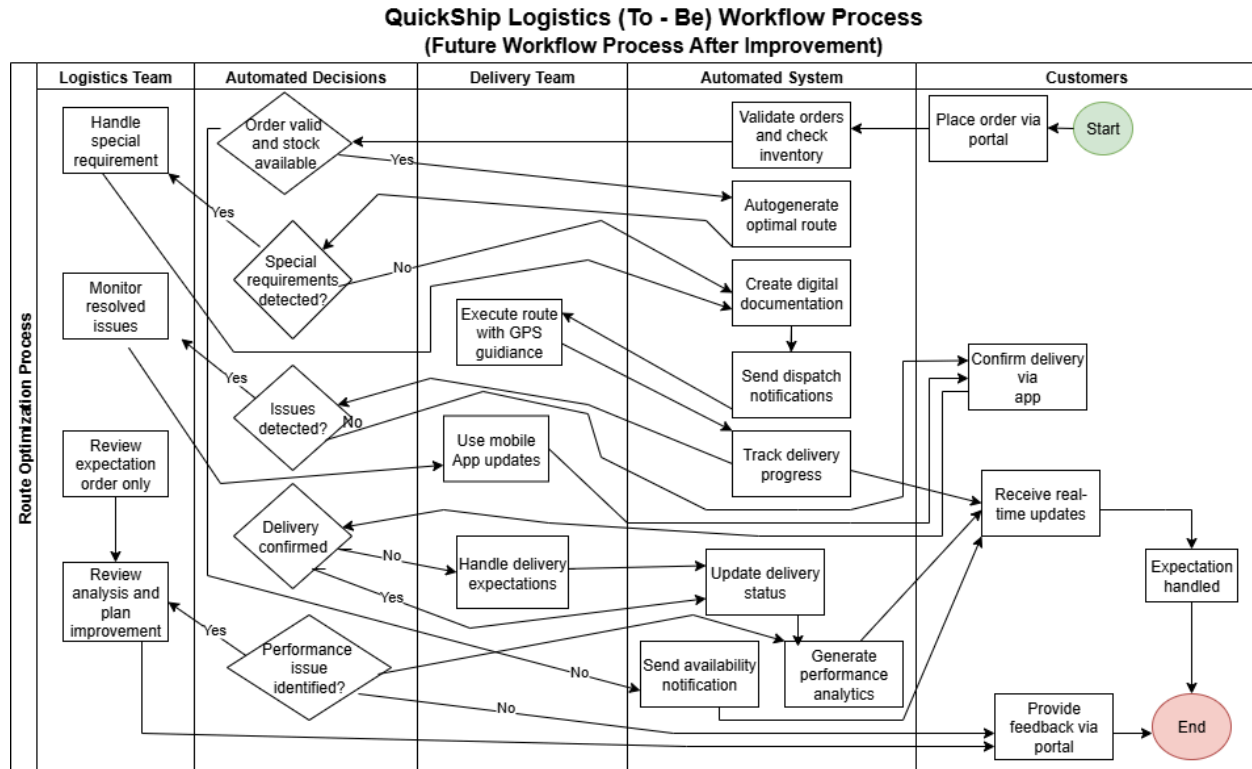
M.O.Lawan

Use Case: How the QuickShip Logistics Route Optimization Project Will Work

Each of the listed processes will illustrate how the functional features will play in our business operations.

Use Case 1: Automated Order Validation

Customer Order Management System

Description:

1. The customer places an order through the website.
2. The Order Management System automatically validates the order against inventory levels.
3. If the order is valid, it proceeds to processing; if not, an error message is displayed to the customer with options to correct their order.

Outcome: Orders are processed accurately with immediate feedback to the customer, reducing errors.

Use Case 2: Real-Time Inventory Management

Actors: Inventory Management System, Warehouse Staff

Description:

1. The Inventory Management System tracks inventory levels in real-time.
2. When an order is placed, the system automatically deducts the items from stock.
3. If stocks fall below a predefined threshold, an alert is generated for the warehouse staff to reorder.

Outcome: Accurate inventory levels are maintained, preventing stockouts and overstock situations.

Use Case 3: Automated Route Optimization

Actors: Logistics Team, Route Optimization System

Description:

1. The Logistics Team inputs delivery locations into the Route Optimization System.
2. The system analyzes traffic data and calculates the most efficient delivery routes.
3. The team can adjust routes if necessary and confirm the plan.

Outcome: Delivery efficiency is improved, reducing costs and delivery times.

Use Case 4: Real-Time Delivery Tracking

Actors: Customer, Delivery Tracking System

Description:

1. The customer accesses the delivery tracking interface.
2. The system provides real-time updates on the status of their order.
3. Automated notifications are sent to the customer at key delivery milestones (e.g., out for delivery, delivered).

Outcome: Customers experience enhanced visibility and satisfaction regarding their order status.

Use Case 5: Automated Delivery Confirmation

Actors: Delivery Personnel, Delivery Confirmation System

Description:

1. The delivery personnel mark the order as delivered in the system.
2. The Delivery Confirmation System automatically updates the order status and sends confirmation to the customer.
3. The system logs the delivery details for future reference.

Outcome: Delivery processes are streamlined, and customers receive timely confirmation of their orders.

Traceability Matrix

Ensuring traceability of requirements to business needs. One of our goals while embarking on this project is ensuring that each requirement is traceable to a specific business need, that we can

validate the relevance and importance of our project initiatives. This traceability will guide our development process and ensure alignment with overall business objectives.

Requirement	Business Need	Traceability
Automated Order Validation	Reduce order errors and enhance operational efficiency.	Directly addresses the need for accuracy in order processing.
Real-Time Inventory Management	Maintain accurate stock levels to prevent stockouts.	Supports the need for timely inventory information for customer satisfaction
Automated Route Optimization	Improve delivery efficiency and reduce costs.	Aligns with the goal of optimizing logistics operations for better services.
Centralized Communication Platform	Enhance collaboration among logistics teams.	Meets the need for effective communication to support operational efficiency.
Real-Time Delivery Tracking	Increase customer satisfaction through visibility.	Directly supports the goals of enhancing customer experience and trust.
Automated Delivery Confirmation	Streamline post-delivery processes and improve communication.	Ensure customers receive timely updates, aligning with customer service goals.