Business Process Mapping, Requirements, Use Cases & Acceptance Criteria

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Date: 12/9/2025
Version: 1.0

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AMENDMENT HISTORY

Version	Prepared By	Date	Description
1.0	Ye Htut	13/9/2025	First Version

Overview

This document describes the Order Management Process, which enables customers to request services, sales assistants to validate and place orders, and stock supervisors to fulfill them. The process ensures that only validated and paid orders are delivered to customers, maintaining operational efficiency and data accuracy. First, relevant stakeholders are described briefly. Then, the documentation has been developed using 4 core activities:

1. Business Process Mapping
A diagram was created using UML to visualize the interactions among three main roles: Customer, Sales Assistant, and Stock Supervisor.
The process flow includes:
- Requesting service
- Validating and placing orders
- Processing payment
- Fulfilling and delivering the order

Decision points (e.g., order correctness) and outcomes (e.g., order rejection) are explicitly modeled. This process map served as the foundation for identifying requirements and system interactions.

2. Requirement Gathering
Requirements were derived from the mapped business process.
Stakeholder interviews and process analysis informed the definition of functional and non-functional requirements.
Functional requirements specify what the system must do (e.g., order validation, payment processing, stock updates).
Non-functional requirements specify how the system should perform (e.g., response time, availability, scalability).
Risks, constraints, and assumptions were documented to highlight business dependencies.

3. Use Cases
Each functional requirement was translated into one or more use cases, describing system interactions with actors.
Use cases define preconditions, main flows, and alternate flows to capture normal and exceptional scenarios.
Key use cases include:
- Submitting a service request
- Validating and placing orders
- Making payments
- Filling and delivering orders

These use cases will be further detailed into user stories and acceptance criteria for development and testing.

4. Acceptance Criteria

Acceptance criteria define the conditions that must be met for each use case to be considered successfully implemented. They provide clear, testable statements that ensure requirements are fulfilled and stakeholder expectations are aligned. Each acceptance criterion is linked directly to the functional requirements and use cases derived from the business process map. This guarantees end-to-end traceability from business need to tested solution.

Stakeholders

Stakeholder	Organization	Role
Customer	External	Requests service, makes payment
Sales Assistant	Company	Validates and places orders
Stock Supervisor	Company	Fulfills orders

Business Process

Order Management Business Process contain following steps, shown in the figure.

1. Customer requests service.
2. Sales Assistant records and validates the order.
3. If invalid, the order is rejected.
4. If valid, the Sales Assistant places the order.
5. Customer makes payment.
6. Stock Supervisor fills the order.
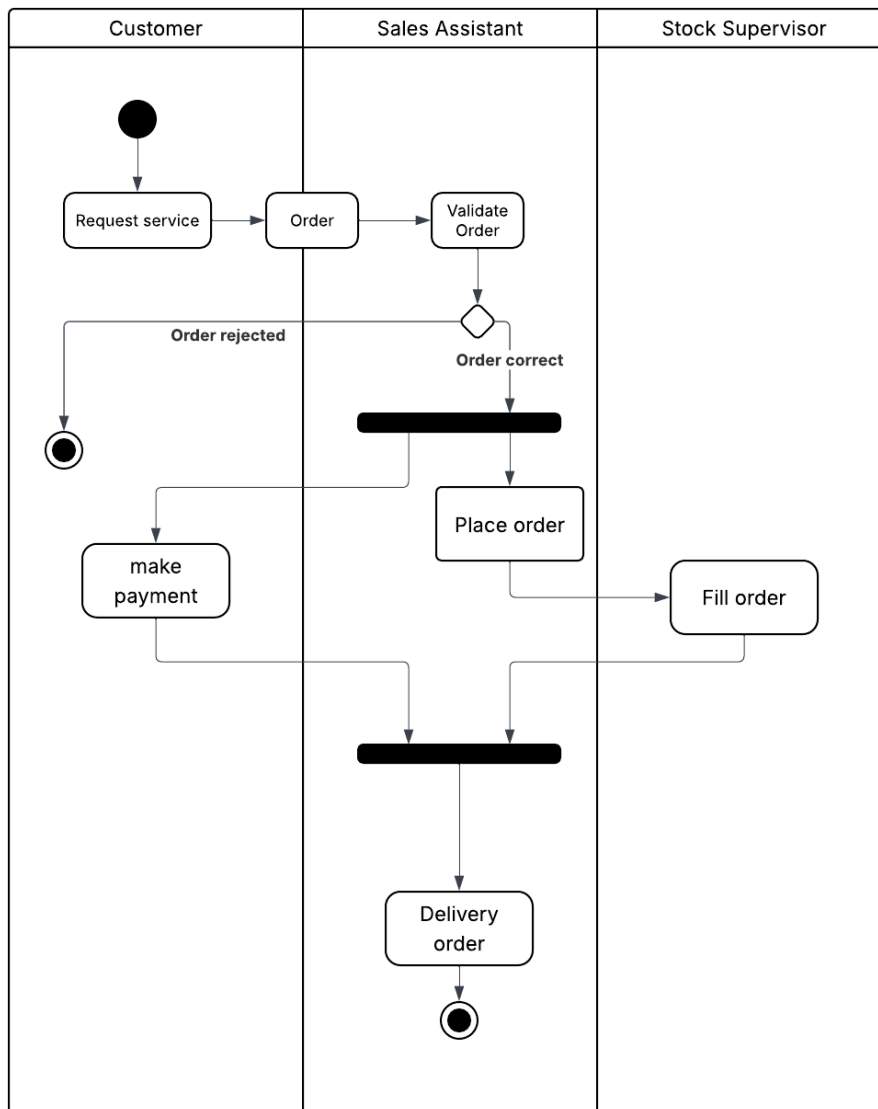7. Order is delivered to the customer.

Fig. Order Management Process

Application

Ordering and inventory management system to support order capture, validation, payment processing, stock update, and delivery tracking.

Assumptions/Constraints

- Payment must be completed before delivery.
- Orders cannot be processed without validation.
- Stock availability is assumed to be accurate.
- Process requires coordination across roles.

Risks

- Order delays due to manual validations

- Rejected orders may reduce customer satisfaction.

- Stock discrepancies may affect order fulfillment.

- Payment failure may halt process.

Functional Requirements

To support and automate the order management process, the system must include the following functional requirements, ensuring that each step of the business workflow is executed efficiently, accurately, and consistently.

Table 1. Functional Requirements

Requirement ID	Requirement Statement	Must/Want	Comments
FR-01	The system must allow customers to submit service requests/orders.	Must	Captures initial order
FR-02	The system must validate order details (completeness, correctness).	Must	Automates Sales Assistant step
FR-03	The system must notify the Sales Assistant of rejected orders.	Must	Ensures quick resolution
FR-04	The system must allow the Sales Assistant to place validated orders.	Must	Core process step
FR-05	The system must integrate with payment processing to capture customer payment.	Must	Payment before delivery
FR-06	The system must notify Stock	Must	Triggers fulfillment

	Supervisor to fill approved orders.		
FR-07	The system must update stock levels after order fulfillment.	Must	Maintains inventory accuracy
FR-08	The system should generate delivery confirmation for the customer.	Must	Enhances customer experience

Non-functional Requirements

To support and automate the order management process, the system must include the following functional requirements, ensuring that each step of the business workflow is executed efficiently, accurately, and consistently.

Table 2. Non-functional Requirements

Requirement ID	Requirement Statement	Must/Want	Comments
NFR-01	The system must process order validation within 3 seconds.	Must	Ensures real-time support for Sales Assistant
NFR-02	The system must support at least 500 concurrent customer sessions.	Must	Scalability requirement
NFR-03	The system must be available 99.5% of the time (excluding scheduled maintenance).	Must	Availability
NFR-04	The system must log all order transactions for audit and compliance.	Must	Security & traceability
NFR-05	The system should provide a mobile-	Want	Improves accessibility

	friendly interface for customers.		

Use Cases

The following use cases describe how stakeholders interact with the system to fulfill the functional requirements, outlining preconditions, main flows, and alternate flows for each scenario.

Use Case 1: Submit Service Request/Order (FR-01)

Actor: Customer

Precondition: Customer is registered and logged in.

Main Flow:

Customer selects "Request Service."

Customer fills in order details.

System captures the order.

Alternate Flow: Order submission fails → system displays error.

Use Case 2: Validate Order (FR-02, FR-03)

Actor: Sales Assistant, System

Precondition: Order has been submitted.

Main Flow:

System checks completeness and correctness of order.

If correct → order marked valid.

If incorrect → system notifies Sales Assistant and customer of rejection.

Alternate Flow: Manual override by Sales Assistant for special cases.

Use Case 3: Place Order (FR-04)

Actor: Sales Assistant

Precondition: Order is validated.

Main Flow:

Sales Assistant confirms validated order.

System records order and forwards to Stock Supervisor.

Use Case 4: Make Payment (FR-05)

Actor: Customer, System (payment gateway)

Precondition: Order is placed.

Main Flow:

Customer selects payment method.

System processes payment via gateway.

System updates order status to "Paid."

Alternate Flow: Payment failure → system notifies customer to retry.

Use Case 5: Fill Order (FR-06, FR-07)

Actor: Stock Supervisor, System

Precondition: Order is placed and paid.

Main Flow:

Stock Supervisor views assigned orders.

Fills order and updates system.

System updates stock levels automatically.

Use Case 6: Deliver Order & Confirm (FR-08)

Actor: Sales Assistant, Customer, System

Precondition: Order is filled and ready.

Main Flow:

Delivery is arranged.

System generates delivery note.

Customer receives order and confirmation message.

Acceptance Criteria for Use Cases

The acceptance criteria define the measurable conditions that must be satisfied for each use case to be considered complete, ensuring that the implemented system meets business needs and stakeholder expectations.

Use Case 1: Submit Service Request/Order (FR-01)

The system must allow customers to enter all mandatory fields (e.g., service type, quantity, contact details)

The system must reject incomplete submissions with appropriate error messages.

The system must store submitted orders with a unique order ID.

Customers must receive confirmation of order submission.

Use Case 2: Validate Order (FR-02, FR-03)

The system must automatically check order completeness and correctness.

If errors are found, the system must mark the order as invalid and notify both Sales Assistant and Customer.

If valid, the order must be flagged as ready to be placed.

Validation results must be logged for audit purposes.

Use Case 3: Place Order (FR-04)

The Sales Assistant must be able to place only validated orders.

The system must record the placed order in the database.

The system must notify the Stock Supervisor when an order is placed.

Duplicate order placement must be prevented.

Use Case 4: Make Payment (FR-05)

The system must allow customers to choose a valid payment method (e.g., credit card, online transfer).

The system must integrate with a payment gateway to process transactions securely.

If payment succeeds, the order status must update to "Paid."

If payment fails, the system must notify the customer with retry options.

Payment logs must be stored for audit and compliance.

Use Case 5: Fill Order (FR-06, FR-07)

The Stock Supervisor must be able to view pending paid orders.

The system must update order status to "Fulfilled" once the Stock Supervisor marks it complete.

The system must automatically reduce stock levels based on items filled.

If stock is insufficient, the system must notify the Stock Supervisor and Sales Assistant.

Use Case 6: Deliver Order & Confirm (FR-08)

The system must generate a delivery order once fulfillment is confirmed.

The Sales Assistant must be able to track delivery status.

The Customer must receive delivery confirmation (e.g., email, SMS, in-app message).

The system must update final status to "Delivered."