

Ideation Phase

Define the Problem Statements

Field	Details
Date	01 November 2025
Team ID	NM2025TMID03885
Project Name	Medical Inventory Management System
Maximum Marks	2 Marks

CUSTOMER PROBLEM STATEMENT TEMPLATE :

Healthcare facilities and medical supply organisations face significant challenges in managing their inventory effectively. Medical staff struggle with tracking product expiry dates, leading to waste of expired medicines and potential patient safety risks. Suppliers and purchase managers find it difficult to maintain optimal stock levels, resulting in either overstocking or critical shortages of essential medical supplies.

The manual processes for tracking purchase orders, monitoring inventory transactions, and generating reports are time-consuming and error-prone. Healthcare administrators need real-time visibility into stock levels, supplier performance, and product expiry alerts to ensure continuous availability of medical supplies while minimising waste and costs.

They need a comprehensive system that automates inventory tracking, provides expiry date monitoring, streamlines purchase order management, and generates actionable reports. A centralised Salesforce-based solution would eliminate data silos, improve accuracy, and enable proactive decision-making. This solution will enhance operational efficiency, ensure patient safety, maintain regulatory compliance, and optimise inventory costs.

PROBLEM & SOLUTION TABLE:

Problem	Description	Solution
Expired Product Risk	Medical products reaching expiry dates without alerts causes waste and potential patient safety issues.	Implement automated expiry date monitoring with alerts and notifications before products expire.
Stock Shortage	Critical medical supplies running out unexpectedly disrupts patient care and emergency operations.	Create minimum stock level alerts and automated reorder workflows based on consumption patterns.
Manual Data	Manual tracking of inventory	Automate inventory transaction

Entry Errors	transactions leads to data inaccuracies and discrepancies in stock levels.	recording with validation rules and real-time stock updates.
Supplier Performance Issues	Lack of visibility into supplier delivery times and quality affects procurement planning.	Build comprehensive reporting dashboards tracking supplier performance, delivery times, and order history.
Purchase Order Tracking	Managing multiple purchase orders manually creates confusion and delays in procurement.	Centralize purchase order management with status tracking, approval workflows, and delivery date monitoring.
Audit Trail Gap	Insufficient tracking of who performed inventory transactions makes accountability and compliance difficult.	Implement detailed audit trails logging all transactions with user information and timestamps.

PROBLEM STATEMENTS:

PS	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	A Pharmacist	Track product expiry dates	products expire before use	There's no automated alert system	Worried and frustrated
PS-2	An Inventory Manager	Maintain optimal stock levels	face unexpected shortages	Minimum stock alerts don't exist	Stressed and overwhelmed
PS-3	A Purchase Manager	Track supplier performance	can't analyse delivery patterns	Reports are manual and time-consuming	Inefficient and confused

DETAILED PROBLEM STATEMENTS:

Problem Statement PS-1: Product Expiry Management

Role: Pharmacist / Medical Store Manager

As a pharmacist managing the medical inventory, I am trying to ensure that no expired products are dispensed to patients, but I struggle to track expiry dates effectively because the current system relies on manual checking of physical labels. Multiple products with different expiry dates make it overwhelming to monitor everything consistently.

This limitation makes me feel anxious and worried about patient safety risks and regulatory compliance violations. When expired products slip through, it leads to waste, financial losses, and potential harm to patients. I spend excessive time manually inspecting products instead of focusing on patient care.

I need an automated system that tracks expiry dates, sends advance notifications (30, 15, and 7 days before expiry), highlights expiring products in reports, and prevents dispensing of expired items. This would ensure patient safety, reduce waste, and improve operational efficiency.

Problem Statement PS-2: Stock Level Monitoring

Role: Inventory Manager / Stock Controller

As an inventory manager, I am trying to maintain optimal stock levels for all medical supplies, but I face unexpected shortages and overstocking situations because there's no real-time visibility or predictive alerts for stock levels. Critical supplies like syringes, bandages, and emergency medicines sometimes run out during peak demand.

This limitation makes me feel stressed and overwhelmed, especially during emergencies when delays in procurement can directly impact patient care. Overstocking ties up capital and storage space, while understocking disrupts operations and creates emergency purchase situations with higher costs.

I need a system that automatically calculates minimum and maximum stock levels, sends alerts when stock falls below thresholds, tracks consumption patterns, and generates reorder recommendations. This would ensure the continuous availability of critical supplies while optimising inventory investment.

Problem Statement PS-3: Purchase Order Management

Role: Purchase Manager / Procurement Officer

As a purchase manager, I want to efficiently track and manage all purchase orders from creation to delivery, but the current manual process makes it difficult to monitor order status, delivery dates, and supplier performance. Multiple purchase orders across different suppliers create confusion about what has been ordered, what's pending, and what's been delivered.

This limitation makes me feel inefficient and frustrated because I cannot quickly answer questions about order status, cannot identify delayed deliveries proactively, and struggle to evaluate supplier reliability. Late deliveries cause stock shortages, while inability to track spending makes budget management challenging.

I need a centralized purchase order management system that tracks order status in real-time, sends notifications for expected and actual delivery dates, calculates total order values automatically, maintains complete supplier contact information, and generates reports comparing supplier performance. This would streamline procurement, improve supplier accountability, and enable data-driven purchasing decisions.

Problem Statement PS-4: Inventory Transaction Accuracy

Role: Medical Staff / Inventory Clerk

As an inventory clerk, I am trying to accurately record all inventory transactions (stock in/stock out), but manual data entry leads to frequent errors and discrepancies between physical stock and system records. During busy periods, transaction recording gets delayed or forgotten, causing confusion about the actual available quantities.

This limitation makes me feel concerned and helpless because I know the data inaccuracy affects other teams relying on this information. Stock audits reveal mismatches that take hours to investigate and correct. Management decisions based on incorrect data can lead to poor procurement choices.

I need an automated transaction recording system with mobile accessibility, barcode/QR code scanning support, mandatory field validation, automatic stock level updates, and detailed audit trails showing who performed each transaction. This would ensure data accuracy, accountability, and real-time inventory visibility.

Problem Statement PS-5: Supplier Relationship Management

Role: Supply Chain Manager / Procurement Head

As a supply chain manager, I want to evaluate and manage supplier relationships effectively, but I lack comprehensive visibility into supplier performance metrics such as on-time delivery rates, quality scores, pricing trends, and response times. When delivery issues occur, I cannot quickly identify whether it's a pattern or an isolated incident.

This limitation makes me feel uncertain and unable to make informed decisions about which suppliers to prioritize or replace. Without historical data, contract negotiations lack supporting evidence. Poor suppliers continue getting orders while reliable suppliers aren't properly recognized.

I need a supplier management module that tracks delivery performance, maintains complete contact and contract information, stores quality feedback, calculates key performance indicators (KPIs), and generates comparative reports across suppliers. This would enable strategic supplier selection, improve negotiation leverage, and build stronger partnerships with reliable suppliers.