IDEATION PHASE – DOCUMENT 2: DEFINE PROBLEM STATEMENT

Field	Details
Date	05 November 2025
Team ID	NM2025TMID07730
Project Name	Medical Inventory Management System
Maximum Marks	4 Marks

Title: Problem Definition for **"Medical Inventory Management System"**

1. Objective

The objective of this document is to define the key challenges in traditional medical inventory handling, their causes, impact, and the technical justification for developing a digital inventory management solution using Salesforce.

The purpose is to transform an initial idea into a clearly structured problem statement that guides the entire project lifecycle from requirement gathering to implementation.

2. Context and Background

Medical inventory management is critical for hospitals, clinics, and pharmacies to ensure the timely availability of medicines, consumables, and medical devices.

However, the current process in many healthcare facilities remains manual, paper-based, and fragmented, resulting in stockouts, expired items, and inefficiency.

Common issues include:

- Lack of centralized visibility into stock levels across departments
- Manual purchase order (PO) tracking and delayed vendor communication
- No expiry or low-stock alerts
- Overstocking and wastage due to poor forecasting
- High dependency on Excel or handwritten registers

Studies show that a large percentage of small and mid-size healthcare centers in India still rely on offline stock books or Excel-based records, leading to data inconsistency, wastage, and compliance risks.

This results in supply shortages, financial leakage, and patient care delays due to unavailable or expired medical items.
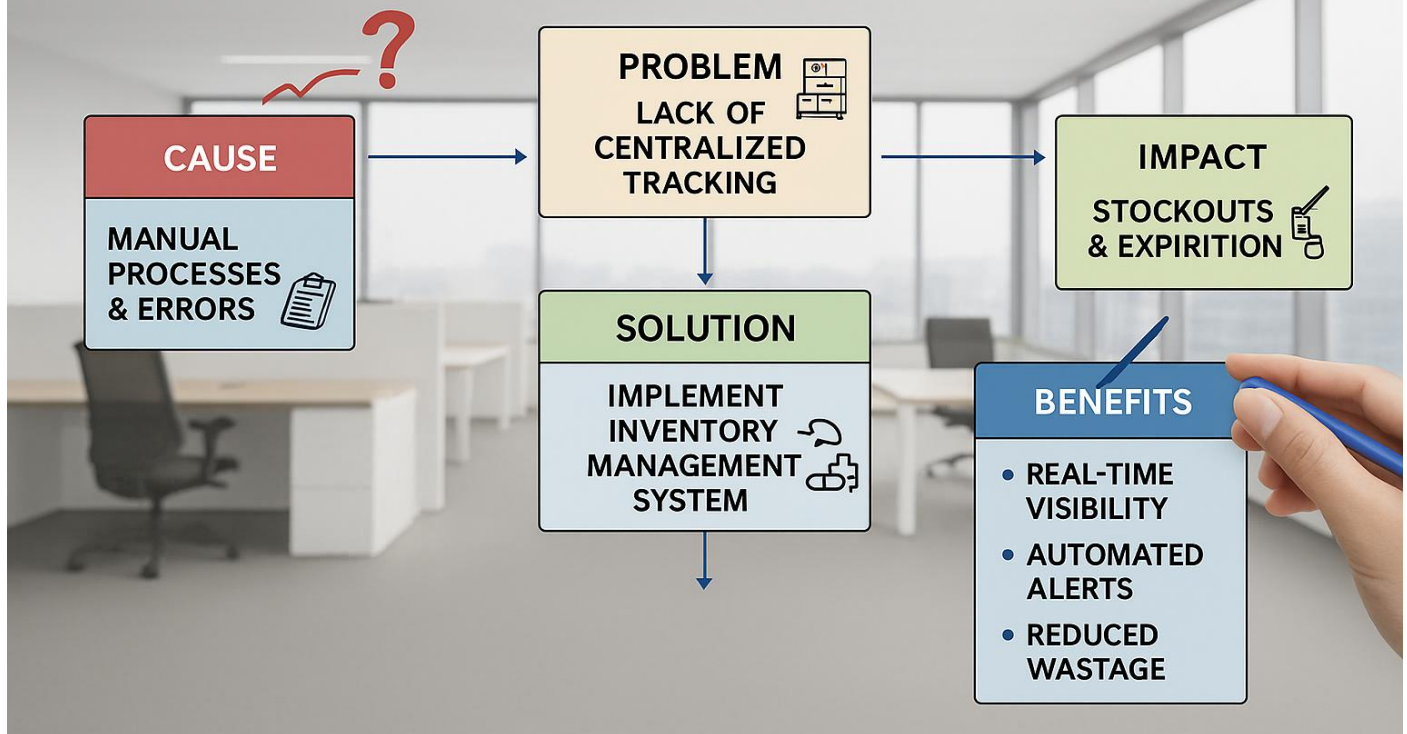
3. Problem Observation

Based on field discussions with pharmacists, storekeepers, purchase officers, and hospital administrators, the following issues were identified:

Issue	Observation
Manual Stock Records	Inventory maintained on paper or Excel sheets, prone to errors and data loss
No Expiry or Low-Stock Alerts	Items expire unnoticed or run out without reorder triggers
Slow Purchase Tracking	PO approvals and vendor follow-ups handled manually
Inefficient Department Requests	Item issues requested via calls or paper slips
Poor Visibility	No single dashboard showing current stock, consumption, or value

These findings highlight the need for a centralized, automated, and reliable Medical Inventory Management System that can manage procurement, tracking, and reporting seamlessly.

4. Core Problem Statement

"There is no unified and automated digital platform to manage medical inventory, purchase orders, stock levels, expiry tracking, and inter-departmental consumption, resulting in delays, wastage, and inefficiency in healthcare supply operations."

5. Project Goals

The Medical Inventory Management Project aims to:

1. Digitize inventory records and store them in a secure cloud-based Salesforce database.
2. Automate purchase order creation, approvals, and goods receipt tracking.
3. Enable expiry and low-stock alerts to prevent shortages and wastage.
4. Provide real-time dashboards and analytics for better decision-making.
5. Ensure traceability, audit readiness, and compliance for all stock movements.

6. Scope and Constraints

In-Scope	Out-of-Scope	Constraints
Purchase order creation & approval	Integration with ERP or accounting systems	Internet connectivity required
Stock tracking & expiry monitoring	Automated billing/invoicing	Dependence on accurate user entry
Alerts for low stock & near-expiry	AI-based demand forecasting	Limited Salesforce storage for attachments
Dashboards & reporting	Multi-hospital integration (Phase 2)	User training and digital adoption required

7. Technical Relevance

Salesforce is chosen as the platform because it provides:

• Secure and scalable cloud storage
• Low-code automation using Flow, Validation Rules, and Triggers
• Role-based access for Store Staff, Purchase Officer, and Admin
• Real-time dashboards and reports for decision-making

Key Salesforce components:

• Custom Objects: Item, Supplier, Purchase Order, Goods Receipt, Stock Ledger
• Flows: Auto low-stock and expiry alerts, PO approvals
• Reports: Inventory valuation, reorder analysis, expiry summary
• Email Alerts & Notifications: For purchase approvals, expiry warnings, and low stock

8. Success Criteria

KPI	Target	Evaluation Method
Stock Accuracy	95% accurate stock records	Stock vs. Physical audit data
Wastage Reduction	60% reduction in expired items	Expiry report comparison
Reorder Efficiency	100% timely reorder alerts	System alert logs
User Adoption	85% staff usage rate	Login & usage analytics
Process Automation	80% of manual tasks automated	Flow execution reports

9. Expected Impact

- Eliminates paper-based inventory tracking
- Reduces wastage and out-of-stock incidents
- Improves vendor coordination and approval turnaround time
- Ensures transparency in item usage and cost control
- Provides real-time insight for procurement planning
- Enhances overall operational efficiency and patient care readiness