

## Project Design Phase

### Problem – Solution Fit Template

Date	03 November 2025
Team ID	NM2025TMID01909
Project Name	Medical Inventory Management
Maximum Marks	2 Marks

#### Problem Statement

Hospitals, clinics, and pharmacies struggle with **inefficient manual inventory management**, leading to:

- Overstocking or shortages of medicines and medical supplies
- Expiry-related wastage and financial losses
- Delays in patient care due to unavailable items
- Time-consuming record-keeping and audits
- Lack of real-time visibility across departments

These challenges cause **operational inefficiency, non-compliance with medical standards, and increased costs**.

#### Proposed Solution

Develop a **digital Medical Inventory Management System** that automates and optimizes the entire supply chain process — from stock tracking to supplier management.

#### Value Proposition

Stakeholder	Benefit
Hospital Management	Cost savings, transparency, and better decision-making
Pharmacists / Inventory Staff	Simplified tracking, fewer manual errors
Doctors / Nurses	Quick access to required medicines and supplies
Patients	Timely treatment and improved care quality

## Core Solution Features

Solution Element	Description / Function	Problem Solved
<b>Real-Time Inventory Tracking</b>	Automatically updates stock levels as items are issued or received	Eliminates manual errors and delays
<b>Expiry &amp; Low Stock Alerts</b>	Notifies users before stock expires or runs low	Prevents wastage and ensures continuous availability
<b>Auto Reorder System</b>	Generates purchase orders when stock hits reorder level	Avoids shortages and maintains supply flow
<b>Barcode / RFID Integration</b>	Enables fast and accurate scanning of items	Reduces manual entry errors
<b>Analytics Dashboard</b>	Displays stock usage, wastage, and cost trends	Supports data-driven decisions
<b>Supplier Management</b>	Tracks supplier details, order history, and delivery performance	Improves procurement reliability
<b>Audit Trail</b>	Logs all stock movements and actions	Ensures accountability and compliance

## Expected Impact

- 30–40% reduction** in expired stock wastage
- 50% improvement** in inventory accuracy
- Faster audits** and compliance reporting
- Improved patient safety** through timely medication availability

## Problem–Solution Fit Summary

The proposed **Medical Inventory Management System** directly addresses the critical inefficiencies in hospital inventory workflows. By digitizing and automating key processes, it creates a balance between **supply accuracy**, **cost efficiency**, and **patient care quality** — achieving a strong *problem–solution fit*.

