(TITLE : SUPPLY CHAIN MANAGEMENT)

PROBLEM STATEMENT:

In today's fast-paced global economy, businesses face challenges in managing supply chains efficiently. Issues such as demand forecasting inaccuracies, inventory mismanagement, supplier delays, and logistical inefficiencies lead to increased costs and reduced customer satisfaction. Small and medium enterprises (SMEs), in particular, struggle with limited access to advanced supply chain analytics, making it difficult to compete with larger corporations.

The problem Is how to provide real-time, data-driven insights to optimize supply chain operations without replacing human decision-makers but enhancing their ability to make informed choices.

TARGET AUDIENCE:

- SMEs lacking advanced supply chain tools
- Logistics managers in need of predictive analytics
- Procurement teams seeking supplier performance insights
- Retailers struggling with inventory optimization

OBJECTIVES:

- To design an AI system capable of analyzing supply chain data to predict demand, optimize inventory, and identify bottlenecks.
- To ensure the AI system provides actionable recommendations (e.g., reorder alerts, alternative suppliers).
- To create a user-friendly dashboard accessible via web and mobile devices.
- To maintain data security and compliance with industry standards.

DESIGN THINKING APPROACH:

Empathize:

The core challenge lies in accessibility to advanced tools. Many businesses rely on manual processes or outdated software, leading to inefficiencies. The goal is to understand pain points such as:

- Fear of AI replacing human roles.

- Difficulty interpreting complex data.

- Need for real-time updates in volatile markets.

DEFINE:

The solution should analyze historical data, current trends, and external factors (e.g., weather, geopolitical events) to provide:

- Demand forecasts.

- Inventory optimization suggestions.

- Supplier risk assessments.

KEY FEATURES REQUIRED:

- AI-driven demand forecasting.

- Intuitive dashboard with visual analytics.

- Alerts for stockouts, delays, or supplier issues.

- Secure cloud-based data storage.

Ideate:

Potential solutions include:

- An AI-powered dashboard integrating ERP and IoT data.

- A mobile app for on-the-go supply chain monitoring.

- Predictive analytics for supplier performance.

Brainstorming Results:

- Chatbot for quick queries (e.g., “When should I reorder Product X?”).

- Multilingual support for global teams.

- Automated reporting for stakeholders.

PROTOTYPE:

A basic dashboard where users input supply chain data, and the AI provides:

- Inventory recommendations.

- Supplier performance scores.

- Risk alerts (e.g., delays, price fluctuations).

KEY COMPONENTS:

- Database of historical supply chain data.

- Machine learning models for trend analysis.

- Logic to prioritize critical alerts.

TEST:

The prototype will be tested by logistics managers and procurement teams. Feedback will focus on:

- Trust in AI recommendations.

- Ease of use for non-technical users.

- Accuracy of predictions.
