**Project Title: AI-Driven Supply Chain Disruption Predictor**

**and Inventory Optimization System**

**Project Statement:**

This project aims to develop an advanced AI-powered system that revolutionizes

supply chain management by monitoring global supply chain data, predicting

potential disruptions, and optimizing inventory levels accordingly. By leveraging

LLMs like OpenAI GPT, Meta LLaMA for natural language processing and data

analysis, integrating with Google Sheets, and utilizing Slack or Email for real-time

alerts, the system will provide predictive insights on supply chain risks and automate

inventory adjustments. This comprehensive solution will enable businesses to

proactively manage supply chain disruptions, optimize inventory levels, and maintain

operational continuity in the face of global uncertainties.

**Outcomes:**

● Accurate prediction of supply chain disruptions through analysis of news,

supplier data, and transportation trends.

● Dynamic inventory level optimization based on predicted supply chain

reliability and disruption risks.

● Real-time notifications and ERP integration for immediate inventory

adjustments and reordering recommendations.

● Significant reduction in supply chain-related losses and improved operational

efficiency through proactive risk management.

**Modules to be Implemented:**

*1. Global Data Monitoring and Analysis Engine*

● Utilizes NLP to analyze global data sources, including news, supplier

information, and transportation updates.

● Identifies potential risk factors and emerging trends in the supply chain

landscape.

*2. Predictive Disruption Modeling System*

● Employs machine learning algorithms to forecast potential disruptions

and their impact on supply levels.

● Generates risk scores and probability assessments for various

disruption scenarios.

*3. ERP Integration and Inventory Adjustment Module*

● Seamlessly integrates with ERP systems like SAP to recommend stock

adjustments and reorder points.

● Provides automated, data-driven inventory optimization suggestions.

*4. Real-Time Alert and Reporting Dashboard*

● Delivers instant notifications via Slack or Email for critical disruption

predictions and inventory recommendations.

● Offers comprehensive visualizations of supply chain risks and

inventory status.