



Supply Chain Management Report:

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Project Title: Supply Chain Management

Phase4: Performance of the Project

Title : Supply Chain Management

Objective:

The focus of Phase 4 is to enhance the performance of the AI-Driven Supply Chain Optimization System by refining predictive analytics models, optimizing logistics automation, and improving scalability to handle large-scale operations. This phase also aims to strengthen data security, streamline IoT integration for real-time tracking, and ensure seamless supplier collaboration.

1. AI Model Performance Enhancement

Overview:

The AI-based demand forecasting and inventory optimization models will be refined using historical data and real-time inputs.

Performance Improvements:

- ✓ Accuracy Testing: Retrain models with expanded datasets
- ✓ Model Optimization: Hyperparameter tuning for better decisions

Outcome:

20% improvement in demand forecasting accuracy

2. Logistics Automation Optimization:

Key Enhancements:

- 🚚 Dynamic routing with real-time traffic data
- ⌚ Automated scheduling for fleet management

Outcome:

15% reduction in delivery times

3. IoT Integration for Real-Time Tracking:

Key Features:

- 📍 GPS and RFID tracking
- 🔄 Real-time warehouse sensors

Outcome:

25% reduction in shipment delays

4. Data Security Enhancements:

Implemented Solutions:

- 🔒 Blockchain for secure transactions
- 👤 Role-based access control

Outcome:

Tamper-proof supplier collaboration

Performance Metrics:

| Area | Improvement Target |
|-------------|--------------------|
| ----- | ----- |
| Forecasting | +20% accuracy |
| Logistics | -15% delivery time |
| Inventory | -30% stockouts |

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