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Innovation in Problem Solving

The objective of this phase is to explore and implement innovative solutions to the problems identified in the first phase. In this case, we aim to address inefficiencies and risks in supply chain management using modern technologies like AI, IoT, and blockchain.

Core Problems to Solve

1. Lack of Real-Time Visibility
2. Demand Forecasting Errors
3. Supplier Reliability and Risk
4. Data Silos & Security

Innovative Solutions Proposed

1. AI-Powered Demand Forecasting

Solution Overview: Implement AI models that analyze historical data, market trends, and real-time demand signals.

Innovation: Adaptive learning algorithms that adjust forecasts dynamically.

Technical Aspects:

- Time-series analysis
- Integration with ERP/CRM

- External data usage

2. IoT-Enabled Real-Time Tracking

Solution Overview: Use IoT sensors to track goods in transit.

Innovation: Predictive alerts and dynamic rerouting.

Technical Aspects:

- GPS and RFID integration
- Centralized dashboard
- Predictive analytics

3. Blockchain for Transparent and Secure Transactions

Solution Overview: Employ blockchain for secure and transparent transactions.

Innovation: Tamper-proof ledgers and smart contracts.

Technical Aspects:

- Smart contracts
- Decentralized data sharing
- Immutable audit trails

4. Supplier Risk Management Using AI

Solution Overview: Analyze supplier data to predict risks. Innovation:

Automated scoring based on multiple factors.

Technical Aspects:

- NLP for data analysis
- Risk heatmaps
- Procurement platform integration

Implementation Strategy

1. Develop and Train AI Models
2. Deploy IoT Devices for Tracking
3. Blockchain Pilot for Procurement

Challenges and Solutions

Data Integration: Use APIs and data lakes.

Adoption Resistance: Provide training and emphasize ROI.

Cost and Scalability: Modular, cloud-based deployment.

Expected Outcomes

1. Optimized Inventory and Reduced Waste
2. Enhanced Supply Chain Transparency
3. Reduced Operational Risks
4. Improved Stakeholder Trust

Next Steps

1. Pilot Testing
2. Refinement and Feedback Integration
3. Scale Deployment