

Title: Leveraging Real-Time Inventory Management System

Date: 20/8/2023	Owner: Opeyemi Morakinyo
Approval Date: 20/8/2023	Manager Approval: John  Awodeyi

# Title: Leveraging Real-Time Inventory Management System

## BACKGROUND

Problem Statement:

Description: The current manual inventory management system leads to inaccurate inventory levels, stockouts, overstock situations, and dissatisfied customers due to a lack of real-time data and insights.

## CURRENT CONDITIONS

Current Business Process Functional Map

1. Customer Orders:

- Customers place orders through various channels (online, phone, in-store).

2. Order Processing:

- Orders are manually entered into the system.
- Inventory availability is checked based on historical data.
- Purchase orders are generated and sent to suppliers if necessary.

3. Inventory Management:

- Periodic physical stock checks are conducted.
- Inventory data is manually updated in the system.

4. Demand Forecasting:

- Historical data is used to estimate future demand.
- Manual adjustments are made based on current trends and events.

## TARGET CONDITIONS

1. Customer Orders:

- Customers place orders through various channels (online, phone, in-store).

2. Real-Time Inventory Management System (RTIMS):

- RTIMS tracks inventory levels and demand patterns in real-time.
- Integrates with ERP and supply chain systems.

3. Automated Demand Forecasting:

- RTIMS uses real-time data for accurate demand predictions.
- Adjusts forecasts based on current trends and events.

4. Automated Replenishment:

- RTIMS triggers replenishment orders automatically.
- Minimizes stockouts and overstock situations.

5. Supplier Integration:

- RTIMS communicates real-time inventory data to suppliers.
- Suppliers respond with timely deliveries.

6. Efficient Warehousing and Distribution:

- Real-time inventory visibility guides picking, packing, and shipping.
- Accurate data ensures optimal use of warehouse space.

7. Customer Delivery:

# Title: Leveraging Real-Time Inventory Management System

## 5. Replenishment:

- Inventory levels trigger manual replenishment orders.
- Lead times for suppliers are estimated based on historical data.

## 6. Supplier Management:

- Supplier orders are placed via phone or email.
- Communication with suppliers is limited and may lead to delays.

## 7. Warehousing and Distribution:

- Inventory is received from suppliers and stored in warehouses.
- Manual processes are used for picking, packing, and shipping.

## 8. Customer Delivery:

- Orders are shipped to customers based on available inventory.
- Tracking information is manually provided to customers.

## 9. Monitoring and Decision-making:

- Managers make decisions based on outdated and inaccurate data.
- No real-time visibility into inventory levels or supply chain performance.

## 10. Customer Satisfaction:

- Customers may experience stockouts or delays due to inaccurate inventory data.
- Customer complaints and dissatisfaction can arise.

## 11. Reporting and Analysis:

- Limited data is manually collected for reporting purposes.

- Orders are fulfilled based on real-time inventory levels.
- Tracking information is sent to customers promptly.

## 8. Real-Time Analytics:

- RTIMS generates actionable insights from real-time data.
- Data-driven decisions optimize supply chain operations.

## 9. Improved Customer Satisfaction:

- Accurate inventory data reduces stockouts and delays.
- Customers receive products on time, enhancing satisfaction.

## 10. Reduced Costs:

- Optimized inventory levels decrease storage and working capital costs.
- Efficient processes minimize operational expenses.

## 11. Enhanced Decision-Making:

- Real-time insights enable informed and proactive decisions.
- Strategic choices align with current market conditions.

## 12. Operational Agility:

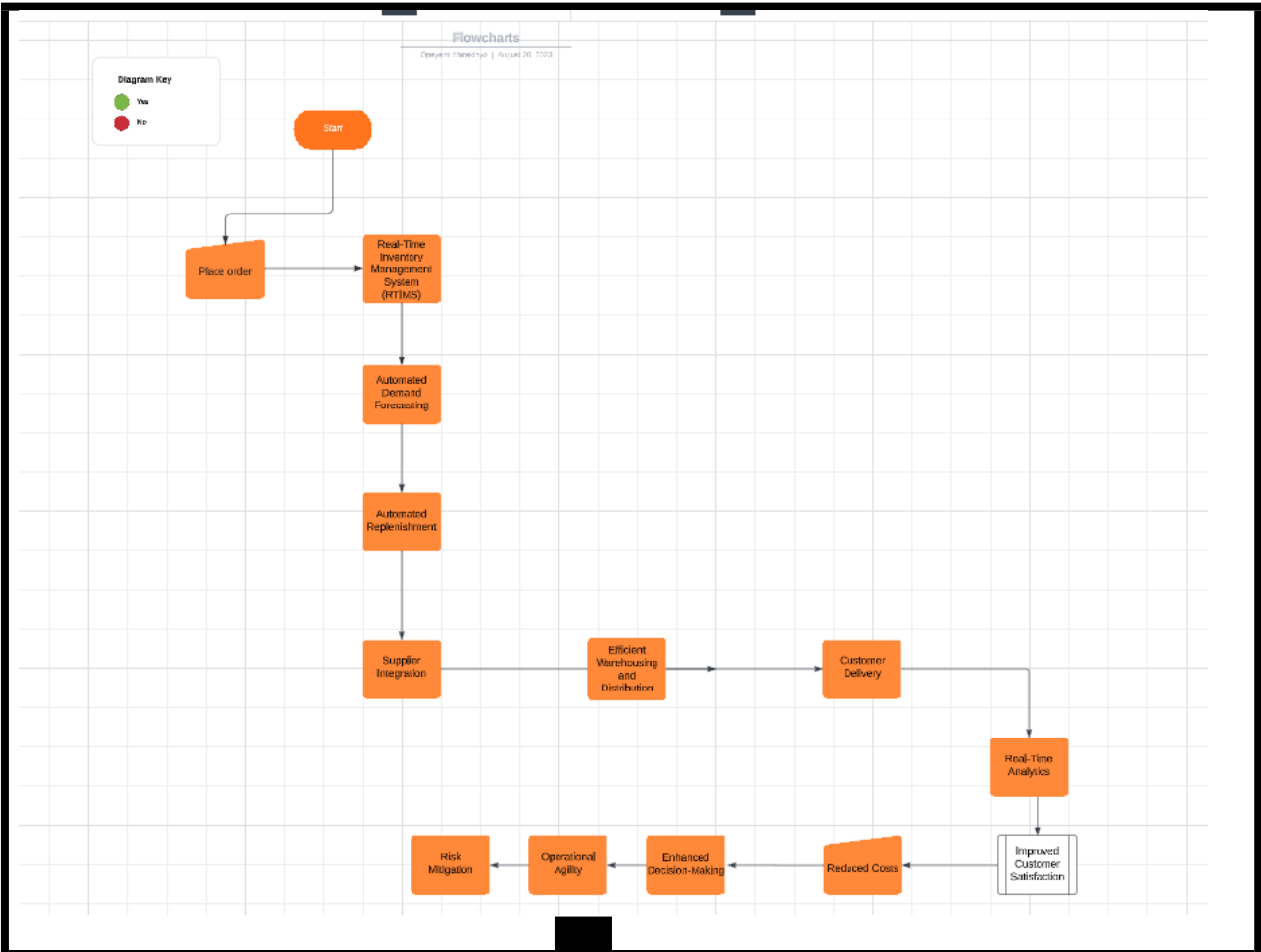
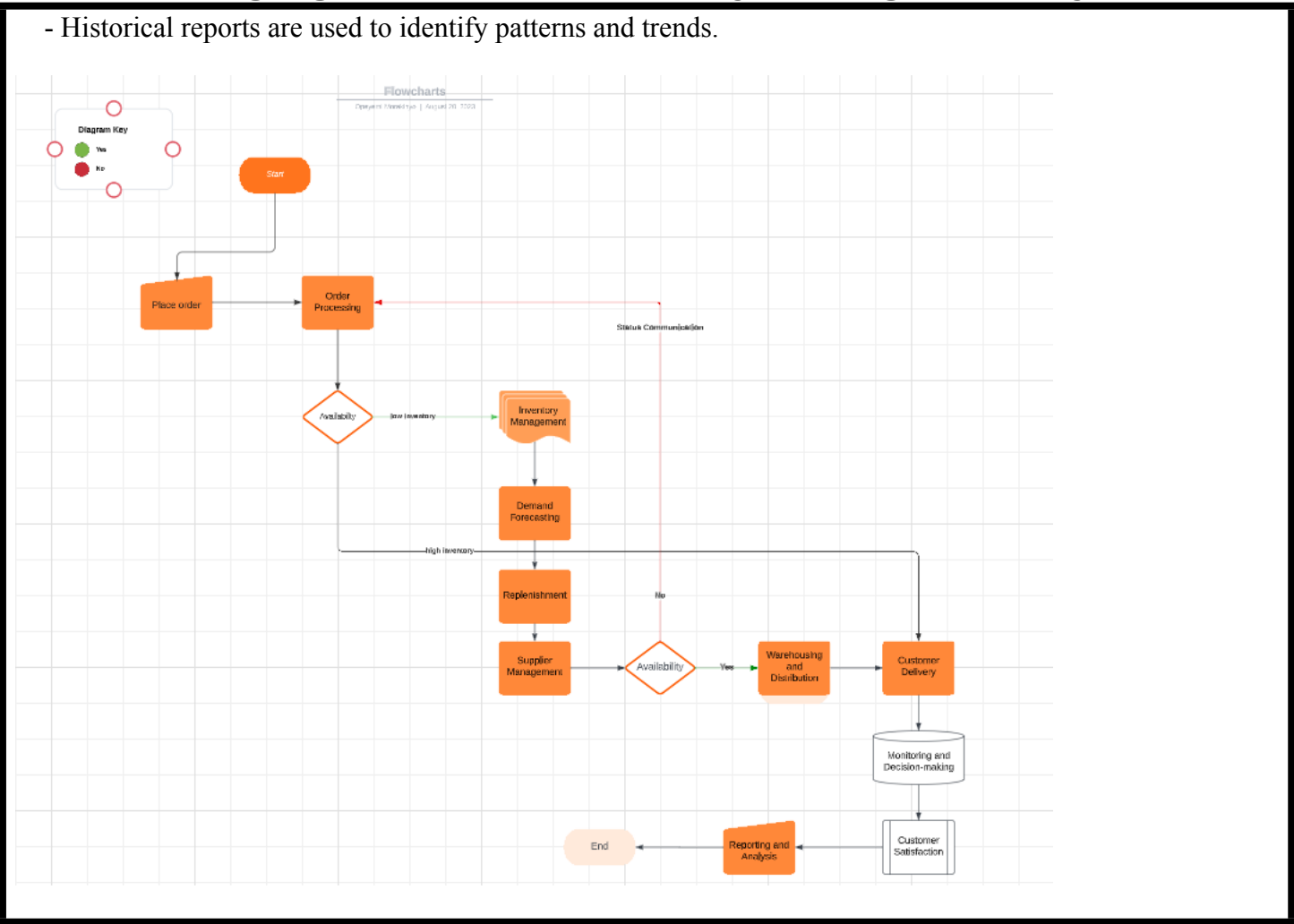
- RTIMS enables quick adaptation to changes in demand and supply.
- Business continuity is ensured during disruptions.

## 13. Risk Mitigation:

- RTIMS identifies potential inventory-related risks.
- Mitigation strategies are developed based on real-time data.

# Title: Leveraging Real-Time Inventory Management System

- Historical reports are used to identify patterns and trends.



## IMPLEMENTATION PLAN

What?	Who?	When?	Where?
Get information about consumer needs and behavioural preferences	Research and Marketing Lead - Opeyemi	October 1, 2023	Africa and Asia
Design a web app for consumers to interact with the	Engineering Lead - John	December 1, 2023	

# Title: Leveraging Real-Time Inventory Management System

- Inaccurate demand forecasting due to reliance on historical data.
- Insufficient communication and delays with suppliers.

Problems	Data discrepancies			Lack of real-time visibility			Inaccurate demand forecasting	Root Cause
	WHY 1		WHY 2		WHY 1		WHY 2	
	Manual data entry		Manual estimation processes		Lack of real-time visibility		Manual inventory and supply chain activities	Reliance on inaccurate historical data
								Manual data entry and lack of real time visibility

## REFERENCES

### References

ChatGPT, & Morakinyo, O. (2023, August 20).

Ivanna. (2020, June 25). *A Brief Guide to Inventory Management Systems (IMS)*. Altamira.  
<https://www.altamira.ai/blog/what-is-inventory-management-system/>

Lawson, M. (2020). *What is real-time inventory management and why is it vital?* Wwww.columbusglobal.com.  
<https://www.columbusglobal.com/en-gb/blog/what-is-real-time-inventory-management-and-why-is-it-vital>

Linnworks. (2022). *How To Reduce Stock Levels And Avoid Stock Outs*. Wwww.linnworks.com.  
<https://www.linnworks.com/blog/reduce-stock-levels-stock-outs>

company, ensure real time customer success and data recording			
Cost: Marketing Cost - \$4,000,000			
Development Cost \$5,000,000			

## FOLLOW UP

Potential Gains from Introducing the Technology:

- Enhanced Customer Satisfaction: Real-time inventory data reduces stockouts, ensuring products are available when customers need them.
- Reduced Costs: Accurate inventory management decreases storage and working capital costs.
- Improved Demand Forecasting: Real-time data improves demand predictions, reducing overproduction and understock situations.
- Efficient Replenishment: Automation streamlines procurement processes, minimizing manual errors.
- Data-Driven Insights: Real-time analytics provide actionable insights for strategic decision-making.

# Title: Leveraging Real-Time Inventory Management System

## Business Case for Implementing Real-Time Inventory Management System at REDGEZON

### 1. Executive Summary:

In today's fast-paced business landscape, efficient management of inventory has become a critical success factor for any organization operating in the logistics and retail sectors. Traditional inventory management practices are no longer sufficient to meet customer demands and optimize supply chain operations. To address this challenge and capitalize on the benefits of technology, we propose the implementation of a Real-Time Inventory Management System (RTIMS). This system will enable us to enhance customer satisfaction, reduce costs, and optimize our overall supply chain operations.

### 2. Problem Statement:

The current inventory management process relies on manual data entry, periodic stock checks, and estimations based on historical data. This approach often leads to inaccurate inventory levels, stockouts, overstock situations, and ultimately, dissatisfied customers. Additionally, this outdated system fails to provide accurate insights into demand trends and supply chain inefficiencies, hindering our ability to make informed decisions.

### 3. Proposed Solution: Real-Time Inventory Management System (RTIMS)

The Real-Time Inventory Management System is a technological solution that leverages advanced data analytics, IoT (Internet of Things) devices, and real-time data integration to provide an accurate, up-to-the-minute view of our inventory across all stages of the supply chain. The system will monitor inventory levels, demand patterns, and supply chain activities in real-time, enabling us to make informed decisions swiftly and optimize our operations proactively.

- Operational Agility: Quick adaptation to changes in demand and supply chain disruptions.

#### Potential Losses from Failing to Introduce the Technology:

- Customer Dissatisfaction: Inaccurate inventory data leads to stockouts, resulting in dissatisfied customers.
- Higher Costs: Excess inventory ties up working capital and incurs storage costs.
- Missed Opportunities: Inability to capitalize on real-time insights hampers informed decision-making.
- Inefficient Processes: Manual replenishment processes lead to delays and errors.



#### Potential Risks from Introduction with Mitigation Strategies:

- Integration Issues: Incompatibility with existing systems. Mitigation: Thorough testing and gradual implementation.
- Data Security: Risk of data breaches. Mitigation: Implement robust data encryption and security protocols.
- Change Resistance: Workforce may resist technology adoption. Mitigation: Comprehensive training and change management strategies.
- Unforeseen Disruptions: Technical glitches or system downtime. Mitigation: Develop backup plans and redundant systems.
- Supplier Collaboration: Suppliers may not be ready for real-time integration. Mitigation: Collaborate closely and communicate the benefits.

# Title: Leveraging Real-Time Inventory Management System

## 4. Benefits:

Enhanced Customer Satisfaction: With accurate inventory data available in real-time, we can prevent stockouts and ensure that products are readily available to meet customer demands. This will result in higher customer satisfaction and loyalty.

Reduced Costs: RTIMS will enable us to optimize inventory levels and reduce excess stock. This will lead to a reduction in storage costs, working capital tied up in inventory, and potential obsolescence costs.

Improved Demand Forecasting: By analyzing real-time data, the system can provide more accurate demand forecasts. This will allow us to adjust production and procurement strategies accordingly, minimizing the risk of overproduction or understock situations.

Efficient Replenishment: The system can automatically trigger replenishment orders based on predefined thresholds, reducing manual intervention and streamlining the procurement process.

Data-Driven Insights: The RTIMS will generate valuable insights into demand patterns, lead times, and supply chain bottlenecks. This information can guide strategic decision-making, such as selecting suppliers, optimizing transportation routes, and launching targeted marketing campaigns.

Operational Agility: With real-time visibility into inventory levels, we can quickly adapt to unexpected changes in demand or supply chain disruptions, ensuring business continuity.

## 5. Implementation Plan:

Phase 1: System Design and Development (Months 1-3): Work with an experienced technology partner to design and develop the RTIMS tailored to our organization's needs.

# Title: Leveraging Real-Time Inventory Management System

Phase 2: Data Integration and Testing (Months 4-6): Integrate the system with existing ERP and supply chain management systems. Conduct thorough testing to ensure accuracy and reliability.

Phase 3: Rollout and Training (Months 7-8): Deploy the system across our warehouses, distribution centers, and retail outlets. Provide training to relevant staff on how to use the system effectively.

Phase 4: Monitoring and Optimization (Ongoing): Continuously monitor system performance, collect user feedback, and make necessary improvements to enhance the system's functionality and usability.

## 6. Financial Considerations:

The investment required for implementing the RTIMS includes technology development costs, integration expenses, training, and ongoing maintenance. However, the expected return on investment (ROI) in terms of cost savings, improved customer satisfaction, and optimized supply chain operations far outweighs the initial expenditure.

## 7. Conclusion:

The implementation of a Real-Time Inventory Management System presents a significant opportunity to revolutionize our logistics and inventory management operations. By leveraging technology to gain real-time insights, we can enhance customer satisfaction, reduce costs, and gain a competitive edge in the market. We request senior leadership approval to proceed with the implementation of the RTIMS and bring our supply chain operations into the digital age.