

Warehousing & Inventory Operations

ACMA4024

Module Introduction

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Warehousing and Inventory Operations

Module Aims

- To provide fundamental knowledge and skills in the development and management of warehouses.
- To understand efficient inventory management and optimisation strategies.

Learning Outcomes

Upon the successful completion of this module, the student should be able to:

- Describe a range of issues that need to be considered as part of warehousing operations
- Explain the role of inventory in businesses and which factors need to be considered when managing inventory.

Warehousing and Inventory Operations

Module Contents include;

- Roles of the warehouse
- Inventory control and management
- Order management
- Customer service operations
- Materials handling
- Controlling supplies at storage locations
- Warehouse layouts

Warehousing and Inventory Operations

Weekly lecture plan;

Topic	Session overview
WK1: Module Introduction	Module aims, Expected Outcomes, Indicative contents, Assessments preview
WK2: Demand Management	Demand forecast & planning, S&OP, Inventory planning
WK3: Inventory Control	Holding costs, Inventory levels, tracking inventory, Inventory issues & control approaches
WK4 & 5: Warehousing operations	Role of warehouse, Warehouse types & designs, Warehouse operational activities
WK6: Handling Materials & Ordering	Material Handling Equipment, Order fulfilments process
WK7: Customer services & Distribution	Distribution network, Cost to serve, Role of customer services
WK8: Return Management	Types of returns, reverse logistics process, Analysing return reasons
WK9: Outsourcing	Decisions for outsourcing, Outsourcing providers, Outsource Service Agreements
WK10: Performance Measurement	Reasons for performance measurement, Common indicators, Managing performance

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The study time for the module is divided as follows:

- 20 credit module

Activity type	Hours	Percentage
Scheduled learning	60	30%
Independent learning	140	70%
TOTAL	200	100%

Assessment:

Mode of Assessment	Volume	Weight	Schedule
I. Case study report	1,500 words	50%	15 th Oct - 14 th Jan
II. Presentation	15 minutes	50%	14 th Jan & 18 th Mar

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Assessment #1 (50%)

Due date: 14th Jan 2027

- **1,500 words (+10%)** – Excluding; Cover page, Table of Contents, AI Declaration, Diagrams, Pictures, Tables, References and Appendix.
- Submission via Turnitin on Moodle, submission link will be provided later.
- **Task specifications;** Target 10 operate several large warehouses of 200,000 sq. ft. Most of the inventory stored in these facilities is held by online businesses who demand very high levels of customer service and inventory management. In recent times it has become the norm for inventory stockouts to occur, goods stored are getting damaged unnecessarily and order replenishment is not happening in a timely manner resulting in stockouts/shortages. Currently the company is paying out 15% of its turnover in service credits to customers. In addition, there is a high volume of customer returns passing through the warehouses.

You are required to write a report that evaluates the following issues:

1. What steps the company can take to ensure that there is a significant reduction in current level of damages to customers products reported.
2. Discuss how the company can try to reduce stockouts and improve the level of service provided.

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Assessment #2 (50%)

Due date: 18th Mar 2027 (Tentative)

- **15 minutes presentation**
- Submission via Turnitin on Moodle before presentation date, submission link will be provided later.
- You will be assessed on the quality of your presentation, content of your slides and the ability to answer questions.
- **Task specifications;** You are required to prepare a presentation that addresses a range of issues that need to be considered when setting up a new warehouse. You can make any assumptions you wish around location, products stored and who your customers are.

Warehousing and Inventory Operations

Reading list (Essential):

1. Richards, G. (2025), **Warehouse Management: the definitive guide to improving efficiency and minimizing costs in the modern warehouse 5th Ed**, London: Kogan Page
2. Mangan, J. (2016). **Global Logistics and Supply Chain Management 3rd Ed**, Chichester: Wiley (*Online view available*)
3. Martin, H. (2018) **Warehousing and Transportation Logistics Systems, Planning, Application and Cost Effectiveness** London: Kogan Page

Full course reading list : [ACMA4024 -Warehousing and Inventory Operations reading list](#)

Warehousing and Inventory Operations

Announcement:

Christmas Break

- From 17th Dec 2026 – 1 Jan 2027

Class resume

- Thu **7th Jan 2027** (9:00 – 12:00 GMT)

Join the Vevox session

Go to **vevox.app**

Enter the session ID: **152-024-596**

Or scan the QR code



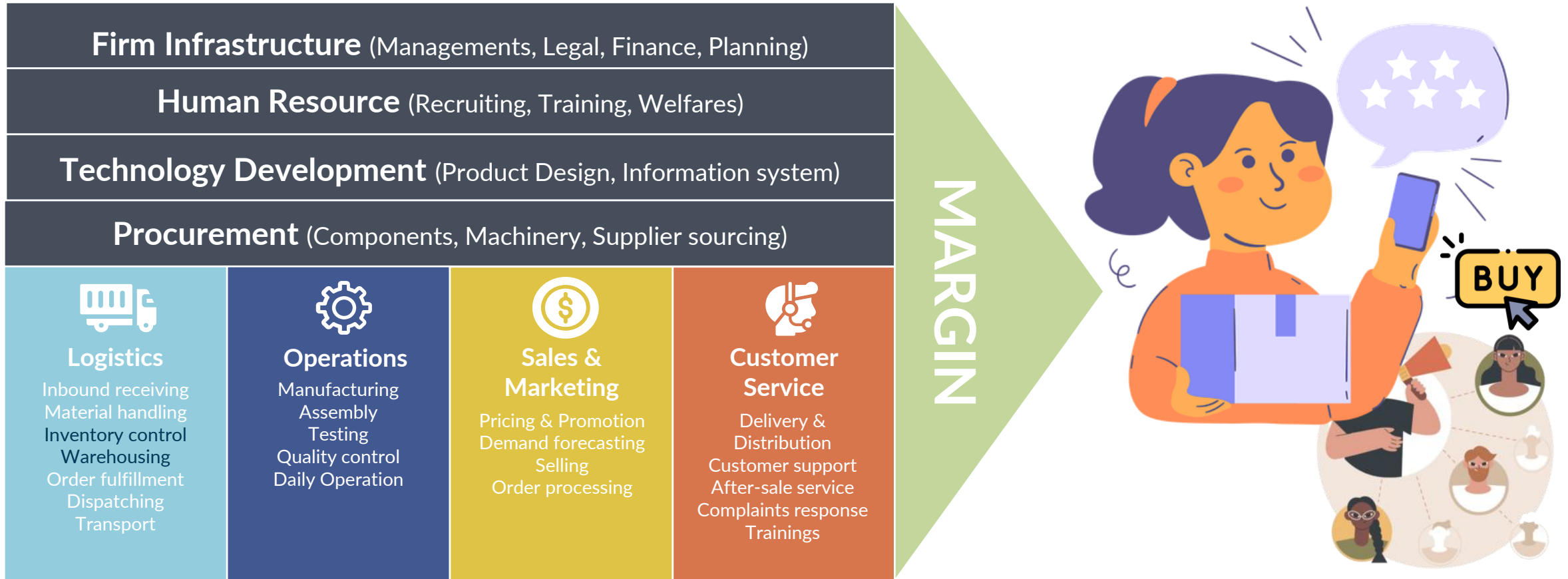


Introduction to Supply Chain Inventory

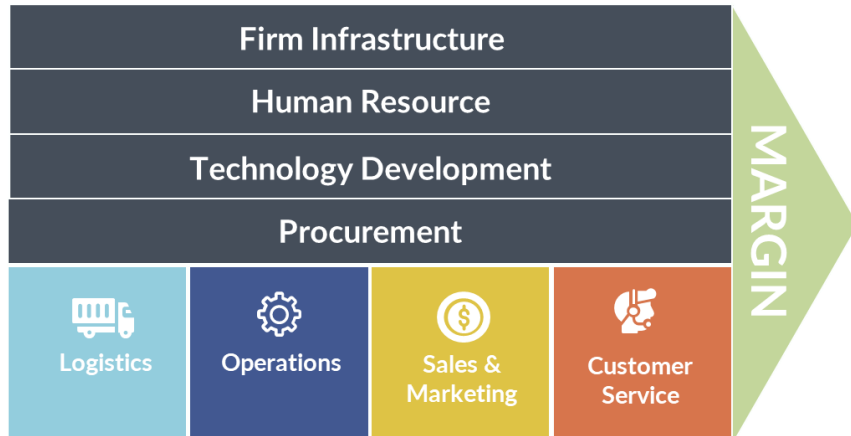
Why do we hold Inventory ?



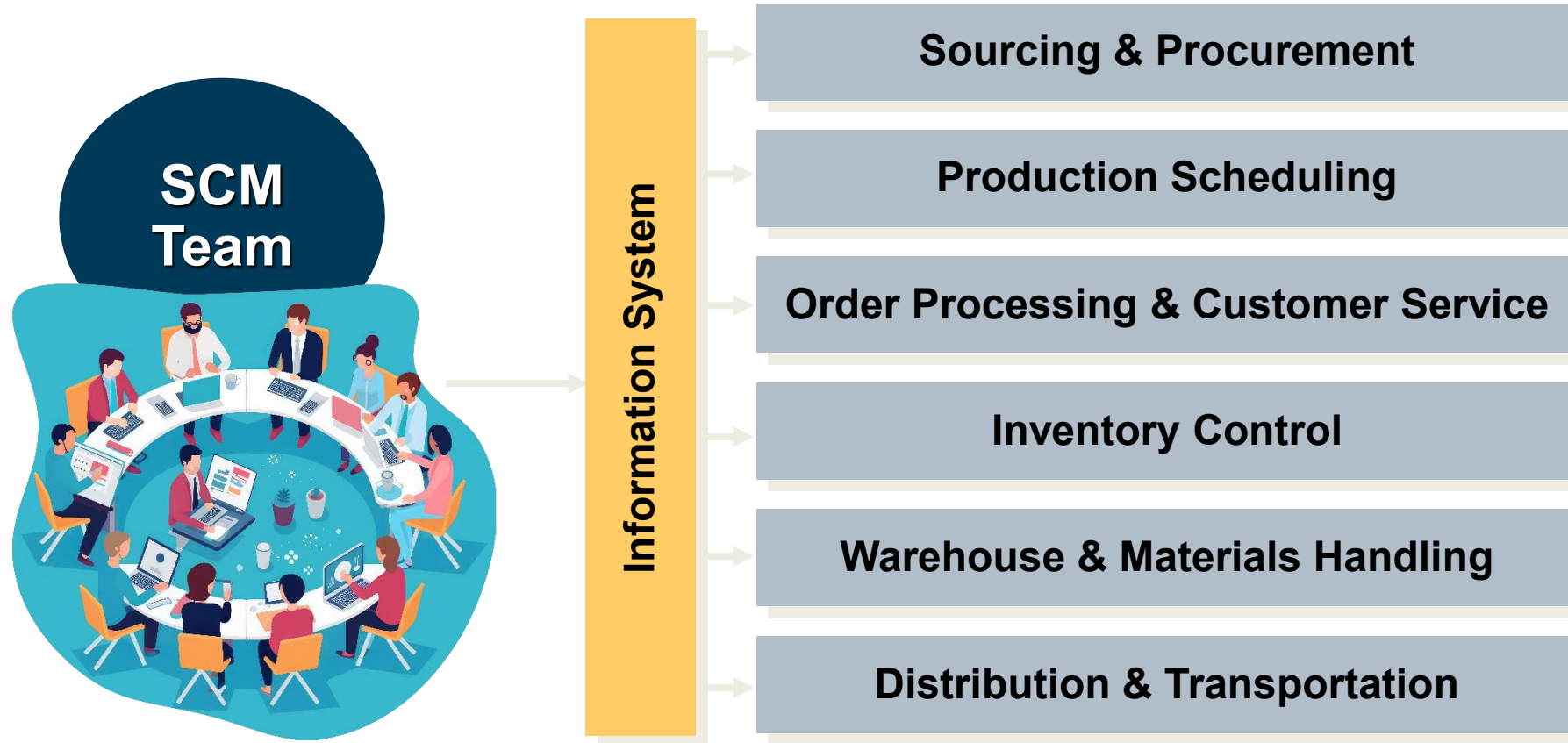
Business Value Chain



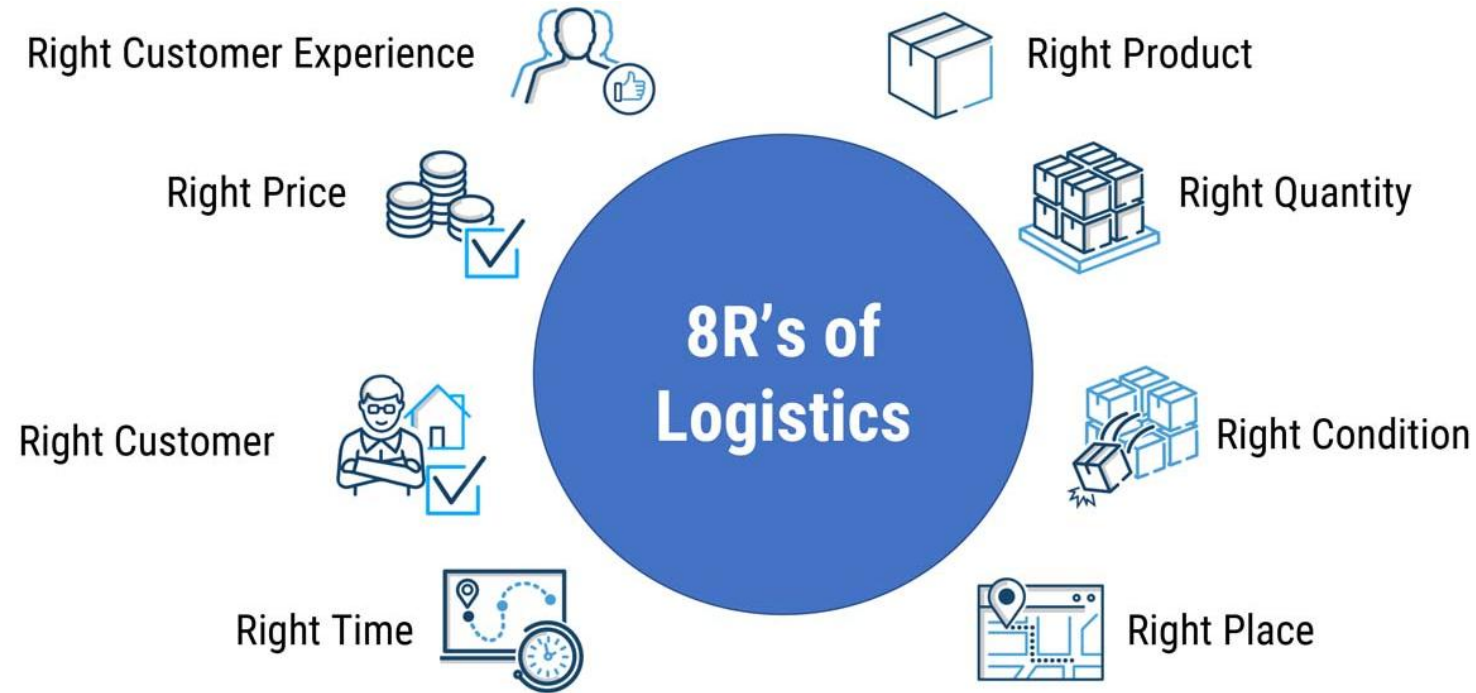
Value Chain in real business



Roles & Responsibilities of SCM



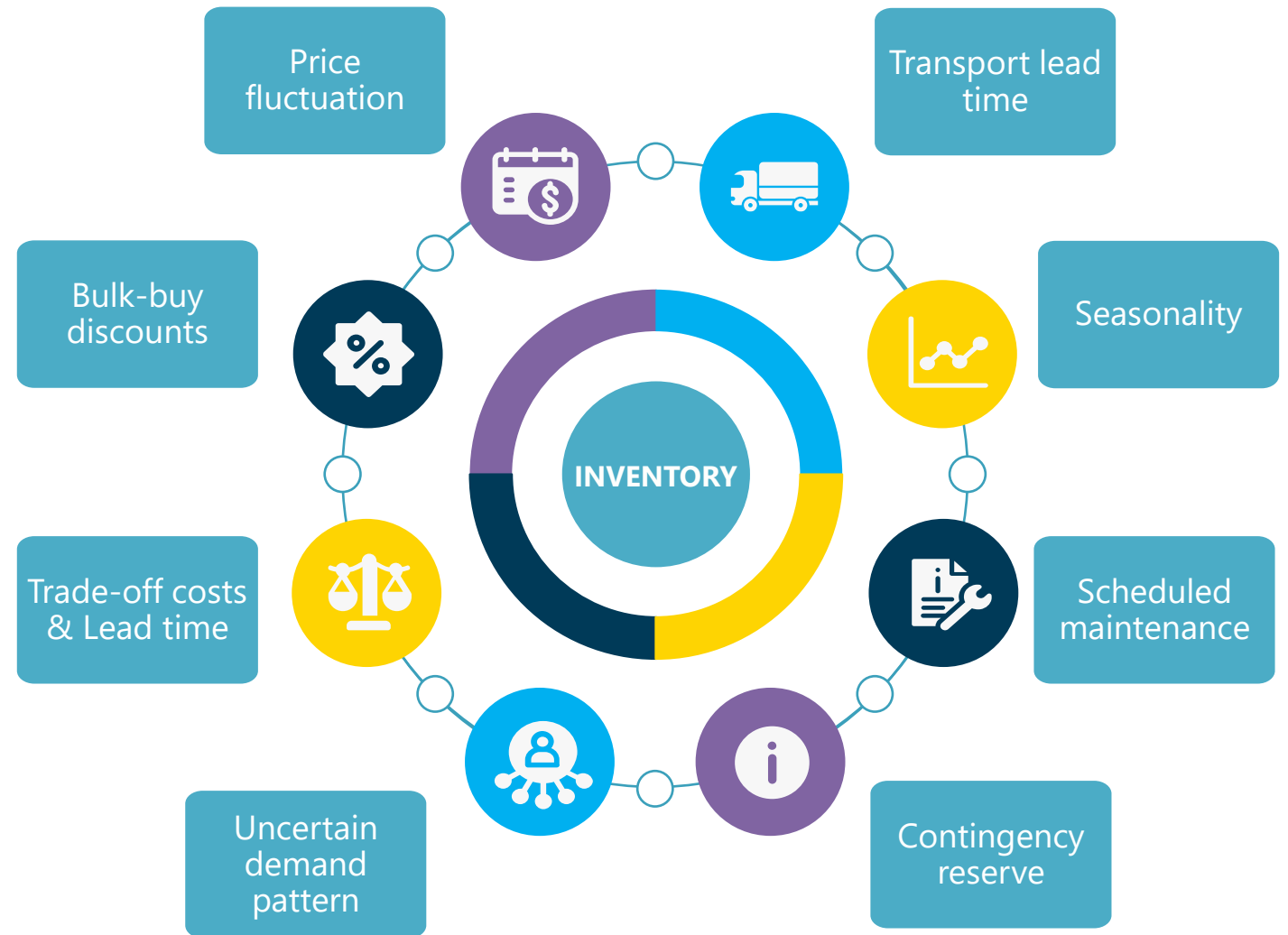
Inventory's role in competitiveness



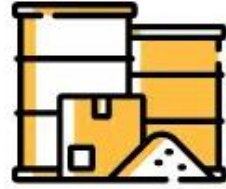
“As the flow of goods more closely matches demand conditions, companies are able to trim inventories, improve customer satisfaction, and avoid nasty surprises”

(Source: C. Mines, Six New Technologies to Boost Business Results, Forrester Research, May 2002)

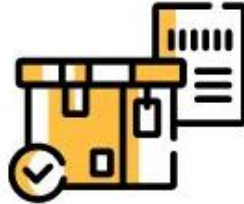
REASONS FOR INVENTORY HOLDING



What are the types of inventory?



Raw materials



Finished goods



MRO goods



Merchandise



Transit
inventory

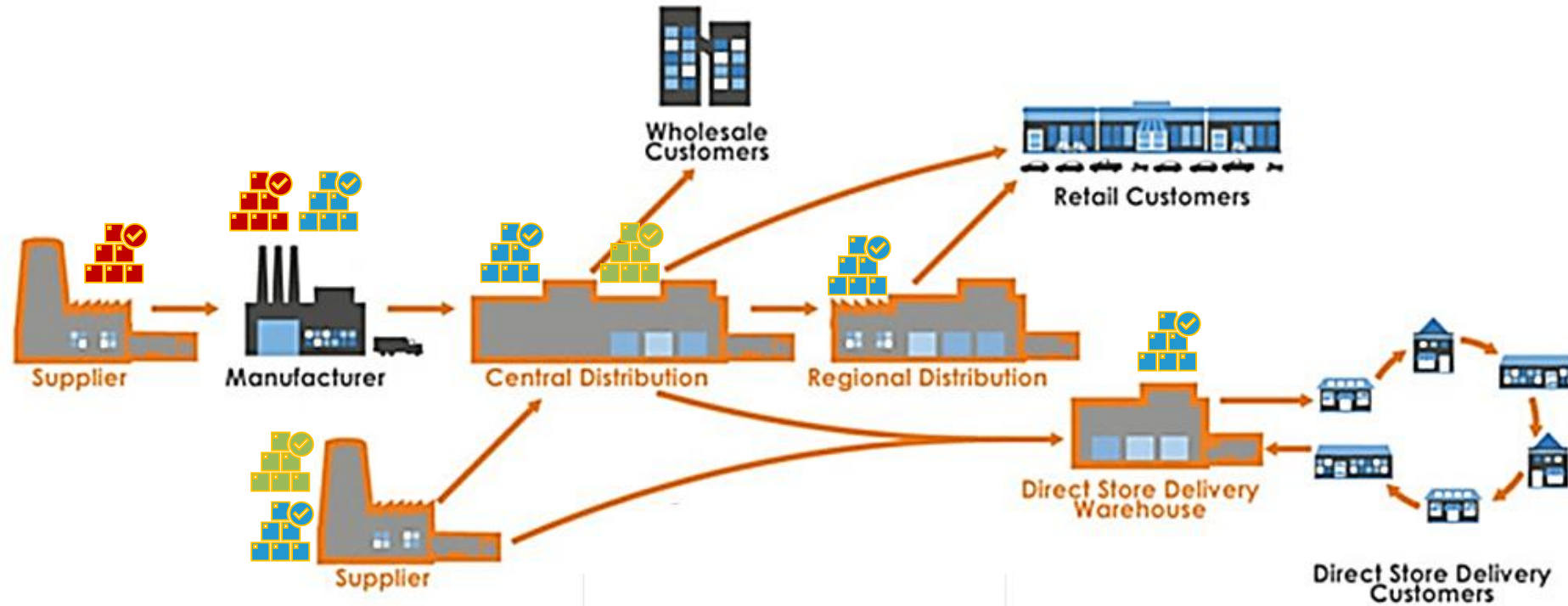


Anticipation
inventory



Consumables

Where is your inventory?



There is your money!

WHAT IF....

A factory manager in a facility where the product was packaged in big bags holding 50 pounds. – One of his responsible is to manage a special warehouse that was filled to the ceiling with empty 50-pound bags. – When the new SCM director come to visit the warehouse, he asked, *"how long will this supply of bags last?"* - Then the factory manager thought for a moment. And then he replied, *"We've got enough bags to last for about three years."* - The new SCM director then asked again,

"Do you think this is the right amount of inventory for this supply?"



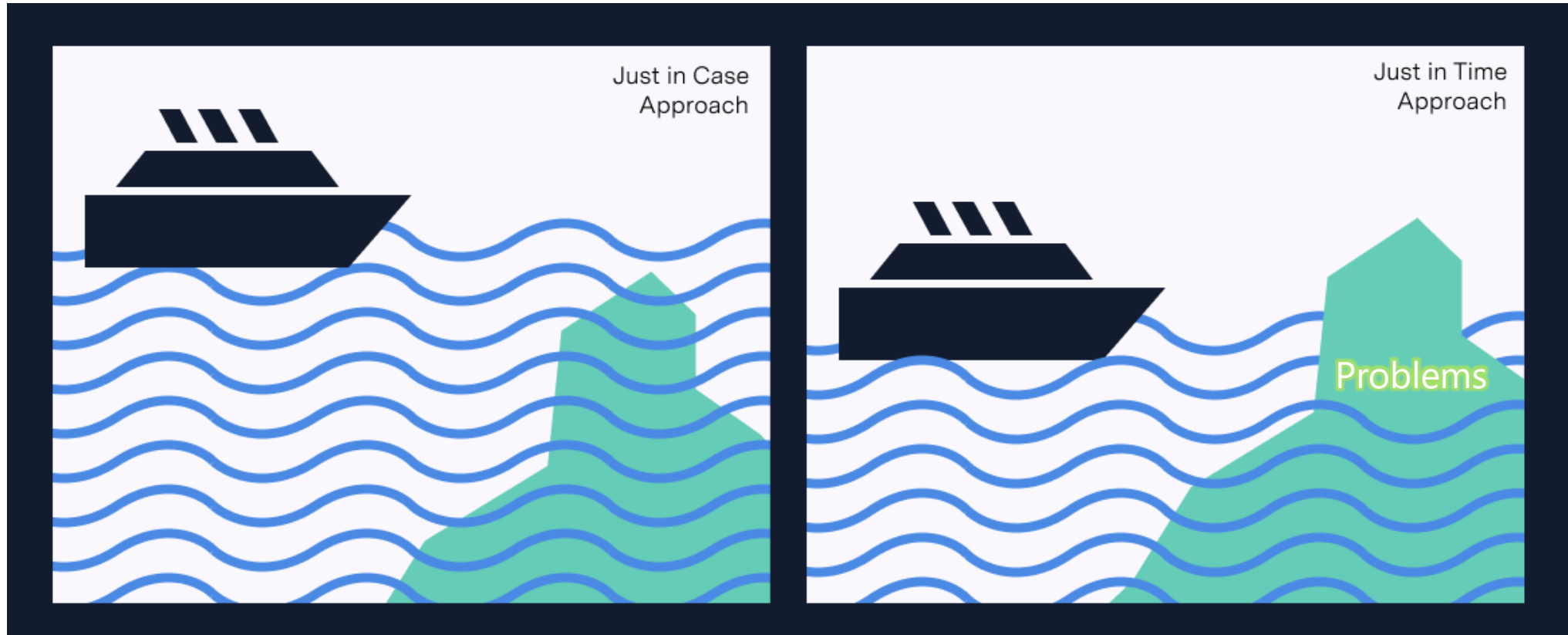
Understand inventory

Having enough, but not too much.

The key to inventory management is to plan, coordinate and control every aspect of the inventory to maintain the right amount of inventory that allows you to satisfy your customer as much as possible, but also to reduce costs as much as possible.



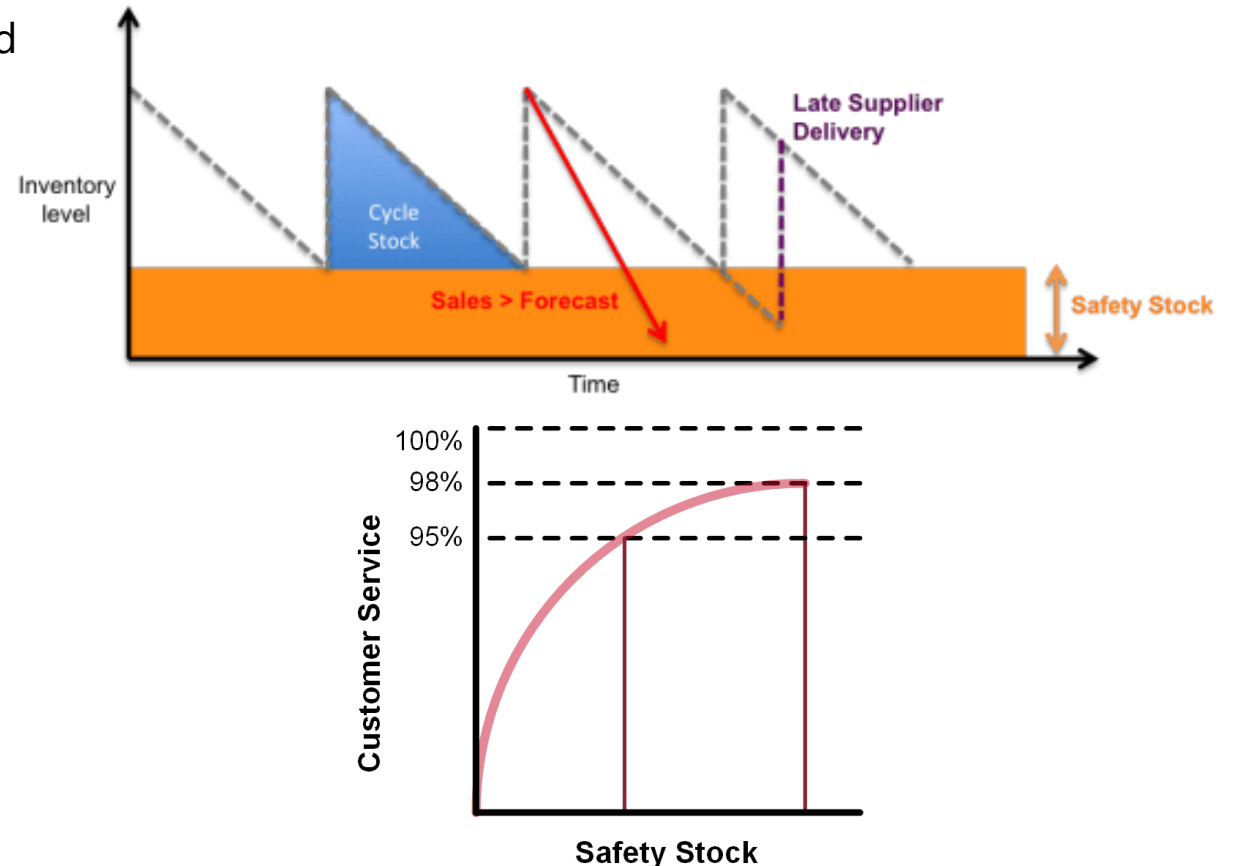
From Just-in-Case to Just-in-Time



*"The more inventory a company has, the less likely they will have what they need." - **Taiichi Ohno***

Safety stock

- Inventory retained to protect against demand and lead time variations.
- Set target frequency; $\pm$ this frequency should be reviewed regularly.
- Methods for setting level: fixed amount, coverage, statistical.
- Need to balance cost of safety stock and cost of stockouts.
- To decrease: less frequent orders, less demand variability, shorter lead time, more accurate forecasts.
- Organizational, regulatory, or industry requirements may mandate a minimum level of safety stock.



Don't cover up issues with inventory



Supply chain trends affecting inventory

**Regionalized
supply networks
& dual-sourcing
strategies**

**Digitalization
priorities to
enhance
demand &
supply planning**

**Sustainable
inventory
management**

**Circular supply
chain shifts
return
management**

Key takeaways

- Businesses create value for their customers through products & services offerings for profitability to the company & shareholders.
- Inventory is necessary to ensure ability to manage the series of rightness in order to meet customer's demand and gain competitiveness under dynamic market uncertainties.
- The Goldilocks principle for inventory management: Just enough, not too much and not too little.
- The main objectives of inventory management is to know how much to hold & when to re-stock.
- Key to successful inventory management is to balance the cost of holding inventory and the cost of stock out.
- Information system & technology leverage ability to manage inventory in many aspects



THANK YOU