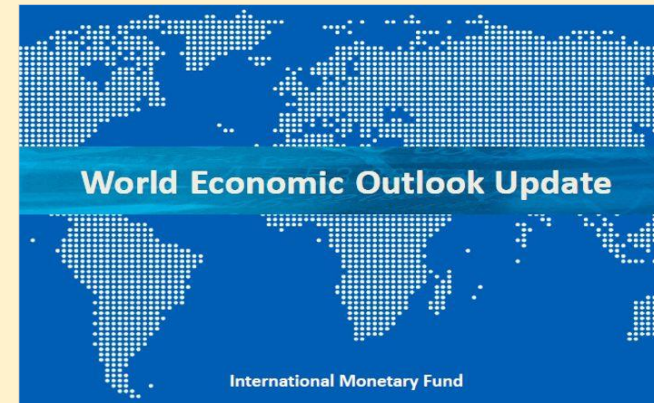


Session 1- What is Supply Chain Management?



Introduction to the Module

Learning Outcomes

- Develop a systematic understanding of the **relationship between strategic and operational** supply chain management
- Demonstrate a critical awareness of the **implications and trade-offs of strategic decisions on supply chains** and how to manage associated risks
- Demonstrate systematic understanding of the relationship between **supply chain processes** and process improvement

Indicative Outline Content

- Defining the supply chain Management
- Supply Chain Capabilities
- Matching Demand and Supply
- Push vs Pull SC Strategy
- Lean vs Agile SC Strategy
- Global SC
- Outsourcing
- SC Risk Management

Let's Get to Know each other

- Tells us about yourself:
- Do you currently work in Logistics, Supply Chain?

Assessment

Assessment:

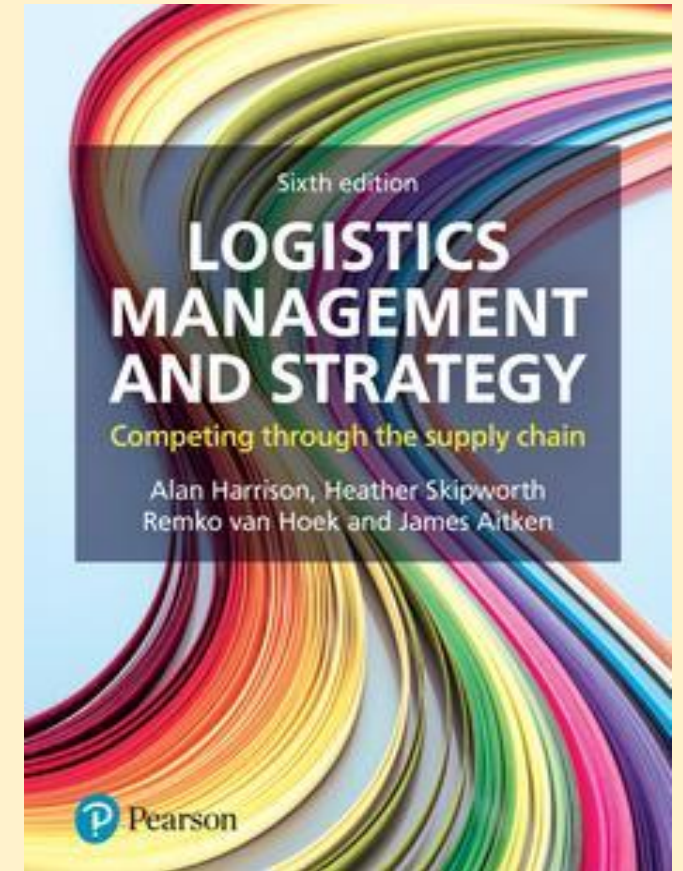
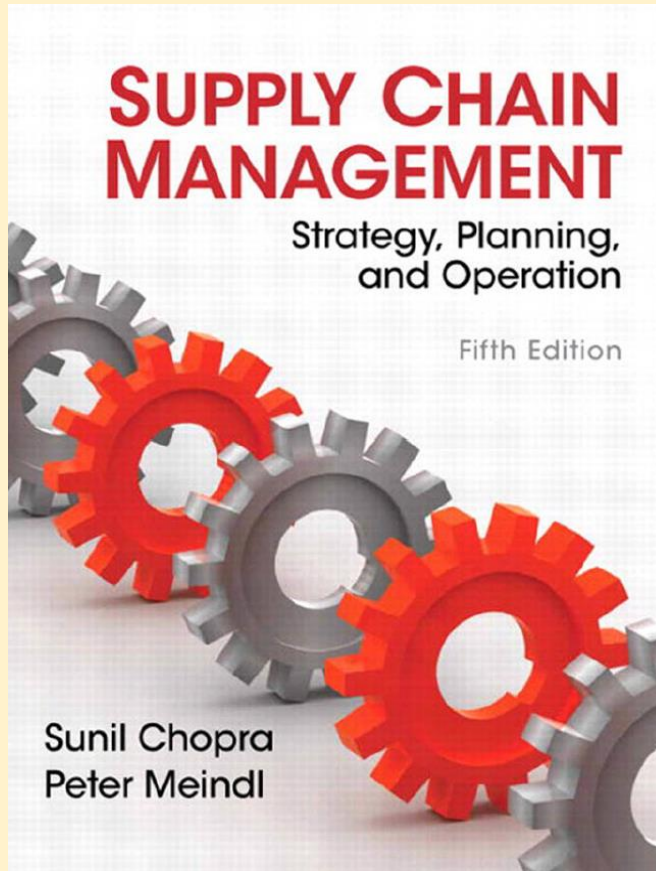
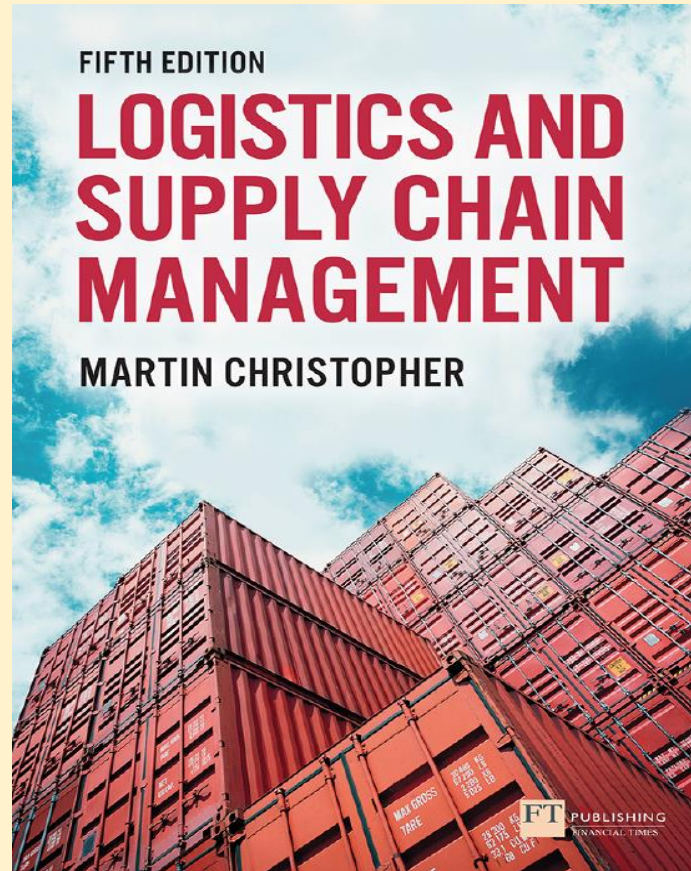
- There are two parts:

1. 010 Practical (40%)- BeerGame

2. 011 Individual Coursework - 3000 words (60%)

- Using the **case study** you will develop a written consultancy report that provides an analysis of the issue that organization faces, to establish a global supply chain strategy and showing how they could be implemented through a project plan

Key Text



Global Outlook

- Current Global Supply Chain Crisis
- Future Implications for the Global Supply Chain

IMF World Economic Outlook April 2024

WORLD ECONOMIC OUTLOOK

STEADY BUT SLOW: RESILIENCE AMID DIVERGENCE

APRIL 2024



New Disruptions, Geopolitics Hang Over 2024 Supply Chains

LOGISTICS REPORT

New Disruptions, Geopolitics Hang Over 2024 Supply Chains

Companies looking to establish resilience in the wake of the pandemic already are putting rebuilt sourcing and logistics strategies to work

By Paul Berger [Follow](#)

Updated Jan. 2, 2024 5:54 pm ET

[Share](#) [Resize](#)

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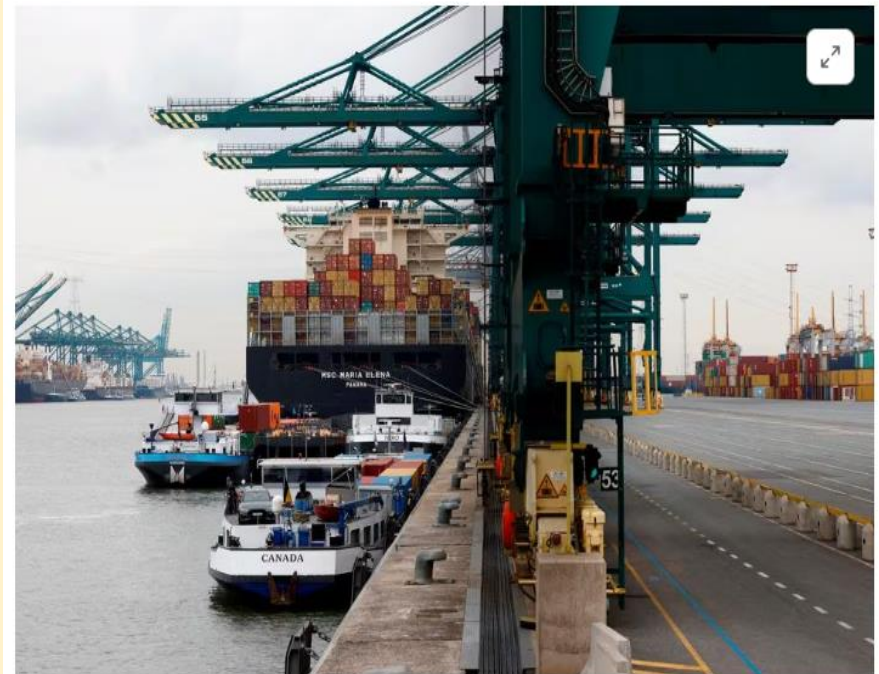


Red Sea attacks force rerouting of vessels, disrupting supply chains

By John Davison and Phil Stewart

December 18, 2023 2:19 PM GMT-4 · Updated 21 days ago

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[1/2] Containers are seen stacked up on the container ship MSC Maria Elena at the port of Antwerp, Belgium September 23, 2022. REUTERS/Yves Herman/File Photo [Acquire Licensing Rights](#)

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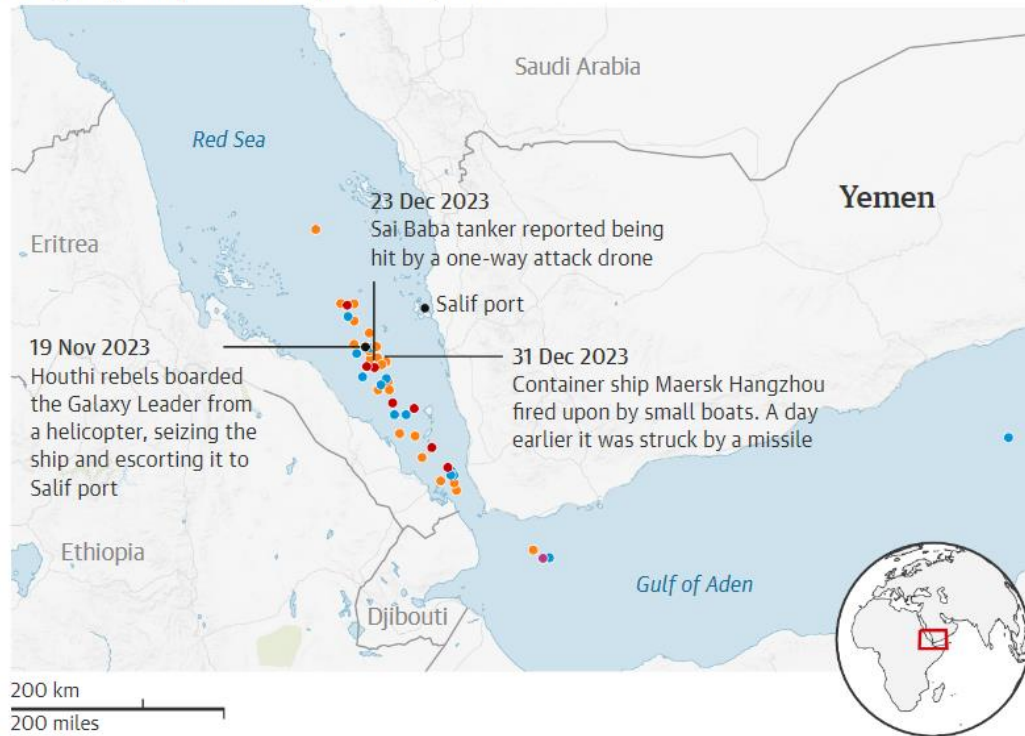
The Suez Canal



The Red Sea crisis, and what does it mean for global trade

Reported incidents in the Red Sea and Gulf of Aden, 25 November 2023 - 1 January 2024

- Seizure
- Boarding
- Physical damage
- Suspicious approach
- Sighting of suspicious vessel, drone or explosion



Guardian graphic. Source: Ambrey Analytics

Houthis extend attacks on shipping to wider Indian Ocean

Maritime experts see new round of threats from Yemen after drone strike on container vessel



Red Sea Crisis and implications for trade facilitation in Africa | UNCTAD (2024)



Red Sea crisis boosts shipping costs, delays – and inflation worries | CNBC



<https://youtu.be/TmgKrcY15Y0?si=xZcUWYx3YjrKyjWb>

Suez Canal at risk: What shippers should know to mitigate disruption

LOGISTICS REWIRED: NAVIGATING THE SUEZ CANAL FALLOUT

Asia → US East Coast transit times for future departures via the Cape are 10 days (40%) longer than the Panama Canal and 5 days (18%) longer than the Suez Canal



Route	Distance (nautical miles)	Expected Transit Time (days)*
LA + Rail	8,500	25-30
via Panama	11,000	35-45**
via Suez	13,000	35-40
via Cape	15,000	40-44

** Transit time could have higher variance given slot restrictions

* Actual distance traveled and transit times will vary depending on intermediate ports, weather conditions, and vessel speed

Sources: Alphaliner, Flexport

Supply chain trends 2024: The digital shake-up | KPMG

Supply chain trends 2024: The digital shake-up

With digital opportunities sweeping the supply chain landscape, readiness and line of sight will be paramount to success



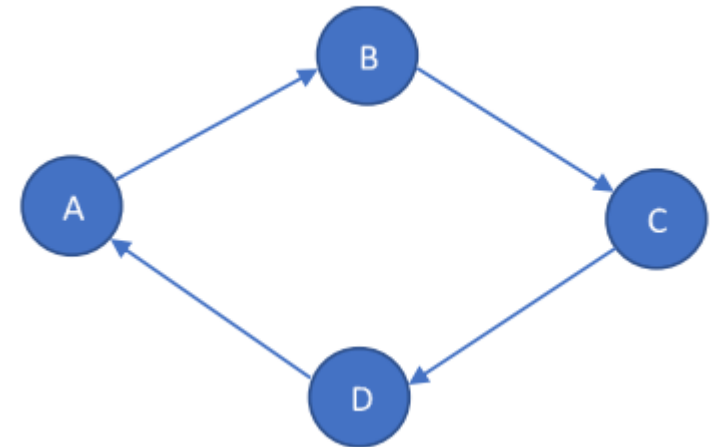
Ripple effect and Supply Chain Disruption

- The ripple effect occurs when a disruption propagates through the SC,
- Rather than remaining localized or being contained to one part of the SC
- Cascades downstream and impacts the performance of the entire SC

Disruptions Occurring in Circular Flows of a Supply Chain Network

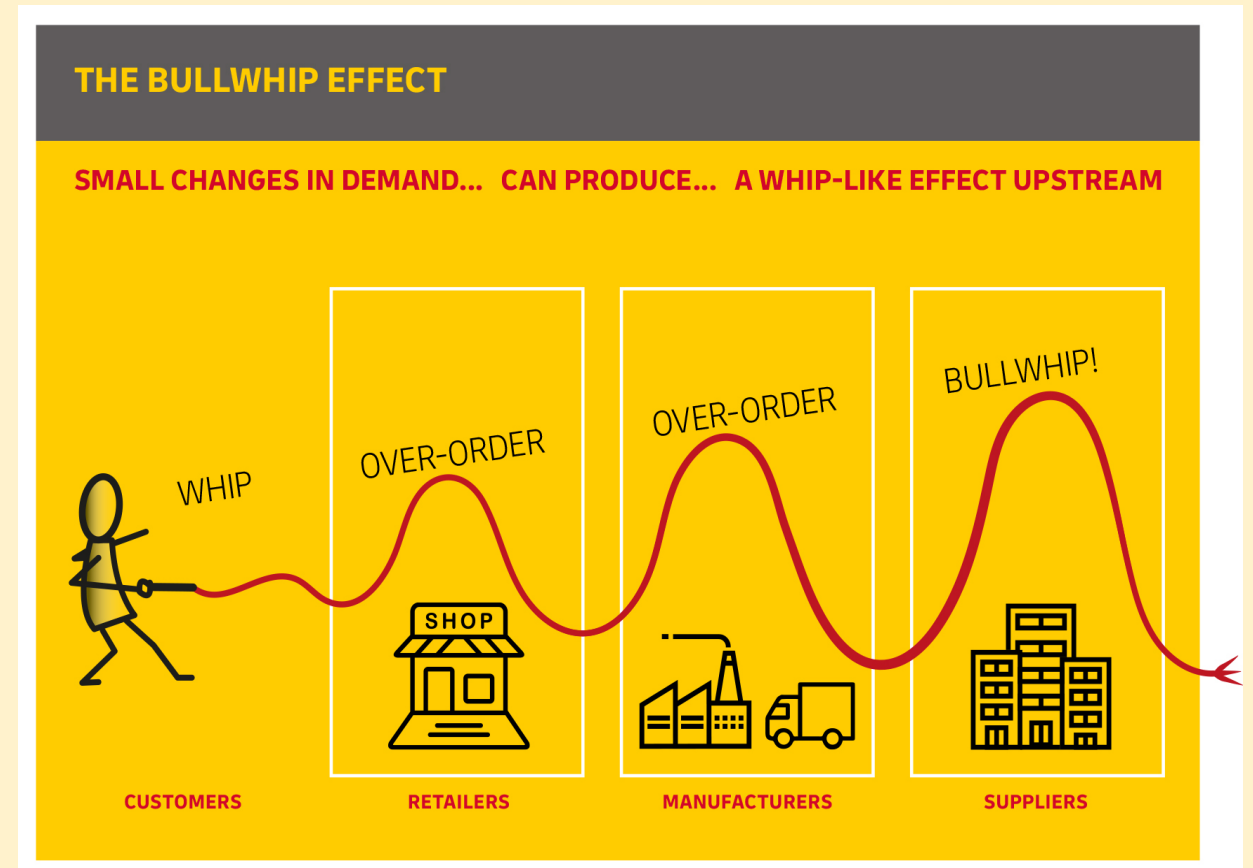
- Circular flows exist in real world supply chains but are often unknown or hidden to supply chain managers.
- These circular flows exist **when a Tier 2 supplier is also a Tier 3 (or higher) supplier** in the supply chain network.
- Additionally, a circular network can occur **when a supplier is also a customer** in the same network

Circular linkages example in a supply chain network



Global Supply Chain Disruptions and Inflation

- Due to the global nature of supply chains, even a relatively small demand shock to a critical sector can propagate into a larger supply/demand disruption.
- This mismatch between supply and demand puts upward pressure on prices



Policies to Boost Resilience: Insights from a Pandemic

- **Diversification:**

- Countries could diversify their suppliers of intermediate inputs internationally
- Sourcing them in more equal amounts across countries

- **Substitutability:**

- This refers to how easy it is in the production process for a producer to switch inputs from a supplier in one country with those from another country

[IMF World Economic Outlook April 2022- Global Trade and Value Chains in the Pandemic](#)

Supply chains: companies shift from 'just in time' to 'just in case'



The Big Read **Supply chains**

+ Add to myFT

Supply chains: companies shift from 'just in time' to 'just in case'

Businesses exposed by pandemic shortages and shipping bottlenecks are being forced to rethink their operations

Brooke Masters in London and **Andrew Edgecliffe-Johnson** in New York DECEMBER 20
2021

 103 

Apple Finds new Contract Manufacturers

Foxconn's biggest Chinese rival wins premium iPhone contract

Luxshare Precision has capitalised on outbreak of worker protests at Taiwanese competitor's factory



Apple to start making MacBooks in Vietnam by mid-2023

iPhone maker aims to have 'out of China' production alternatives for crucial products



Car Manufacturers diversify suppliers

Supply chains

[+ Add to myFT](#)

Carmakers quietly cut ties with China in supply chain shake-up

International groups are sourcing parts from other markets as fears rise of breakdown in relations with Beijing



TSMC diversification of its production facilities

TSMC triples Arizona chip investment to \$40bn

US president hails Taiwanese chipmaker's second plant as boost for the country's manufacturing



Chipmaker TSMC in talks with suppliers over first European plant

Company to send senior executives to Dresden early next year to discuss potential factory project in Germany

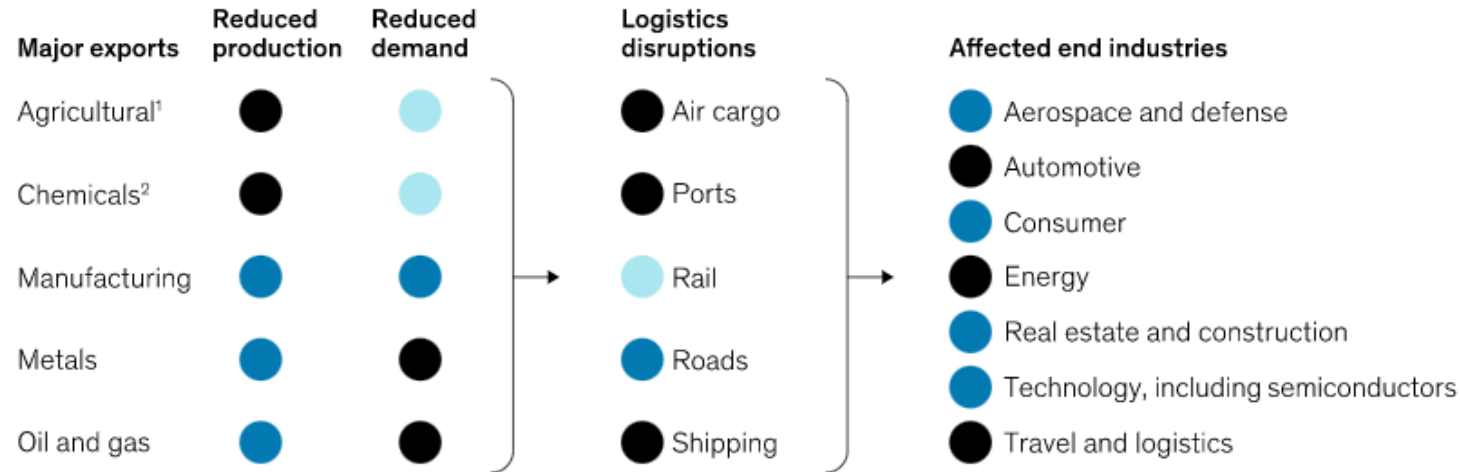


How Ukraine war impact supply chains

The Ukraine–Russia conflict is having a major impact on supply chains in five key sectors.

Major exports and potential impacts in Ukraine and Russia

- Large impact in most scenarios
- Impact in specific scenarios or regions
- Low impact in most scenarios



¹Only agricultural production, ie, crops.

²Includes agricultural chemicals and fertilizer inputs.

Source: McKinsey Resilient Operations Center

McKinsey
& Company

Is there an end in sight to supply chain disruption?

The Big Read Supply chains

+ Add to myFT

Is there an end in sight to supply chain disruption?

The delays created by the pandemic are likely to continue in 2022, say shipping industry experts



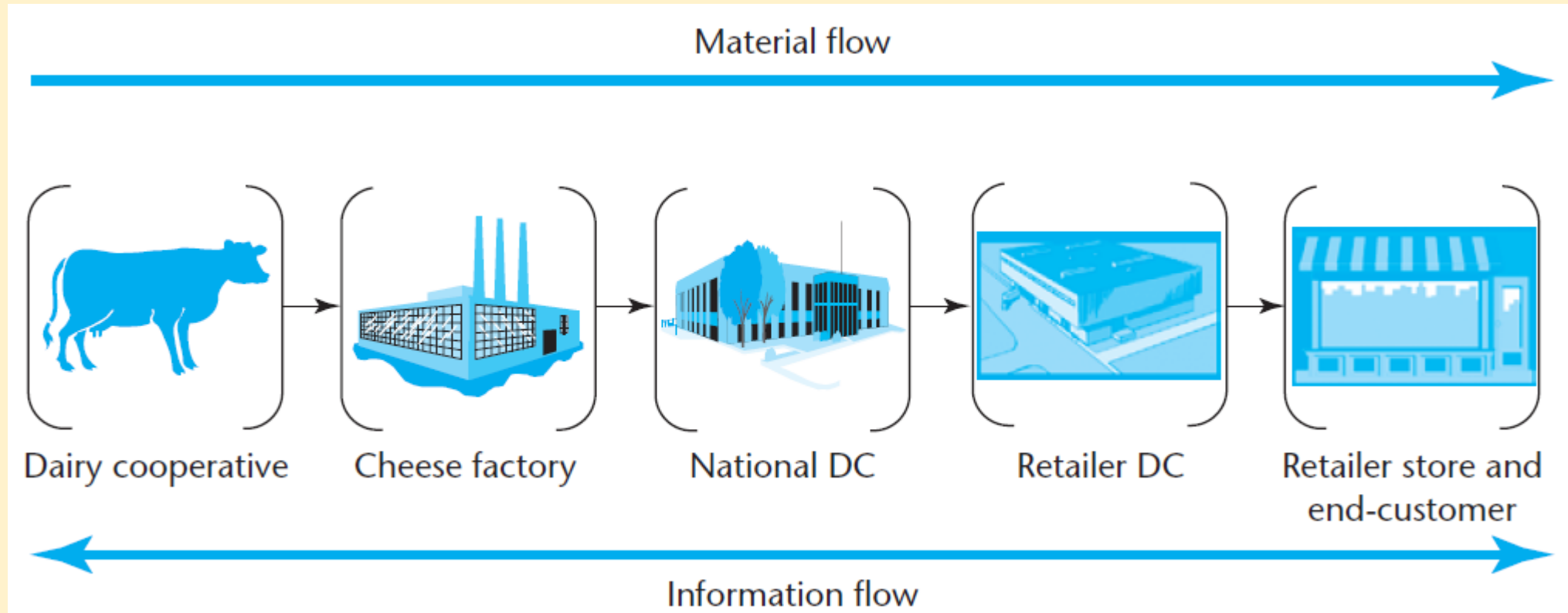
Activity: What are the Challenges for the Local SCs in 2024-25 in the context of a Changing World Economic Order and Infrastructure and Policy Direction?



- Identify some challenges
- Think of how these challenges may impact your organization

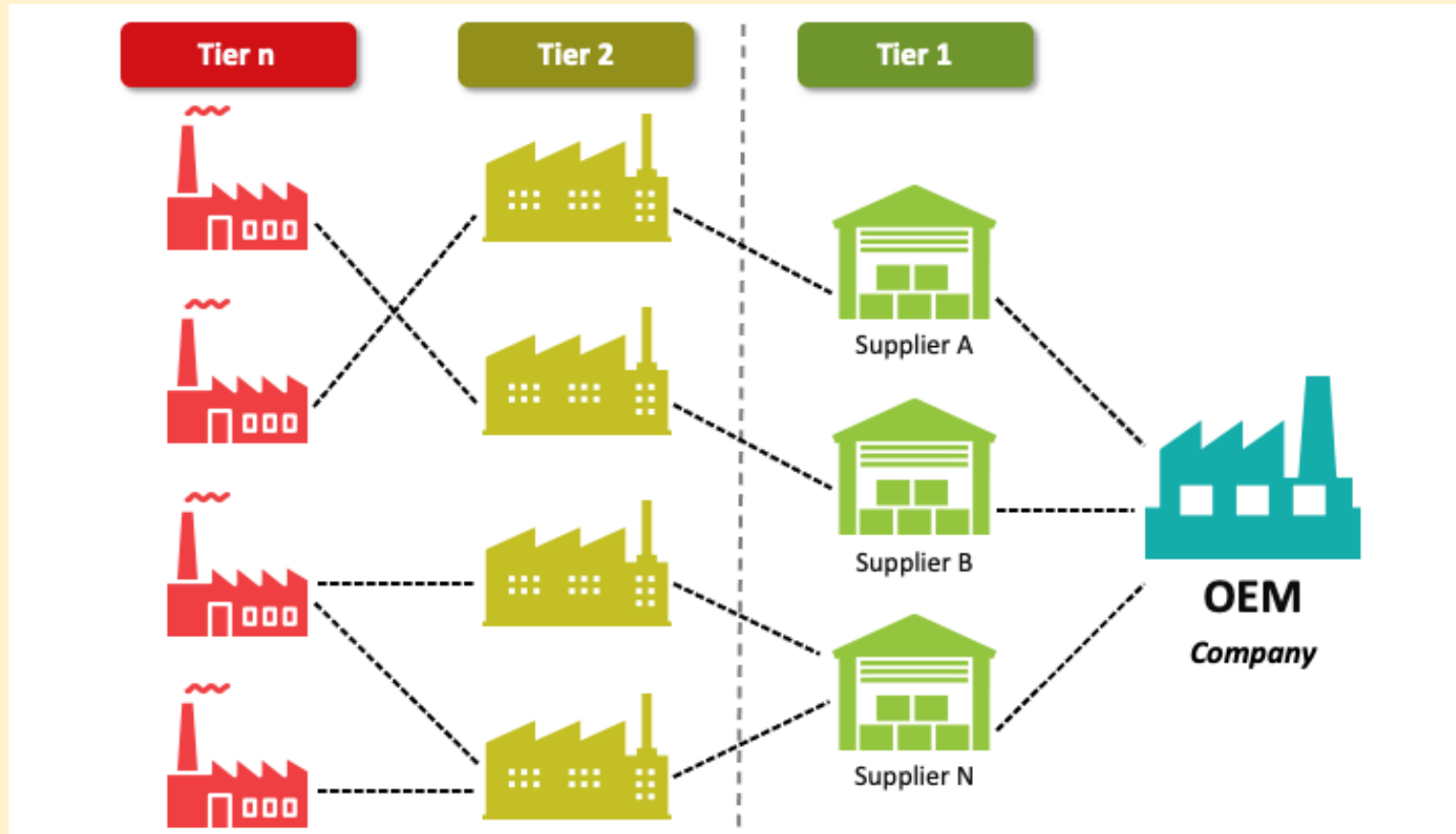
What is SCM?

Cheese: From cow to customer

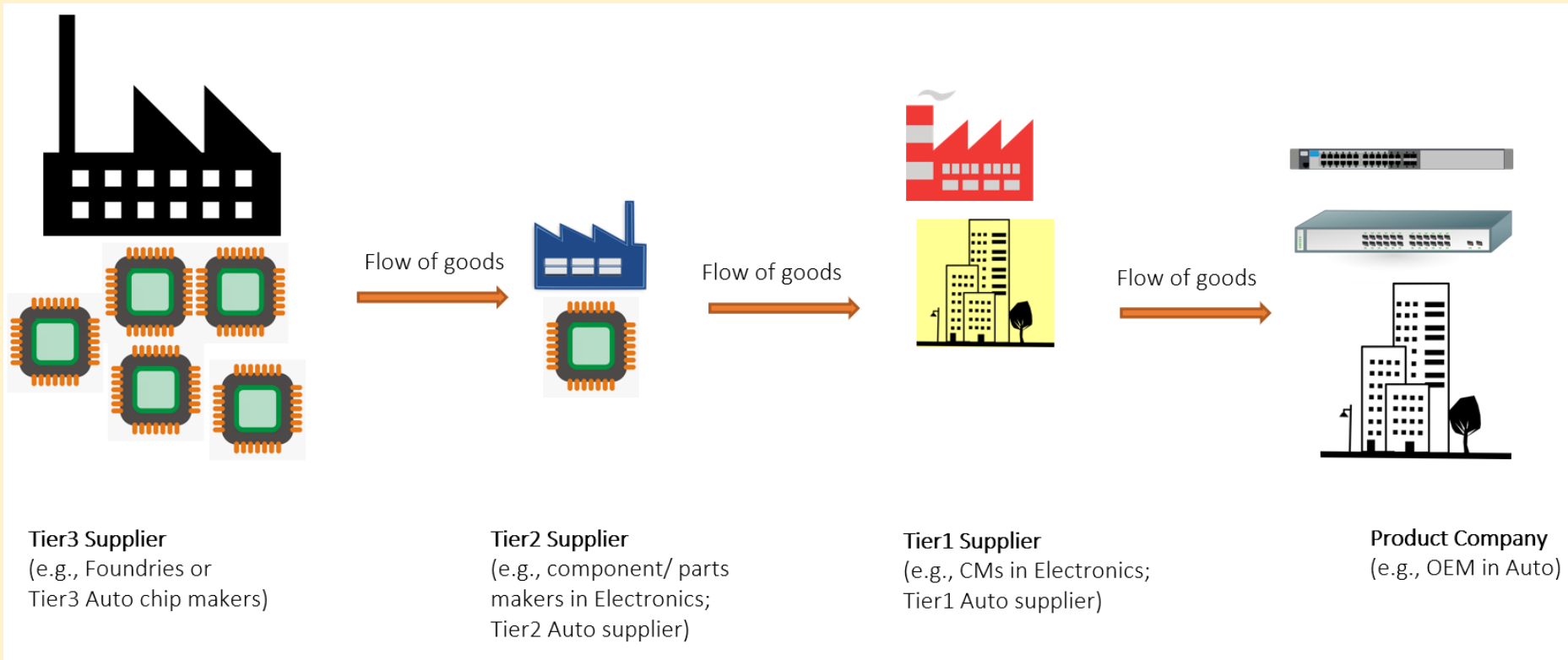


Harrison and van Hoek (2008)

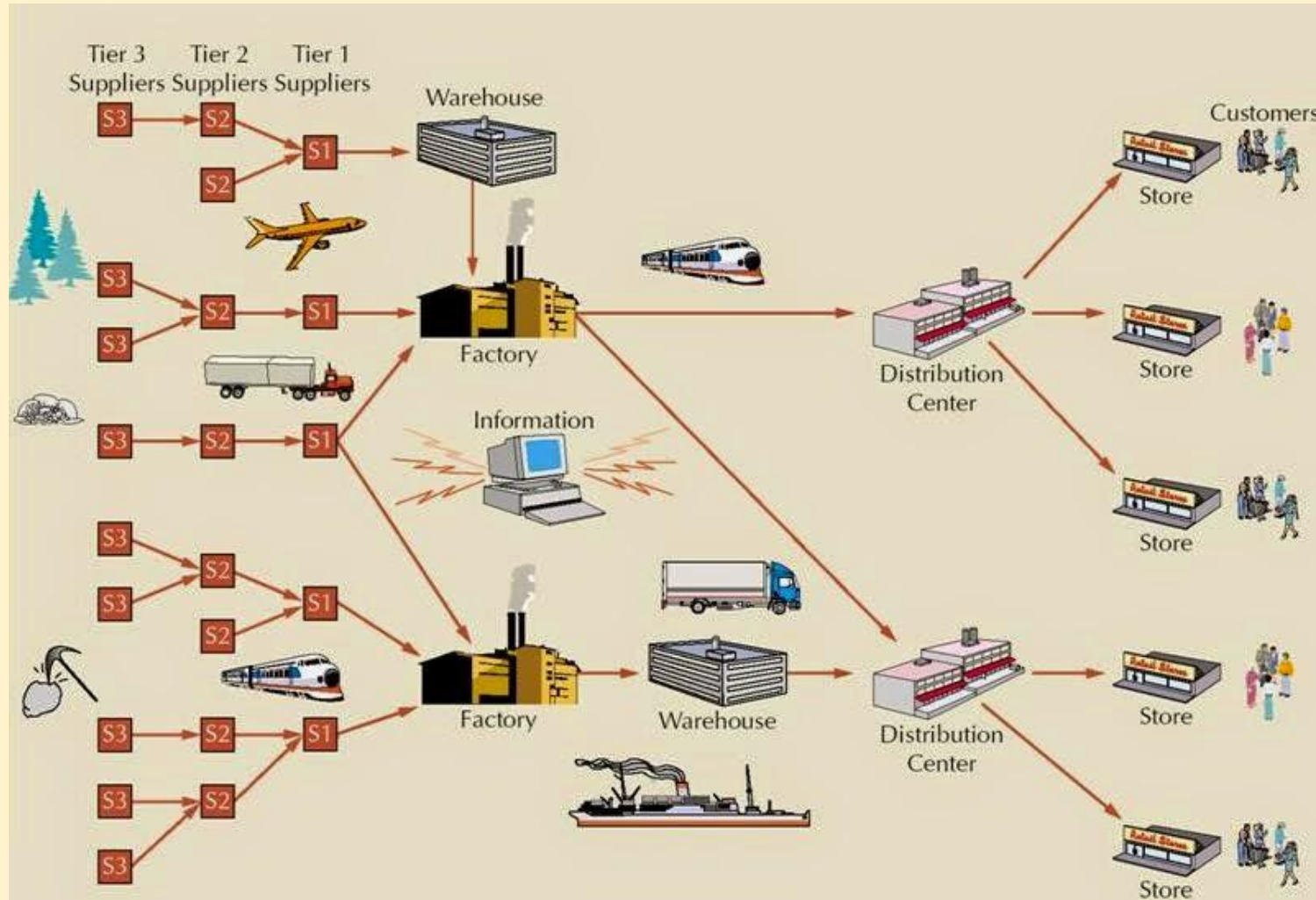
Multi-Tier Supply



Multi-Tier Supply Chain- Auto



Supply Chain Network



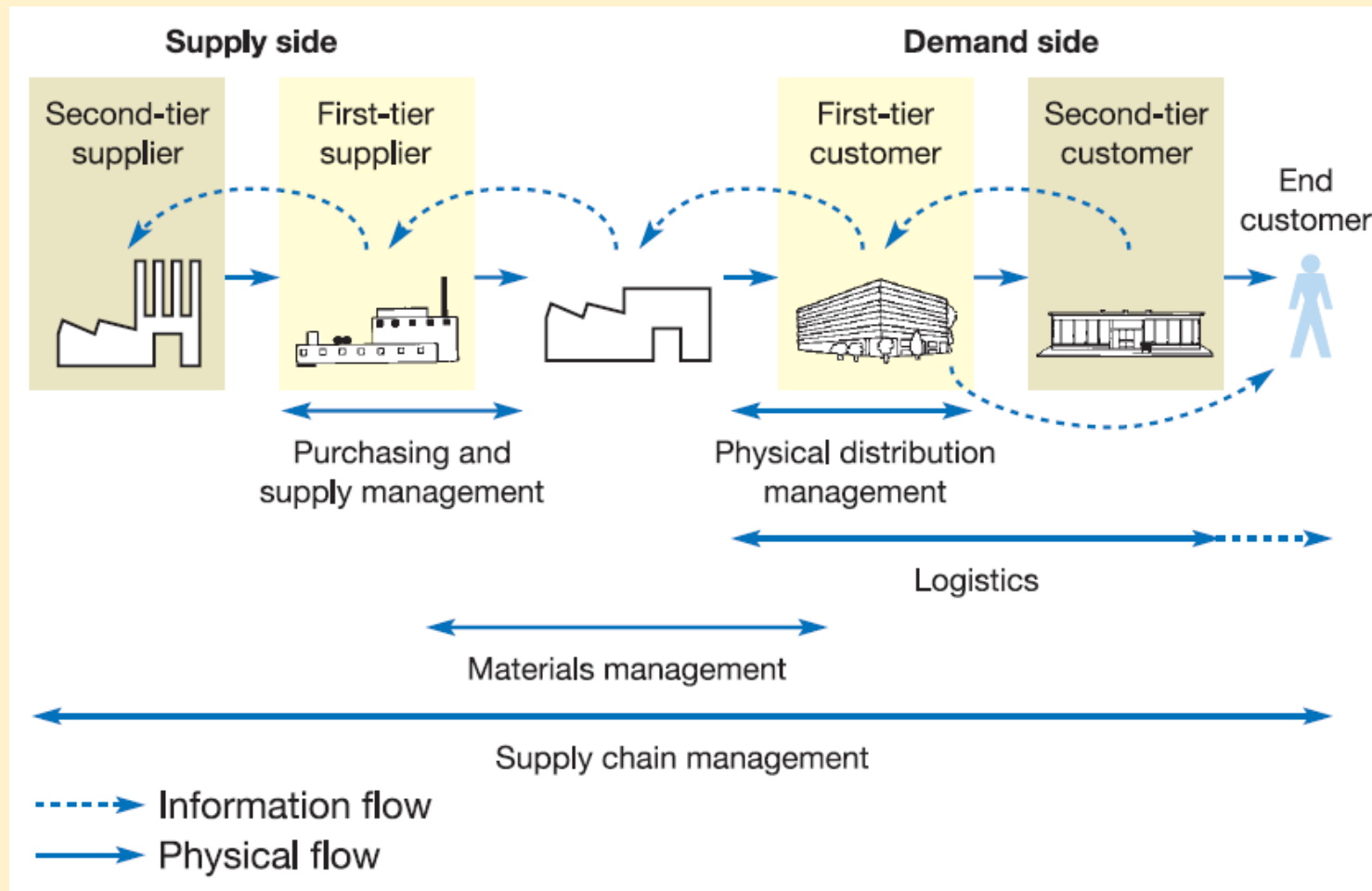
What is a Supply Chain?

- “The management of **upstream** and **downstream relationships** with suppliers and customers in order to deliver **superior customer value at less cost**.....” (Christopher, 2016, pp. 3)
- “A **network** of connected and interdependent organisations mutually and co-operatively **working together** to control manage and improve the **flow of materials and information** from suppliers to end users.” (Christopher, 2016, pp. 3)

What is a Supply Chain?

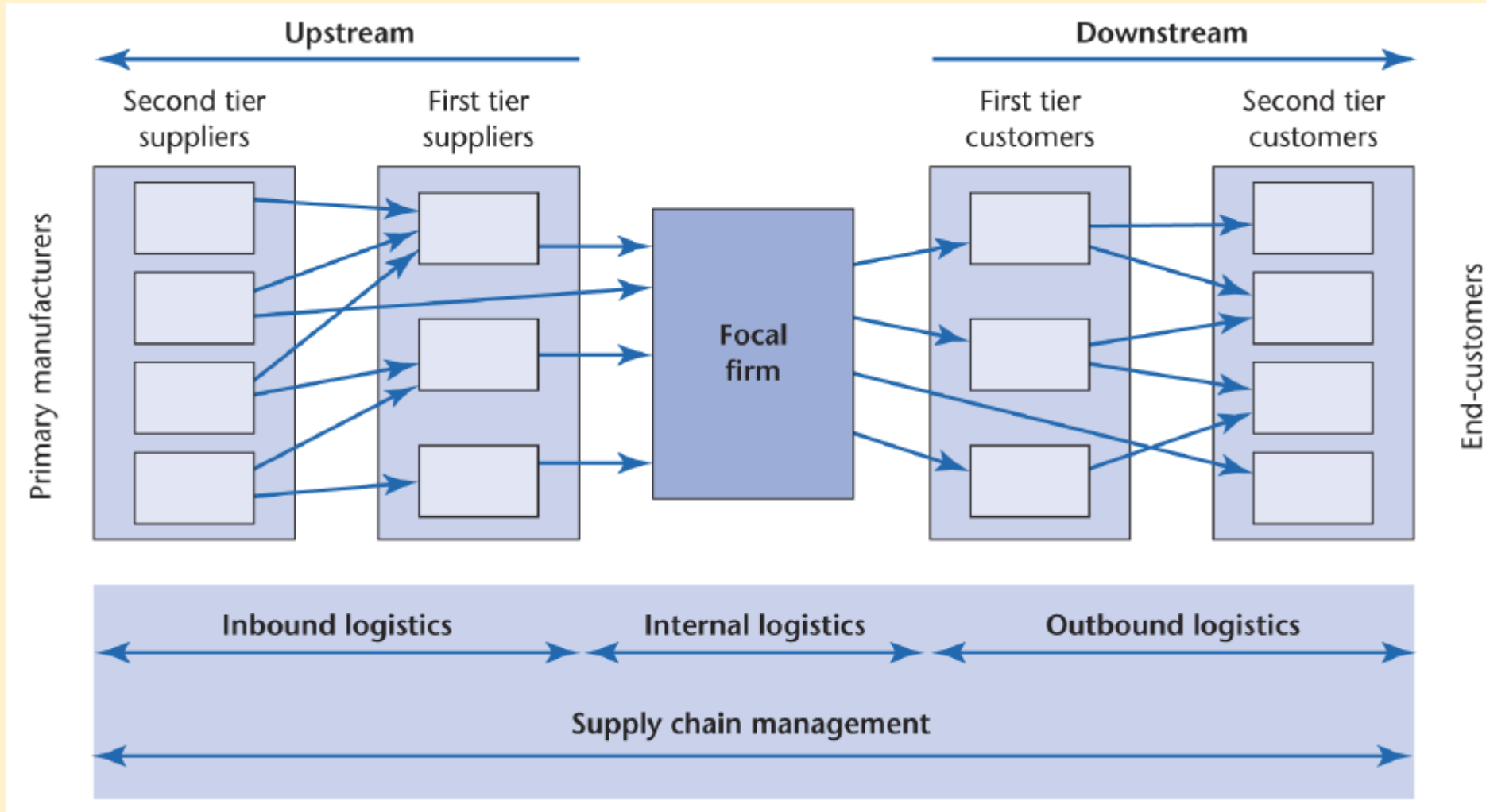
- **Customer** is an integral part of the supply chain
- Includes movement of products from suppliers to manufacturers to distributors and information, funds, and products in both directions
- May be more accurate to use the term “supply network” or “supply web”
- Typical supply chain stages: **customers, retailers, distributors, manufacturers, suppliers**
- All stages may not be present in all supply chains (e.g., no retailer or distributor for Dell)

Terms used to describe the management of different parts of the supply network



Slack et al (2013)

Supply Network

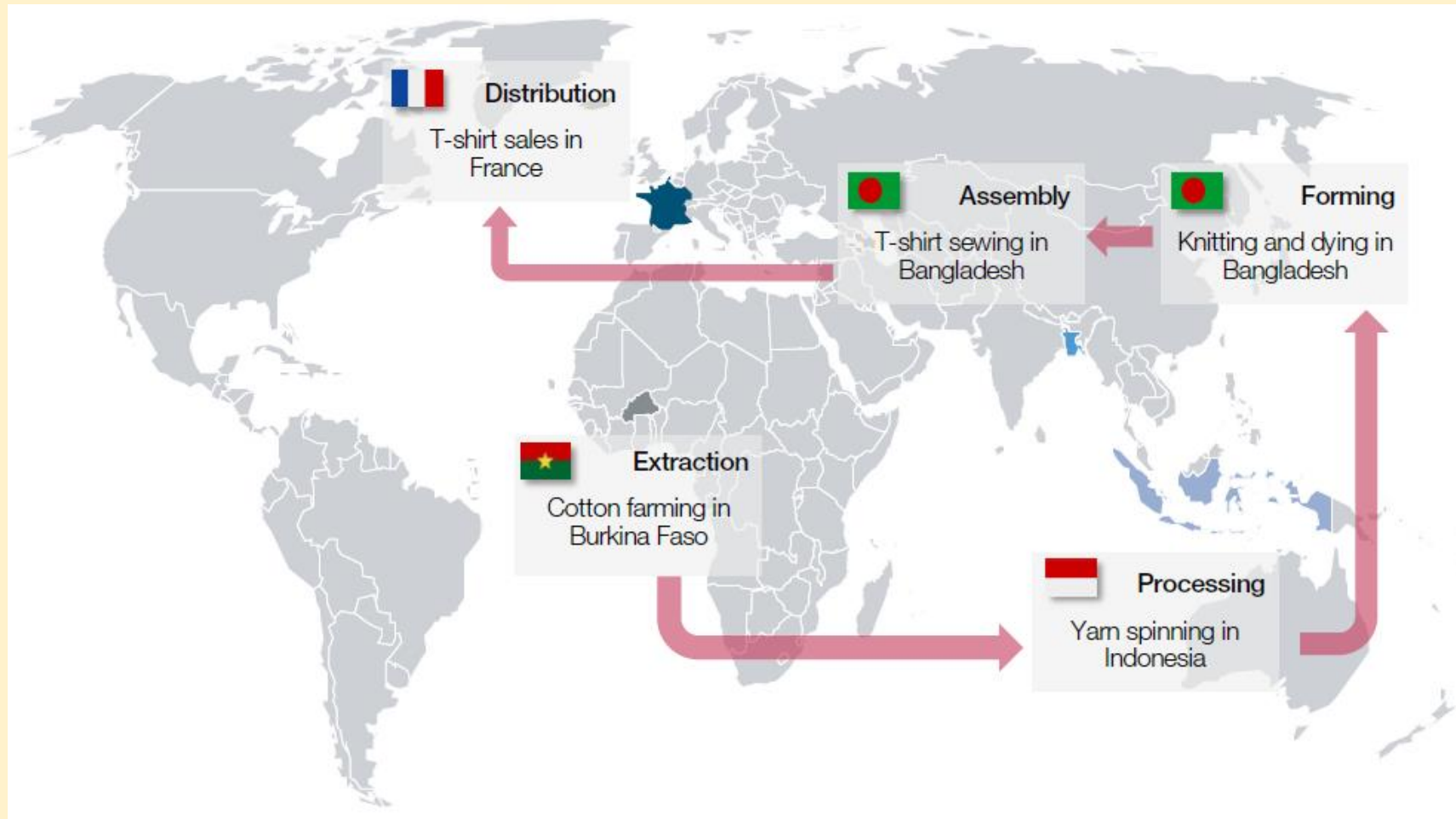


Slack et al (2013)

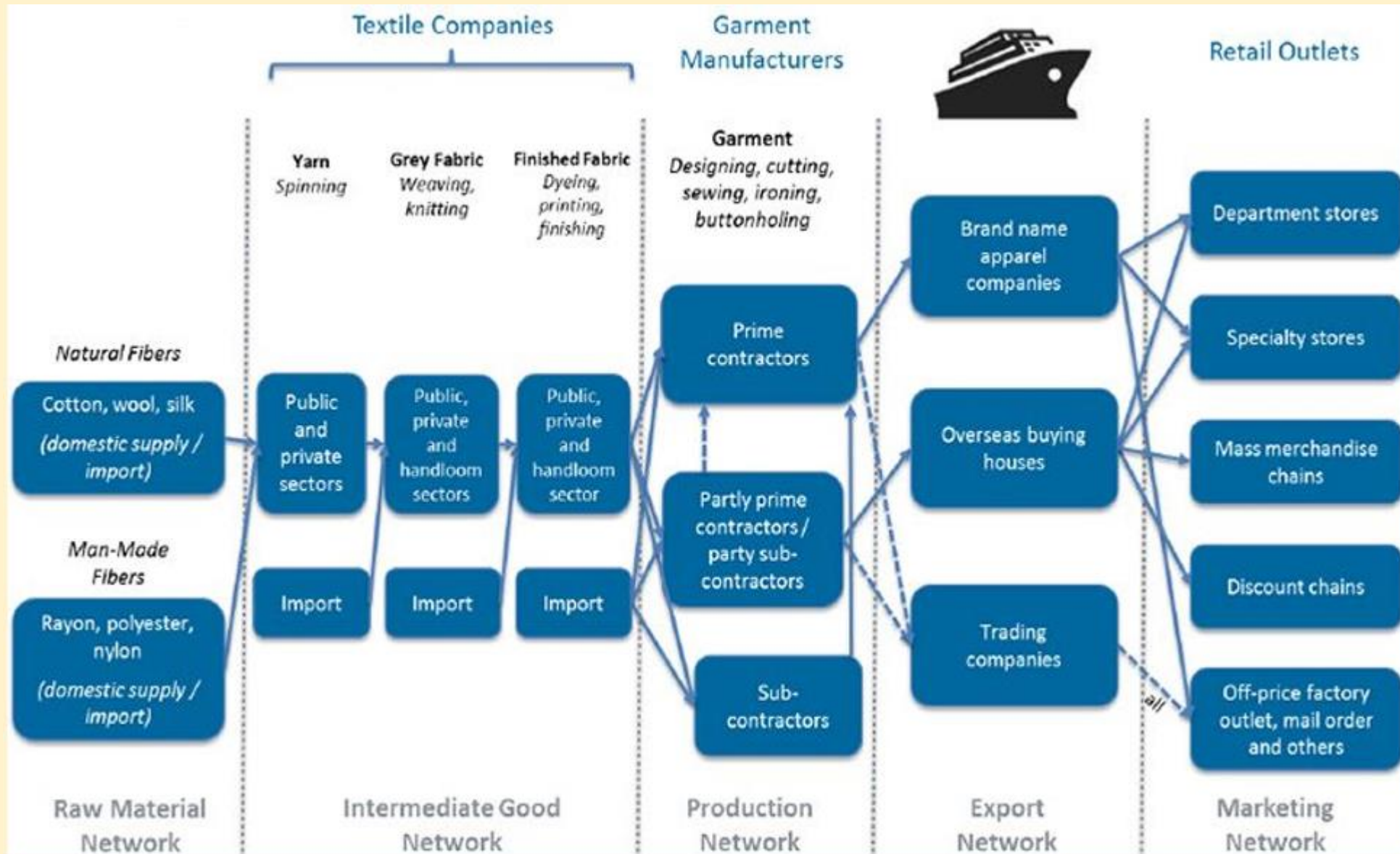
Supply Network

- The supply chain is tiered, in that inbound and outbound can be organized into groups of partners:
- **Purchasing and supply:** dealing with a focal firm's immediate suppliers (upstream).
- **Physical distribution:** the task of distributing products to tier 1 customer (downstream).
- **Inbound logistics:** links between the focal firm and its upstream suppliers.
- **Internal logistics:** planning and control of material flow within the boundaries of the focal firm.
- **Outbound logistics:** links between the focal firm and its downstream customers.

Visualization of the GVC for cotton T-shirts



Typical Supply Chain- Apparel



Supply Chain Operations Reference Model (SCOR)

Endorsed by Supply Chain Council (SCC) now Association for Supply Chain Management (APICS)

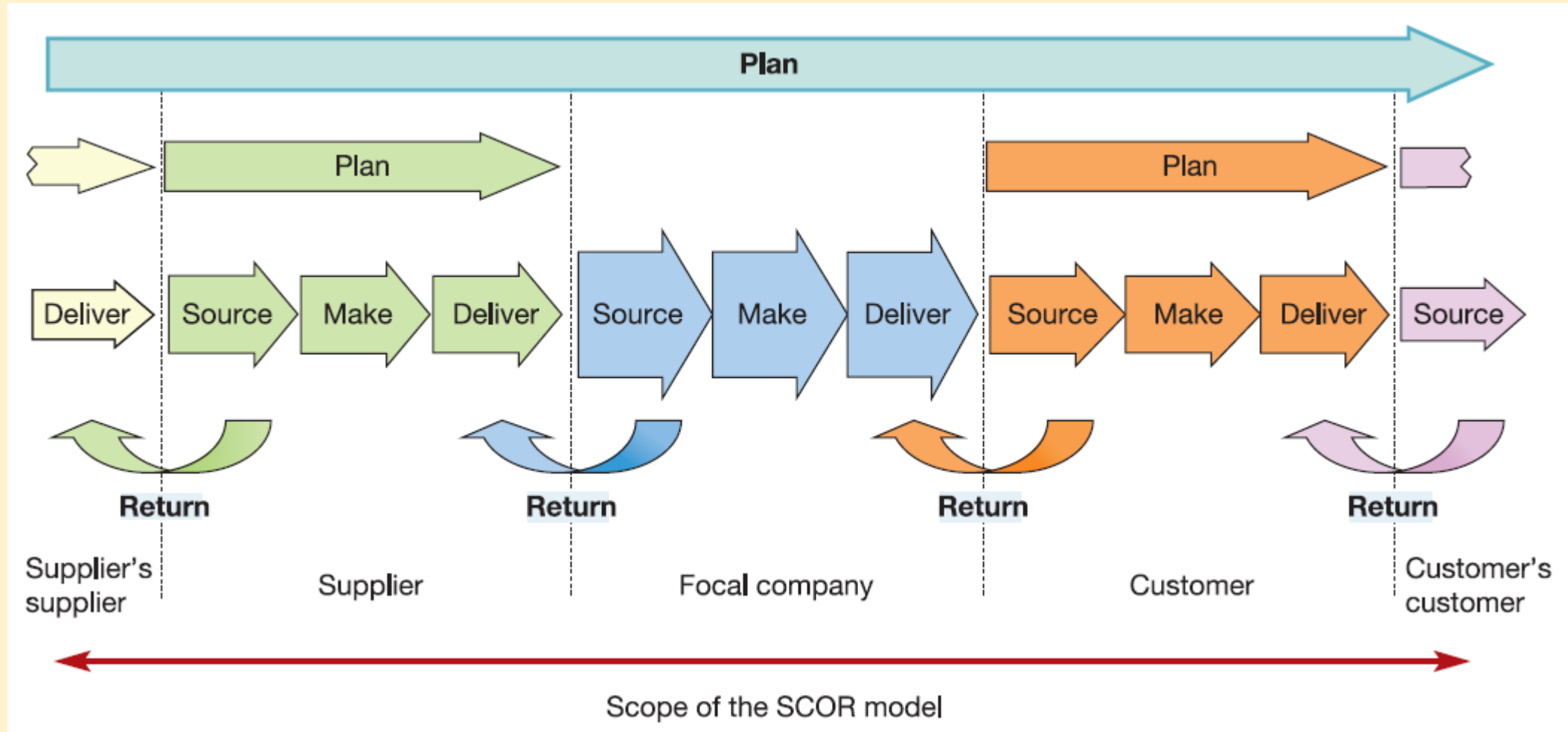


A Behind the Scenes Look at Starbucks Global Supply Chain



<https://www.youtube.com/watch?v=EIYNhGbOTOQ>

The SCOR Model



Group Activity

- Using the Apple Iphone
- In your Group- Discuss One SC Process for Apple Iphone
- Use the **SCOR model**
 - **Rm 1= Source**- where/who do they source parts from?
 - **Rm 2= Make**- where do they assemble the final product?
 - **Rm 3= Warehousing** - where are the warehouses located?
 - **Rm 4= Distribution**- what channels are used to get the product to the customer?
 - **Rm 5= Returns**- how are products returned to Apple? Do they recycle materials?

i Phone X

PARTS AND PROFITS

Key suppliers for the iPhone X

T Taiwan U U.S. S South Korea C China J Japan A Austria H Hong Kong Sw Switzerland



Sources: Companies, Bernstein Research

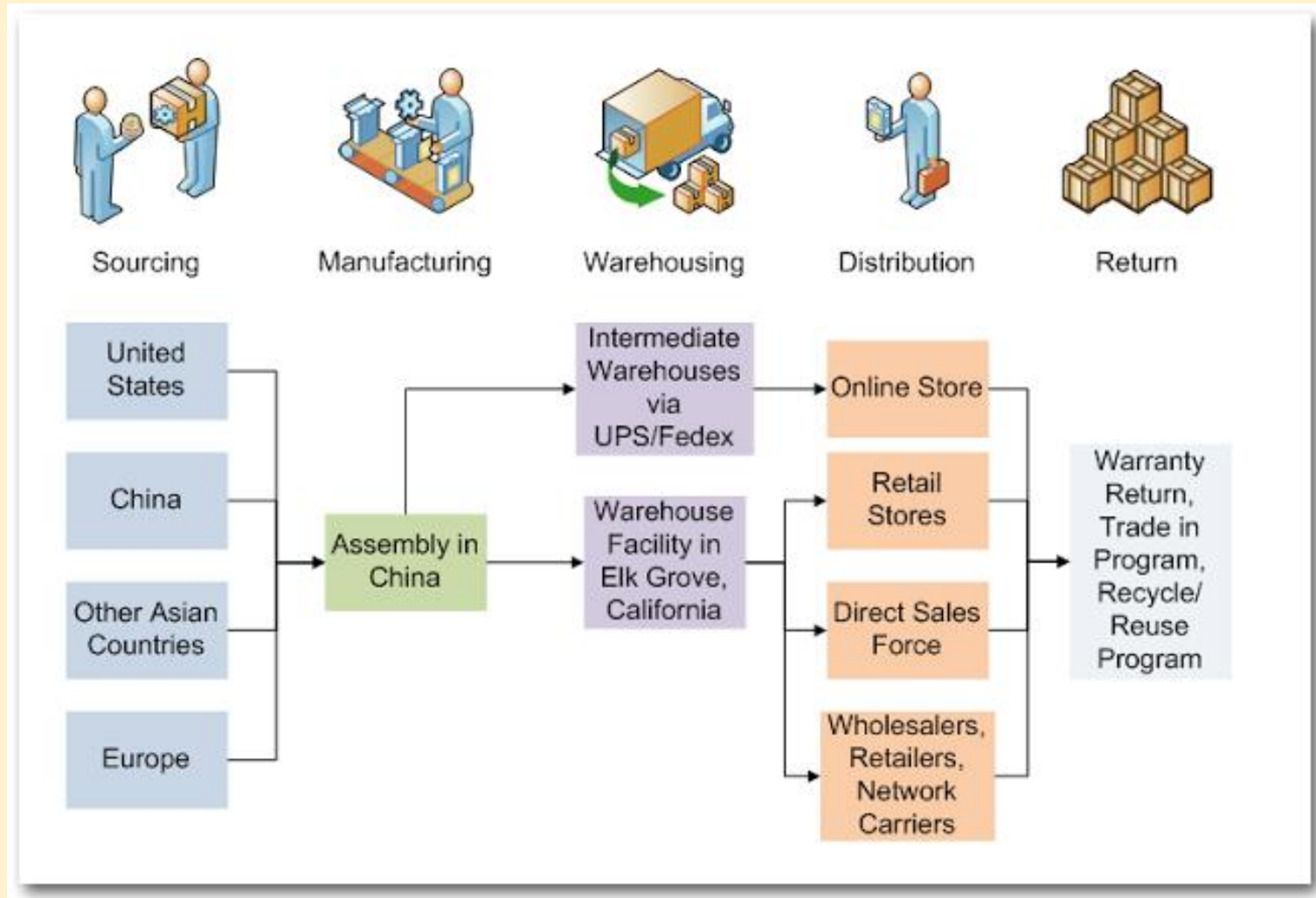
Apple accused by Congo over conflict minerals in iPhones | FT (2024)

Apple accused by Congo over conflict minerals in iPhones

Lawyers representing DRC allege Apple's products contain illegally exported minerals, despite tech company's claims of environmental and social responsibility

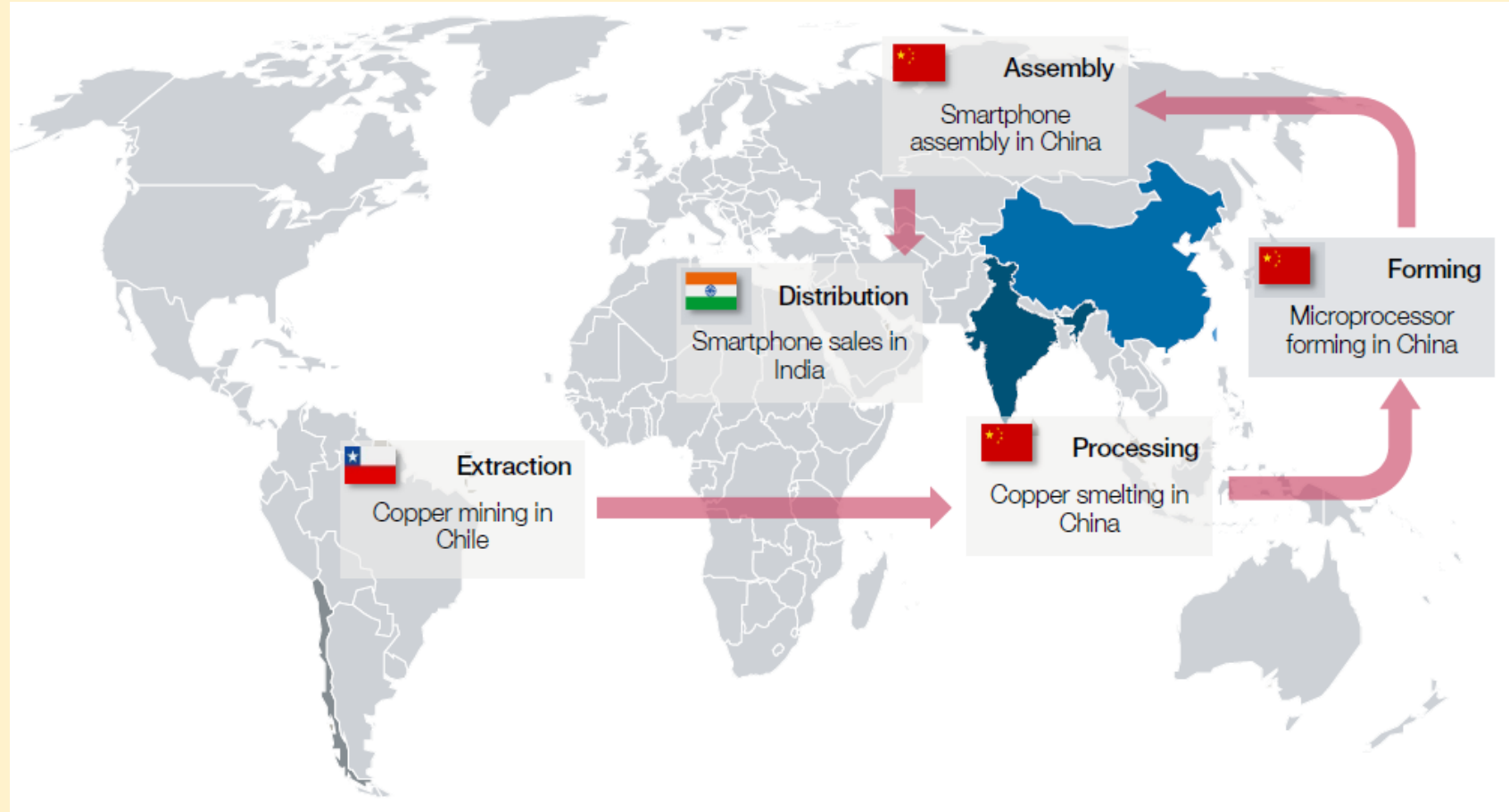


Apple's Supply Chain



https://www.supplychain247.com/photos/is_apples_supply_chain_really_the_no_1_a_case_study/1

Visualization of the GVC for smartphones



Supply chain management Defined

(CSCMP 2022)

- Encompasses the **planning and management of all activities** involved in:
 - sourcing and procurement,
 - conversion, and
 - all logistics management activities.
- Importantly, it also includes **coordination and collaboration** with:
 - channel partners, which can be suppliers, intermediaries, third party service providers, and
 - customers.
- In essence, supply chain management **integrates supply and demand management** within and across companies.

How UPS Is Using Big Data To Transform Package Deliveries | NetNet | CNBC



https://www.youtube.com/watch?v=PSNlr1EMu_I

Guiding Principles for Supply Chain Manager

- Manage the 4R's (Christopher 2016)

Responsiveness

ability to respond to customers' requirements- Agility

- Customers want shorter lead times, they are also looking for flexibility
- Must be much more demand-driven than forecast-driven

Reliability

consistently supply the right product at the required time

- Achieved through re-engineering the process
- Reducing process variability

Resilience

cope with unexpected disturbances

- Managing the critical nodes and links of a supply chain
- Importance of strategic inventory
- Selective use of spare capacity

Relationships

management of relationships across complex networks of companies

- Seeking mutually beneficial, long-term relationships with suppliers
- Search for win-win solutions based upon mutuality and trust
- Integrate planning of production and deliveries