

Global Supply Chain Management

Lesson 14

– wrap it up

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Syllabus – Book – and so on

Context of SCM & “Flows”	Module 1: <i>Introduction to Logistics and Supply Chain Management (GP)</i>	Module 2: <i>The global context of logistics and supply chain management (GP)</i>	Module 3: <i>Integration, collaboration and SCM (GP)</i>
Business Functions	Module 4: <i>Global Production in the Supply Chain (GP)</i>	Module 5: <i>Inventory Management Planning and Control(HJS)</i>	Module 6: <i>Outsourcing Offshoring and Procurement (HJS)</i>
Specific Functions	Module 7: <i>Management of International Sales and Good flows (HJS)</i>	Module 8: <i>Distribution systems and after sales in the supply chain (HJS)</i>	Module 9: <i>Logistics Planning and design: Warehousing & Material M. (HJS)</i>
The General Design	Module 10: <i>Logistics Planning and design: Transport and Logistics Services (HJS)</i>	Module 12: <i>Digitization and Digitalization in the Supply Chain (GP)</i>	Module 13: <i>SC strategies and configurations for globalization - Summarizing (GP)</i>
	Module 11: <i>„Get prepared for the exam“</i>	Module 14: <i>Contemporary Issues in Logistics and SCM Recap of the course</i>	

Module	Key terms/contents/ problems/concepts STATED AS QUESTION	Some of <u>your</u> key messages and learnings	Related Tools and Methods to apply
Lecture: "#1 Introduction to Logistics and Supply Chain Management"			
Lecture: "#2 The global context of logistics and supply chain management"			
Lecture: "#3 Integration, collaboration and SCM"			
Lecture: "#4 Production planning and design"			
Lecture: "#5 "Logistics planning and design: Inventory Management"			

Module	Key terms/contents/ problems/concepts STATED AS QUESTION	Some of <u>your</u> key messages and learnings	Related Tools and Methods to apply
Lecture 6: “Outsourcing, Offshoring and Procurement in the Supply Chain”			
Lecture: “#7 “Management of International Sales and Goods Flows ”			
Lecture: “#8 “Distribution systems and service supply chains”			
Lecture: “# 9 “Logistics Planning and design: Warehousing & Material M.”			

	Key terms/contents/ problems/concepts STATED AS QUESTION	Some of <u>your</u> key messages and learnings	Related Tools and Methods to apply
Lecture 10 “Logistics Planning and design: Transport and Logistics Services”			
Lecture: “#12 Digitization and Digitalization in the Supply Chain			
Lecture: “#13 Supply chain strategies and configurations for globalisation”			
Lecture # 14 Beyond?			

Key learning points: Session 1: Introduction to logistics and supply chain management

Content:

- An introduction to the course
- The evolution of logistics and scm
- Key logistics activities and components
- The grand purpose of supply chain management

Main issues: SCManagement

- System/flow/network thinking in logistics and scm
- Functional vs. holistic view
- Footprints of modern logistics/SCM

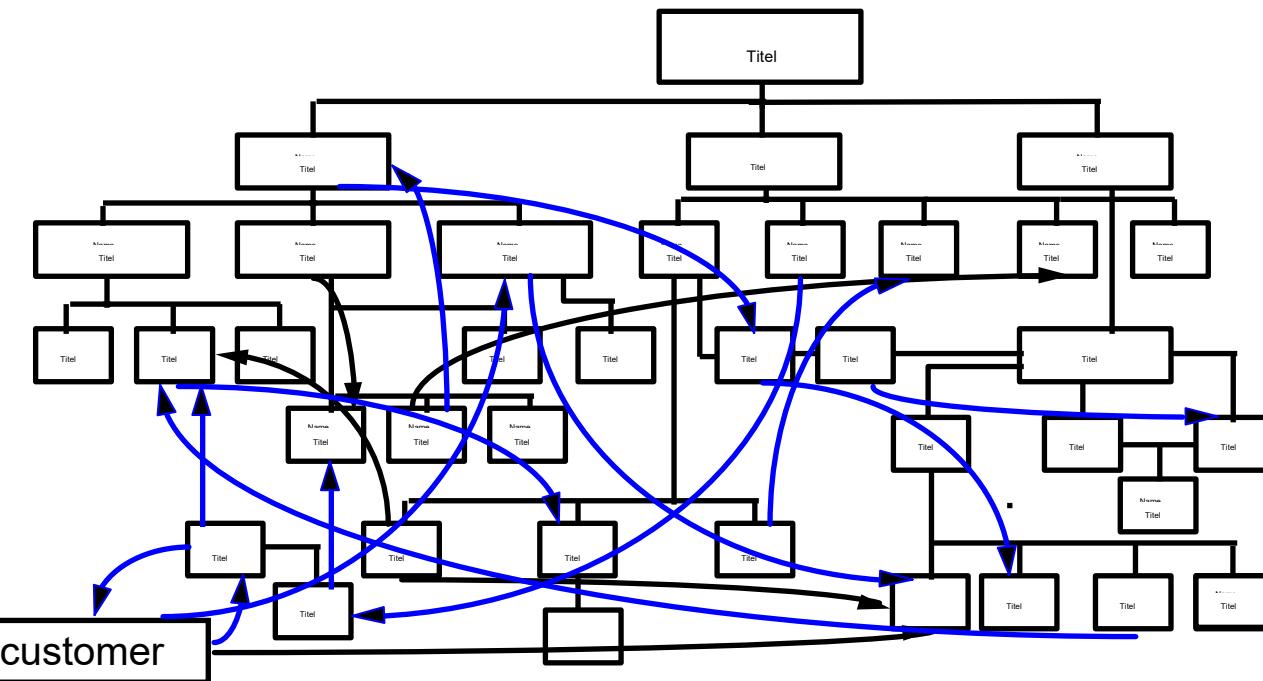
Literature:

- Kopczak, L. R. and Johnson, M. Eric (2003): The Supply-Chain management effect. MIT Sloan Management Review, Vol. 44, No. 3, pp. 27-34.
- Bowersox, Donald (2007): SCM: The past is prologue, in: CSCMP's Supply Chain Quarterly, 2/2007, pp. 1-7

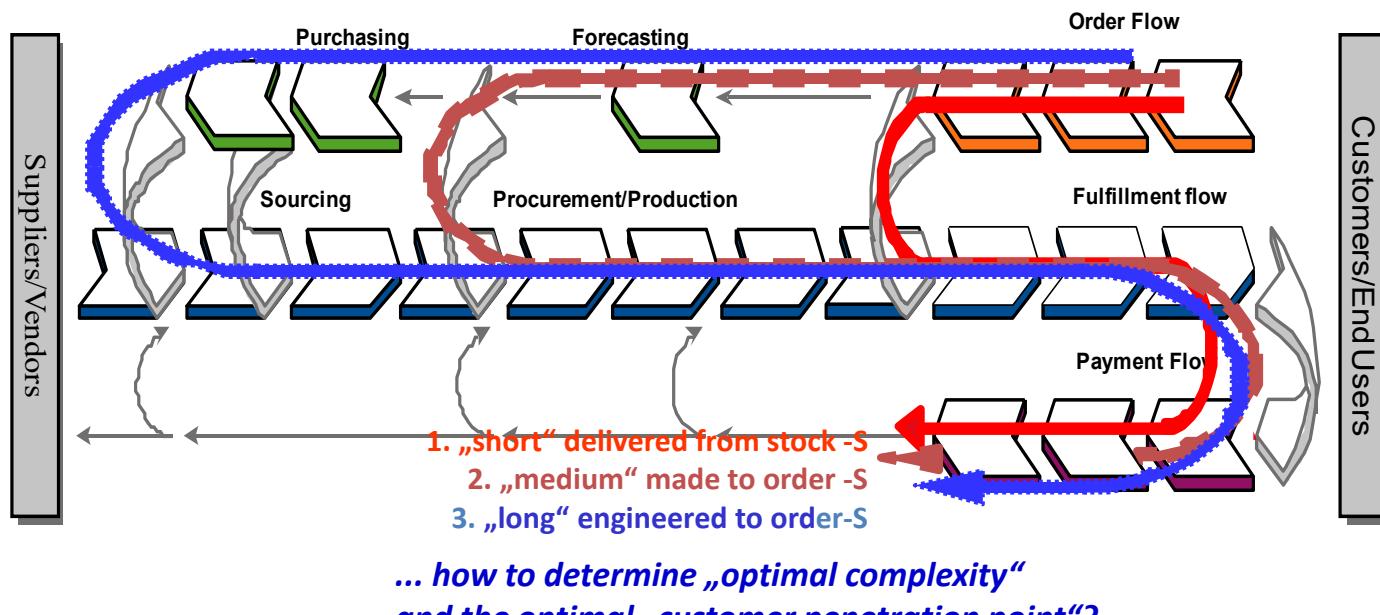
Some broad questions that address the main issues:

- Q What is Logistics/SCM; What is the difference?
- Q What means “managing” a Supply Chain

... more specifically: identifying „flows“ in the world of business



e.g. Integrating with different length of the chains
or the major objectives such as efficiency vs. agility, vs resilience, vs.
sustainability ...



Key learning points: Session 2: The global context of logistics and supply chain management

Content:

- Globalisation, containerization,
- international trade and logistics
- The logistics/SCM of cross-border product movement
- The global environment of logistics and SCM
- Global logistics and SCM applications

Main issues: Complexity

- Steps, actors and institutions involved in the global supply chain process
- Mapping – First examples
- Purpose and Scope of Standards



Literature:

- Rodrigue, J-P et al. (2020) : The Geography of Transport Systems, Hofstra University, Department of Global Studies & Geography, Chapter 5 and 7.
- De Koster, R. and Shinohara, M. (2006): Supply chain culture clashes in Europe. Pitfalls in Japanese service operations. Supply Chain Forum: International Journal, Vol. 7, No. 1, pp. 60-68.

Some broad questions that address the main issues:

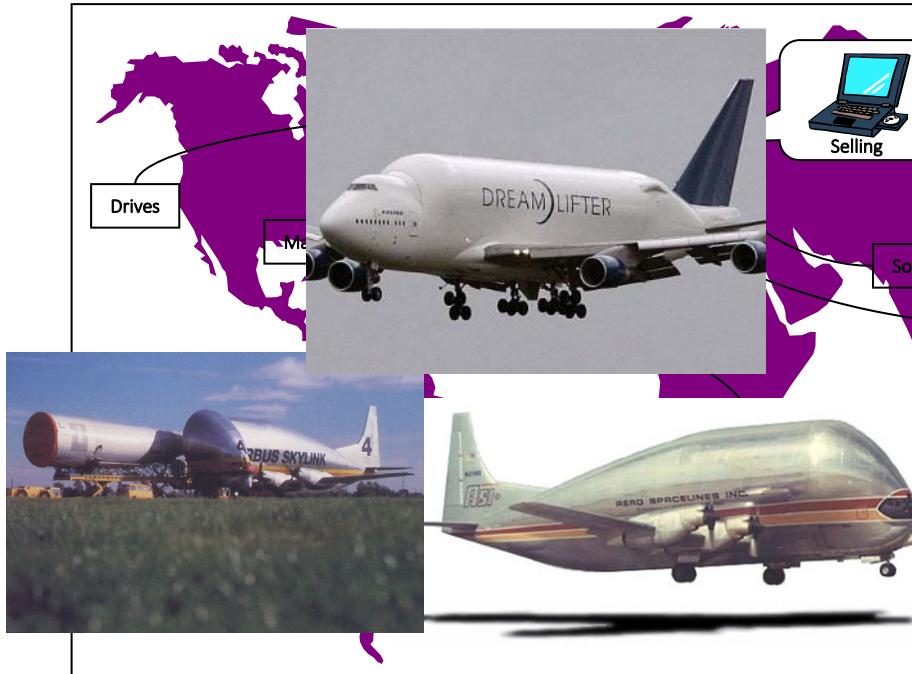
- Q What are complications and relevant considerations in a global context of supply chain management
- Q What are elements of the global environment
- Q Why do we need standards?

Case - Flowers B.V. illustrates complexity arising from globalization of a SC

But before: why „flat“?



Logistics is driven by the economy Increasing globalisation has ...



... consequences on Logistics and Supply Chain Management

- More intense division of labor (dislocation) and growing distances for transportation
- New barriers on Communication: Language, Cultures, Technologies
- Global competition for Logistics Service Providers
- Different kinds of control; new competencies necessary
- “Complexity”
- Risks

Key learning points: Session 3: Integration, collaboration and SCM

Content:

- Organization, coordination and integration issues in the global supply chain
- Intra/inter-organizational relationships
- Supply chain collaboration methods and initiatives

Main issues: Relationships

- A typical example of supply chain coordination and integration situation
- The importance of relationships and information exchange
- Demand distortion and the Bullwhip effect
- Essentials of a partnership

Literature:

- Ackerman, Ken B. and Bodegraven, Art Van (2007): Relationships for supply chain success. Supply Chain Quarterly, Q4, 2007.
- Lambert, D. M. & Knemeyer, M. A. (2004): We're in this together. Harvard Business Review, Dec. 2004, pp. 114-122.
- Boyson, S., Corsi, T., Dresner, M. and Harrington, L. (2004): Global Supply Chain Management Style depends on company size and scale. World Trade, Vol. 20, Iss.10 pp. 32 – 36

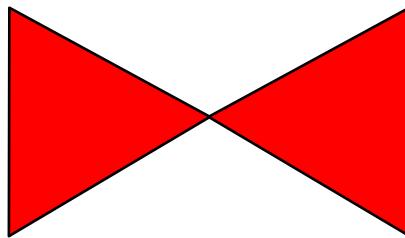
Some broad questions that address the main issues:

- Q What relationships do we have in a typical supply chain?
- Q What initiatives can be employed in order to solve related problems?
- Q What relationships should we have with whom in a good supply chain?
- Q What means collaboration and integration?
- Q Why do the relationships not come naturally?

CASE - A pain in the (supply) chain illustrates stakeholders roles and resulting outcomes,

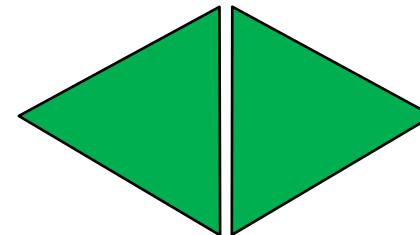
From “dicky bow” to “rhombus“?

Classic relationship



- Limited to transaction (project, task)
- Sales/Purchasing dept.

Partnership relationship



- Multiple levels, including top management
- Focus is on relationship

Lambert and Knemeyer (2004)

- Development takes time
- Development is costly (extra HR, extra coordination, extra communication)
- Development includes risks

Key learning points: Session 4 Production planning and design

Content:

- Ship Game – Push, Kanban and Milestones in Operations Management History
- Basic Layout decisions
- Basic production systems esp. Lean Management
- Global Production Networks

Main issues: Flow Systems

- Changing context of manufacturing from a viewpoint of flow thinking
- Lean Management and its principles and pillars – linkage to SCM and flows
- Global Production Networks – Configurations connect to Lesson 13

Literature:

- Christodoulou, J., Srai, S., Gregory, M. (2019): Synergy from configuration of global production networks: drivers, mechanisms, and outcomes, in: Production Planning & Control, Vol. 30, No. , pp. 179-196
- Mason-Jones, R., Naylor, B. and Towill, D. (2000): 'Lean, agile or leagile? Matching your supply chain to the marketplace', International Journal of Production Research, Vol.38, No.17, pp. 4061-4070.
- Lee, H. (2004): The Triple-A Supply Chain. Harvard Business Review, Vol.82, No.10, pp. 102-112.
- Spear, S., Bowen, H. K. (1999): Decoding the DNA of the Toyota production system. Harvard Business Review, Vol. 77, No. 5, pp. 97-106.

Some broad questions that address the main issues:

- Q What are the classic ways of organizing production systems?
- Q What is Lean management? How is production organized under Lean principles and pillars?
 - Q What are the differences - e.g. in the context - of Taylor, Ford, Lean, and agile manufacturing?
- Q Where do we produce different, products – and what drives this decision?

Are there other ways to organize production – Basic Layout-types Why, how?

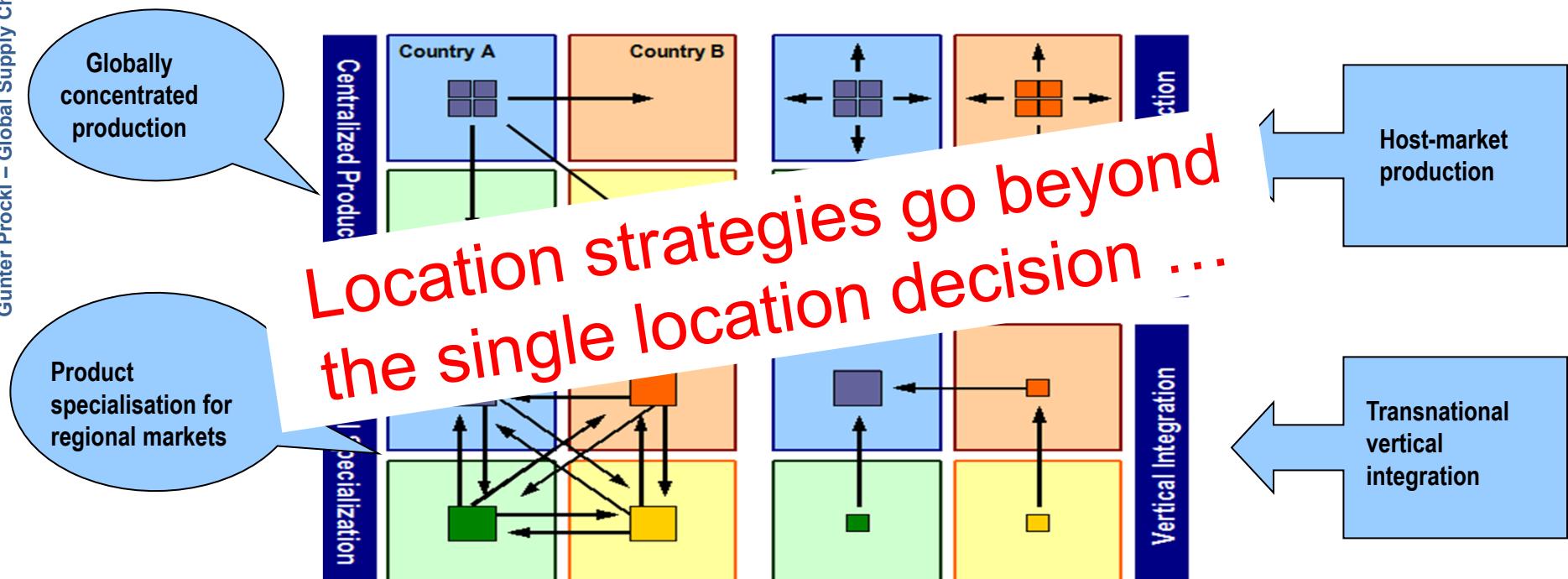
Criteria for the Organization	Basic Type - Characteristics	Key Advantage Key Disadvantage
The production process	Product layout „line“, „flow shop layout“ <ul style="list-style-type: none"> Layout that uses standardized processing operations to achieve smooth, rapid, high-volume flow Linear arrangement of specialized workstations to produce a specific product 	High volume production with unlearned but specialized workers possible High <u>initial</u> setup costs and setup times; thus inflexible
The machine processes (single tasks)	Process layout , „job shop layout“ <ul style="list-style-type: none"> Centers/machines grouped by process they perform Departments (sewing, kitting...) more universal machinery 	Allows for different product routings; flexibility Need for routing, scheduling, and transportation between single production steps; + setups
The final product	Fixed Position Layout <ul style="list-style-type: none"> Product/ project stationary; workers, materials, and equipment are moved as needed Used in projects where the product cannot be moved 	Suitable for big single products/processes „one time“

Elements of Lean Management: Lean Philosophy techniques and tools



- Lean Philosophy
 - Eliminate waste
 - Involve everyone
 - Improve continuously
- Basically two „pillars“
 - Flow (Just-in-Time)
 - „Autonomation“
(human/machine-systems aiding the humans)
- Lean techniques (JiT-Techniques)
- JiT as a Planning and Control-Method (Pull, Kanban)

Broad production location strategies Dicken (2003)



Key learning points – Session 5

Inventory Management, Planning and Control

Content:

- EOQ & other inventory management concepts
- Inventory control systems and approaches
- ABC/XYZ classification
- Supply chain inventory management

Main issues:

- Role and function of inventory in the Supply Chain
- Trade-offs between capacity, service level, lead-time, inventory
- Major types of control systems for inventories, EOQ, Safety stock, Reordering tactics
- ABC-Analysis, Flow Analysis (or also XYZ) to develop selective strategies

Literature:

- Abernathy, F. H., Dunlop, J. T., Hammond, J. H and Weil, D. (2000): Control your inventory. *Harvard Business Review*, Vol. 78, No. 6, pp. 169-176.
- Lee, H. and Billington, C. (1992): Managing Supply Chain Inventory: Pitfalls and Opportunities, *Sloan Management Review*, Vol. 33, No.3, pp. 65-73

Some broad questions that address the main issues:

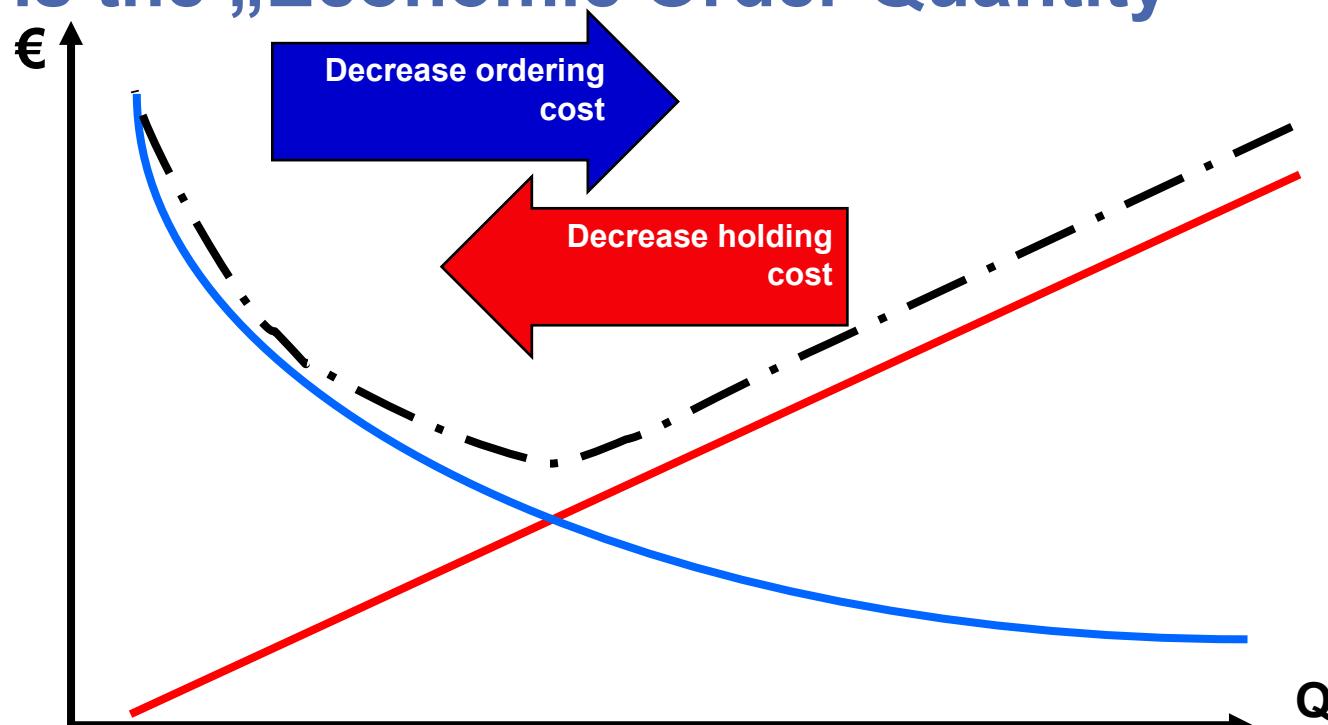
- Q Why do we need inventories? What types of inventory might exist along a supply chain?
- Q How much to order, when to order?
- Q What are the typical approaches that can be employed for inventory management & control?

Key decisions about inventory control and stock keeping?



- ❖ Size of the inventory – and time of stock keeping
- ❖ When refilling, what triggers the decision
- ❖ How much to order/reorder
- ❖ How many inventories in the chain

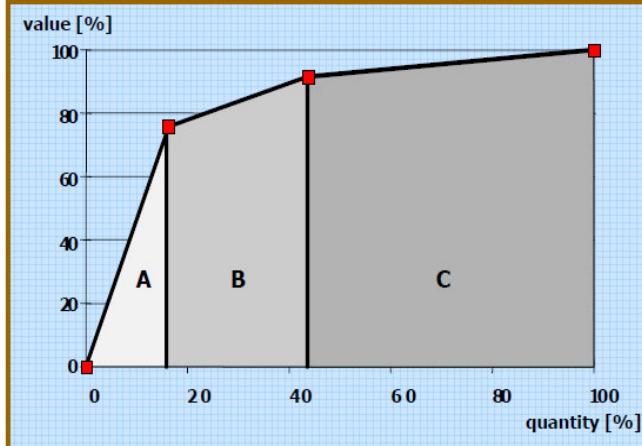
How much to order? What is the „Economic Order Quantity“



There are also other criteria? What are the criteria?

ABC-Analysis - purchasing volume:

Standard method for categorizing objects into three categories. The ranking depends on the importance of the analyzed objects.



XYZ-Analysis - Demand Continuity:

Method for classification of materials according to their pattern of consumption. The categorization into three groups depends on the forecast accuracy of consumption and thus on the factor to what extent reliable planning is possible.

Grouping in Three Classes

X-Class: Materials with regular consumption resp. constant demand, high forecast accuracy.

Y-Class: Materials with trend-like consumption (in-/decreasing, seasonal fluctuations), medium forecast accuracy.

Z-Class: Materials with very irregular consumption, very low forecast accuracy.

Source: Baumgarten 2004

Key learning points – Session 6 Outsourcing, Offshoring and Procurement in the Supply Chain

Content:

- Sourcing vs. Procurement
- Supplier selection and the procurement process
- Outsourcing vs. Off-shoring,

Main issues:

- Kraljik Matrix
- Total Cost of Ownership
- OLI-Framework,
- Unit Total Cost Approach (UTC)

Literature:

- Almquist, E., Caleghorn, J. and Sherer, L. (2018): The B2B Elements of Value. Harvard Business Review, Vol. 96, No. 2, pp. 72-81.
 - Kraljic, P. (1983) Purchasing must become supply management. Harvard Business Review Vol. 61, No.5, pp. 109–117.
 - Trent, R. and Monczka, M. (2005): Achieving excellence in global sourcing. MIT Sloan Management Review, Vol. 47, No. 1, pp. 24-32.
 - Harding, M.L. (2007): Gauging total costs, supplier by supplier, Supply Chain Quarterly 12/2007.
- Q Why do companies outsource and/or go offshore and what is the difference?
- Q What are the key components of a procurement process?
- Q What criteria may be used to select suppliers and different types of supplier relationships?

Key learning points: Session 7 Management of International Sales and Goods Flows

Content:

- Supra-national Legal Framework of Trade
- Economic integration levels and trade facilitation
- What do you need to know for export/import operations
- Lex Mercatoria and Trade Terms
- International Procedural Law and Law of Sales Contracts

Main issues:

- Economic integration levels
(e.g. customs union versus free trade area)
- Customs procedures in the context of the EU
- Incoterms® Overview: definition, rules and obligations of buyer and seller, applicability of certain Incoterms®

Literature:

- Grainger, A. (2011): Trade Facilitation: A Conceptual Review, Journal of World Trade, Vol.45, No.1, pp. 39-62
- TFG (2020): Incoterms® 2020 Rules, Trade Finance Global.

Some broad questions that address the main issues:

- Q How does economic integration and/or trade facilitation ease international sales and good flows?
- Q How can you spend less on duties and taxes upon importation to e.g. EU?
- Q Which Incoterm® 2020 is favourable for exporters/Importers and why?

Key learning points: Session 8

Distribution Systems and Service Supply Chains

Content:

- Distribution Channels
- Online versus Brick-and-Mortar Selling
- Multi- and OmniChannels
- Service Supply Chains
- Servitization – Service Dominant Logic
- Reverse Logistics Systems

Main issues:

- Current challenges for retailers to deal with growing online sales
- Products as services
- Basics / terminology of reverse logistics

Literature:

- Rigby, D. (2011): The Future of Shopping. Harvard Business Review Vol. 89, 12, pp. 64-75.
- Verhoef, P. C., Noordhoff, C. S. and Sloot, L. (2023) Reflections and predictions on effects of COVID-19 pandemic on retailing, Journal of Service Management Vol.34, No.2, pp. 274-293
- **Amazon Case Study**

Some broad questions that address the main issues:

- Q What is the difference between multi- and omni-channel retailing?
- Q What is Servitization?
- Q What is the difference between a manufacturing and a service supply chain?

Key learning points: Session 9

Warehousing & Materials Management

Content:

- Distribution structures and warehousing
- Value adding activities (including cross-docking and merge-in-transit)
- Warehouse management systems (WMS)
- Materials handling, storage and order picking
- Work organization and job design
- Logistics performance: inventory turnover, cash-to-cash-cycle

Main issues:

- Warehouse layouts, design and processes in warehousing
- Trade-off bee
- Inventory management techniques and metrics like inventory turnover, cash-to-cash-cycle

Literature:

- Baker, P. (2007): An exploratory framework of the role of inventory and warehousing in international supply chains, IJLM Vol.18, No.1, pp. 64-80.
- Johnson, M. and Templar, S. (2011): The relationships between supply chain and firm performance: The development and testing of a unified proxy, IJPDL Vol.41, No.2, pp. 88–103.
- Farris, M.T. and Hutchison, P.D. (2002): Cash-to-cash: the new supply chain management metric. IJPDL Vol.32, No.4, pp. 288-298.

Some broad questions that address the main issues:

- Q How does a common distribution structure looks like in conventional retail and how for an eCommerce retailer?
- Q How important is working capital management in a single company on a supply chain level?

Key learning points: Session 10: Transport and Logistics Services in Supply Chains

Content:

- Transport Services
- Characteristics of transport modes
- Efficiency of Transport Services
- Multimodal, Intermodal and Combined Transport
- Transport Mode Selection, taking Belt-Road-Initiative (BRI) as an example
- Recent Developments in Times of COVID19
- Logistics Service Providers :Freight Forwarder, 3PL, 4PL

Main issues:

- Understanding of cost structures and operating characteristics of the different transport modes
- Modal choice and carrier selection
- Organization of hinterland transports of container.

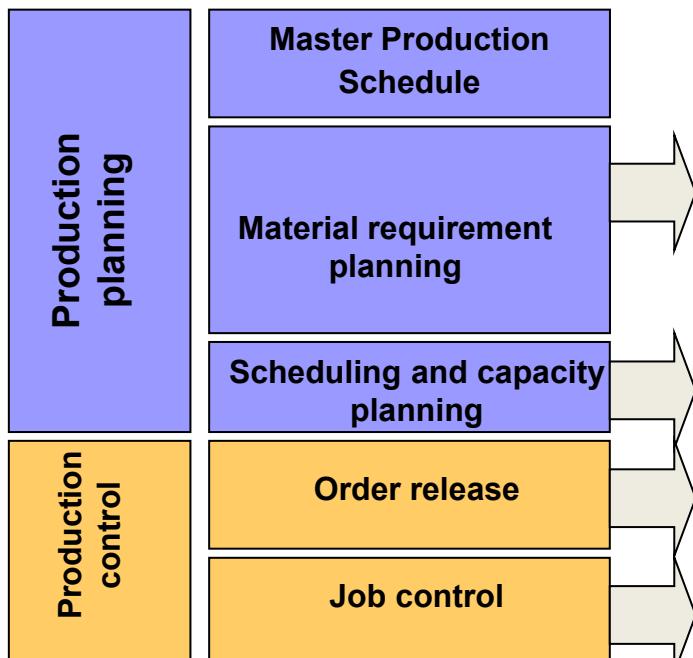
Literature:

- Stalk, G. (2009): The threat of global gridlock. Harvard Business Review, July–August 2009 , pp. 126-129.
- Case: Prockl, G.; Weibrech, K.: Missing Boxes in Central Europe

Some broad questions that address the main issues:

- Q What are criteria to select a mode of transportation?
- Q What are elements and actors of a transportation system?

MRP 50-60ies - MRP I, 60ies- 80ies MRP II, from the 80ies



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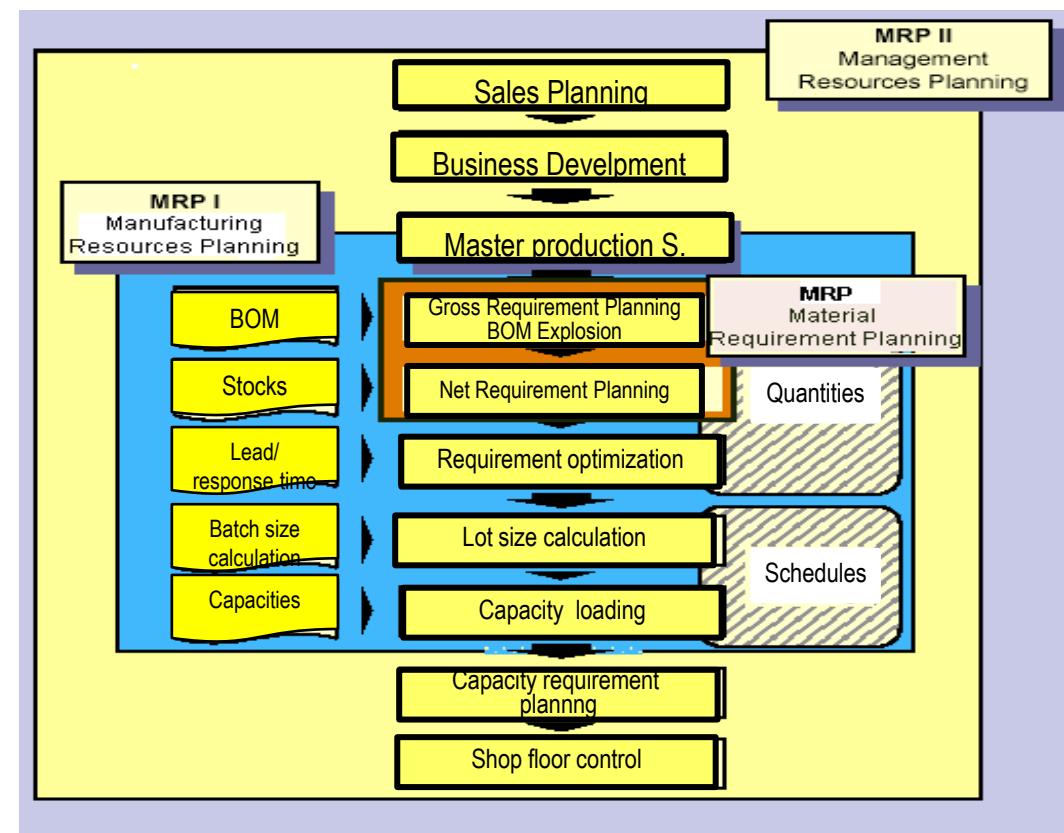
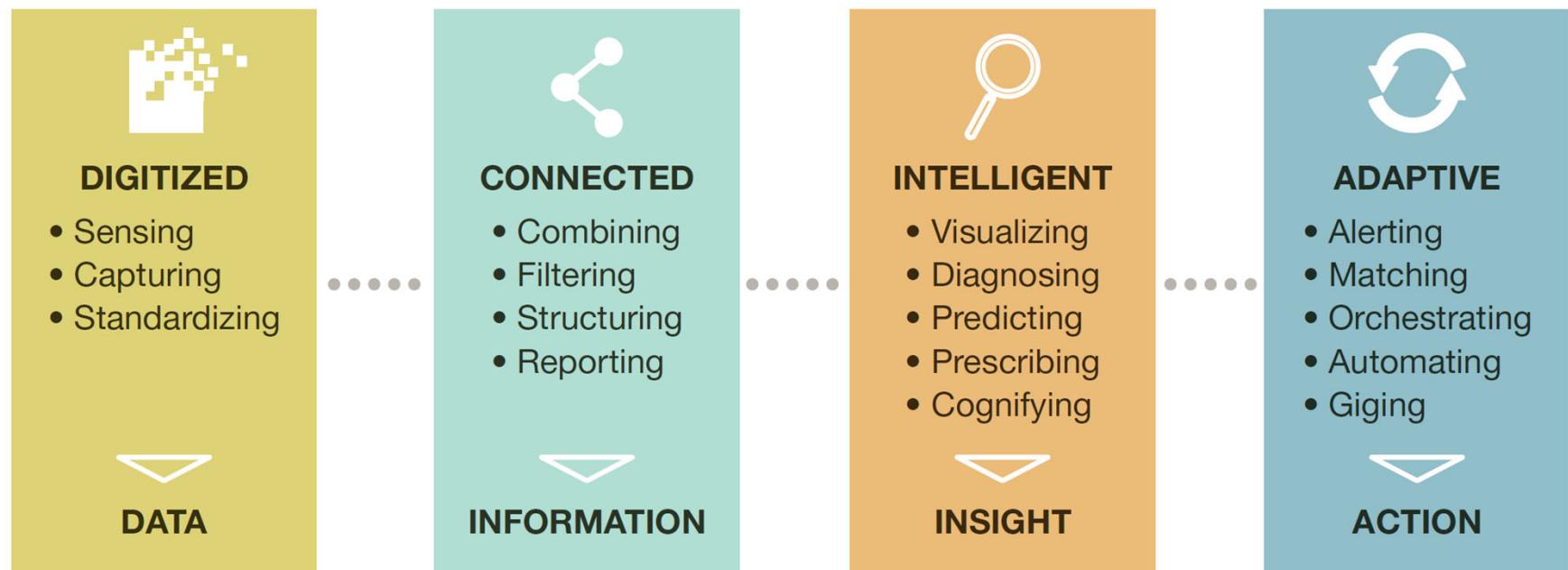


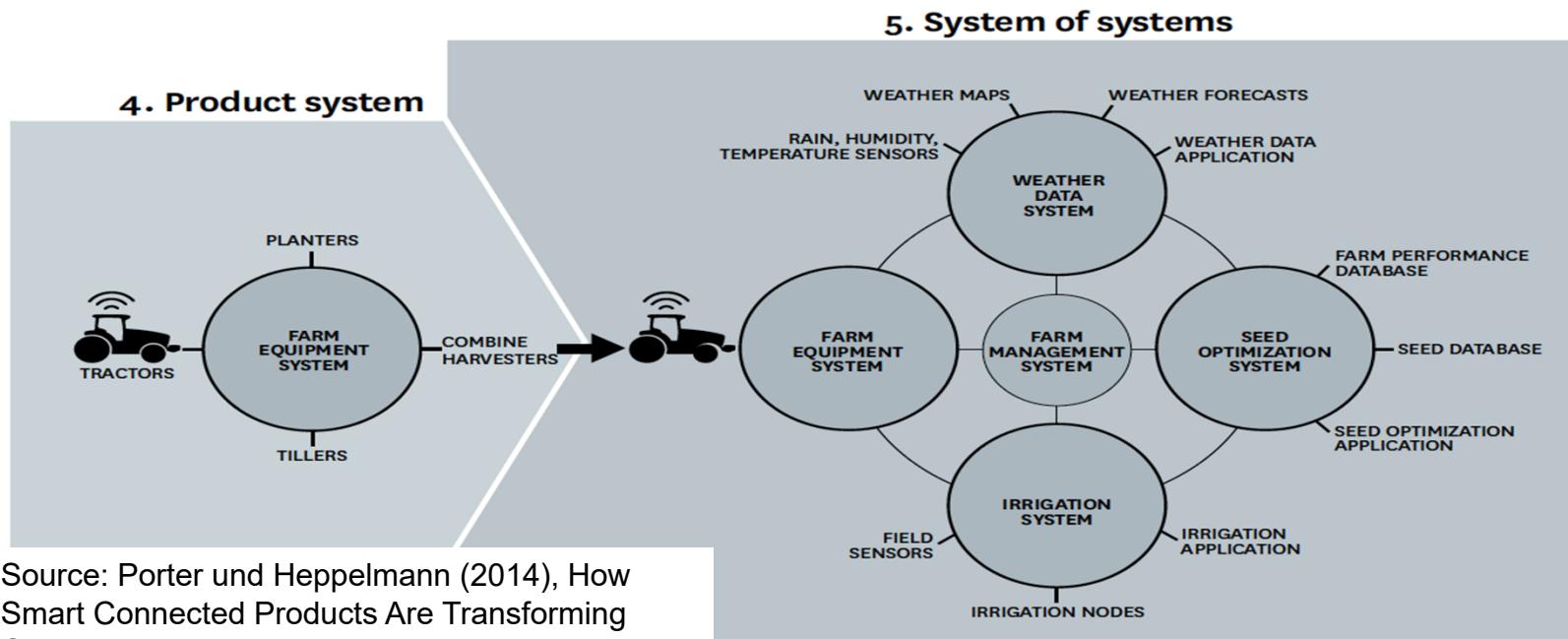
FIGURE 1

Core attributes of digital supply chains



Source: Authors

In an upcoming world of modular ecosystems of services around the products



Source: Porter und Heppelmann (2014), How Smart Connected Products Are Transforming Competition, HBR, Reprint

Key learning points: Session 12: Digitization and Digitalization in the Supply Chain

Content:

- Some initial thoughts concerning planning/control and IT support
- The Hierarchy of planning and control - MRP, ERP, APS, CPFR and beyond
- Visibility and Transparency – Challenges of SC execution – illustrated on a transportation chain
- “new disruptors” IoT, Big Data and digital transformation

Main issues:

- Past, present and future technologies and applications employed in supply chain management
- Digital transformation in global supply chains.
- From focal actor to ecosystem

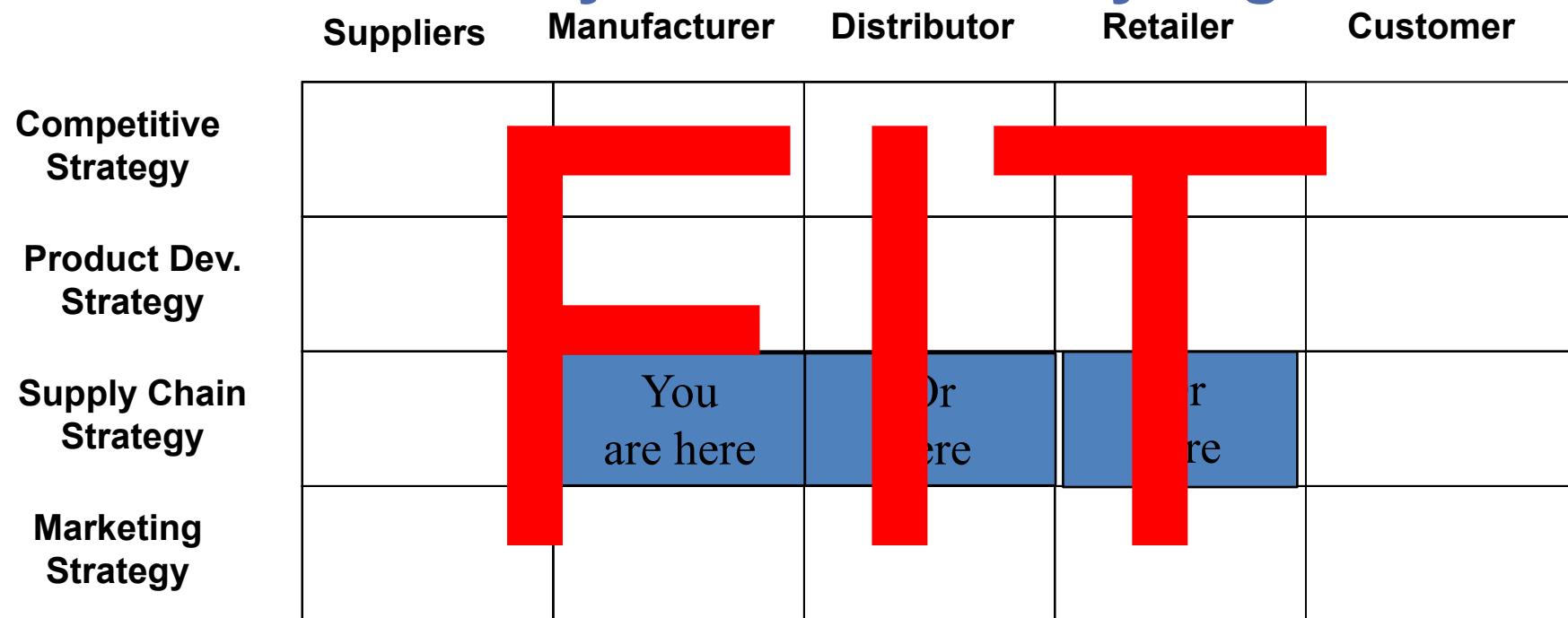
Literature:

- Sanders, N.; Swink, M. (2019): Digital Supply Chain Transformation - Visualizing the Possibilities, in: Supply Chain Management Review, No. 1, pp. 30-41. Link
- Porter, Michael; Heppelmann, J. (2015): How Smart, Connected Products Are Transforming Competition, in: Harvard Business Review, Vol. 92, No. 11, pp. 64-88. Link
- Schramm, H., Prockl, G. and Kolar, P. (2020): About Claims and Realities of Digitization in Current Maritime Transportation Chains, Working Paper – see CANVAS

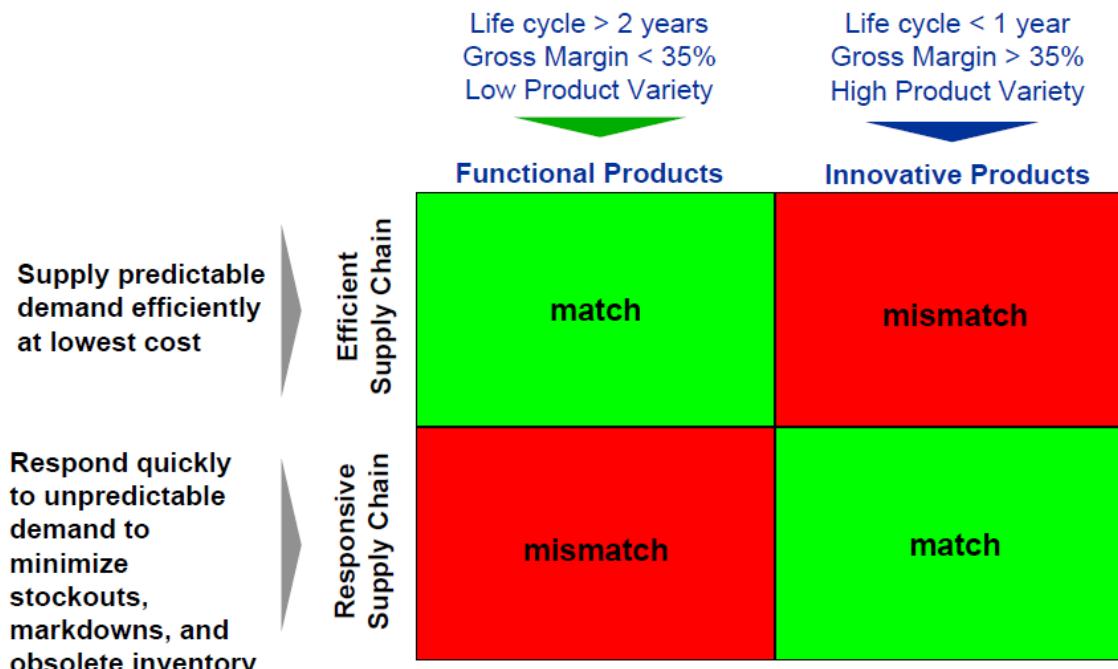
Some broad questions that address the main issues:

- Q How is technology supporting SCM and Logistics
- Q How is this support transforming the rules in the Supply Chain

Strategic Scope across the total supply chain how to vertically and horizontally align it???



By using “if-then-patterns” as guidelines: - Fishers Typology based on the products



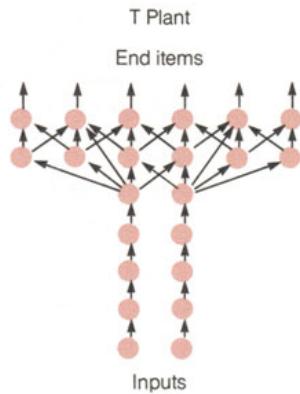
- **Archetypes** of Supply Chain Configurations
- The push/pull boundary
- Related concepts; Postponement,

**Looking for dominant Themes
some Basic Patterns
Some “Configurations“**

Approaches are using different dimensions and variables and focusing on different aspects

Authors	Dimensions	Configurations
Fisher, 1997	- uncertainty of demand - product	- Physically efficient process - Market responsive process
Tan et al., 2000	- uncertainty of demand - product	- Physically efficient process - Market responsive process
Christopher, 2000	- Variety/Variability - Volume	- Agile - Lean
Mason-Jones/ Naylor/Towill, 2000	- various (creating a hybrid)	- Leagile
Lee, 2002	- Demand characteristics - Supply characteristics	- Efficient supply chain - Responsive supply chain - Risk-hedging supply chain - Agile supply chain
Corsten & Gabriel, 2002	- Demand uncertainty - Product structure	- Lean Supply Chain - Connected Supply Chain - Agile Supply Chain - Speed Supply Chain
Klaas, 2003	- strategic goal - coordination mechanism	- Tight logistics segment - Agile logistics segment - Modular logistics segment - Individual logistics segment

Postpone the moment of variation – The way to hybrids



- ❖ The Configuration of a Logistics system is the better the further „upstream“ Inventories and Transshipment points and the more „downstream“ value intense, customer specific activities are positioned („Postponement“-Concept),
 - Product (Form) Postponement (Benetton)
 - Geographical Postponement (Cross Docking)
 - Inter-Company Postponement (Dell)

Key learning points: Session 13 Supply chain strategies and configurations

Content:

- SCM and the strategy hierarchy
- Supply chain design considerations
- Supply chain strategic levers & decision-making components

Main issues:

- The relationship between (firm) strategy & design and SCM
- The content of supply chain strategies
- SCM-oriented strategic positions

Literature:

- Mason-Jones, R, Naylor, B, & Towill, D (2000), 'Lean, agile or leagile? Matching your supply chain to the marketplace', International Journal of Production Research, 38, 17, pp. 4061-4070. from module 4
- Lee, H. (2004): The Triple-A Supply Chain. Harvard Business Review, Vol. 82, No. 10, pp. 102-112 from module 4
- Fisher, M.L. (1997) What Is the Right Supply Chain for Your Product?, Harvard Business Review, Vol.75, No.2, pp. 105-116.
- Christopher, M., Peck, H. and Towill, D. (2006) A taxonomy for selecting global supply chain strategies, International Journal of Logistics Management 17, No.2, pp. 277–287
- Tallmand, S. (2018): Offshoring, Outsourcing, and Strategy in the Global Firm, AIB Insights, Vol. 11, No. 1, pp. 1-6.
- Gereffi, G. and Lee, J. (2012): Why the World Suddenly Cares about Global Supply Chains, Journal of Supply Chain Management, Vol. 48, No.3, pp. 24-32.

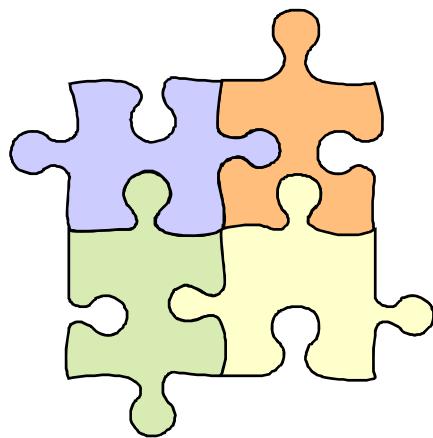
Some broad questions that address the main issues:

- Q What is a supply chain strategy, and what is the content of such a strategy?
- Q What are the typical strategies and configurations that may be employed for the design and management of supply chains?

CONTEMPORARY ISSUES WITHIN AND BEYOND THE COURSE CONTENT

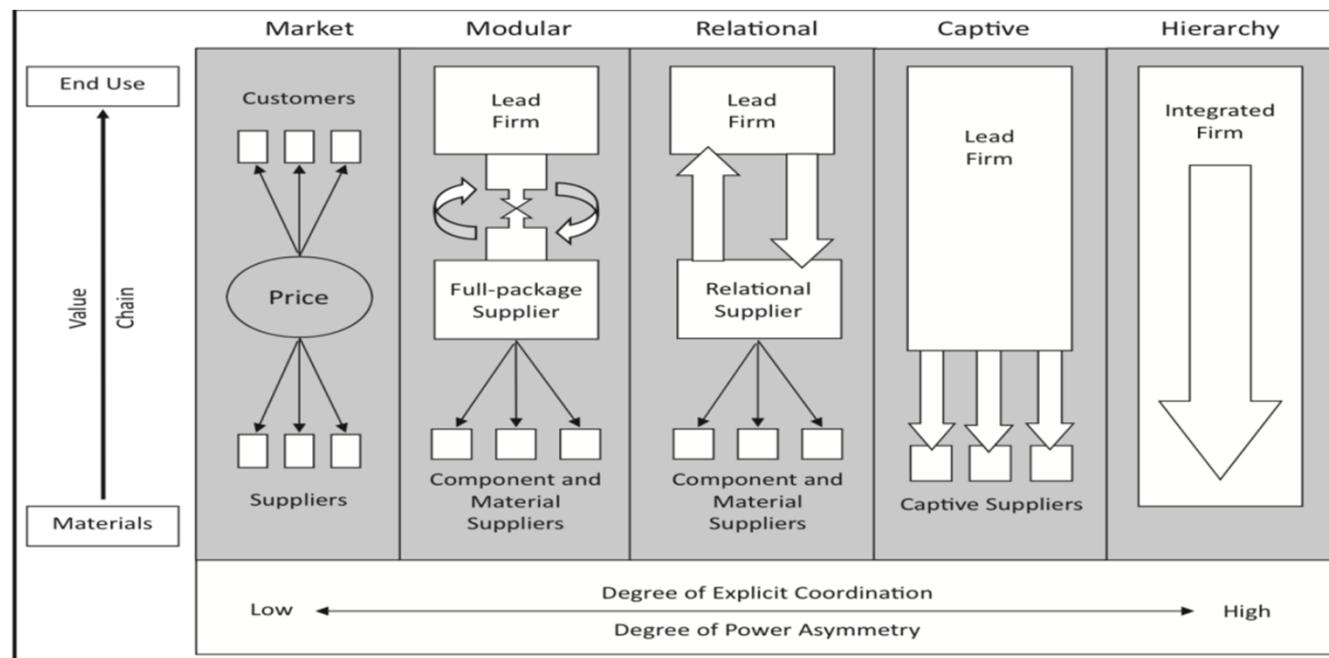
The grand purpose of SCM

In (y)our own words



- ❖ “Awareness for a **total unit** - Seeing a whole flow, a network, a system as object for improvement and management”
- ❖ “Seeing the whole thing as an **integrated** thing – and design, coordinate, adapt accordingly”
- ❖ “**Aligning** the whole thing to the needs of – in ideal – the ultimate customer”
- ❖ “To provide **value** for the customer and the actors in the chain”

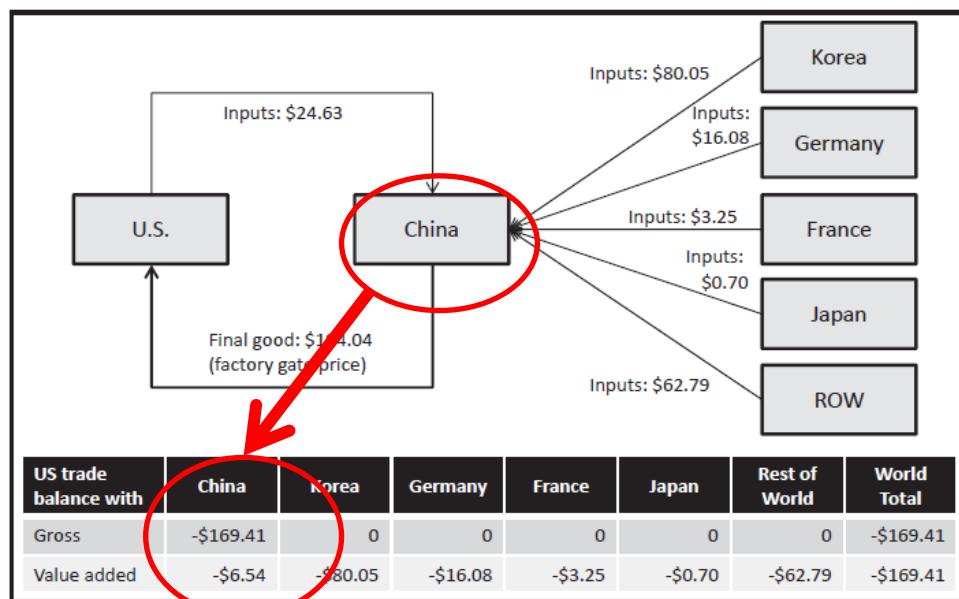
Gereffis' Configurations of Global Governance Focal Actor, lead firms etc.



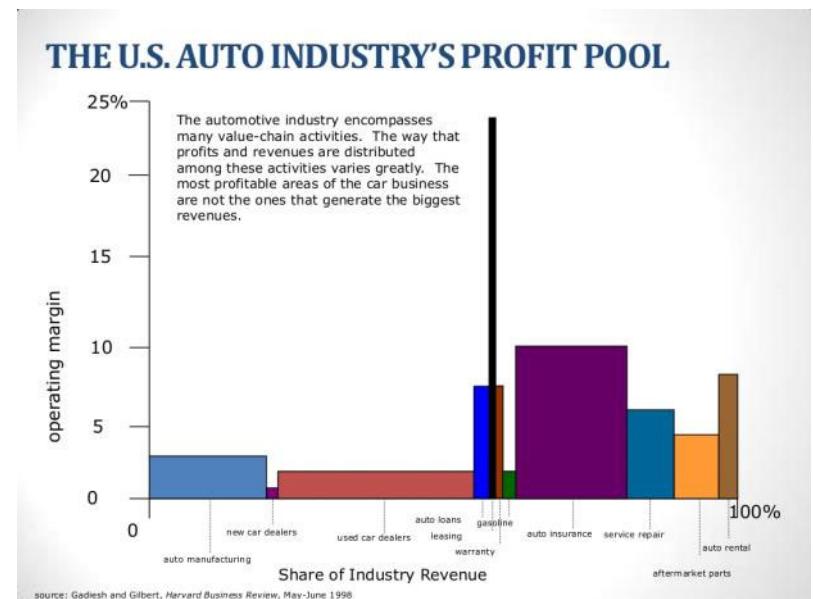
Source: Gereffi et al. (2005, p. 89).

Value adding and “Value Pools”

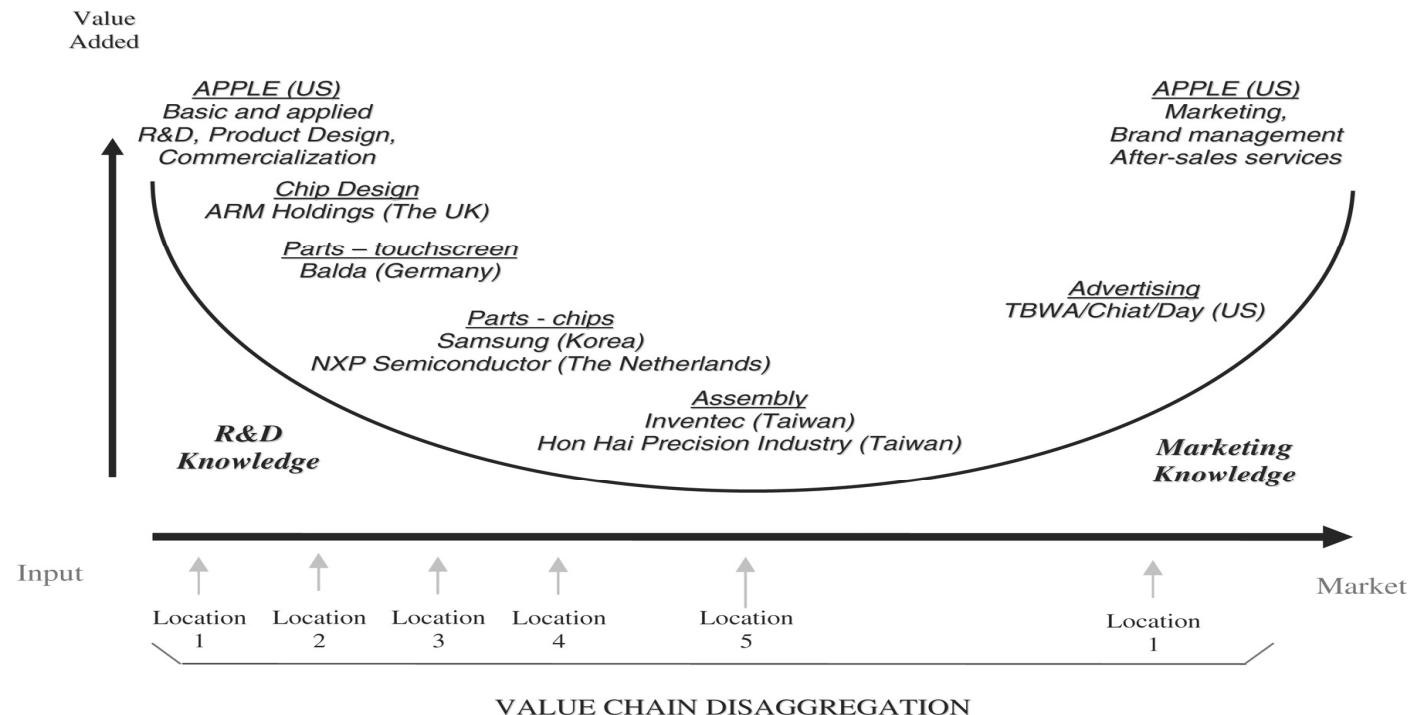
FIGURE 2
U.S. Bilateral Trade Balance with China for One Unit of the iPhone4 (US\$)



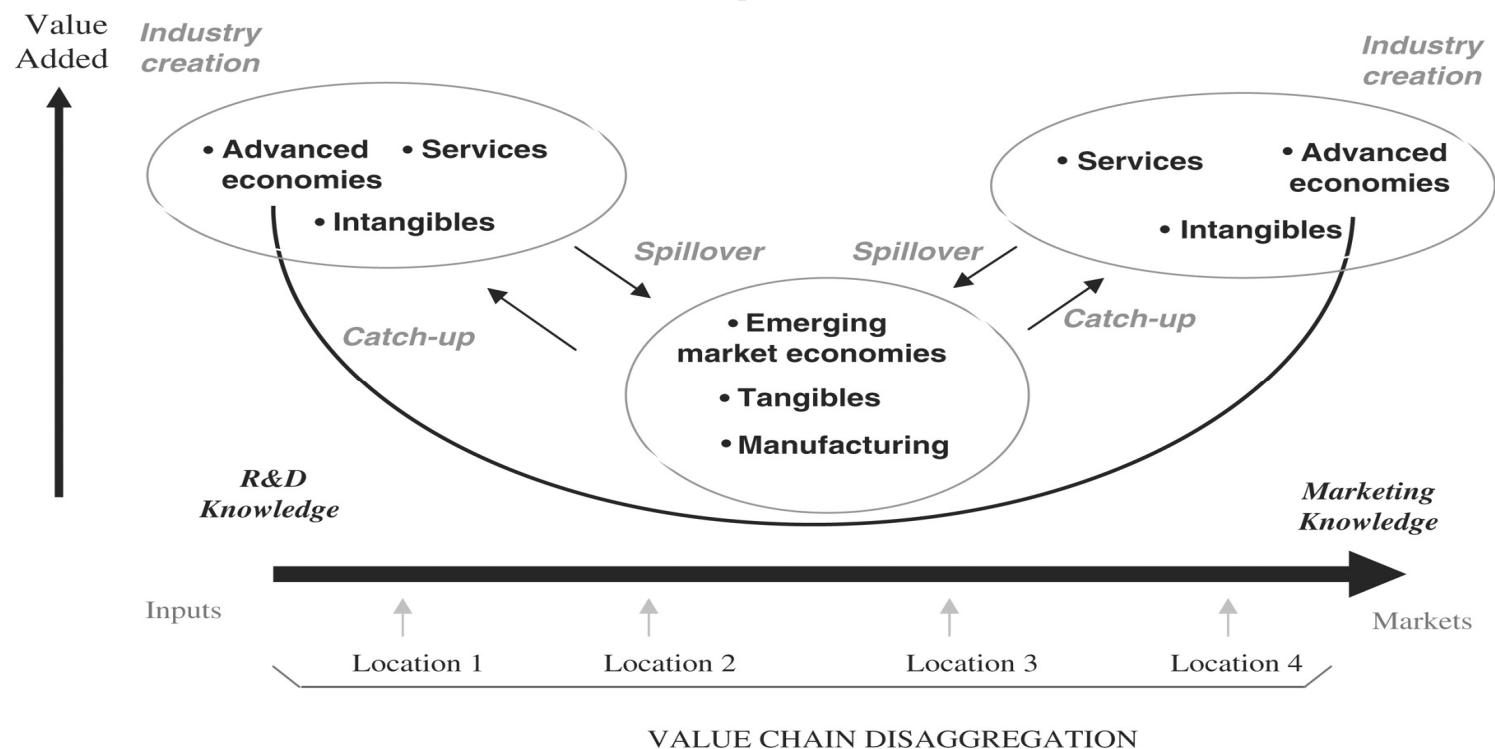
Source: OECD (2011, p. 40).



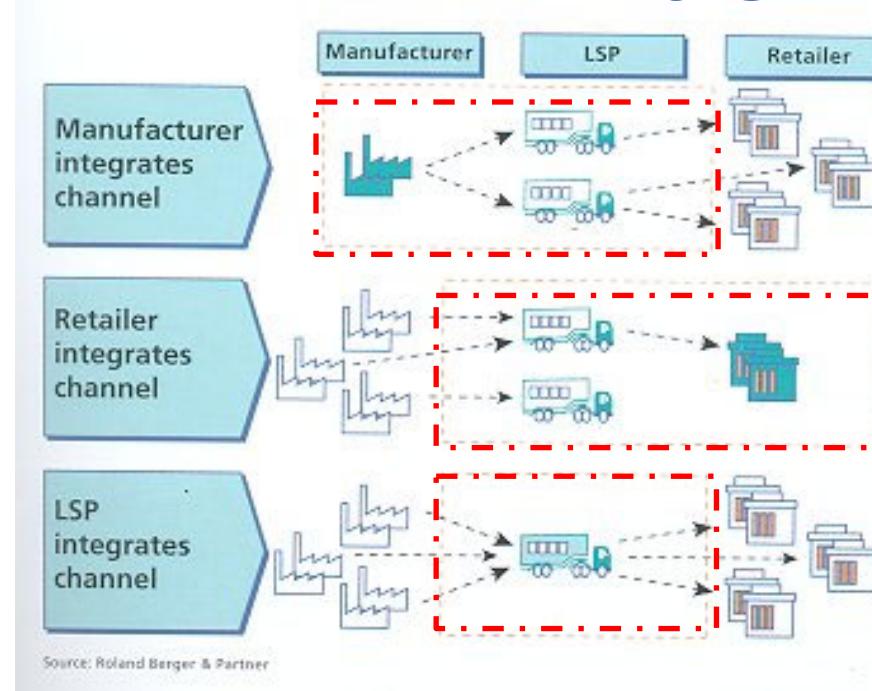
Value creation E.g. for the case of the iPhone



The smile in a more dynamic analysis Spillover effects and catch-up



The options – who should do it? See book chapter: Factory gate pricing!!



**Discuss:
benefits
As well as
problems and
disadvantages!**

CMA CGM set to acquire majority stake in compatriot delivery firm Colis Privé

The acquisition of Colis Privé will allow CMA CGM to offer a more complete service to its clients in France and Europe. The transaction is expected to close in the second half of 2022.

CMA CGM

Home > News > Detail

CORPORATE INFORMATION

CMA CGM Group strengthens development with GEFCO acq

Friday, April 8, 2022



CMA CGM fil Micro's Com

April 04, 2022

Following the agreement announced on April 4, 2022, CMA CGM has completed the acquisition of 100% of GEFCO, European Freight Forwarder and Logistics Services provider. The acquisition of nearly 100% of GEFCO, European Freight Forwarder and Logistics Services provider, including its CLS business, including Shippers, Agents and certain countries in India and certain countries in Costa Rica will close in the next few weeks.

For more information, please visit the [CMA CGM Group website](#).



The Brazilian freight transport company has given the green light to the acquisition of Rimorchiatori Mediterranei by the Swiss/Italian Mediterranean Shipping Company (MSC).

CMA CGM completes acquisition of LA container terminal

Most Visited News Top News

MSC on an acquisition spree; Log-In Logistica approves takeover bid

December 22, 2021

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trans.INFO

Maersk wird den Kontraktlogistiker LF Logistics von Li & Fung Ltd. und von dem Investor Temasek aus Singapur erwerben.

LF Logistics verfügt über ein Netzwerk von 223 Logistikzentren im asiatischen Raum und beschäftigt 10.000 Mitarbeiter. Das Unternehmen betrug im Jahr 2020 rund 1,3 Milliarden US-Dollar.

Unternehmen aus Hongkong ist spezialisiert auf Omni-Channel

Logistik mit 250 Kunden.

Li & Fung setzt sich als Ziel

In.

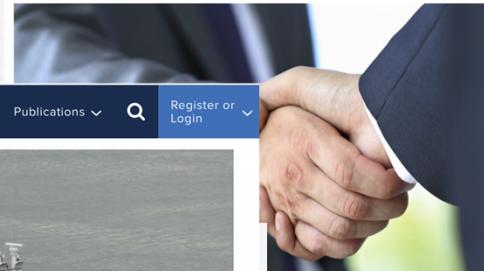
Maersk in diesem Ja

MAERSK

MSC and Lufthansa eye ITA Airways

25 / 01 / 2022

By Rebecca Jeffrey



Contents Events Publications

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Rimorchiatori Mediterranei is the new owner of LNG-powered tug KST Liberty (source: Rimorchiatori)

MSC set to acquire Rimorchiatori Mediterranei

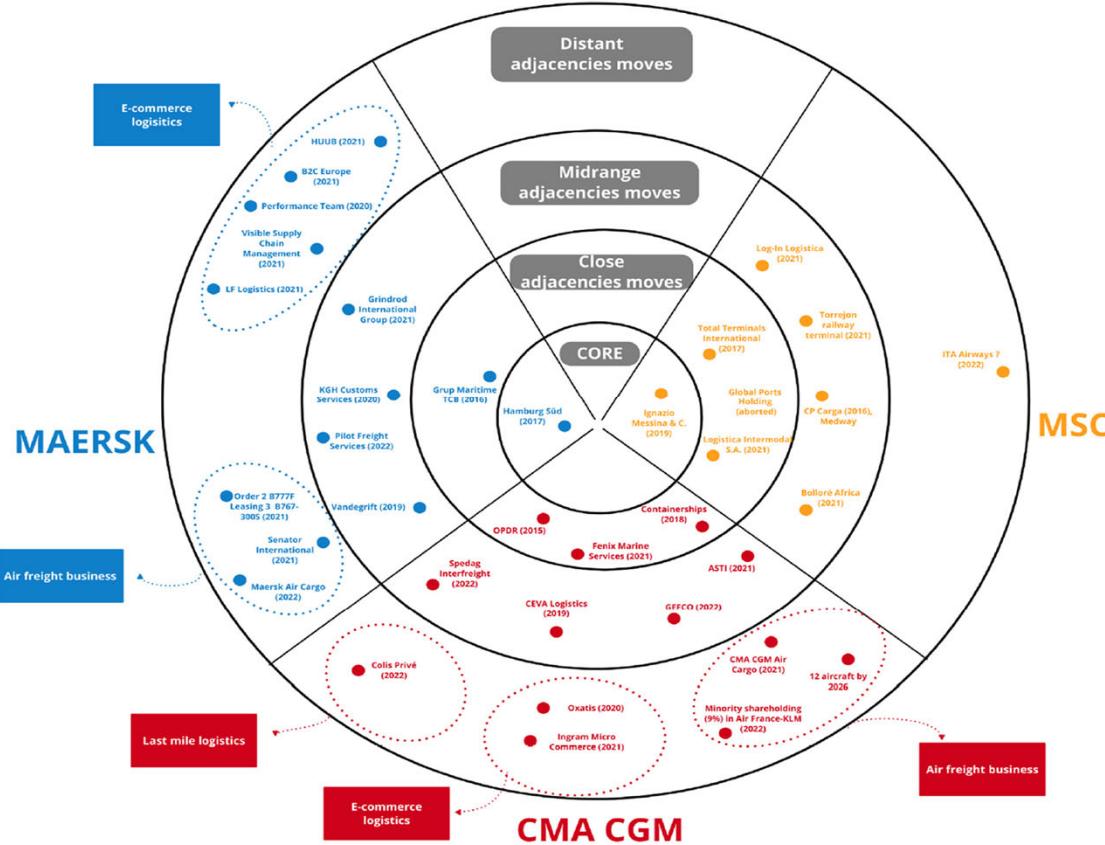
24 Oct 2022 by Martin Wingrove

Italian shipping group Mediterranean Shipping Co (MSC) is set to acquire growing Italian tug owner Rimorchiatori Mediterranei from investors to become one of the largest players in the towage sector

[in](#) [tw](#) [fb](#) [em](#)

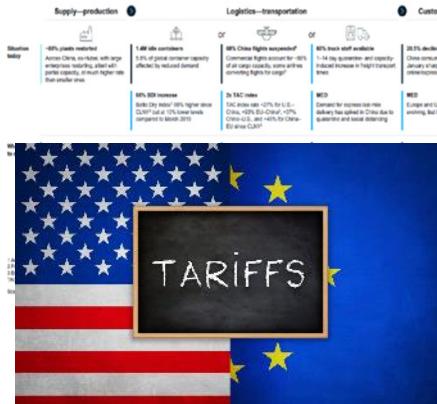
of products and the ability to provide flexible services such as packaging, warehousing

to our Maersk family. As a global leader in our ability to provide end-to-end solutions, we are ramping up our air services significantly to cater even better for our



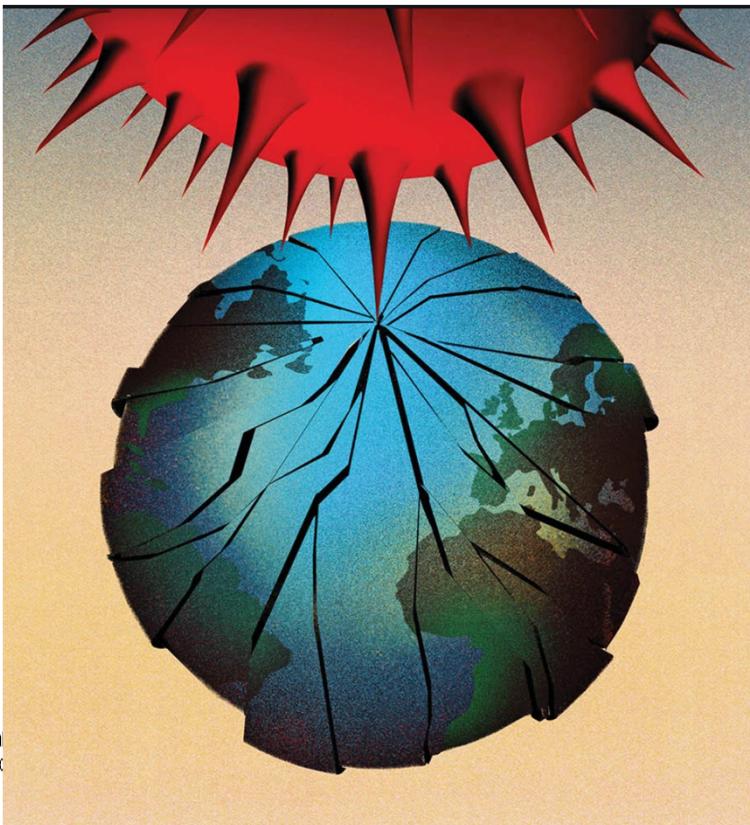
Current trends: Three rogue waves End or shift of globalization???

Supply chains are being disrupted around the world,
but the full impacts have not yet been felt

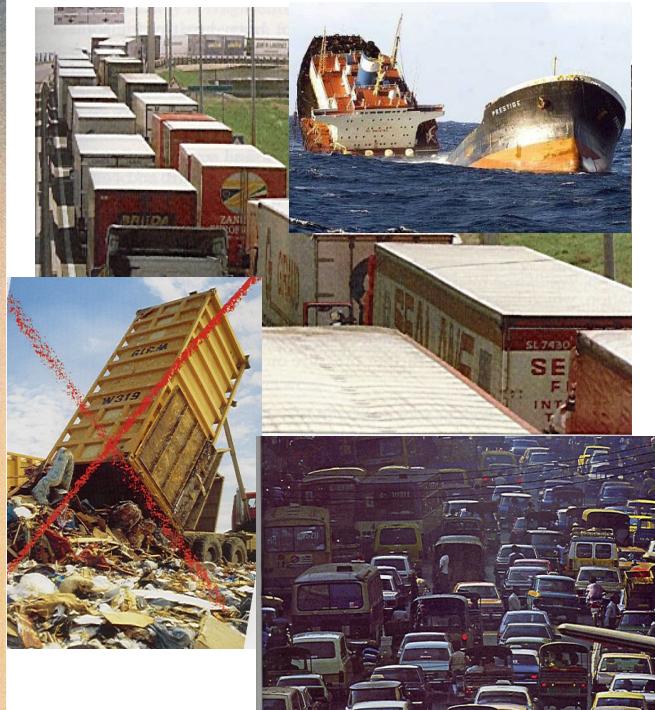


Logistics as driver for a shrinking world but also increasingly as polluter of this small world

1500 - 1840



1850 - 1930



1950s

Quelle:
Peter Dicken,
Global Shift. Industrial
Turbulent World, Lond

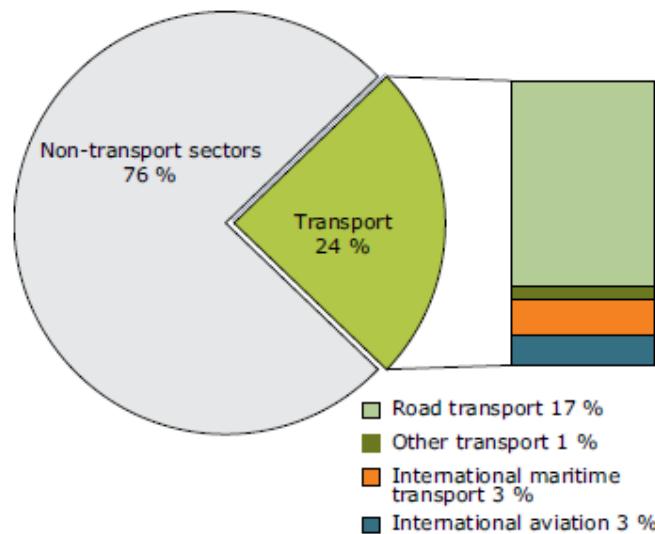
Final Wrap Up

2022-11-15

Slide 47

Transportation contributes to GHG

Figure 2.2 Transport sector contribution to total GHG emissions, 2009 (EEA-32)



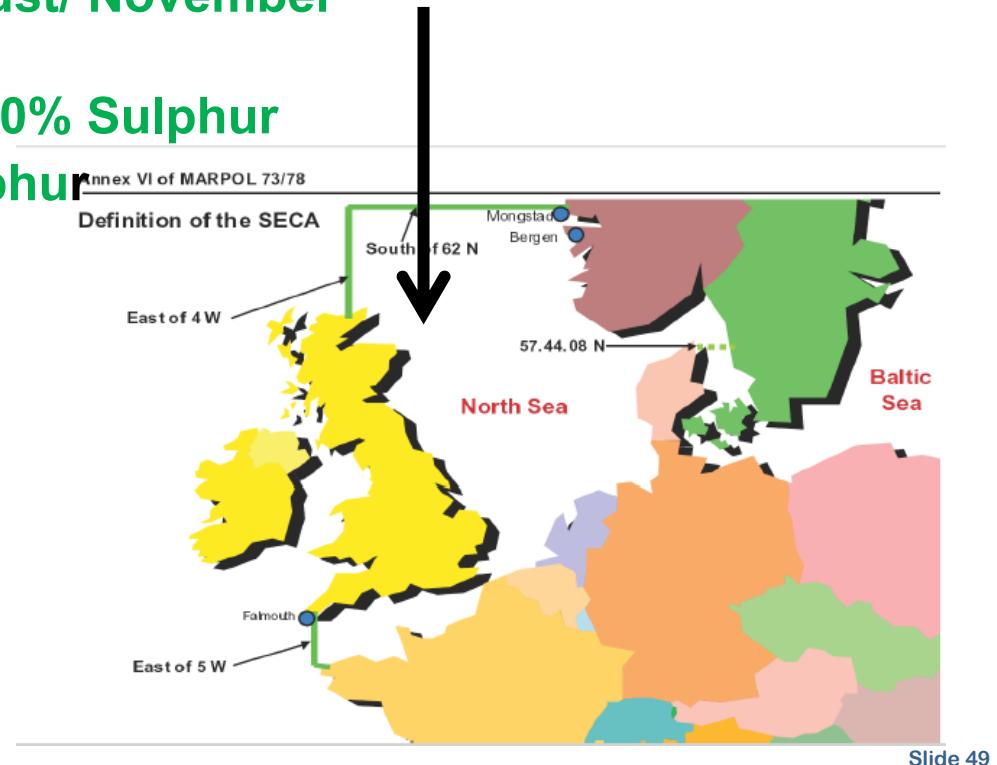
Note: Total GHG emissions are total emissions (sectors 1 to 7, excluding 5, LULUCF) plus bunkers. Other transport includes navigation, civil aviation (domestic aviation) and diesel rail. Electric rail, agricultural and fisheries related transport emissions are not included as transport.

Source: EEA, 2011.

SECA Sulphur Emission Control Areas

- 1st SECA enforced in May 2006 – the Baltic Sea.
- 2nd SECA enforced in August/ November 2007 – the North Sea.
- From 2010 to 2015: Max 1.00% Sulphur
- From 2015: Max 0.10% Sulphur

- Outside:
- Before 2012: 4.5 %
- - 2020: 3.5 %
- 2020+: 0,5 %



Slide 49

Alternative fuel – e.g. LNG was it an option?

LNG for Fuel

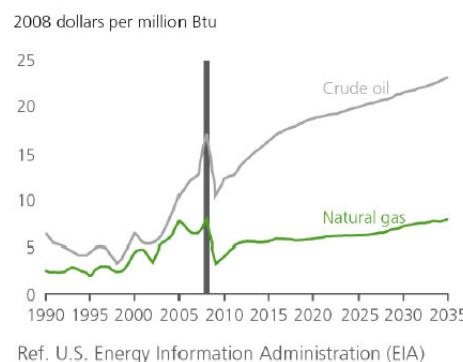


LNG: reduce impact on environment

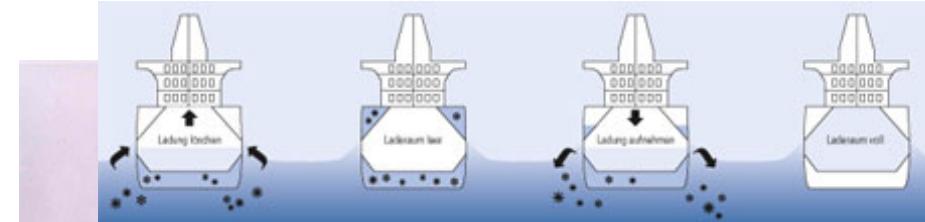
- 20% less CO₂
- Up to 95% reductions of SOx and PM
- NOx reductions (15-90%)

Key challenges for shipping are:

- Substantial investments for Shipowners, Oil Majors and key suppliers
- Issues related to Bunkering (terminals, bunker boats, procedures, etc.)
- Uncertainty regarding the future LNG bunker price



Way more effects than just GHG



Alang



The Dilemma!



The 32,000 ton Clemenceau has served France well



Greenpeace is an unwelcome presence in Alang



Alang Or Chittagong



Flat??



Select the best supplier between ABC Corp. & XYZ Corp - Supplier Data

■ Supplier 1: ABC Corp.

- **Quoted price** (without any extras): \$10.00
- **Freight costs** in 2007: you incurred a total freight cost of \$19 for sourcing 100 pieces from ABC Corp., using road & water modes.
- **Discounts:** ABC offers 2% discount on prompt payment
- **Delivery performance:** ABC delivers the product 85% on time.
- **Quality:** you rejected 13% of ABC's goods last year.
- **Lead time:** it takes 10 weeks to source the product from ABC.
- **Recycling policy:** ABC doesn't recycle and doesn't completely agree with your recycling policy.
- **Heroics:** ABC has never gone out-of-the-way to help you in the time of need & distress.
- ABC is a typical American supplier from the mid-west. However, the owner of ABC & you went to the Copenhagen Business School together.

■ Supplier 2: XYZ Corp.

- **Quoted price** (without any extras): \$12.00
- **Freight costs** in 2007: you incurred a total freight cost of \$50 for sourcing 150 pieces from XYZ Corp, using a mix of truck & air transport.
- **Discounts:** XYZ offers 1% discount on prompt payment
- **Delivery performance:** XYZ delivers the product 100% on time.
- **Quality:** there were no rejects from XYZ's goods last year.
- **Lead time:** it takes 7 weeks to source the product from XYZ.
- **Recycling policy:** XYZ recycles and confirms to your recycling and CSR (corporate Social Responsibility) policies.
- **Heroics:** XYZ has helped you in the time of need & distress - Once when a fire broke out damaging all our stock; another time when we faced shortage; and another time when the shipment got lost.
- XYZ is an atypical American supplier, because she is Danish, and has been living and working in the US for the last 7 years.29.10-31.10.2024 Slide 57

Results 1

- Calculating Cost Factors

<u>Cost Factor</u>	<u>ABC Corp.</u>	<u>XYZ Corp.</u>
• Quoted Price:	\$10.00	\$12.00
• Freight:	+ \$0.19	+ \$0.33
• (\$ / qty.)	(19 / 100)	(50 / 150)
• Discounts:	-\$0.2	-\$0.12
• (Prompt payment)	(2% of quoted price)	(1%)

Results 2

- Calculating Performance Factors

<u>Performance Factor</u>	<u>ABC Corp.</u>	<u>XYZ Corp.</u>
• Quoted Price:	\$10.00	\$12.00
• On-time delivery: • (1 - % on-time)	+ \$1.5 (85% on time)	0 (100%)
• Quality: • (% rejects)	+ \$1.3 (13% rejects)	0 (No rejects)
• Lead time: • (1% / week)	+ \$1.0 (10 weeks)	+ \$0.84 (7 weeks)

Results 3

- **Calculating Policy & Other Factors**

Policy & Other Factors	ABC Corp.	XYZ Corp.
• Quoted Price:	\$10.00	\$12.00
• Recycle: (- 5 %)	0 (No)	- \$0.6 (Yes)
• Heroics: (- 1 % each)	0 (None)	- \$0.36 (3 times)
• Other Preferences: • (e.g. Culture) • (e.g. Info. about supplier)	? (American) (Yes)	? (Danish) (Yes)

Final Results - Supplier selection based unit total cost approach

Calculating Total Cost

		<u>ABC Corp.</u>	<u>XYZ Corp.</u>
• <u>Cost Factor</u>			
– <i>Quoted Price:</i>	\$ 10.00	\$ 12.00	
– <i>Freight:</i>	+ \$ 0.19	+ \$0.33	
– <i>Discounts:</i>	- \$ 0.2	- \$0.12	
• <u>Performance Factor</u>			
– <i>On-time delivery:</i>	+ \$1.5	0	
– <i>Quality:</i>	+ \$1.3	0	
– <i>Lead time:</i>	+ \$1.0	+ \$0.84	
• <u>Policy & Other Factors</u>			
– <i>Recycle:</i>	0	- \$0.60	
• (- 5 %)	(No)	(Yes)	
– <i>Heroics:</i>	0	- \$0.36	
• (- 1 % each)	(None)	(3 times)	
– <i>Other Preferences:</i>	?	?	
• (e.g. Culture)	(American)	(Danish)	
• (e.g. Information about supplier)	(Yes)	(Yes)	
• Unit Total Cost	\$13.79	\$12.09	