

Challenges in Supply Chain Management - A Post Corona Perspective

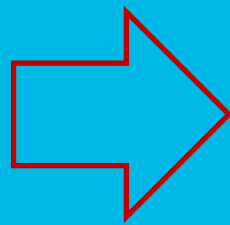
April 15, 2020

Prof. Mats Abrahamsson, Linköping University

Pre Corona

This presentation is an update of a pre-Corona presentation with a focus on the need for dynamic capabilities in logistics and SCM.

This is still valid, but Covid-19 have changed our view on strategic SCM, which is described in this presentation



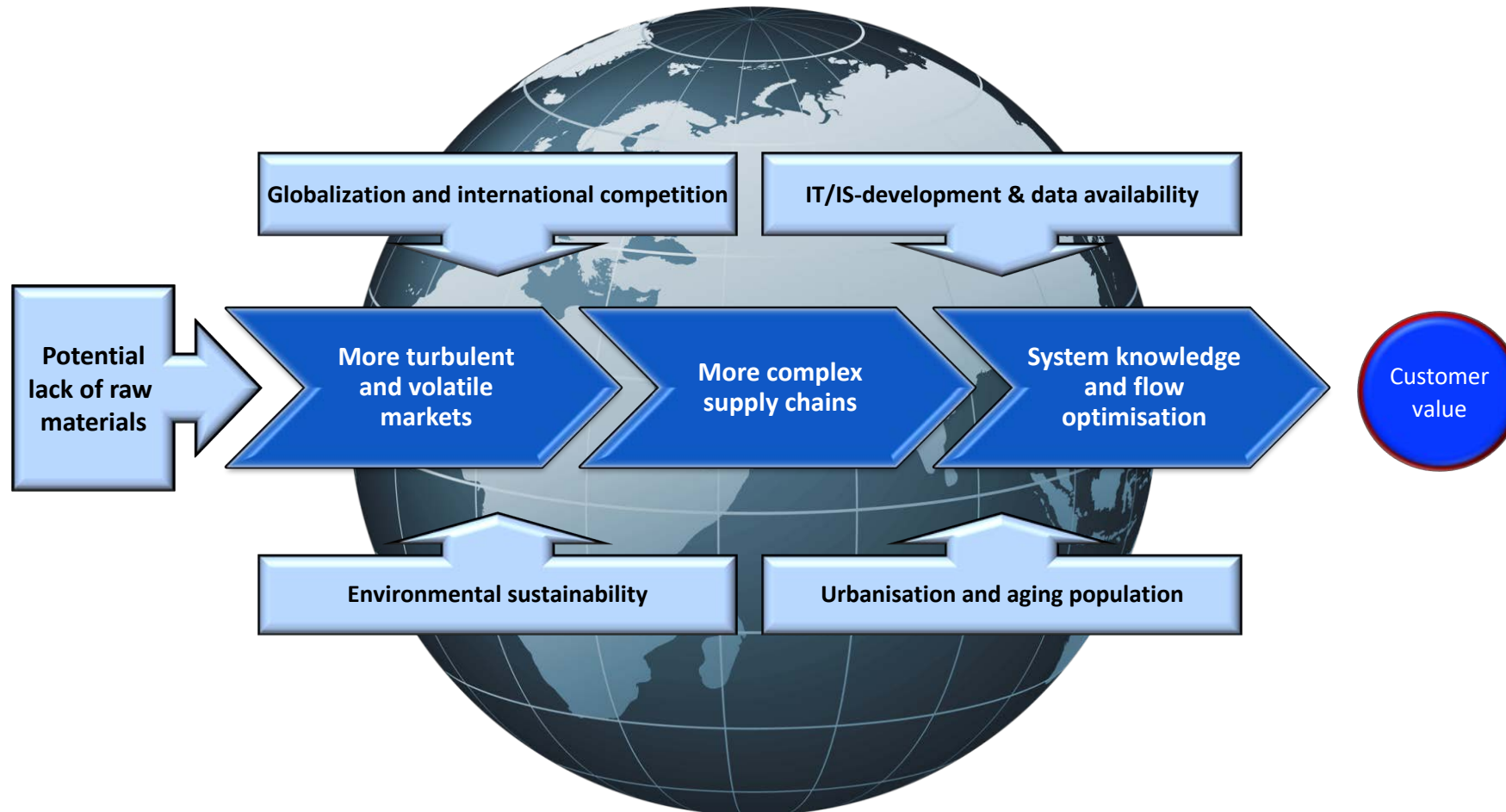
Post Corona

The post-Corona perspective is in red text in a red frame

Content

- Global trends effecting logistics and SCM
- Resource base and dynamic capabilities
- Economies of scale, scope and integration
- SCM in practice - more a myth than reality
- Measuring SCM - Flow orientation
- The role of society in SCM-development
- 10 principles for post-Corona supply chain management

Global trends effecting supply chains



The global trends are still valid but customer value, as the output from SCM, has to be complemented with "societal focus" in a post-corona perspective

The logic for my presentation

The time for relative stability allowing companies to maintain their business model over business cycles seems to be over in many industries



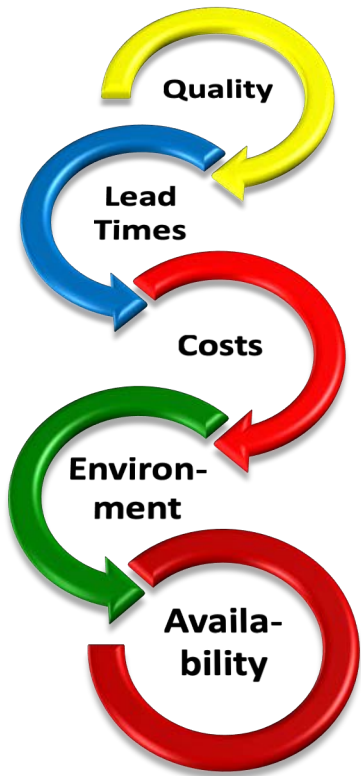
A dynamic business environment calls for dynamic capabilities



Uncertainty in the market drives complexity in the supply chain

This is more valid than ever. Today's supply chains is in many cases too rigid and the call for dynamic capabilities and resilience is obvious, in e.g. supply of medical equipment

A Dynamic Business Environment



- **Globalisation is not a buzz-word**
 - All companies is a part of the globalisation – direct or indirect
 - Alternative suppliers are closer than we think.
 - Global transports bridge all markets
- **We are facing a "Round the Clock Society", with services available 24-7**
 - Flow of goods and information have to be better than today!
- **"Quality and Time is Everything"**
 - Market segmentation will be sharper
 - Performance will be measured more extensive than before
- **An extensive over capacity in most businesses**
 - Pressure on profit margins
 - At the same time – A logistics "inefficiency" in many industries
- **Environmental challenges**
 - 20% CO2 reduction by 2020 and 80% by 2050

Globalisation will remain, but alternative suppliers are too often not planned for and are not close enough

Lack of SC-information is a major concern in the shade of Covid-19

Quality, Time and Availability
We are still primarily measuring costs in our supply chain

The logistics inefficiencies from too much cost focus is obvious today

The environmental challenges in freight transports is in focus and need to be so also after Covid-19

What we know about the future

- Competition will increase in most businesses and sectors
- The number of competition parameters will increase
 - Price, Quality, Environmental Sustainability, Delivery Service, Availability, etc.
- Many of these are related to the logistics system
- Digitalization is one of the major potentials in logistics development
 - To be more efficient
 - To reorganize
 - To create customer value **and value for society**
- Market volatility and turbulence makes it impossible to tell what kind of digitalisation is right for the future
 - Dynamic agile and flexible organizations will be crucial to realize the full potential of digitalization
 - There will be a lot of “Trial & Errors” in the development process

Covid-19 have forced us to challenge flexibility in SC's.
This is good!

But demands on increased dynamic capabilities will stress the need for redesigning supply chain

This will call for the ability to manage increased complexity and the need for more high educated people working with SCM

The importance of an effective and unique resource base

Today's development is "Capability-driven" not traditionally customer-driven

A logistics system as a resource base

Resources in a logistics system

Physical resources

- A physical logistics structure (warehouses)
- IT system that connects the logistics into a supply chain

Logistics services creating customer value

- Different types of delivery concepts for different customer segments or for different customer situations

Organisation and competencies

- Management and control of the whole, not just the parts
- Analytical skills
- Development and change management
- Operational resources

Strategic requirements

Resource Base (RBV)

Valuable

Increase economic value for customers

Rare

Not possessed by many other competitors

Imperfect imitable

Complex and uniquely designed

Organisation

Organisational processes developing the resources

Dynamic Capabilities

Sensing

Analytical skills

Seizing

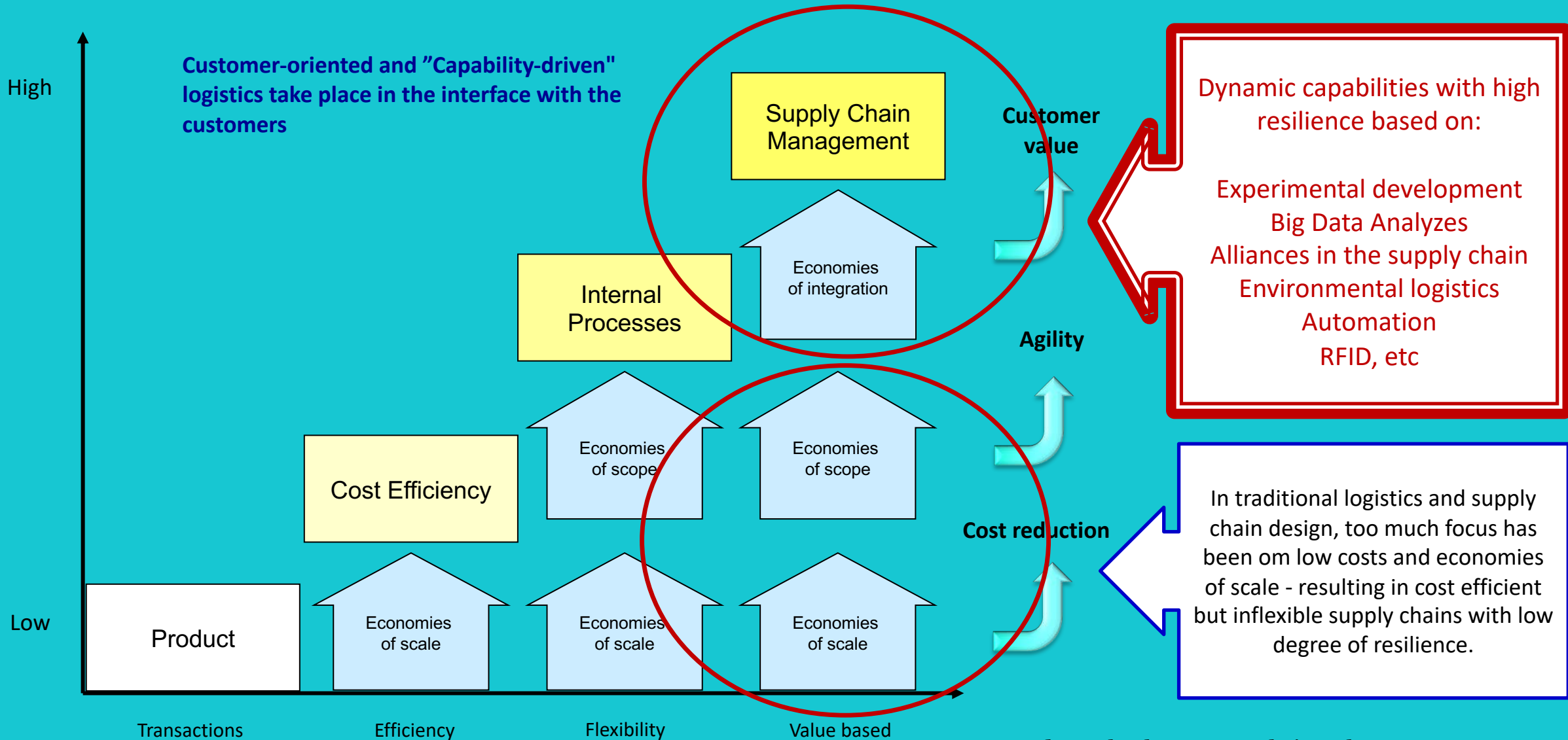
Ability to act fast when needed

Reconfiguring

Change the organisation and SC-set up

Logistics development with Economies of Scale, Scope and Integration

Flow orientation



We have to question the trend last decades to centralise stocks and warehouses globally
(This is from an era when stock keeping was expensive)

Today it is cheaper than ever to keep stock and to operate warehouses

Low interest rate, low costs for logistics properties, digitalization with advanced IT/IS and automatization of operations

Economies of Integration

Covid-19 have highlighted new demands on availability regionally and locally

This requires a well-integrated supply chains and increased “flow orientation”

- **External integration down-stream** with customers and society
- **Internal integration** - Marketing, Sales, Distribution, Manufacturing, Supply, Purchasing
- **External integration up-stream** with suppliers

No delivery system gets better than what the supply of goods allows it to be

From continuous improvements with a focus on cost efficiency

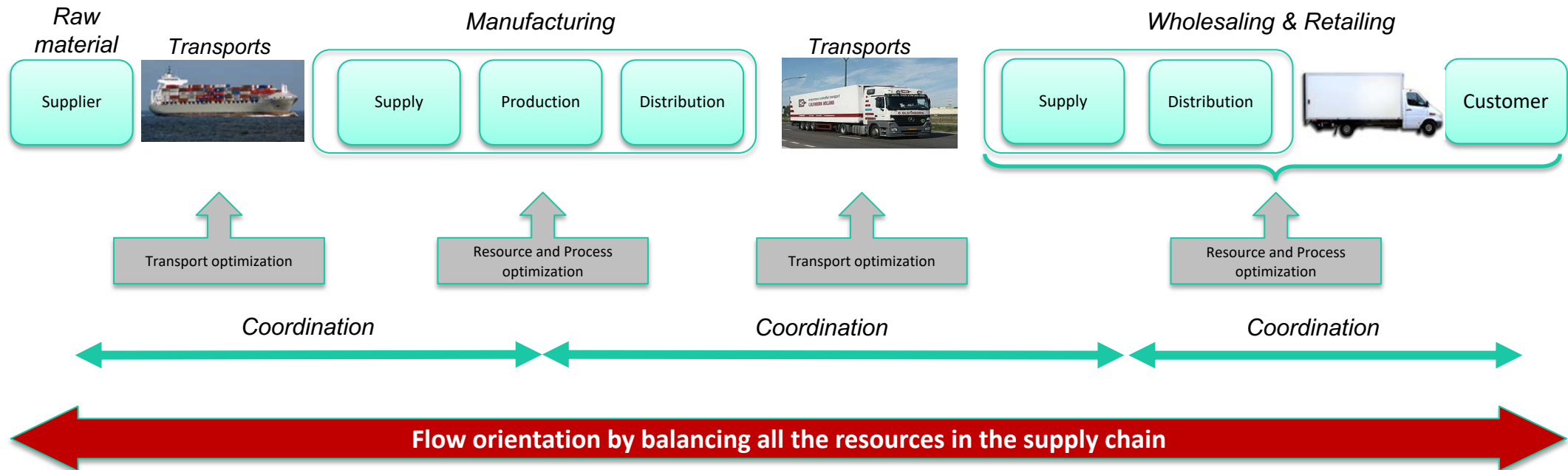
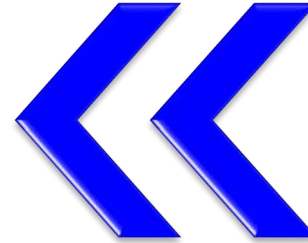
**.... to experimental changes with a
focus on customer and societal value**

*“The number-one learning is that we need
to act now. We cannot wait for perfect solutions; we
need to take what is on the market today, deploy it and
then work to make it better”.*

IKEA - The Future of the Last-Mile Ecosystem, WEF 2020

Supply Chain Management = Flow Orientation

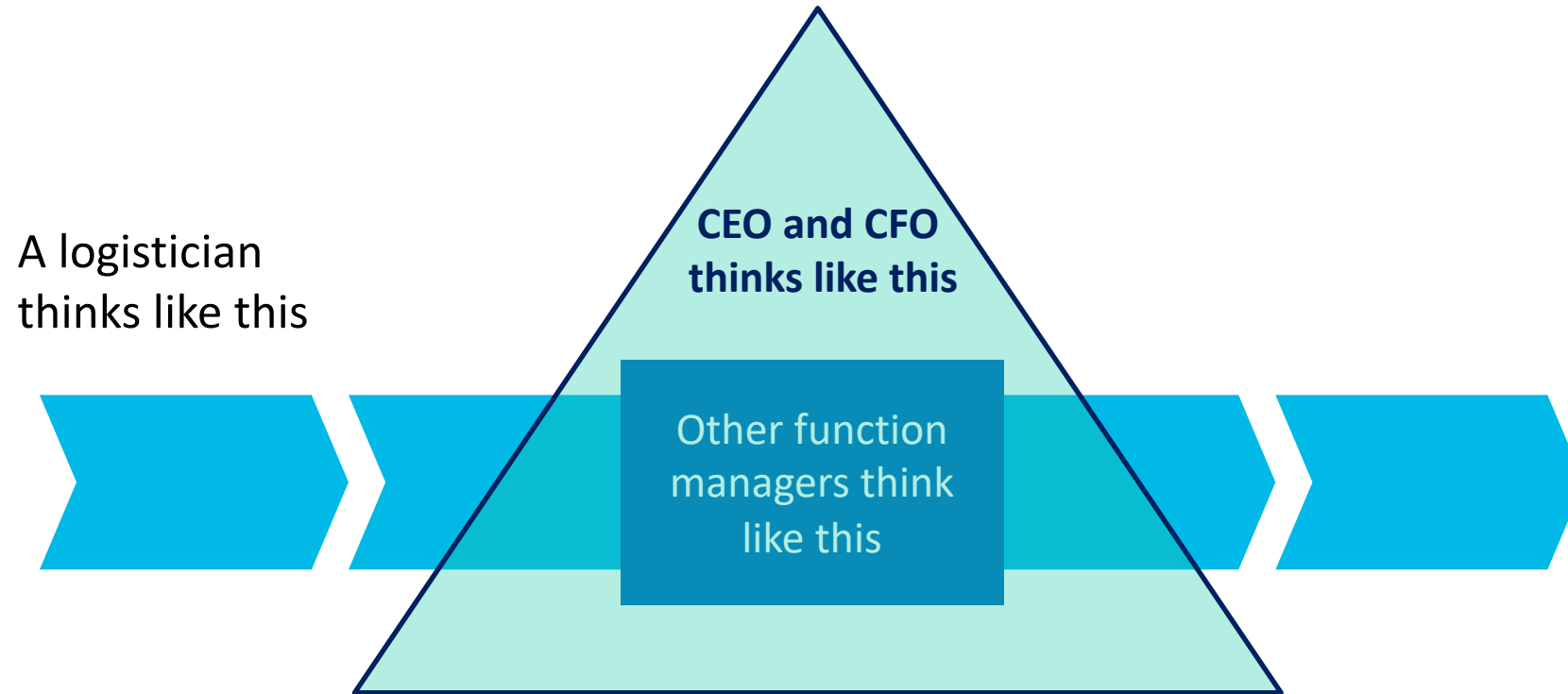
The purpose of SCM is customer **and societal** value



However, in practice:
SCM is more a myth than a reality

Why is flow orientation so hard to achieve?

Functional thinking vs. Flow orientation



There are still different logics in companies hindering SCM

The difference between key figures and strategic control figures

What do we measure?

Today, we are using productivity-oriented **key-figures** also on a system-level, e.g. on a supply chain

On system level, we need **strategic control figures** promoting increased flow orientation

Strategic control figures should promote flow-orientation

Measures that lead to increased flow orientation

- **Total costs for Supply Chain as a whole**, e.g. The sum of supply costs, manufacturing costs, and distribution costs.
- **Total throughput time**, e.g. total time for supply, manufacturing, warehousing, deliveries
 - **Lead time measures**, as an absolute measure with the goal of reducing all inclusive lead times for the processes
 - **Delivery service**, measuring performance against customers (internal and external), based on customers' requirements, e.g. OTIF (On Time In Full)
- **Total CO₂-emissions**, for the total supply chain or for parts of the supply chain

Functional key figures can be used on a functional level for cost efficient operations, but not on a system level

Mastering Supply Chain Management in an Era of Uncertainty at SKF

**MATS ABRAHAMSSON,
MARTIN CHRISTOPHER,
AND BO-INGE STENSSON**



September / October 2015

Because capacity is not fixed in a demand-driven approach, the capability of getting access to resources when needed is crucial and offers a strategic advantage



The ability to balance resources among different actors in the supply chain can help organizational leaders adapt in time of uncertainty.

From a societal perspective and a SCM-perspective, the resource base are often shared between companies and between company and society, e.g. a municipality or authority.

For example - who is responsible for supply of medical goods? The public or the company that the warehouse is outsourced to?

To succeed in the face of heightened volatility in demand, organizational leaders must understand their customers' value requirements and be able to translate those requirements into products and solutions.

In addition, companies must not only understand their customers' value requirements, but also consider their contribution and their role in society.

Covid-19 have highlights the importance of why industry and society have to create value together

The community must be active in development of future supply chains.

There has never been a time of greater change for the “last mile”. E-commerce is expected to increase by 17% per year and Last-Mile deliveries in the cities by 78% by 2030

SCM-development in cooperation between community and companies

In terms of the next steps towards implementation, we want to encourage firms and cities to accelerate pragmatic intervention pilots, especially in mid-sized cities that do not have the innovation and traffic management budget

In addition, we see a strong need for city platforms or forums in which public-sector players of all sizes can exchange the most effective methodologies, report back from successful last-mile pilots, interact with businesses and discuss which evolutionary interventions can be implemented now and which revolutionary measures must be prepared to accelerate implementation in the upcoming decade



10 Principles for post-Corona supply chain management

1. The world is more dynamic than ever - Supply chains should be dynamic and flexible rather than cost efficient
2. Supply chain development should be experimental driven
3. Supply chains should be designed for economies of scale, scope and integration
4. Global availability is not enough, resilience also requires inventories regionally and locally
5. Today's centralisation of stocks has to be questioned - keeping stock is cheaper than ever before

6. A supply chain should provide customer value as well as societal value
7. SCM should contribute to meet high environmental and social sustainability goals in addition to financial profitability
8. The resource base in a supply chain have internal as well as external resources, from other companies and from society
9. Society should be involved in future supply chain development, in particular on last mile transports
10. SC-performance should be measured from flow-oriented strategic control figures - not operational key-figures

A black and white photograph showing two hands holding a rolled-up document. The document is the central focus, held horizontally. The hands are positioned at the ends of the roll, with fingers gripping it. The background is dark and out of focus. The email address 'mats.abrahamsson@liu.se' is printed in white on the document.

mats.abrahamsson@liu.se

Supply Chain Management is more
important than ever before