

Supply Chain Management

A Strategic Lever for Business Success

McKinsey's Supply Chain Management Practice

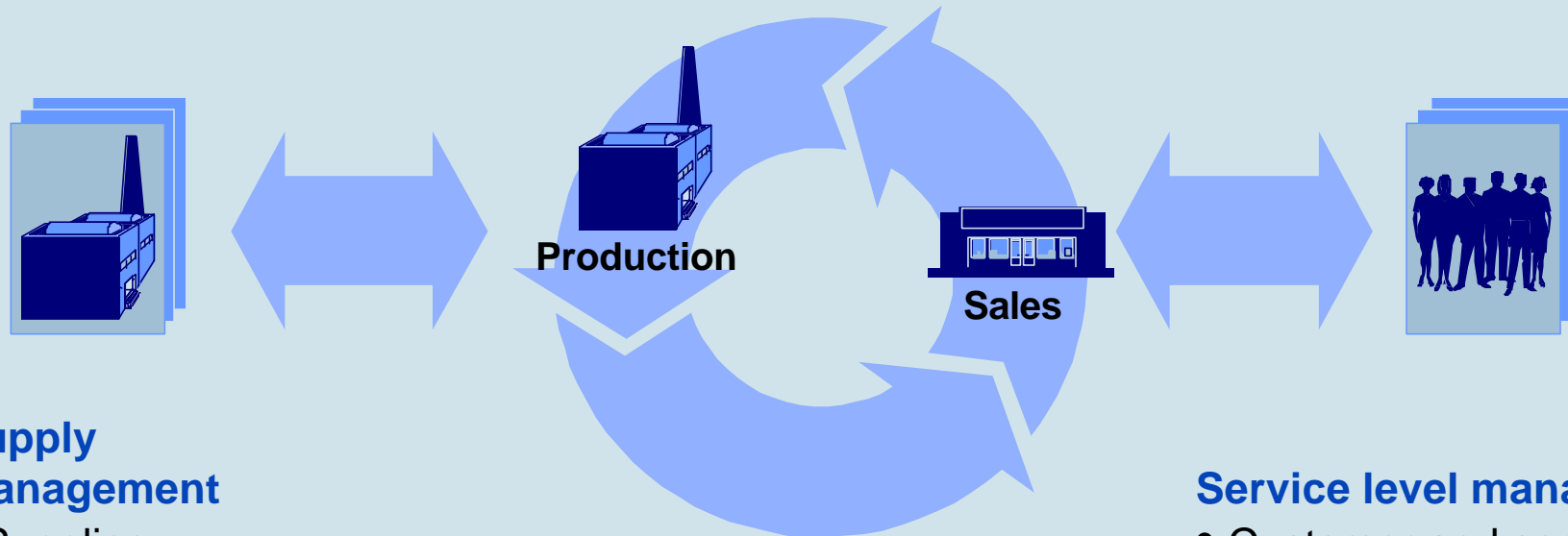
Five processes jointly determine supply chain excellence

Production management

- Production planning
- Capacity allocation

Order and demand management

- Ordering policies
- Sales volume planning
- Order generation and fulfillment



Production

Sales

Supply management

- Supplier management
- Inbound flow management

Distribution management

- Distribution network
- Warehousing
- Transportation

Service level management

- Customer and service level segmentation
- Service level performance measurement

Supply chain management presents huge challenges



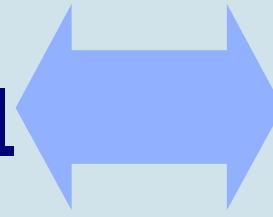
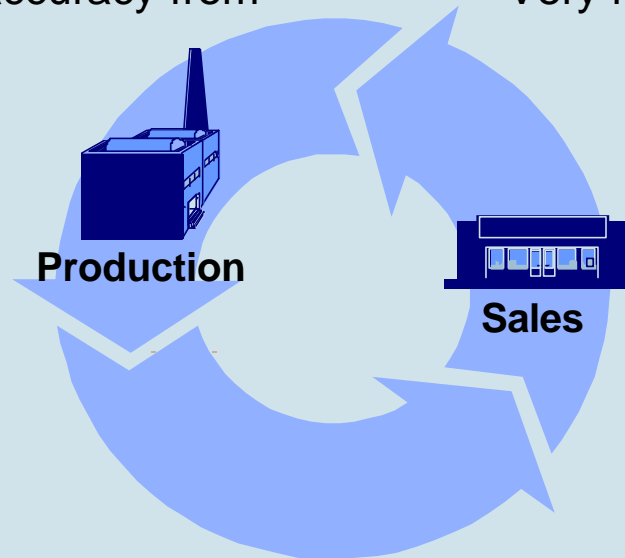
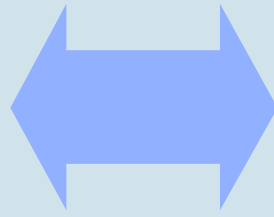
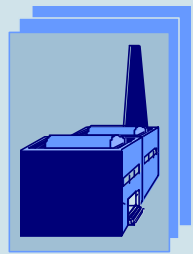
Production management

- Late and constant changes in schedule (externally/internally triggered)
- Low delivery accuracy from factories



Order and demand management

- No clear delivery date given to customers
- No real order tracking
- Very low forecasting accuracy



Supply management

- Suboptimal supplier interaction due to instable production



Distribution management

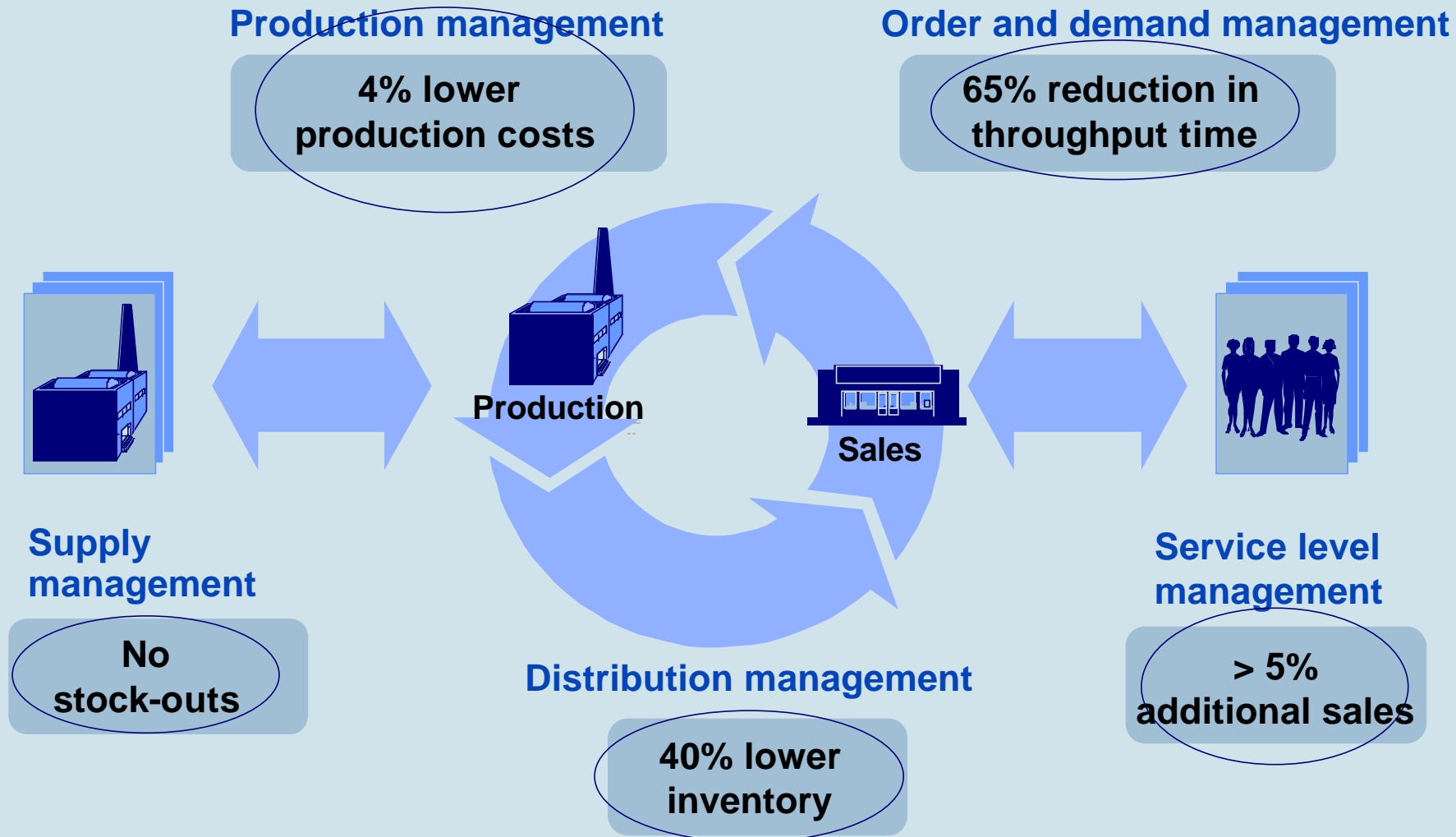
- High inventory levels, but nevertheless low service levels
- Costly distribution network



Service level management

- Very low service level
- No idea of future breakpoints/expectations of customers

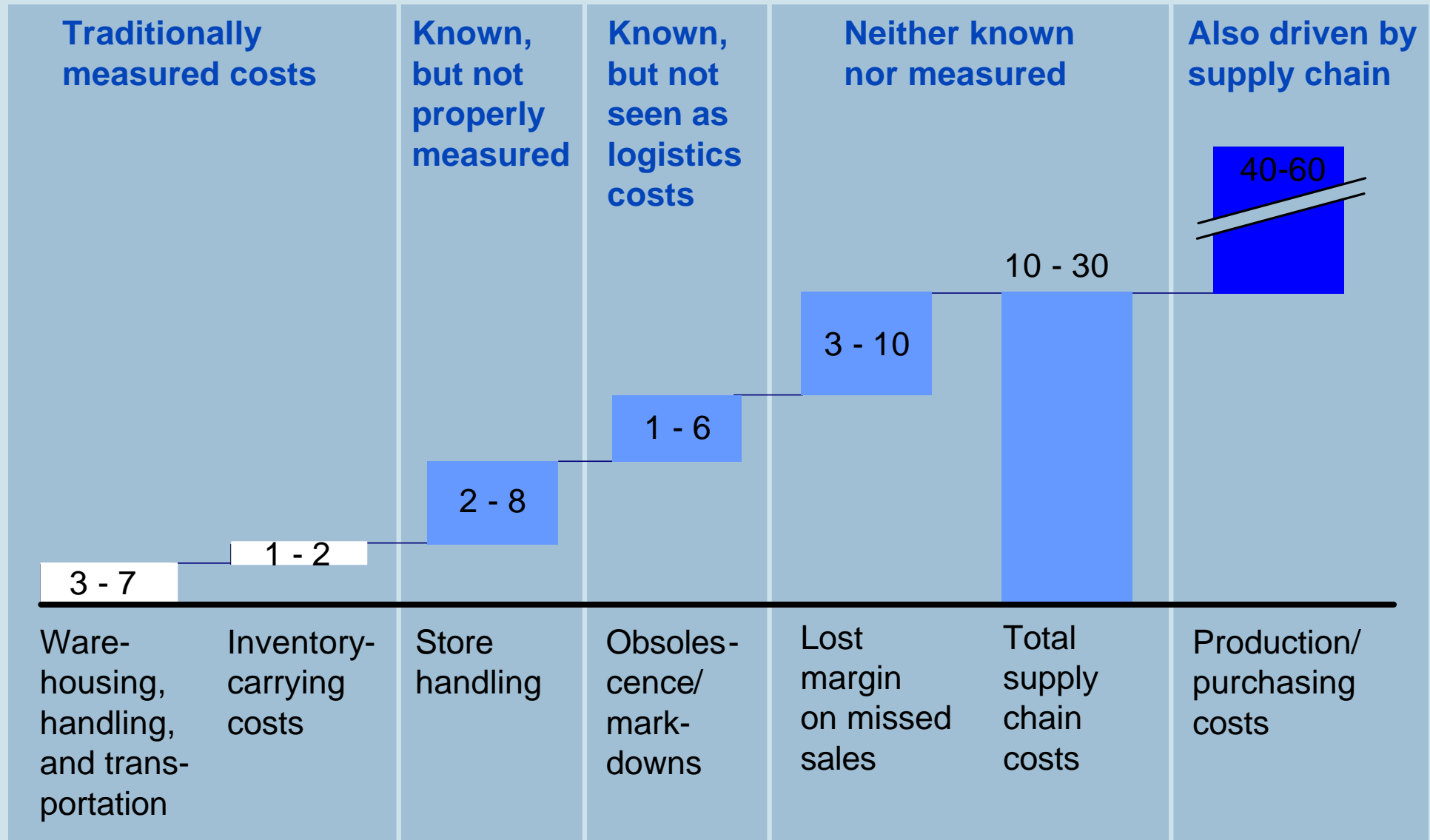
Optimized supply chain management presents huge opportunities



The impact of SCM on cost is greater than normally perceived

EXAMPLE

Percentage of sales



Four imperatives for successful SCM

Clear role and ownership structure

"Do it right or don't do it at all"

- **Use SCM strengths as a growth lever if you are superior**
- **Outsource processes if you are only mediocre**
- **However, never lose control over your key processes within your industry**

Seamless integration of all processes

"All together now"

- Integration of operational processes within your company
- Virtual management of end-to-end SCM including outside partners

Targeted use of modern technology

"Do IT smart"

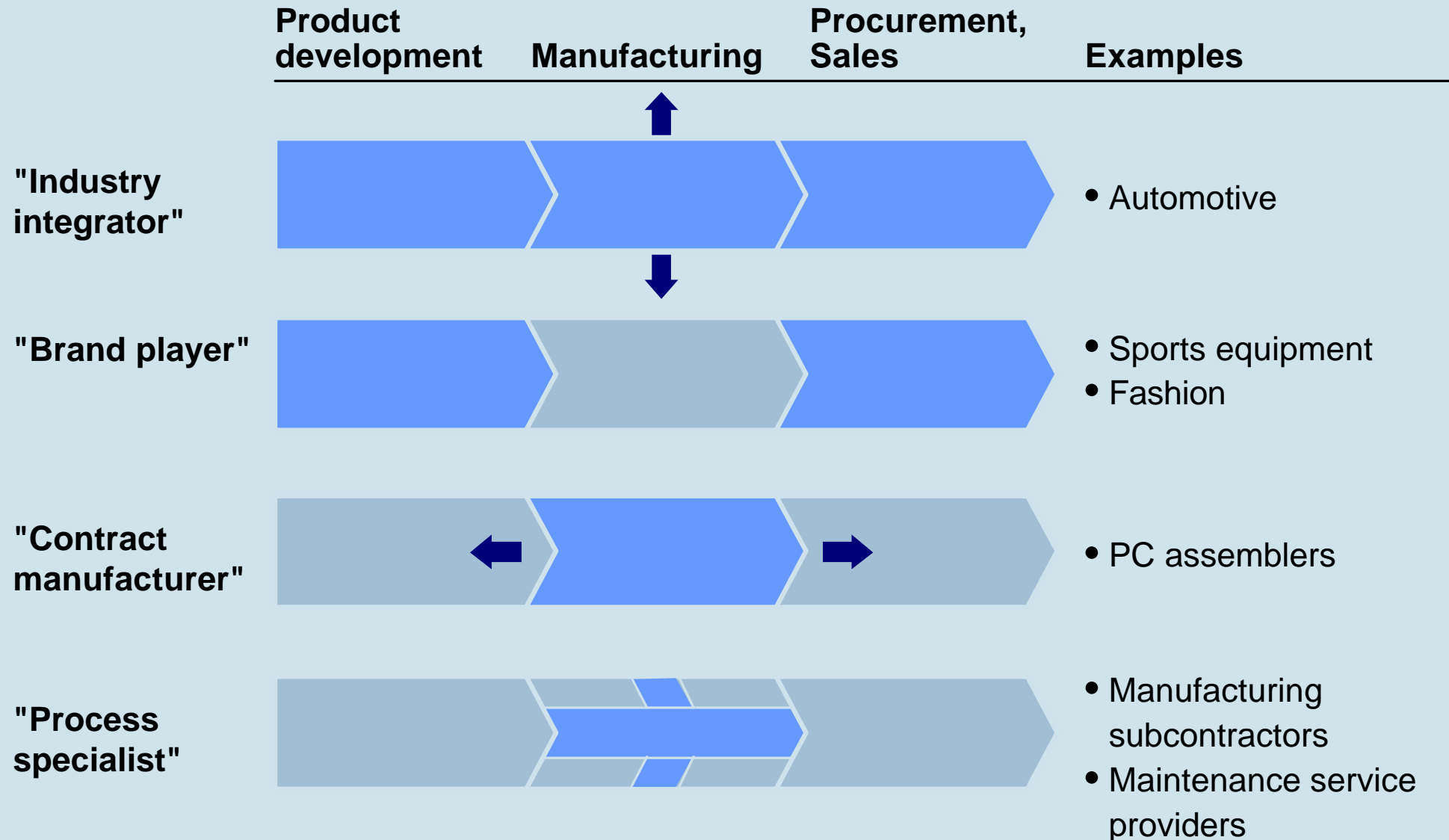
- Full transparency and integration
- Low transaction costs along all processes
- Focus on immediate business need

Continuous striving for high performance

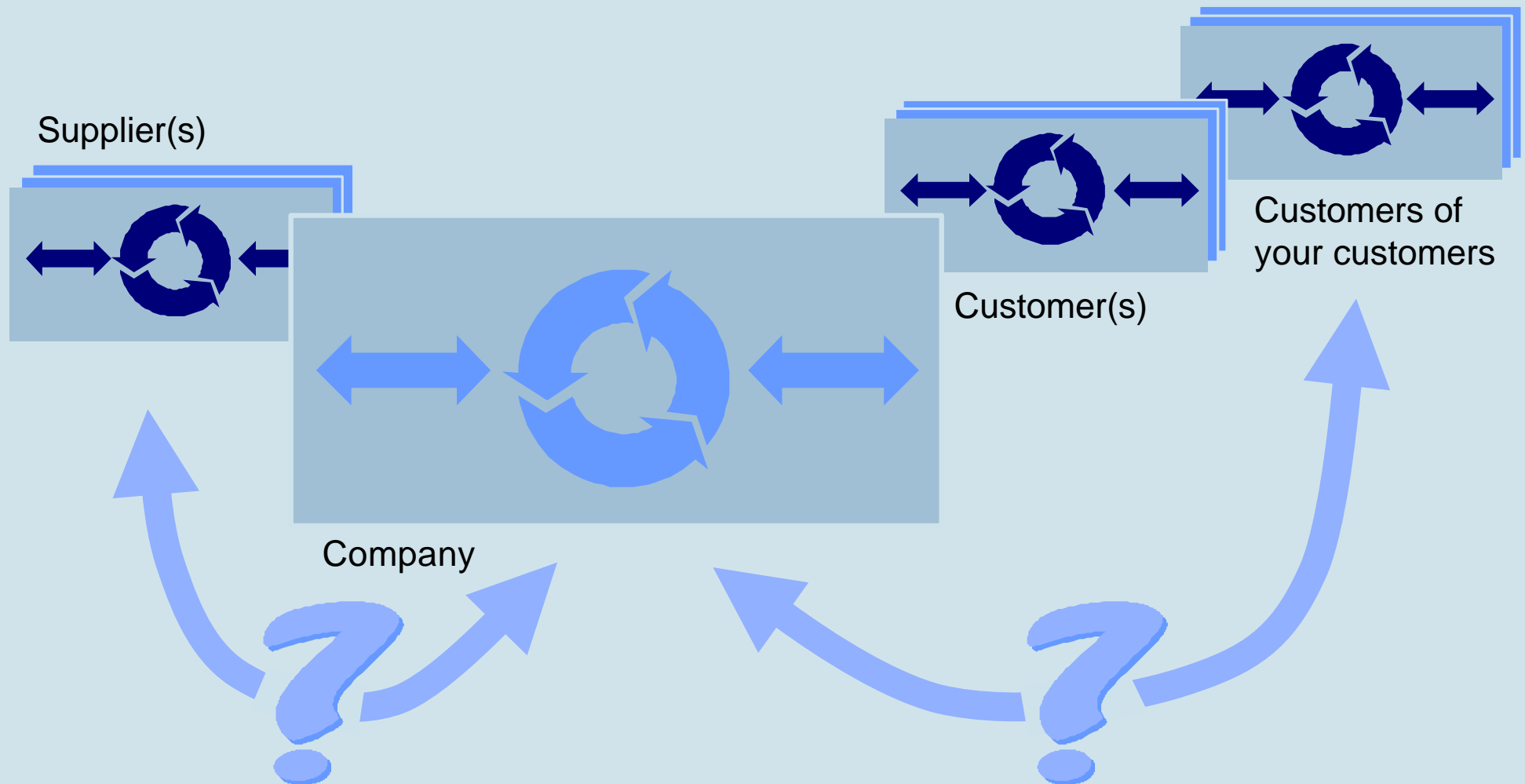
"The sky is the limit"

- Steady increase in performance, aspiration level
- New breakpoints evolving
- New business models demand dramatic change

The focus of the SCM architecture depends on your company's role along the value chain



Understand the value chain's critical success factors end-to-end and your role within the chain




- Which player is driving the overall chain?
- What is your role and advantage?
- What does it mean for your SCM?

Outsourcing of complete processes to experts


EXAMPLE

Originating channel

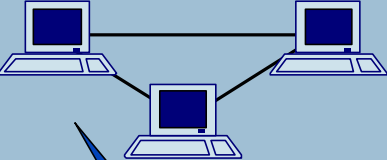
Call center



On-line



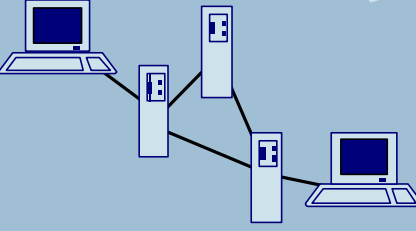
ERP connection



- Order receipt
- Customer management
- Call center management
- Track and trace

- Warehouse operations
- Inventory management
- Picking and packing

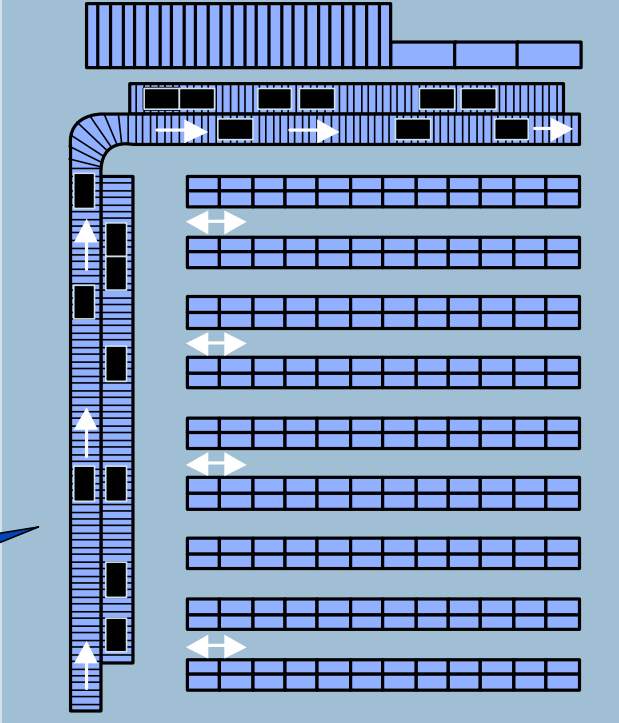
Data center



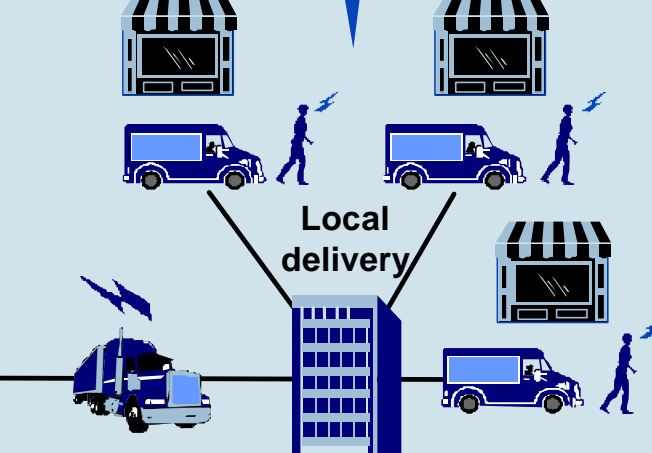
- Order processing
- Customer analysis
- Inventory analysis

- Fleet management
- Returns/collection
- Reverse logistics
- Sorting

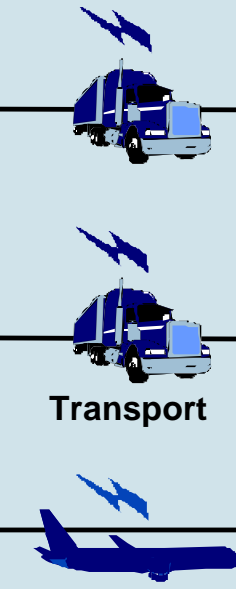
Warehouse/processing center



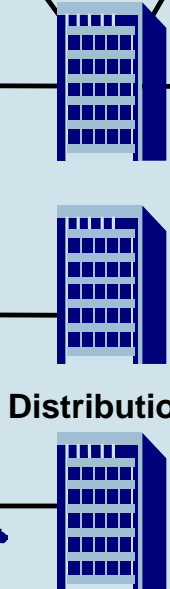
Local delivery



Transport



Distribution



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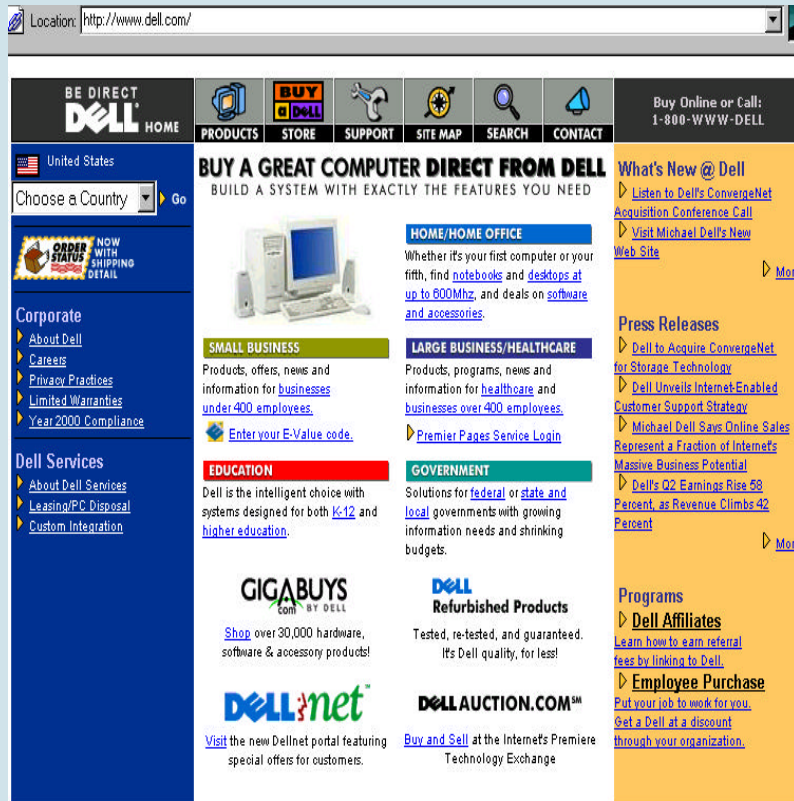
- Full transparency and integration
- Low transaction costs along all processes
- Focus on immediate business need

Continuous striving for high performance

"The sky is the limit"

- Steady increase in performance, aspiration level
- New breakpoints evolving
- New business models demand dramatic change

Thanks to SCM innovations, companies such as Dell have managed to reinvent their industry



- **Superior customer relationships**
 - Customer segmentation by size/region/need (key buying factors)
 - Extensive customer knowledge building

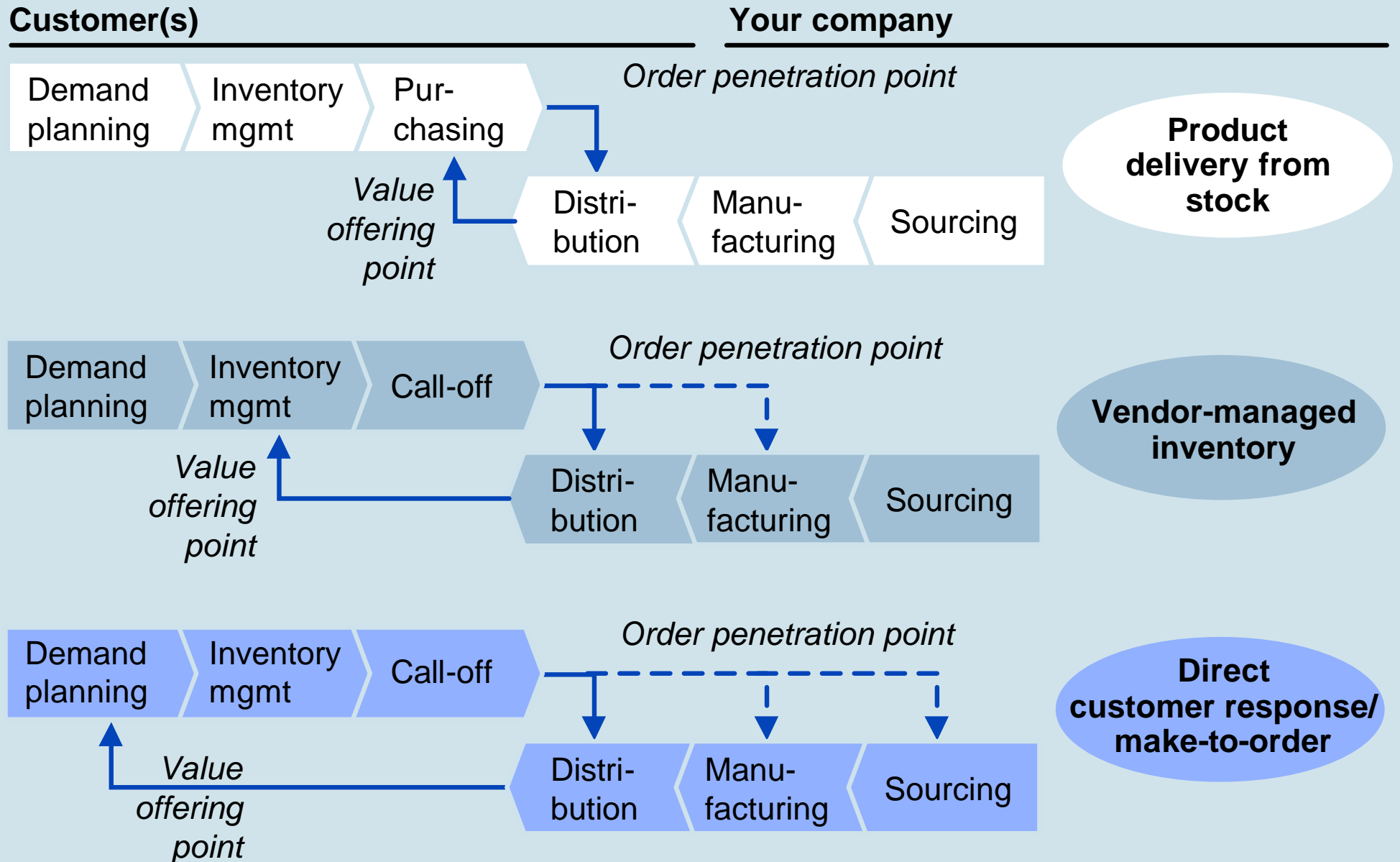


- **Make-to-order production**
 - Lead-time-based manufacturing model configured for order-specific production
 - Flexible manufacturing units
 - No obsolescence costs



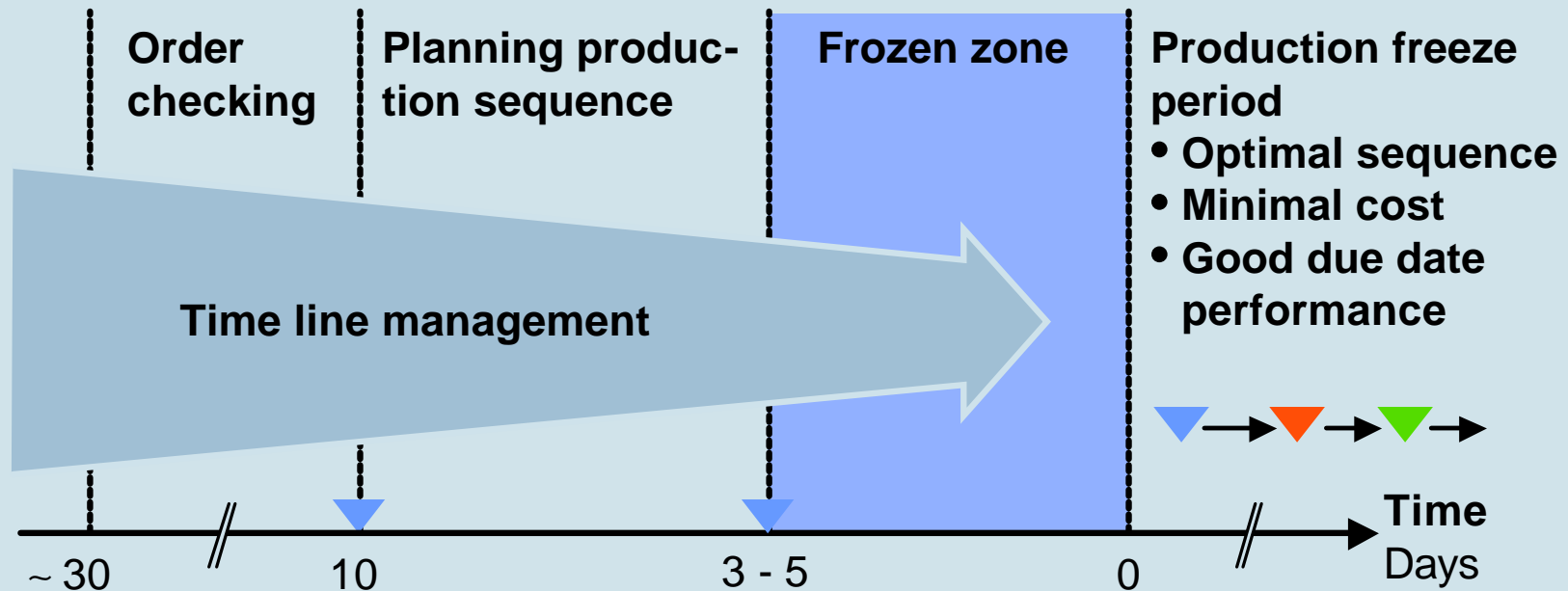
- **Virtual integration of suppliers**
 - Few selected partners for long-term relationships
 - Real-time information sharing (forecasts, production planning)
 - On-line inventory management

SCM and customer interaction – consider the possibilities for different value offerings to customers



SCM and production – timeline management has a major impact on production costs

EXAMPLE ASSEMBLY



- Check feasibility of orders based on clear rules between Sales and Production
- Specify volumes

- Introduce strict filters to prevent unclear orders
- Specify final product mix

- No changes, fixed sequence
- Production sequence is "frozen"

- Optimal processing of production orders

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Translate technologies into transformation levers to exploit potential

Advanced IT technologies

Communication and access

- Cheap, standardized communications platform: Internet
- Off-the-shelf mobile communications

Automated material identification

- Standardized barcodes
- Remotely readable transponders

Advances in optimization algorithms

- Constraint capacity planning
- Hybrid simulation and optimization approaches

Supply chain improvement levers

Automated transactions

- Product data
- Orders/purchasing orders
- Delivery notes
- Invoices

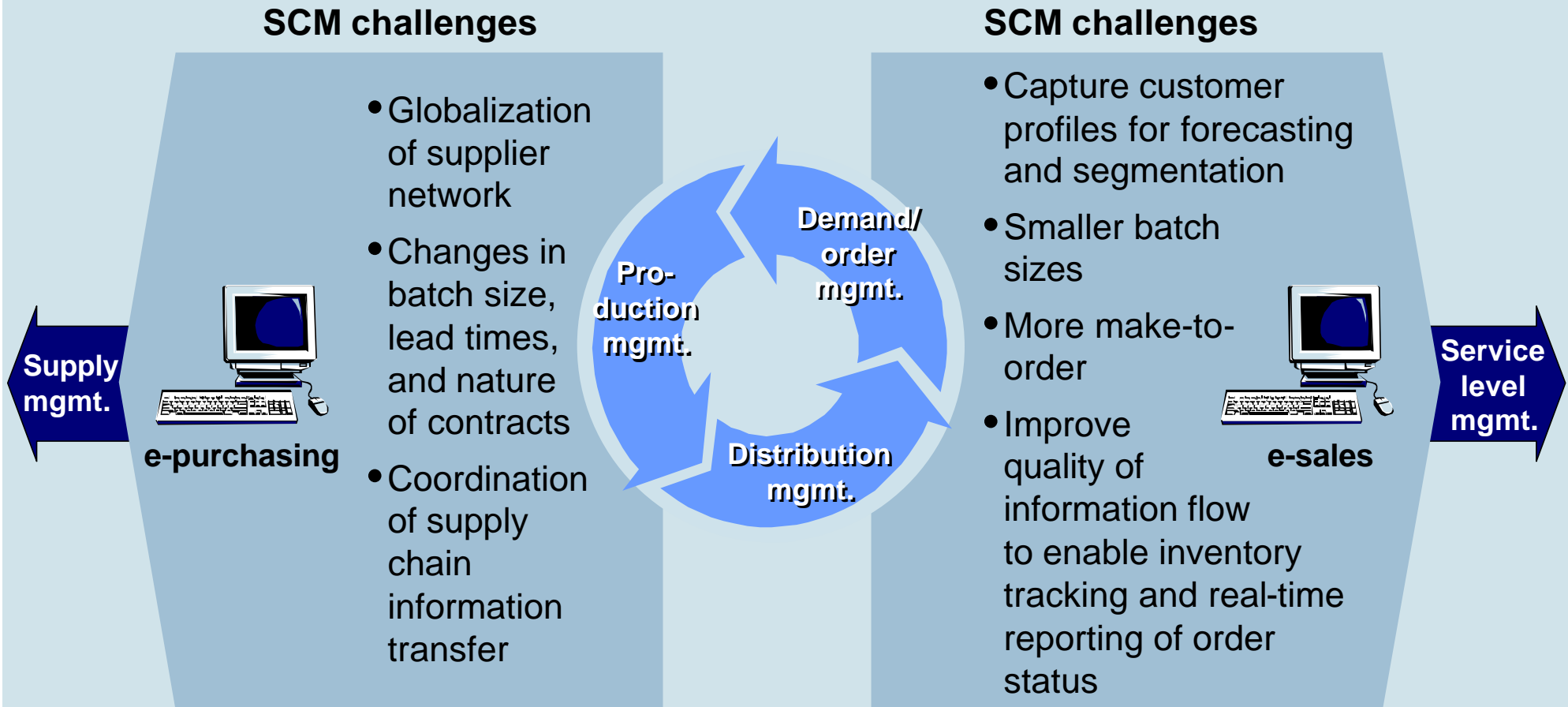
Transparency of current and future supply chain status

- Demand/orders
- Customer order confirmations
- Material flow
- Resources

Automated planning and optimization

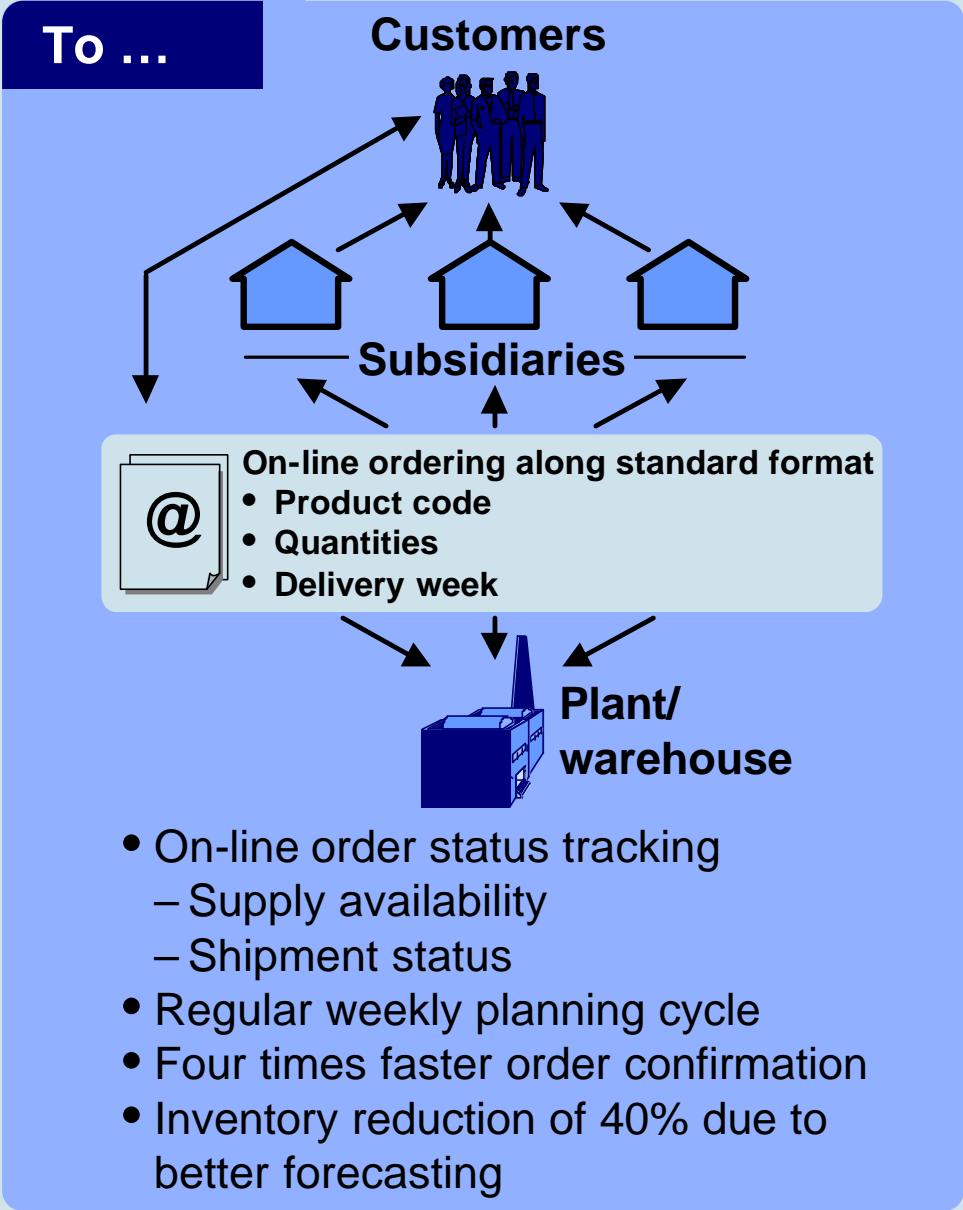
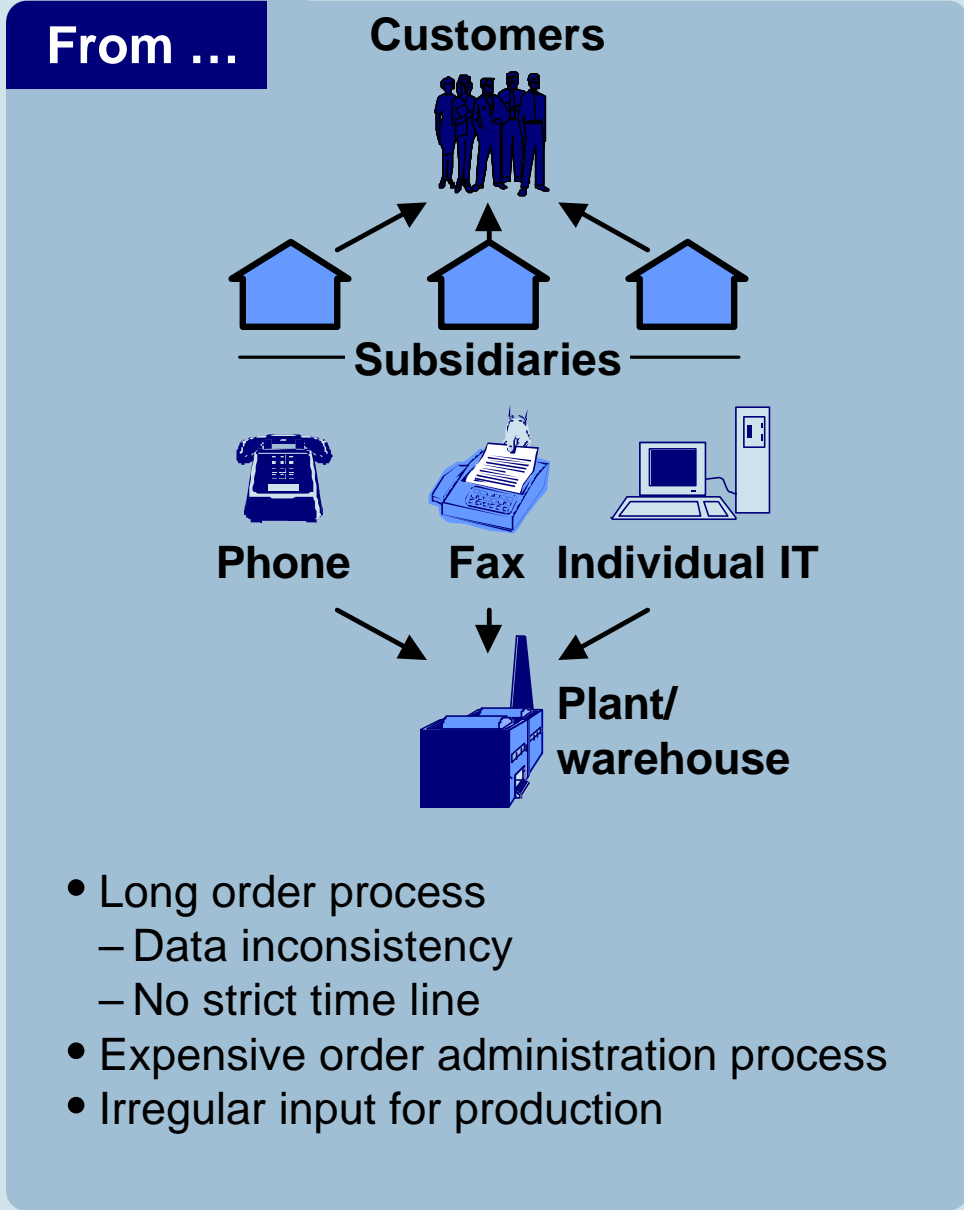
- Feasible plans
- Optimized plans

E-technologies have a major impact on SCM, especially for customer and supplier interaction



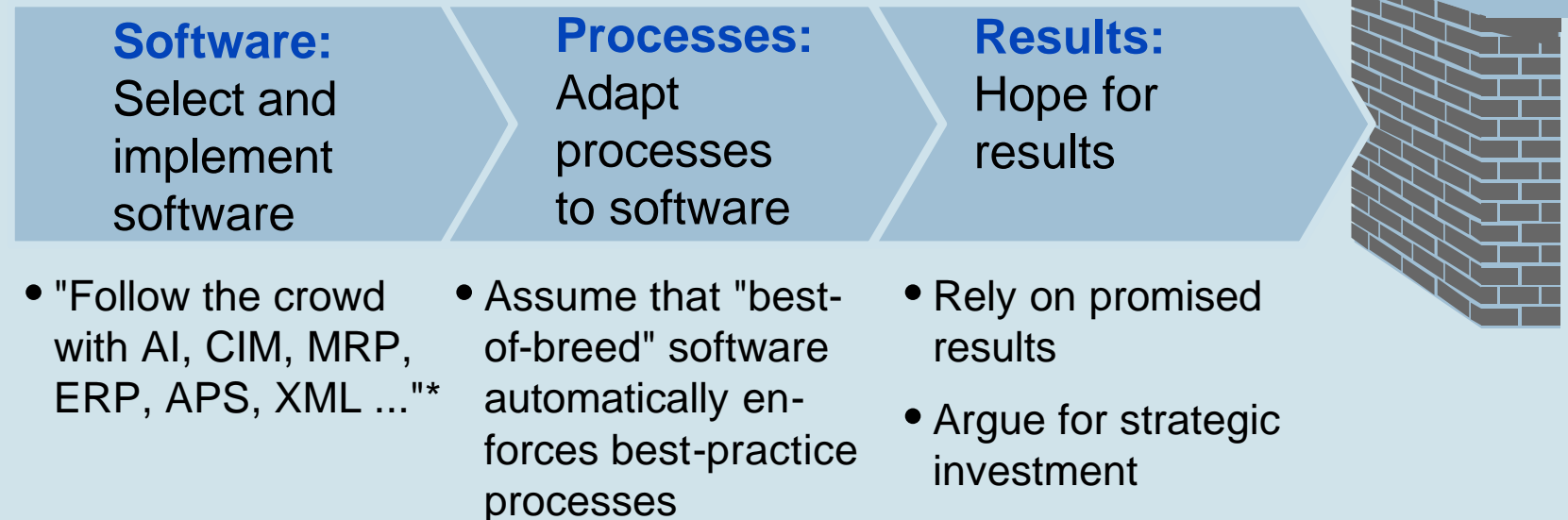
On-line ordering – improving connectivity with low transaction costs

EXAMPLE ASSEMBLY



The traditional approach and thinking regarding IT tools in SCM does not necessarily lead to success

Traditional approach



* AI: Artificial Intelligence; CIM: Computer Integrated Manufacturing; MRP: Material and Resource Planning; ERP: Enterprise Resource Planning; APS: Advanced Planning Systems; XML: Extensible Markup Language

The better way to e-enable the supply chain

Traditional approach

Software:
Select and implement software

Processes:
Adapt processes to software

Results:
Hope for results

"Lean eSCM" approach

Results:
Anticipate impact

Processes:
Keep it simple

Software:
Go for lean IT solutions

- Identify the 3 - 6 key potentials along the entire supply chain
- Translate IT into real transformation levers
- Start with integrating jobs
- Connect them by simple processes and simplify the remaining process steps
- Create flexible IT architecture
- Concentrate on a few core functionalities
- Prototype the solution and roll it out fast

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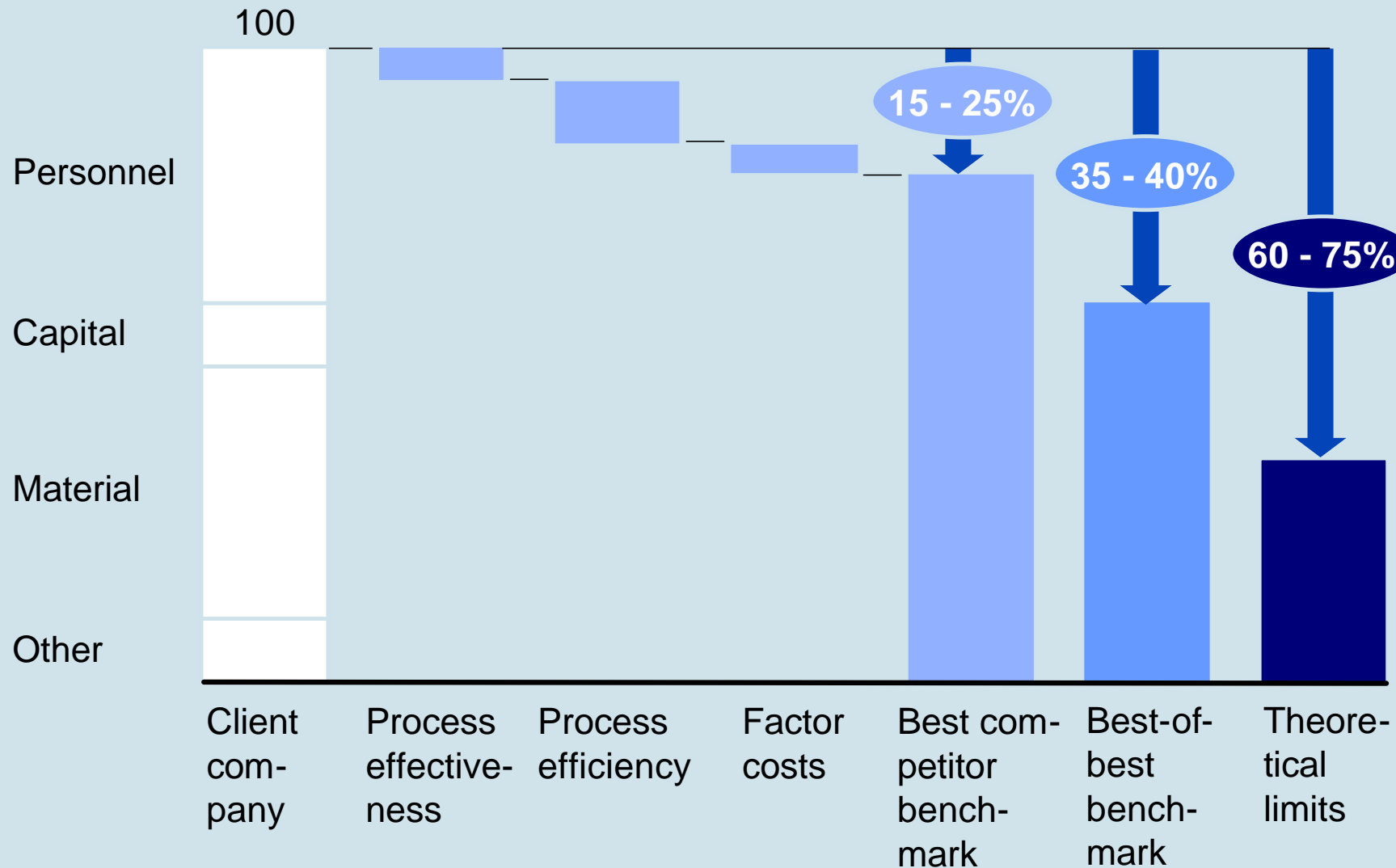
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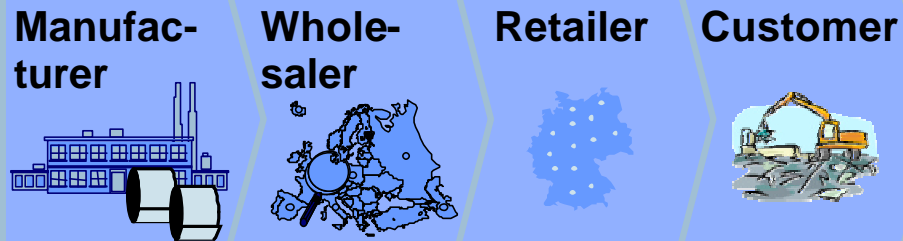
EXAMPLE
ASSEMBLY

Performance comparison/gaps

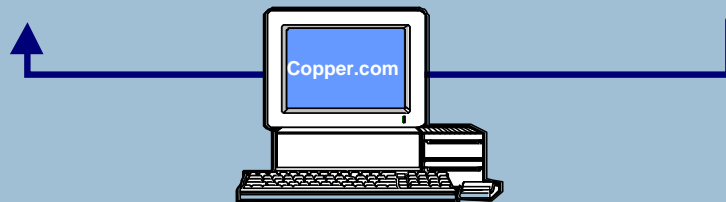


New business models and breakpoints are creating discontinuities in supply chain performance

Disintermediation (e.g., copper industry)



Coil batches – Value-added services – Call-off



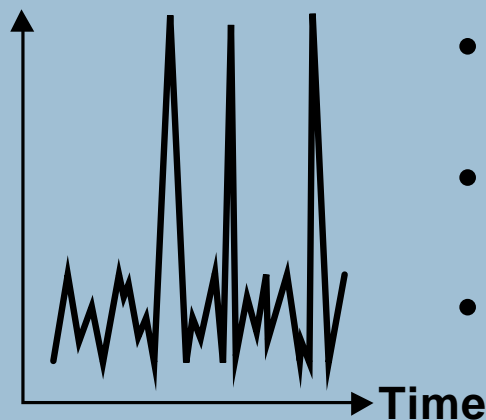
Mass customization



9 basic product lines, unlimited customized options

Event-based demand

Order volume



- Dedicated promotions
- Increasing new product launches
- Difficult to predict outcomes

Lead time and life cycle – time competition

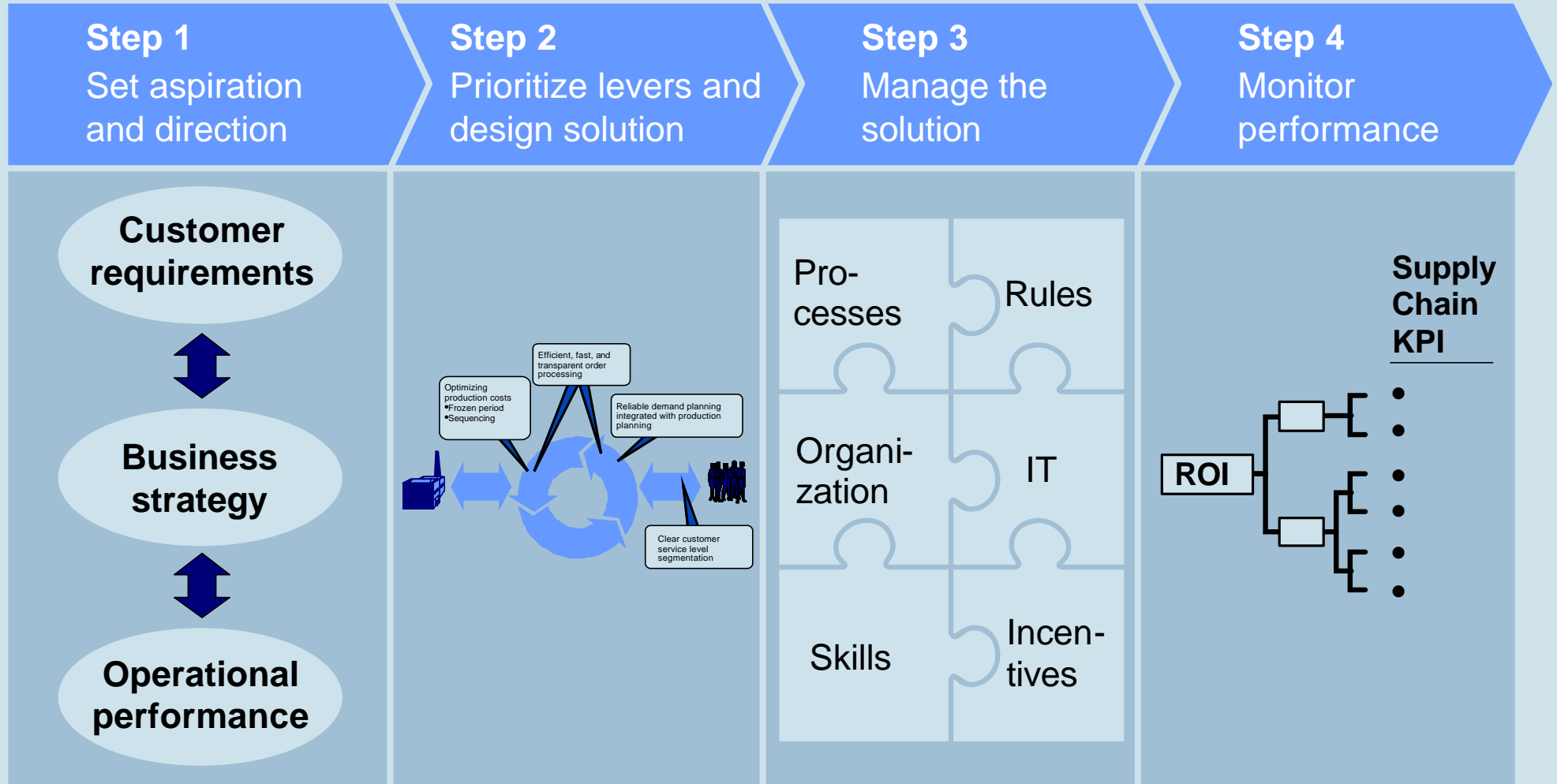
Automotive OEM industry leaders

"Every product delivered within 4 days"

Mobile phone industry leaders

"New products every 9 months"

How to act – lessons learned



Focus on setting direction of supply chain transformation

STEP 1: SET DIRECTION

1. **Set aspirations: run/rebalance, redesign, or innovate**
2. **Think customer breakpoints and theoretical best practices and not only competitive benchmarks**

STEP 2: DESIGN THE SOLUTION

3. Think end-to-end
4. Systematically segment the supply chain according to logistics criteria
5. Focus on the key 3 - 6 improvement levers (and not 10 - 20)

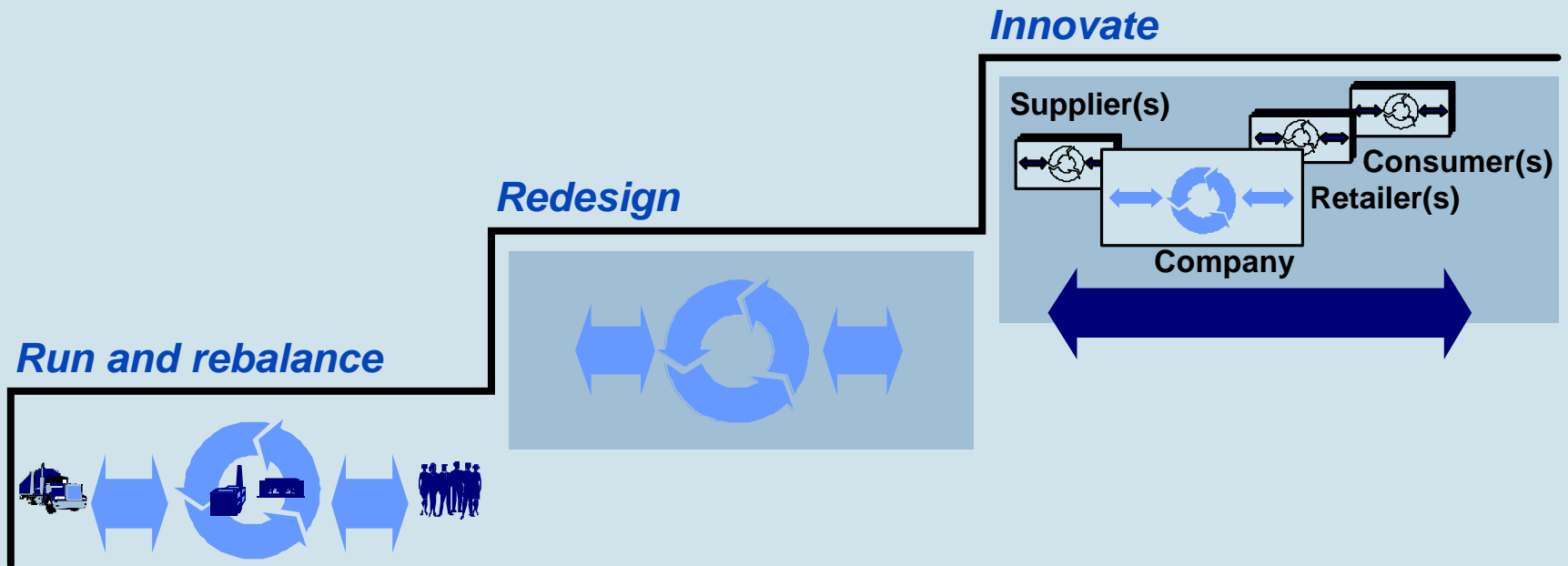
STEP 3: MANAGE THE SOLUTION

6. Think pilot (microcosm) and not big bang
7. Use cross-functional teams of star line managers and provide top-management leadership

STEP 4: MONITOR PERFORMANCE

8. Design key performance indicators (KPIs) and potential organizational changes up-front

Companies have different aspirations for transforming their supply chains



Aspiration Better execution of current SCM design to improve competitiveness

Context

- Current SCM design supports strategy
- Room for improvement in key processes

Redesign supply chain to improve cost and/or increase growth

Current design does not support strategy and/or is inefficient

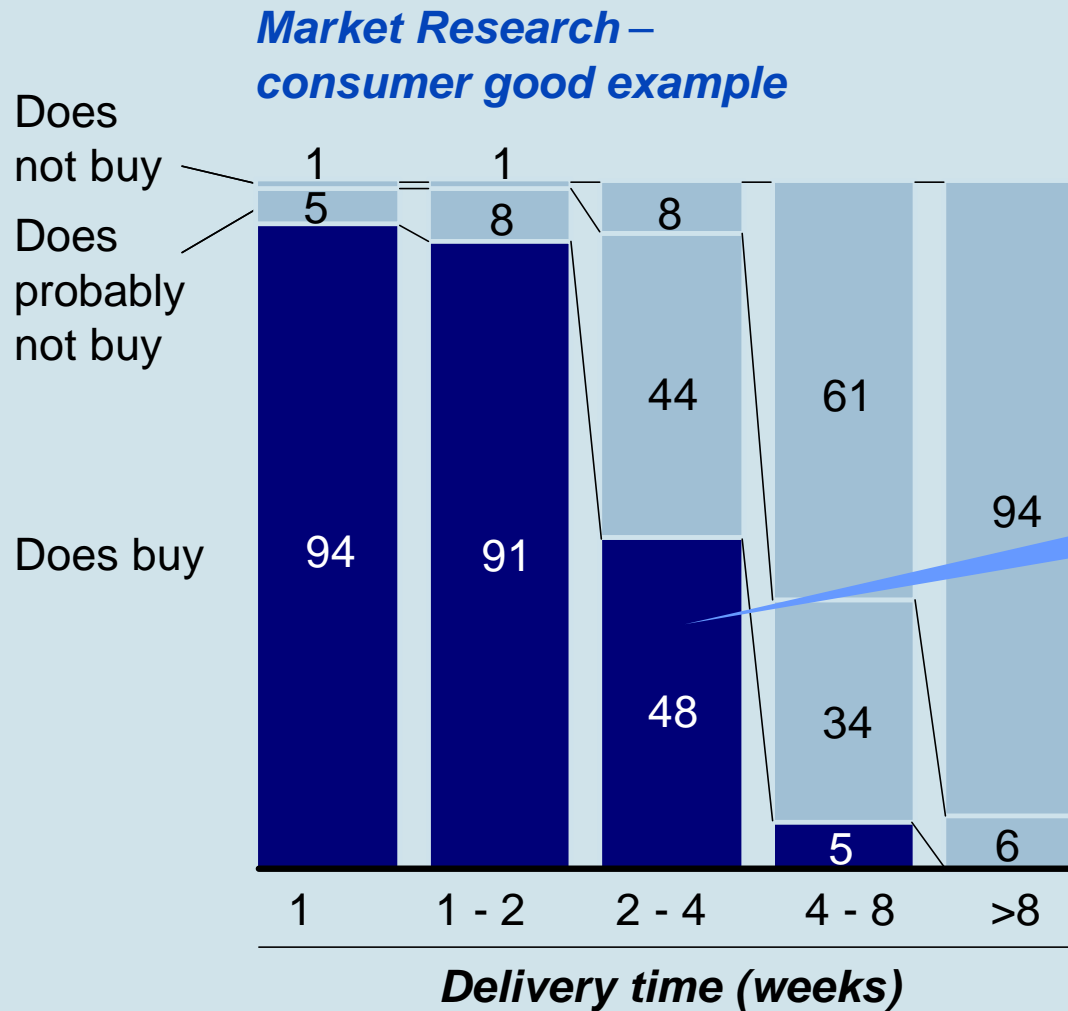
Change the game by innovating across the industry value chain

Industry discontinuity

- Tap latent demand
- Redefine roles
- Change cost structure

The supply chain should be designed around the customer breakpoints

Buying probability depending on delivery time in percent



Prioritize levers and design the solution

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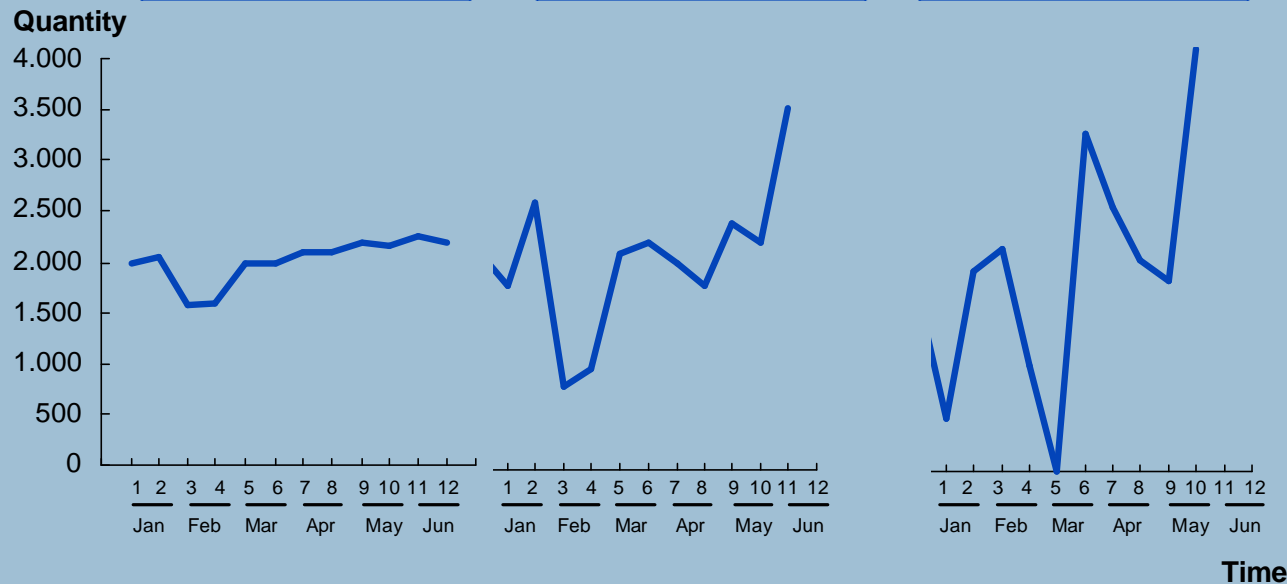
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Thinking end-to-end helps control "noise" in the system

Flow of demand information through the supply chain



Reasons

- Unfavorable reorder algorithm along the chain
- No synchronization of available market information

Different supply chain types have different characteristics

Supply chain types	Supply chain characteristics	Examples
"Fashion"	<ul style="list-style-type: none"> • Short life cycle • High seasonality 	<ul style="list-style-type: none"> • Fashion apparel • PCs • Toys
"Replenishment"	<ul style="list-style-type: none"> • Multiple products • Inventory-driven 	<ul style="list-style-type: none"> • Retail • Spare parts
"Engineered"	<ul style="list-style-type: none"> • Significant product variety • Customized/make-to-order 	<ul style="list-style-type: none"> • Medical systems • Engineering goods
"Promoted"	<ul style="list-style-type: none"> • Seasonal • Forecast/event-driven 	<ul style="list-style-type: none"> • Consumer packaged goods • Pharma (some products)
"Process"	<ul style="list-style-type: none"> • Long lead times • Large batch sizes 	<ul style="list-style-type: none"> • Chemicals • Basic materials

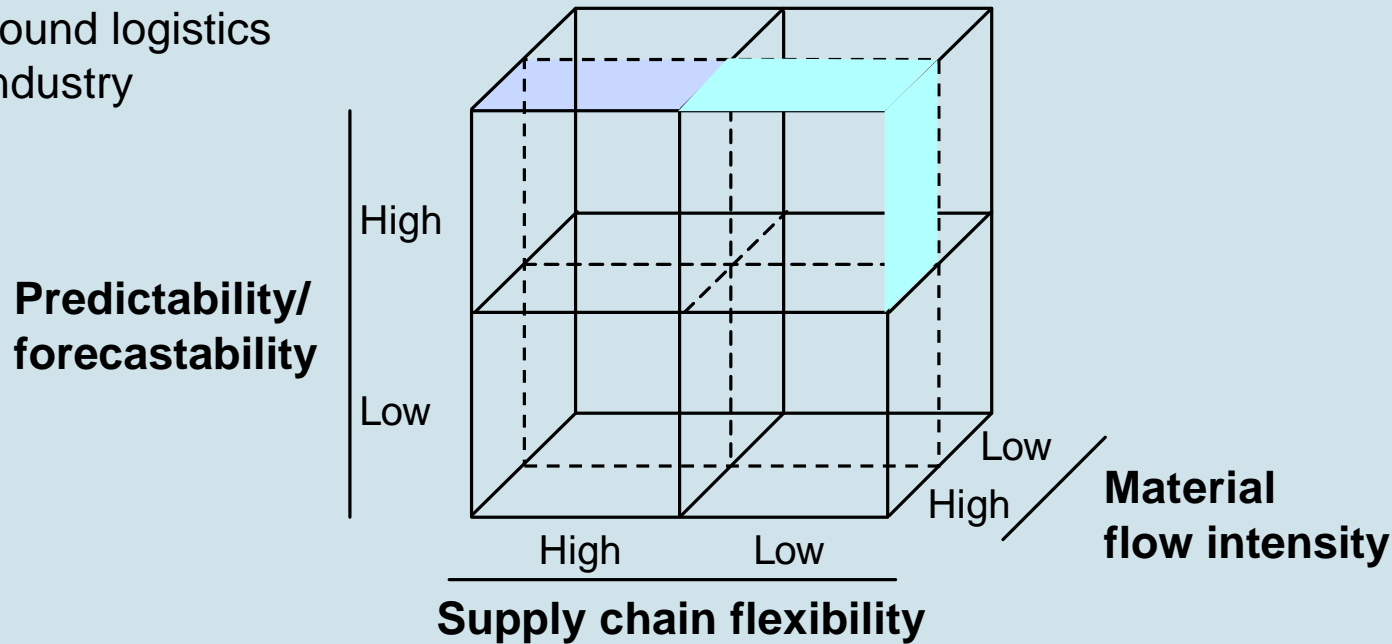
Focus first on the 3 to 6 key improvement levers for supply chain transformation

		Supply chain type				
		"Fashion"	"Replenishment"	"Engineered"	"Promoted"	"Process"
Key design lever	Physical costs		✓			✓
	Forecasting				✓	✓
	Product launch management	✓				
	Complexity reduction		✓	✓		
	Response time	✓	✓			
	Order management	✓		✓		
	Demand management	✓			✓	

A company should systematically segment its supply chain along clearly defined criteria

EXAMPLE

Example: Inbound logistics in assembly industry



Supply chain segment

"Make-to-order"

- No stock
- Order-specific supply

Efficient, quick order management

"Directly forecast-driven"

- Supply depends directly on forecast

Well-defined planning processes and forecasting models

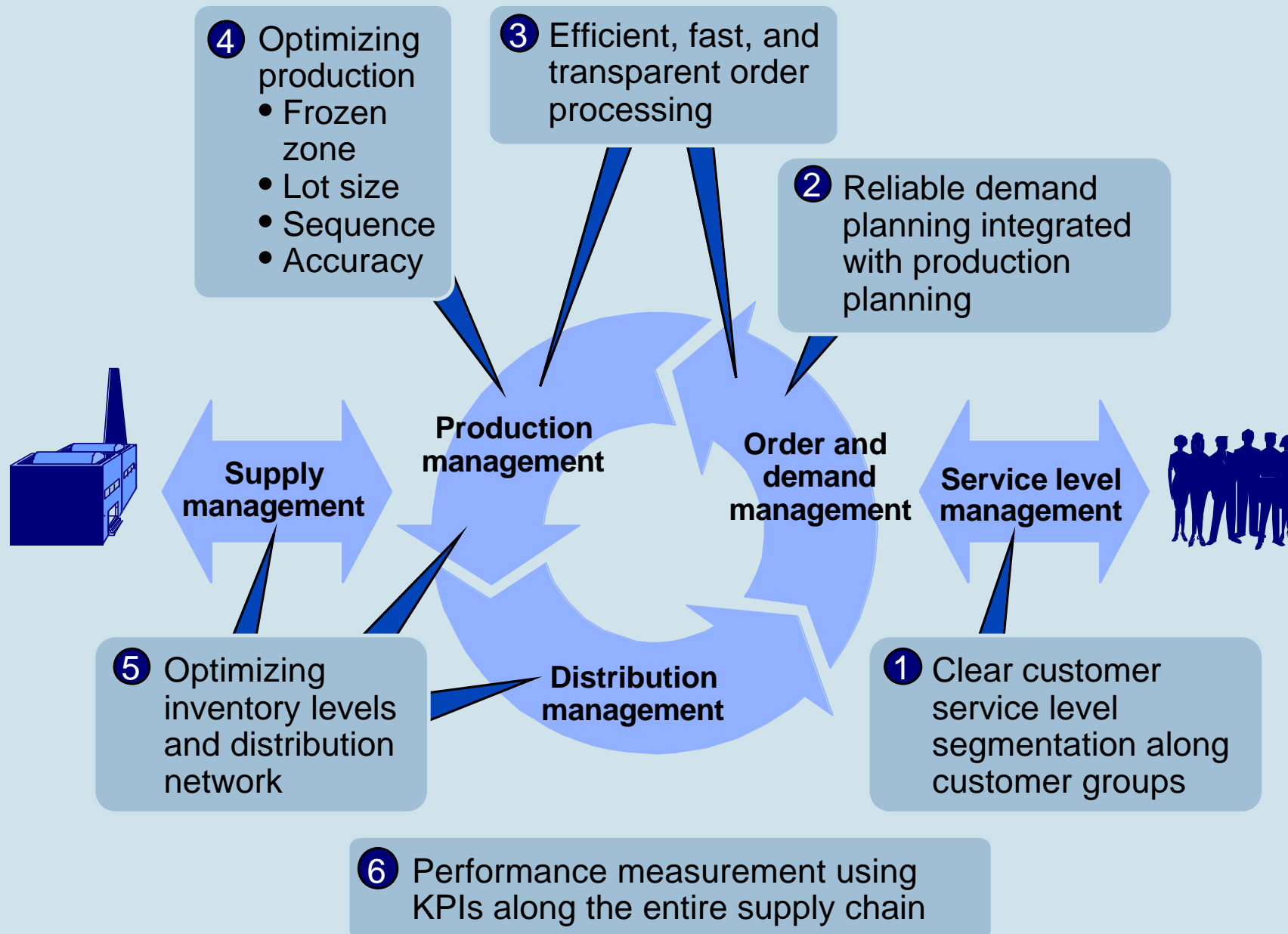
"Inventory replenishment"

- Supply via inventory buffer/warehouse

Optimal replenishment parameters /algorithm

Characteristics

Six typical key levers to improve the supply chain



A "microcosm" approach with appropriate organization is crucial

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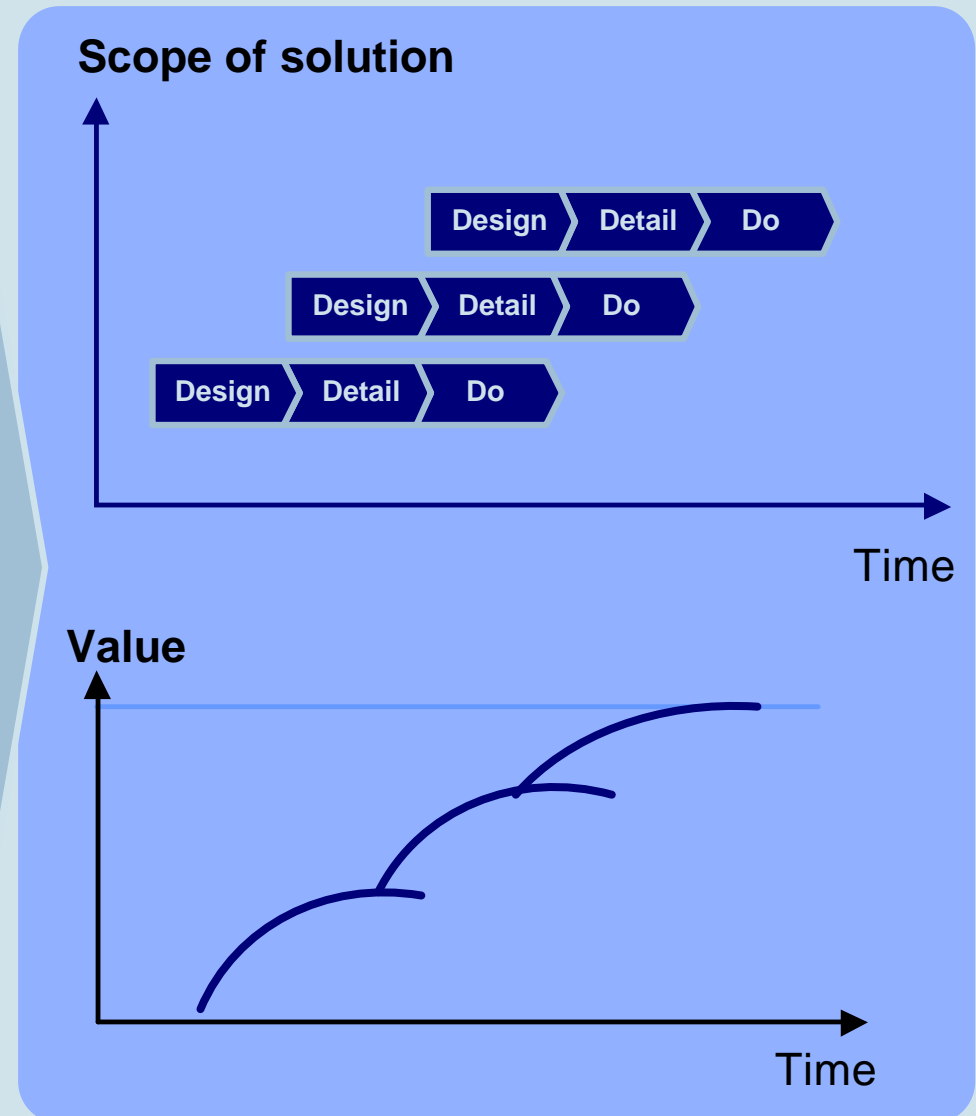
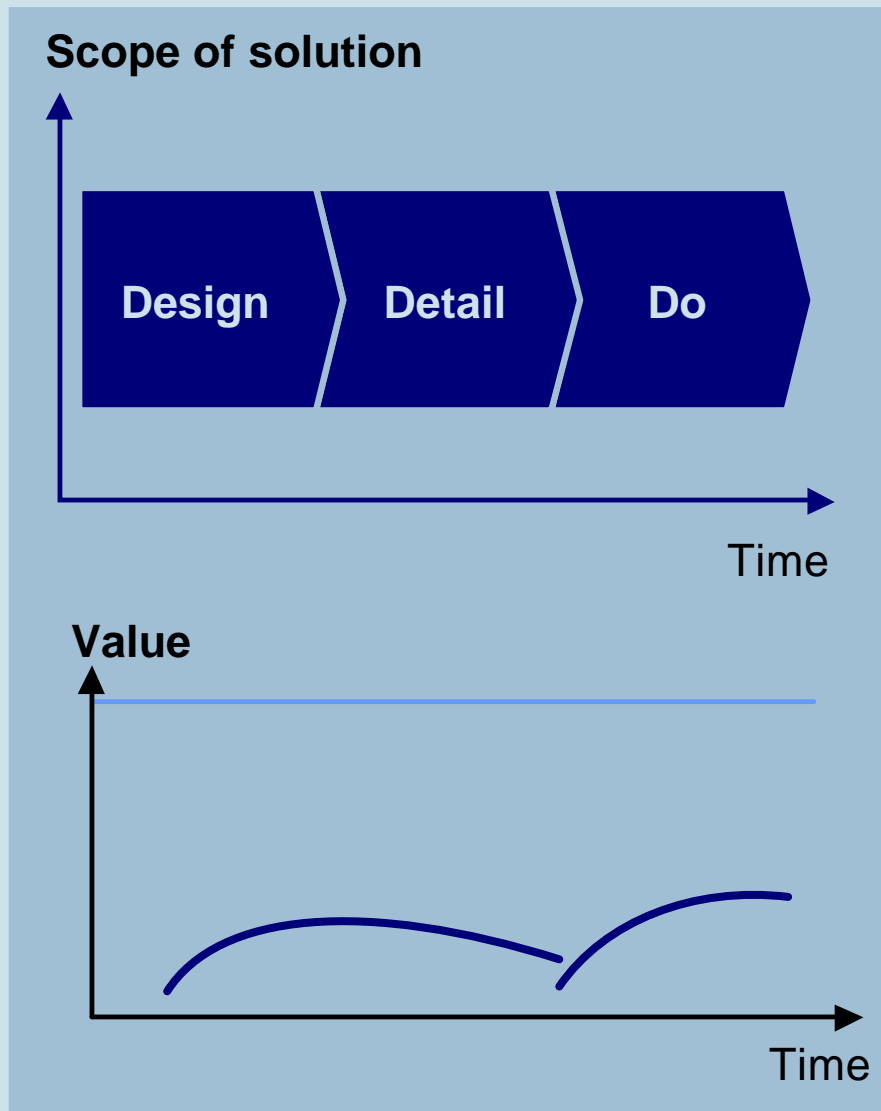
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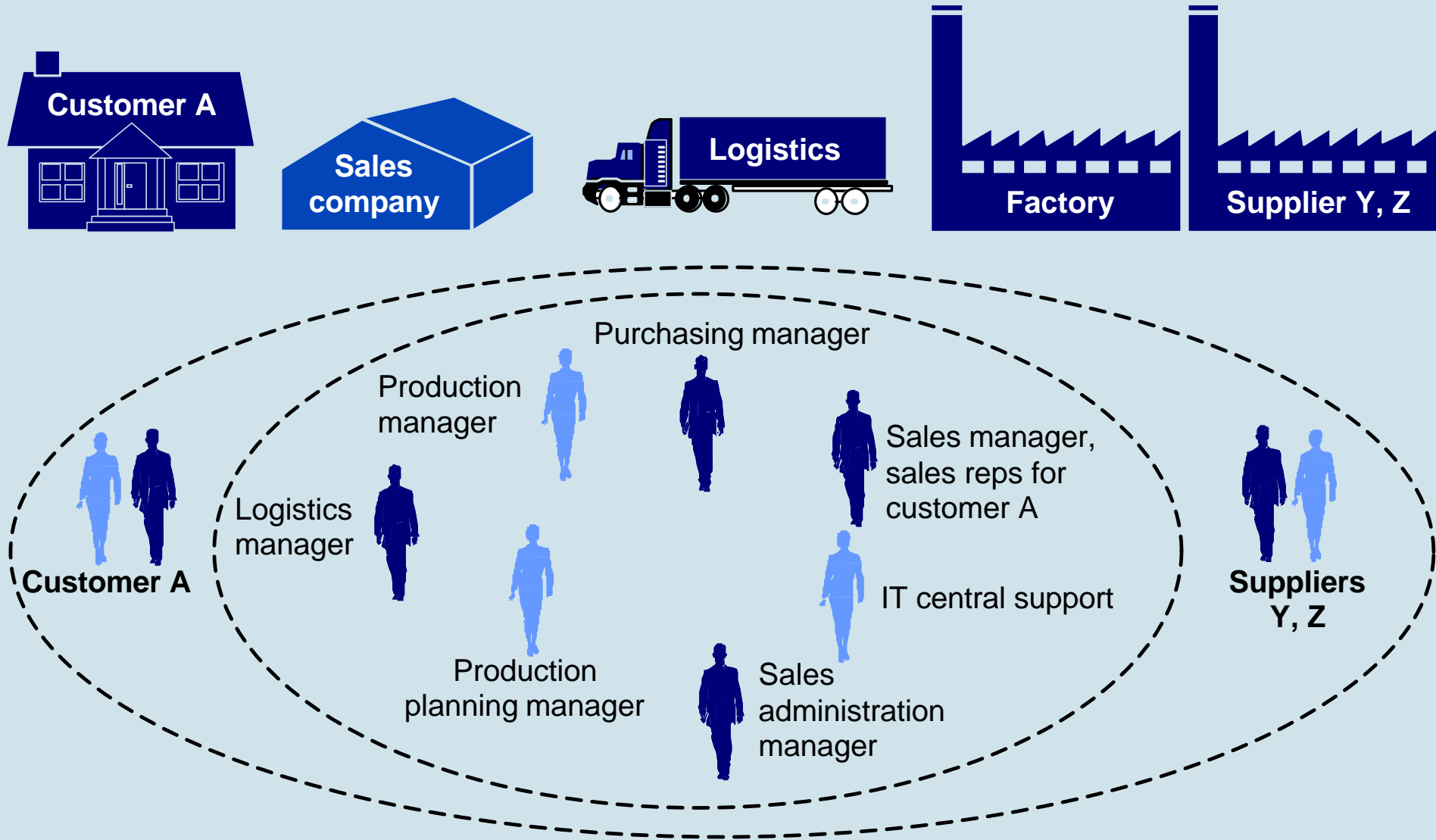
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Problems should be tackled in smaller pieces with a fast iterative approach to achieve tangible results

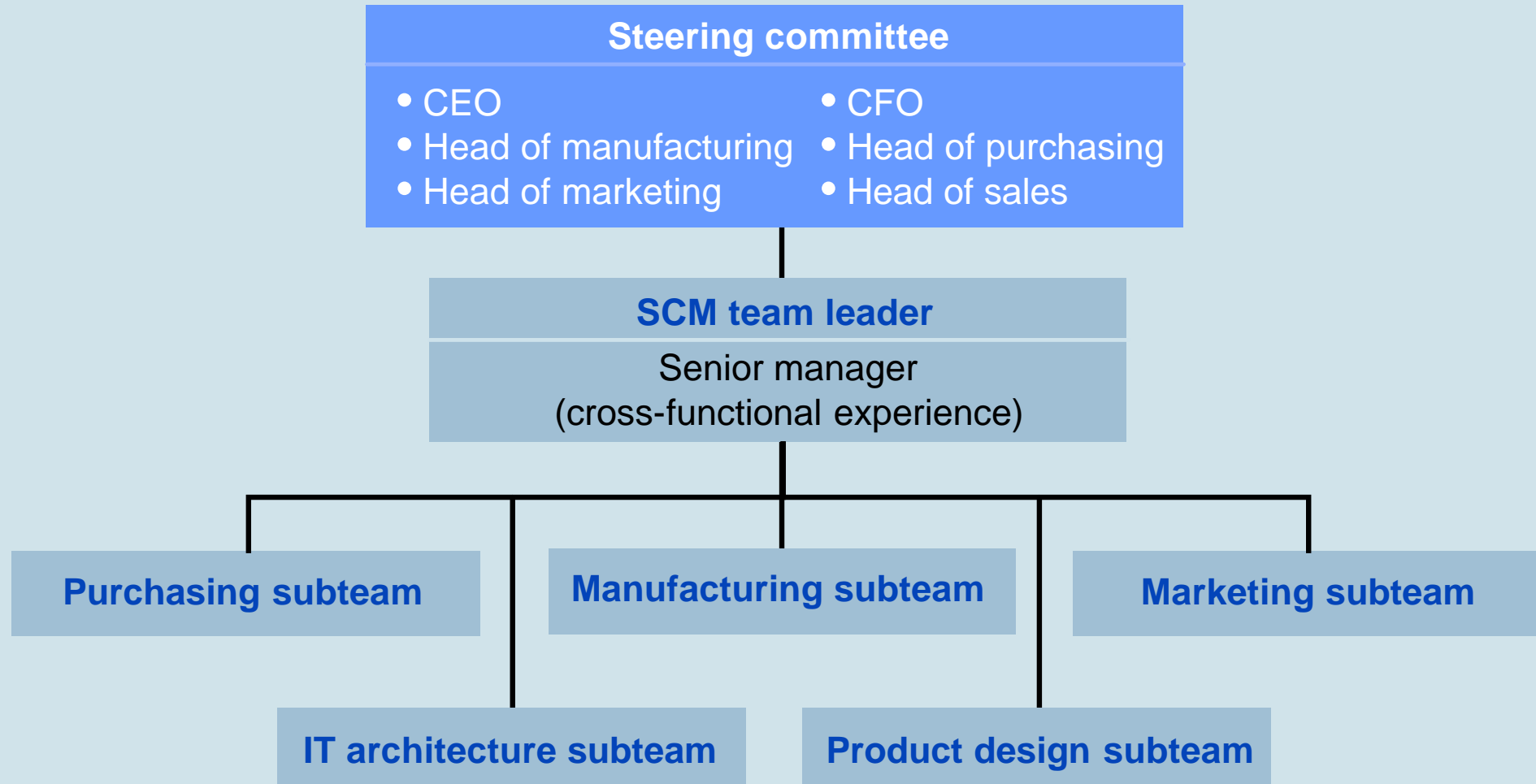


Fast implementation within a "microcosm" – a small but "end-to-end" slice of the supply chain containing all key participants



Strong leadership team and cross-functional working teams are critical for success of SCM transformation

EXAMPLE



Ongoing monitoring to ensure success

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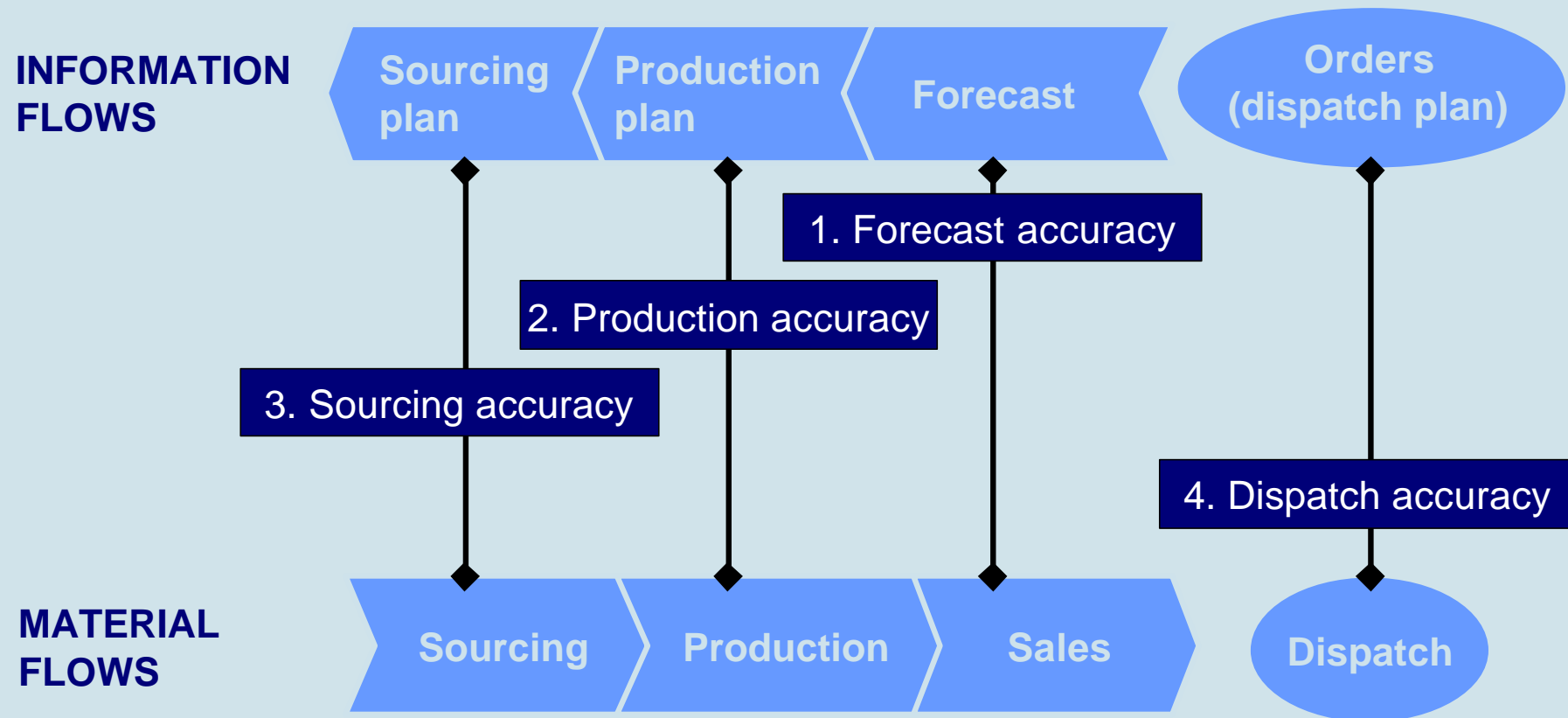
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Four measures of accuracy need to be checked to improve supply chain process efficiencies



- **Key success factors: assign responsibility for type of accuracy to an individual person in each case**
- **Experience suggests that performance improves as soon as these four types of accuracy are monitored regularly**

Overall supply chain performance should be calibrated using *output* indicators

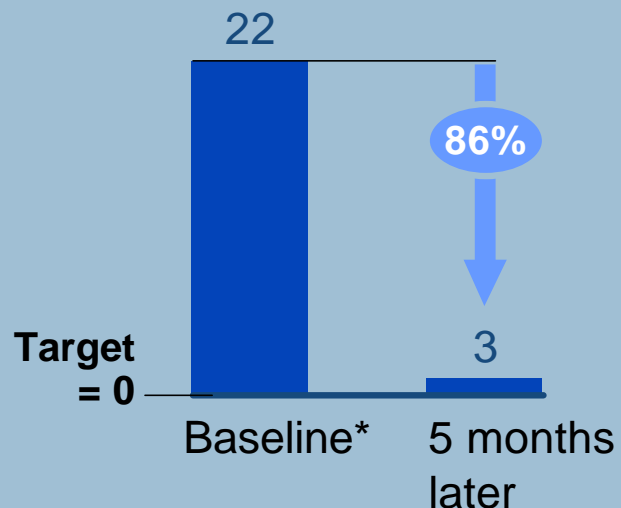
EXAMPLE

1 Product availability to meet customer requirements

Service level indicators

Lost/deferred sales

Percentage of total sales

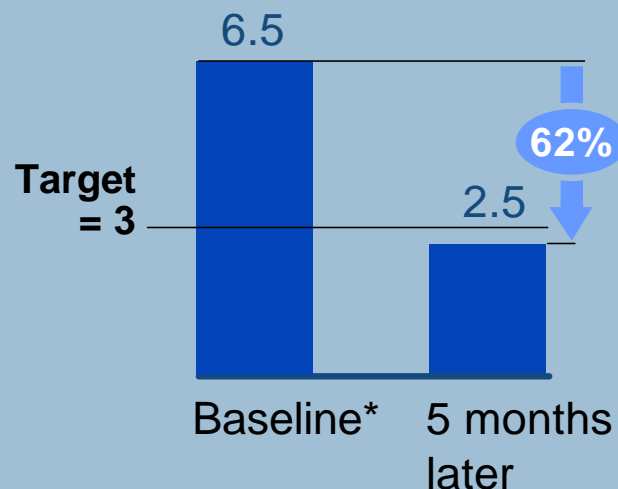


2 At the lowest possible cost to the system

Inventory indicators

Inventory

Weeks

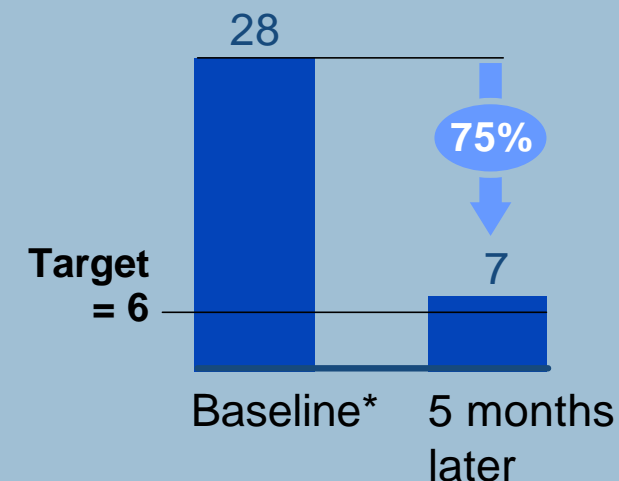


3 In the shortest possible time to increase flexibility

Lead time indicators

Order cycle times

Days



* Before beginning supply chain improvement effort

Summary: Four steps towards successful supply chain transformation

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The SCM Diagnostics questionnaire helps to evaluate supply chain performance in more detail

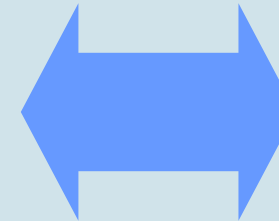
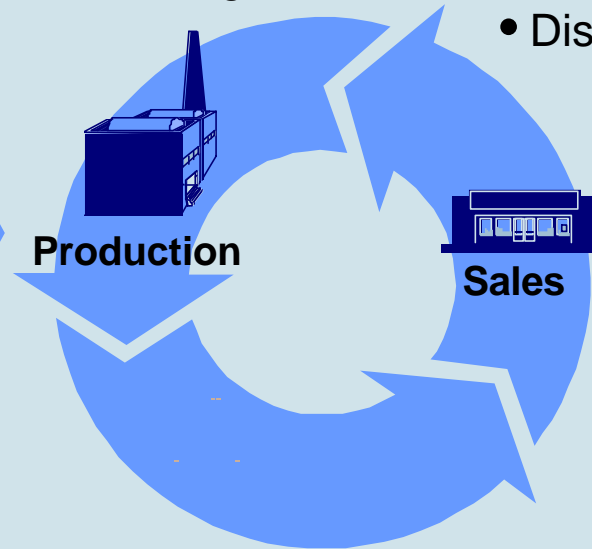
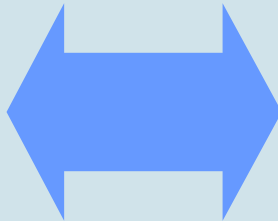
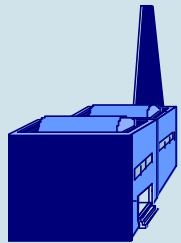
EXAMPLES

Production management

- Freeze period?
- Acceptance of late changes?

Order and demand management

- Forecast accuracy?
- Order status transparency?
- Discipline regarding ordering rules?



Supply management

- Transparency on supply?
- Segmentation of inbound flows?

Service level management

- Clear service level segmentation?
- Regular service level performance measurement?

Distribution management

- Optimal warehouse network?
- Efficient warehouse handling?
- Streamlined transportation costs?

Overarching building blocks

- Clear responsibilities?
- Clear performance parameters?
- Targeted IT leverage?

