

**Development of  
customer  
oriented supply  
chains and  
service level  
agreements**



**Asociación Petroquímica  
y Química Latinoamericana**



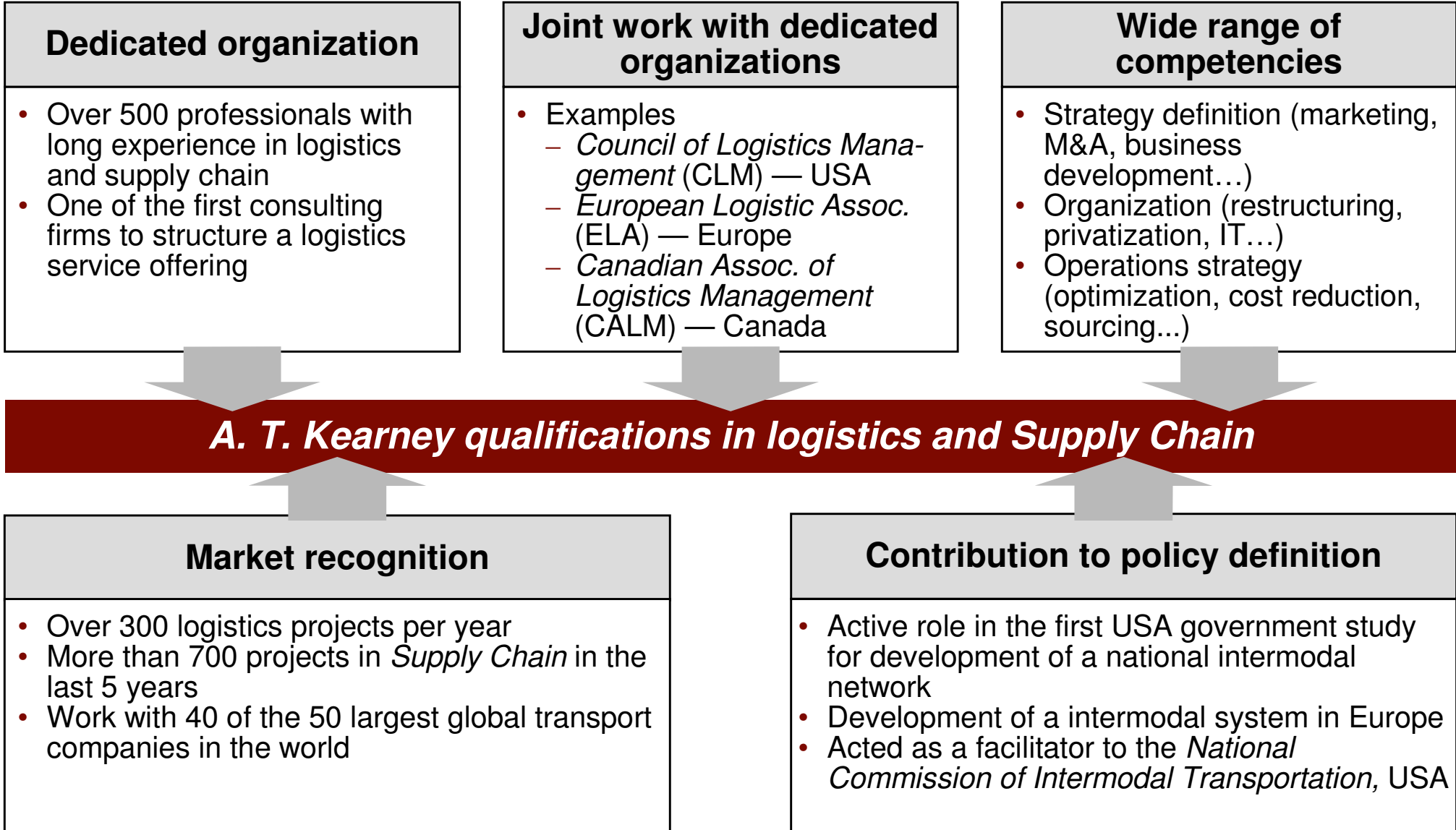
**Presentation to  
APLA  
Viñas del Mar, June 2007**



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**ATKEARNEY**

# A.T. Kearney is a leading consulting firm with strong experience in logistics and *Supply Chain* strategy



# We have a local presence in Latin America with 2 offices fully integrated to our global network



## Global integration

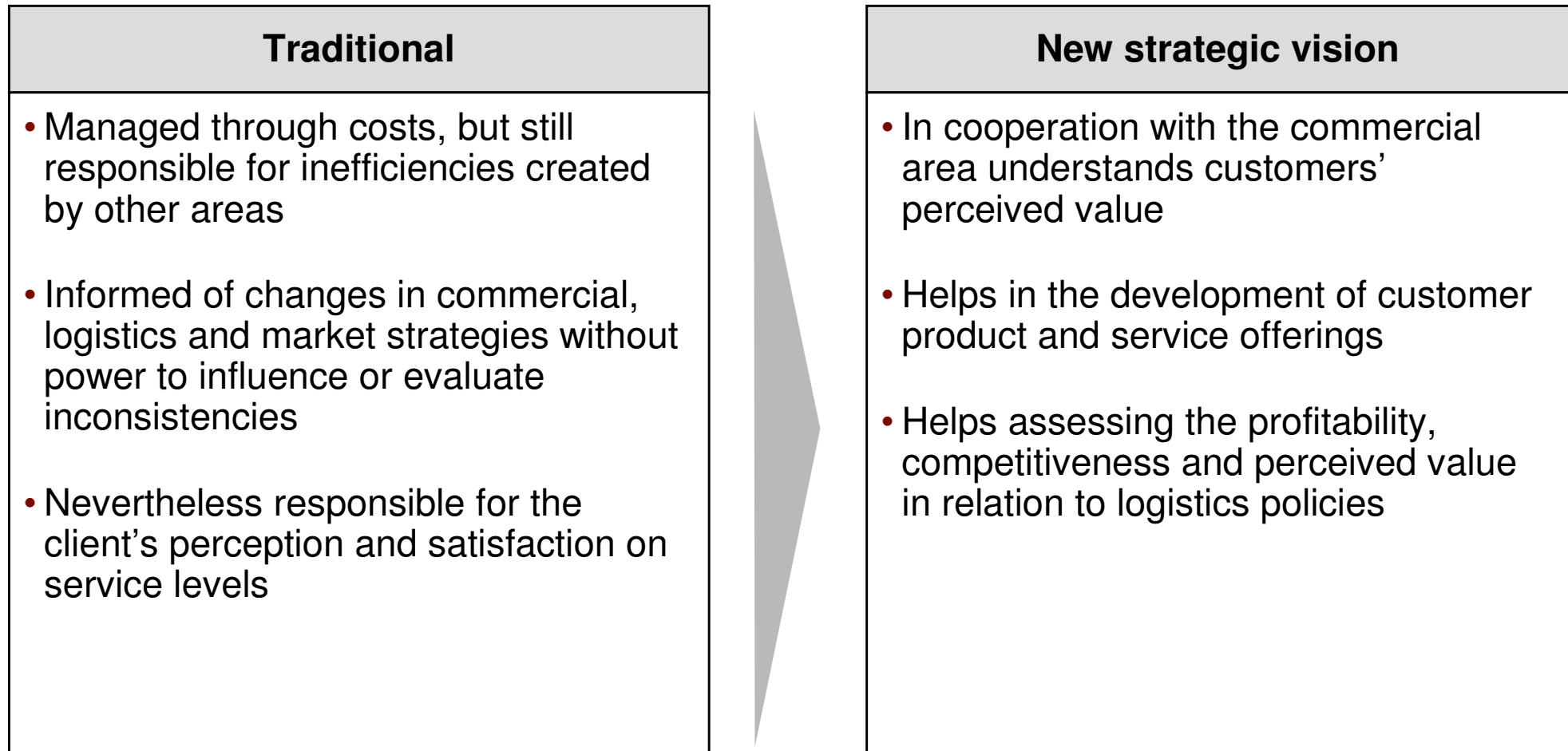
- Regional and cross-regional integration across industry (process industries, oil and gas, etc) and consulting practices (operations, strategy, etc)
- Participation of senior consultants with relevant experience from other regions in local projects
- Participation in global initiatives for development of intellectual capital (e.g., *Assessment of Excellence in Procurement*, *Global Excellence in Operations*, etc)

# **This presentation is based on A.T. Kearney's supply chain assessment for a leading player in the petrochemical industry**

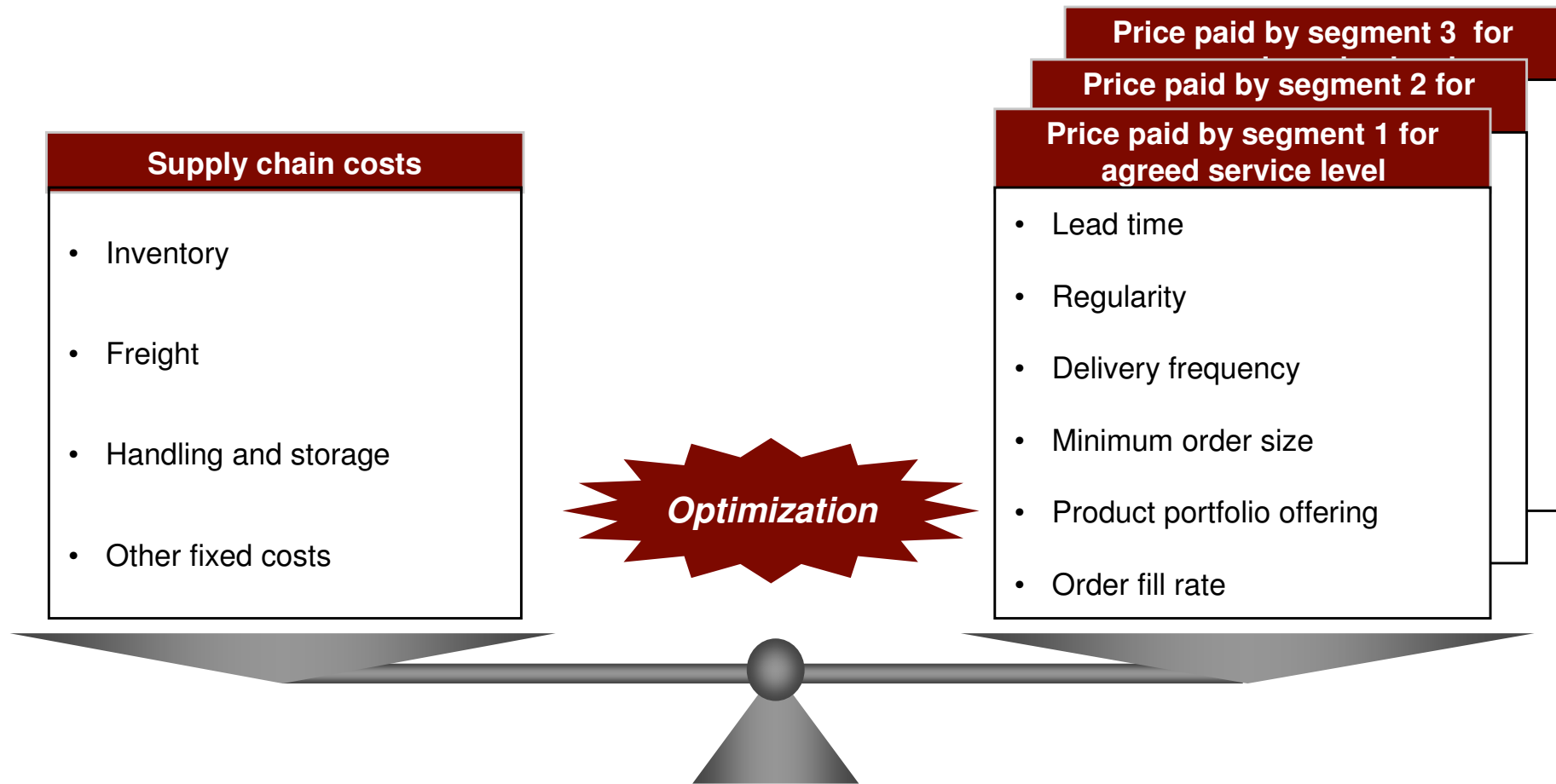
- The objective of the project was to create a supply chain solution customized to the specific needs of each market segment
- The solution was based on supply chain “building blocks” that could be assembled according to each customer segment needs
- The starting point was the development of a value curve for each market segment identifying the service level elements of greater impact on the client's operations
- Service level indicators were divided into structural performance indicators and service differentiators
- A series of standardized questions and scoring grids were developed in order to structure and determine the best supply chain building block element that would deliver the desired service level

# In the last years, most companies started to look at supply chain as a strategic element that could enhance value

## Change in supply chain's perceived role



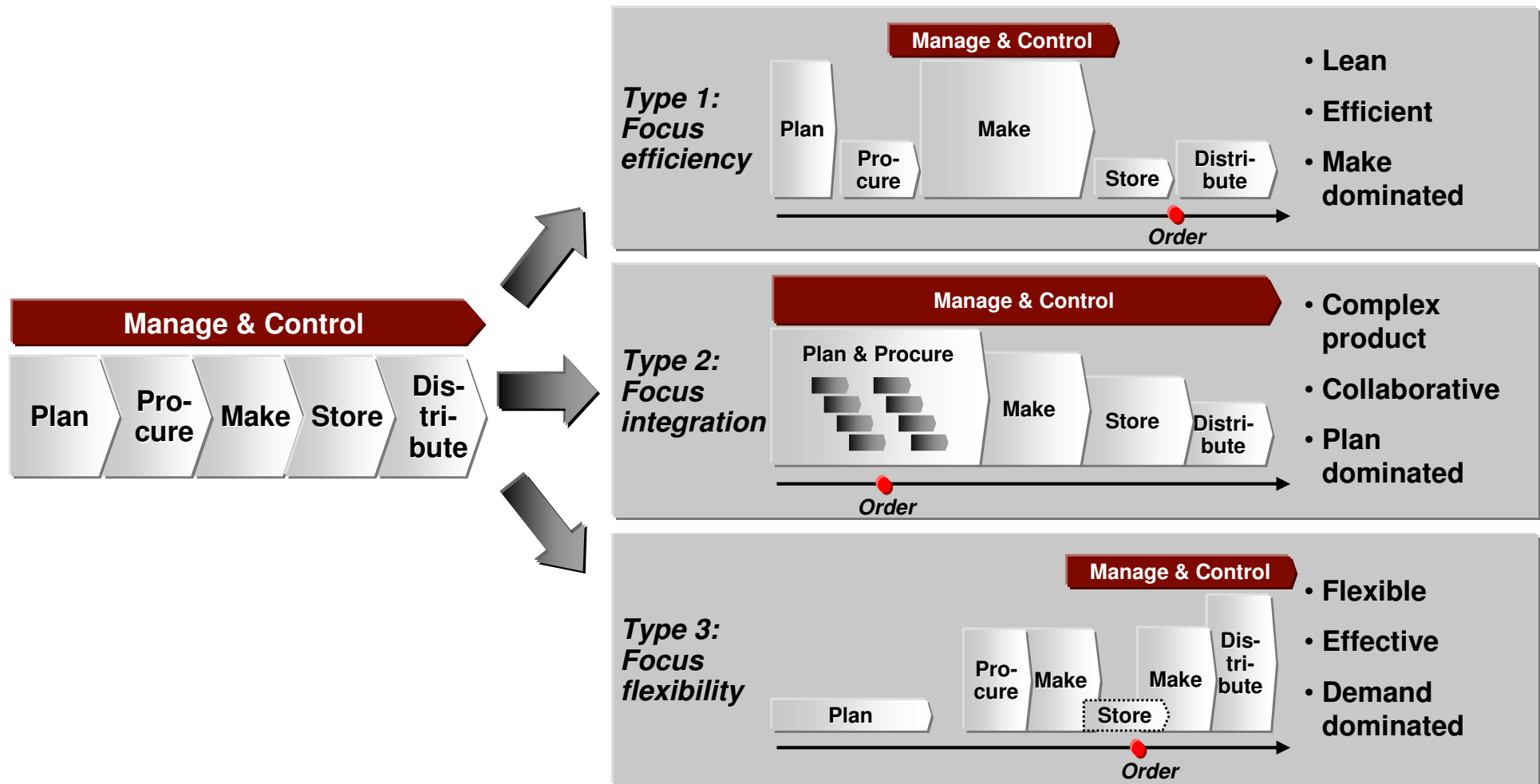
**Therefore in order to optimize profitability, service levels must be customized to different market segments according to perceived value and costs**



# Such customization is possible through the differentiation of supply chain building blocks to best fit each customer segments' specific characteristics

From uniform ....

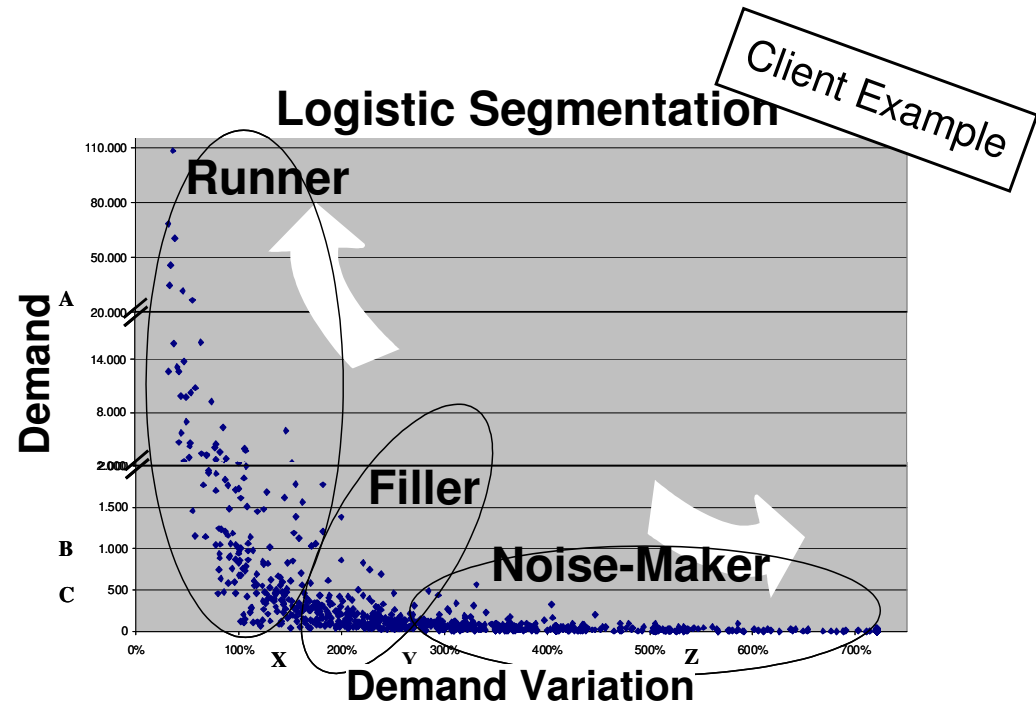
... to differentiated supply chains



# The differentiation of supply chains must be grounded on market requirements for supply chain services

## Logistic typical buying criteria

<b>1. Delivery Reliability</b>	90-99%
<b>2. Lead Times</b> (depending on product)	1 Week to 5 Weeks



## Supply Chain Service Level Agreement by Segment

Segment	Supply Chain	Lead time	Delivery Reliability	Supply Chain Strategy
<b>1. Runner</b>	Commodity	1 Week	95%	Make-to-stock (MTS)
<b>2. Filler</b>	Specialty	2 Weeks	97%	Make-to-stock (MTS)
<b>3. Noise-Maker</b>	Specialty	5 Weeks	99%	Make-to-order (MTO)

# The first step is to identify the relevant service level elements that make up these requirements

## Example of supply chain structure and service level elements



### Structural Performance

Structural performance is generated by the overall supply chain setup  
 Therefore, it is similar for all customers  
 7 structural supply chain service level elements were identified as most relevant to the petrochemical industry:

- Delivery Capability
- Delivery Reliability
- Delivery Flexibility
- Order Communication
- Complaint Reaction
- Physical Execution
- Safety

### Service Differentiators

Special supply chain services tend to be customer specific  
 Therefore, good knowledge of costs is required for cost-to-serve analyses and pricing

The most prominent industry specific services were identified. examples include:

- VMI
- Bulk offerings
- Customer tank
- Consignment stock
- Etc

# Each service level element affects different supply chain levers and cost drivers

## Service level elements and corresponding levers and cost drivers

Service level element	Definition	Supply chain lever
<b>Delivery Capability</b>	<ul style="list-style-type: none"> <li>• Ability to deliver at desired date: minimum order lead time</li> <li>• Ability to deliver desired volume: minimum and maximum order size</li> </ul>	<ul style="list-style-type: none"> <li>• Demand management</li> <li>• Manufacturing scale</li> <li>• Supply management</li> <li>• Inventory management (safety stock)</li> <li>• S&amp;OP process</li> </ul>
<b>Delivery Reliability</b>	<ul style="list-style-type: none"> <li>• Delivery reliability (date): difference between actual and first confirmed delivery date of customer in % of confirmed arrivals</li> <li>• Delivery reliability (volume): difference between actual and first confirmed delivery amount</li> </ul>	<ul style="list-style-type: none"> <li>• Supply management</li> <li>• Internal order handling</li> <li>• Inventory management</li> <li>• Carrier management</li> <li>• Maintenance management</li> </ul>
<b>Delivery Flexibility</b>	<ul style="list-style-type: none"> <li>• Delivery Flexibility (date): ability to change confirmed delivery dates (mainly to earlier date)</li> <li>• Delivery Flexibility (volume): accepted changes to order quantity without change in delivery date</li> </ul>	<ul style="list-style-type: none"> <li>• Planned overcapacity</li> <li>• Manufacturing technology and management</li> <li>• Inventory management</li> </ul>
<b>Quality of execution</b>	<ul style="list-style-type: none"> <li>• Reliable execution of the physical transport (meets agreed requirements availability of special equipment, qualification of drivers, etc.)</li> <li>• Product attributes: Percent of undamaged packages on delivery, availability of special packaging requirements,</li> <li>• Documentation: Percent of deliveries including all necessary documents</li> </ul>	<ul style="list-style-type: none"> <li>• Internal Order Handling</li> <li>• Quality management</li> <li>• Carrier management</li> <li>• Packaging requirements</li> </ul>
<b>Order Transparency</b>	<ul style="list-style-type: none"> <li>• Order reception: media for placement of orders, confirmation response time, information necessary for order placement, reliability and accuracy</li> <li>• Order information: media for communicating order and shipping confirmation, advanced shipping notice</li> </ul>	<ul style="list-style-type: none"> <li>• Integrated systems</li> <li>• Collaboration</li> </ul>
<b>Safety</b>	<ul style="list-style-type: none"> <li>• Product attributes: Undamaged package on delivery, inclusion all relevant information (e.g. handling and safety information)</li> <li>• Carrier Performance: Integrity of transport equipment, knowledge and training of drivers and handlers</li> </ul>	<ul style="list-style-type: none"> <li>• Quality and environmental management (sustainability)</li> </ul>
<b>Complaint Reaction</b>	<ul style="list-style-type: none"> <li>• Complaint reaction: Time to confirmation of complaint, time to presentation of solution, adequateness of proposed solution, manpower (quality and quantity) and process dedicated to the solution of complaints</li> </ul>	<ul style="list-style-type: none"> <li>• Non Conformance Management: System</li> <li>• Systematic problem solving &amp; process improvement</li> </ul>

# The next step is to understand how different customer segments value these elements and what is the current performance level and that of competitors

## Structural Performance & Special Services

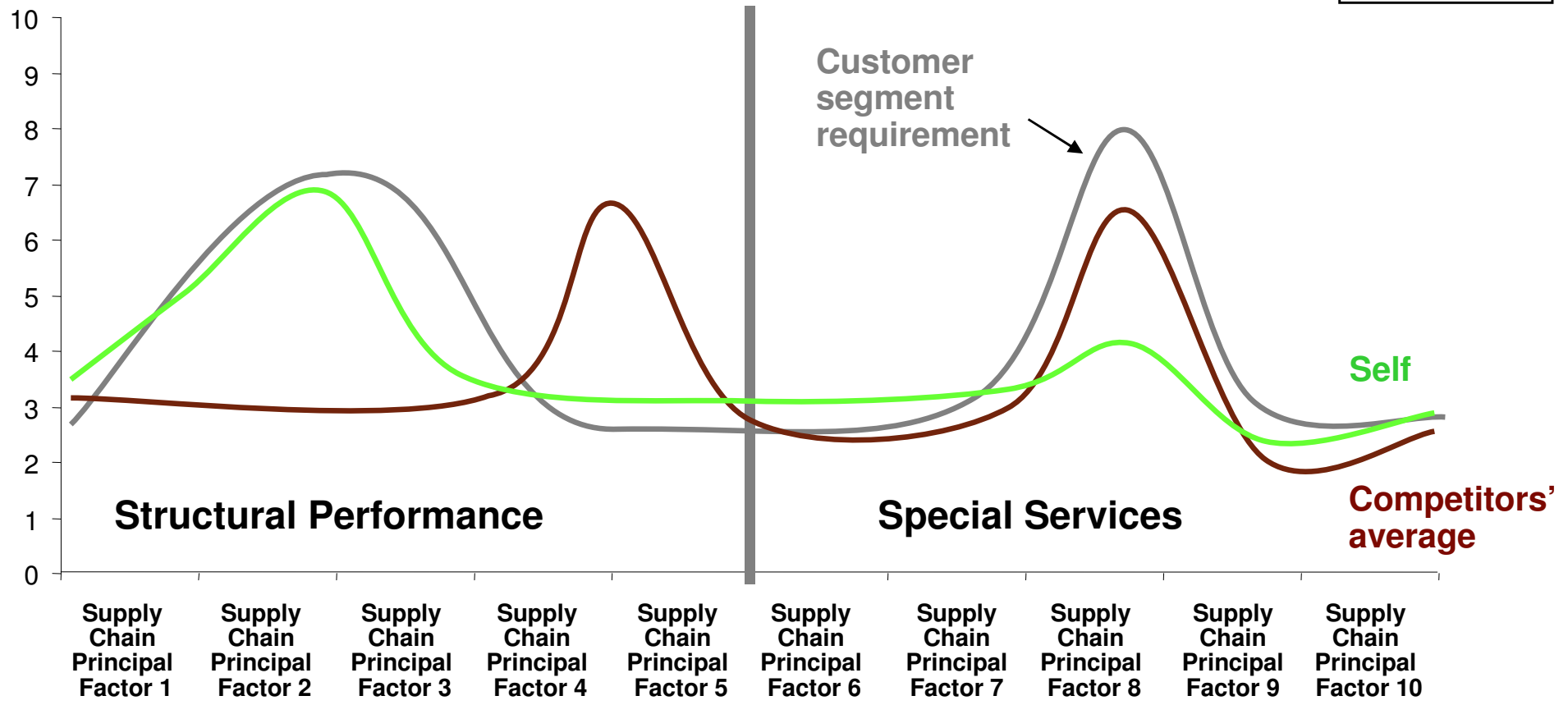
Template

	Performance/ Services	Customer Requirement	Importance	Competitors' Performance	Current Performance
<b>Structural Performance</b>	Delivery Capability	95%	High	95%	90%
	Delivery Reliability				
	Delivery Flexibility				
	Physical Execution				
	Order Transparency				
	Safety				
	Complaint Reaction				
<b>Special Services</b>	E-Commerce <sup>1</sup> : Elemica, EDI				
	World Account, IOP <sup>1</sup>				
	VMI				
	Consignment Stock				
	Barcode				
	RFID				
	Special Packaging				
	Packaging recovery/ disposal				
	Bulk offerings				
	Tank/ Silo Consulting/ Financ.				
	Spec. Distr. Concept (e.g. JIT)				
	Cust. sp. Tr. e.g. intermodal				
	Cust. sp. WH				
	Pre-sampling				
	Special CoA				
Tracking information					
Total Chemical Management					
Collaboration					

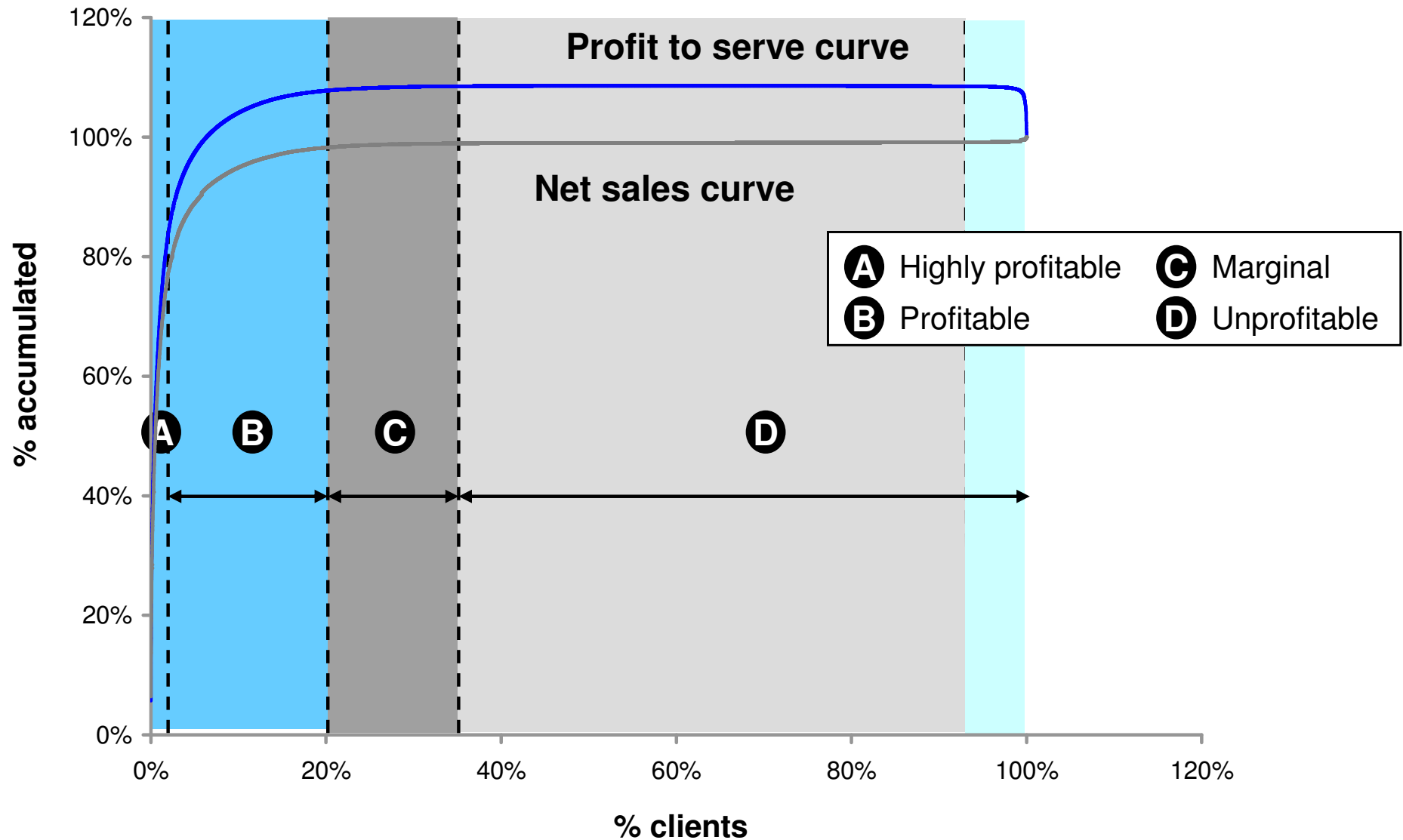
# The supply chain value curve can be defined based on the ranking of these elements against customer requirements

## Value curve for structural performance and special services

Conceptual



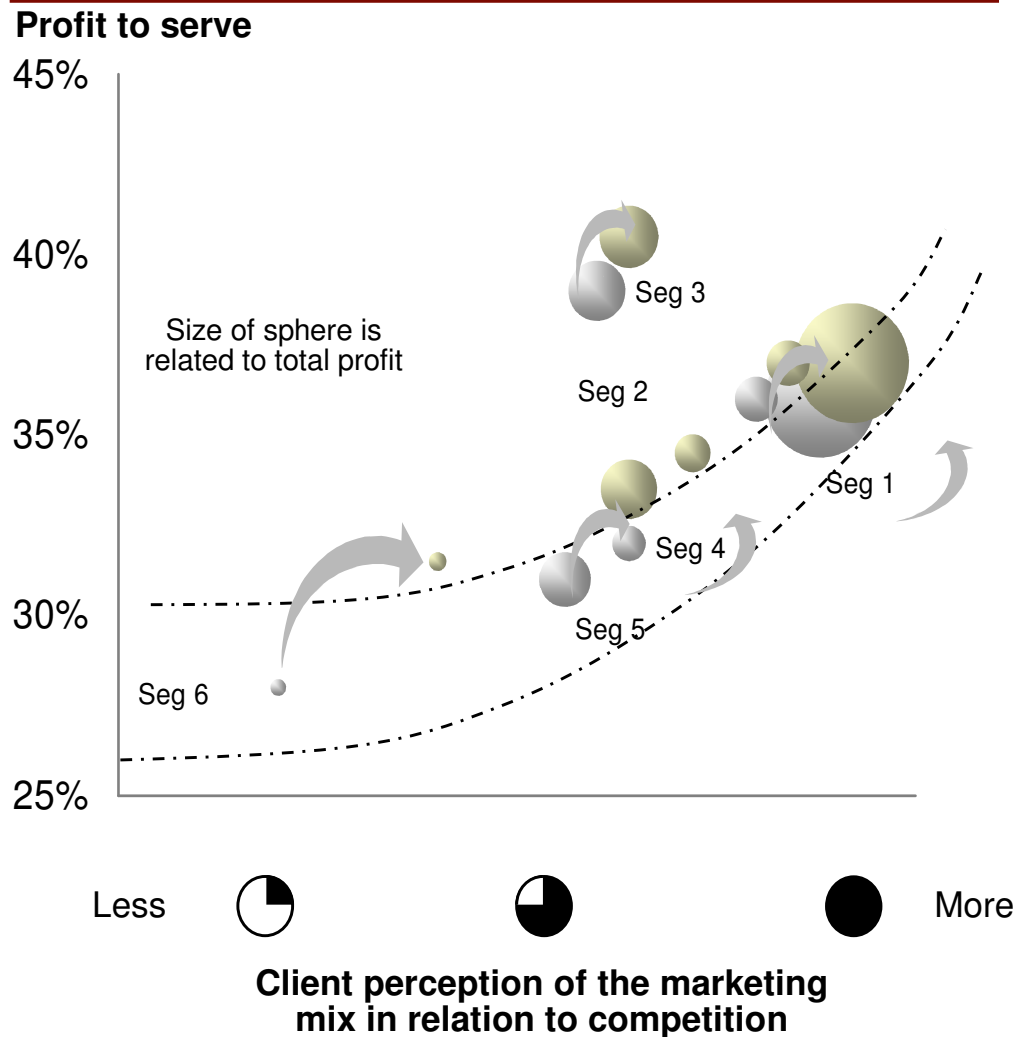
# The fulfillment of these requirements must be made in the light of the segment's profit to serve



# Service level agreements become part of the marketing mix that should enhance customer segments' profit to serve

**Example**

## Profit to serve estimated gains



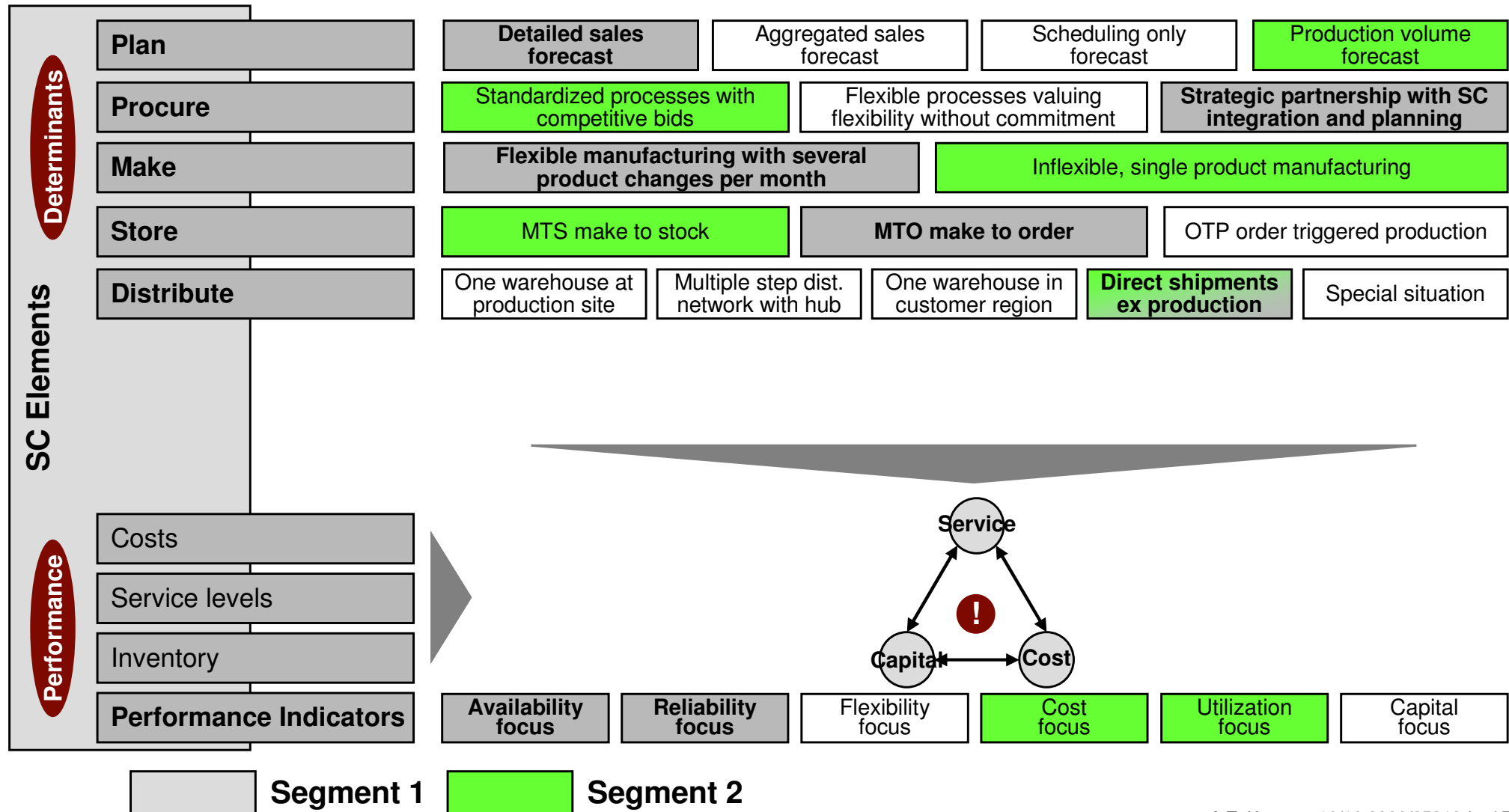
## Comments

- The expected gain in profit to serve is based on the market research on supply chain service level elements
- Segment 6 can be improved by reducing costly service level elements that are not valued and implementing a new service level that is greatly valued
- Segments 1 and 3 are expected to agree to higher prices and/or if the service level is brought to the desired level
- These increments (including both cost reductions and revenue gains) increased profitability by 5-10%

# The key for this is a tailored supply chain solution to each customer segment

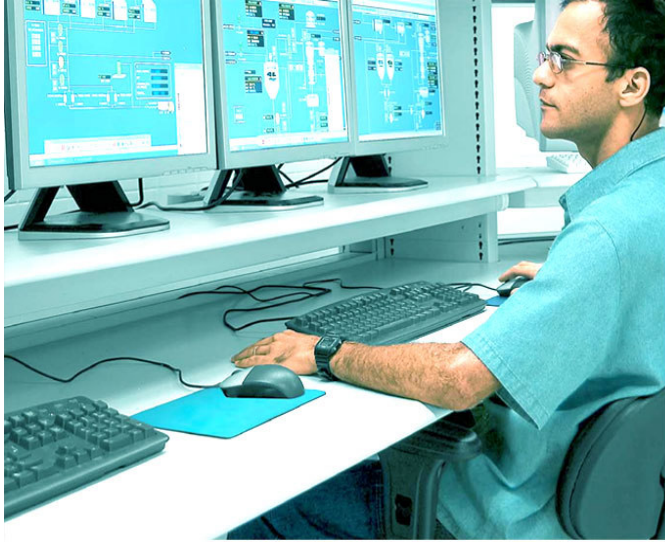
## Selected Building Blocks per customer segment

**Example**



## Final considerations

- In the last years, supply chain management has been viewed more and more as a strategic element in a company's positioning
  - Moving away from the notion of "cost center" ...
  - ... and getting closer to "revenue enabler"
- The definition of service levels and the corresponding necessary supply chain solution are made at the same time and should involve both supply chain and commercial
  - The most valued service elements must be identified for each customer segment
  - The total supply chain solution should be customized to each customer segment needs
- This exercise, although not focusing on costs, must not be exempt from using it as a metric for determining profitability of each customer segment and supply chain solution
- On the other hand, this approach can lead to significant revenue improvements



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