



How to Evaluate Logistics Operations

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Definition

“Logistics Management is that part of Supply Chain Management that **plans, implements**, and **controls** the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers' requirements. ”

Council of Logistics Management (2003)



Key Logistics Activities

- Order processing
- Customer service
- Demand forecasting
- Inventory mgt
- Logistics communications
- Purchasing
- Transportation
- Reverse logistics
- Parts & service support
- Plant & warehouse site selection
- Material handling
- Packaging
- Warehousing & storage

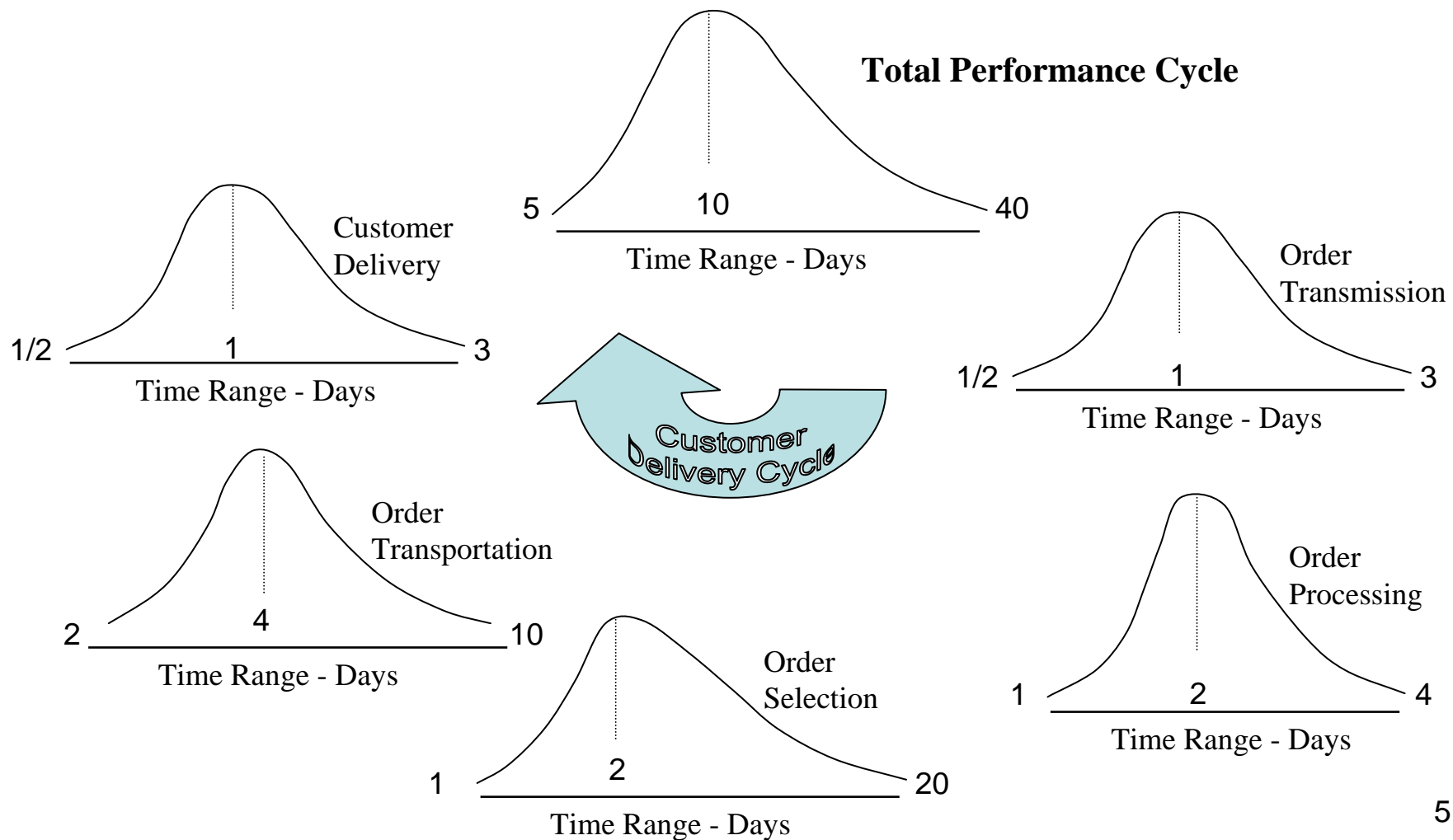


Measuring logistics performance

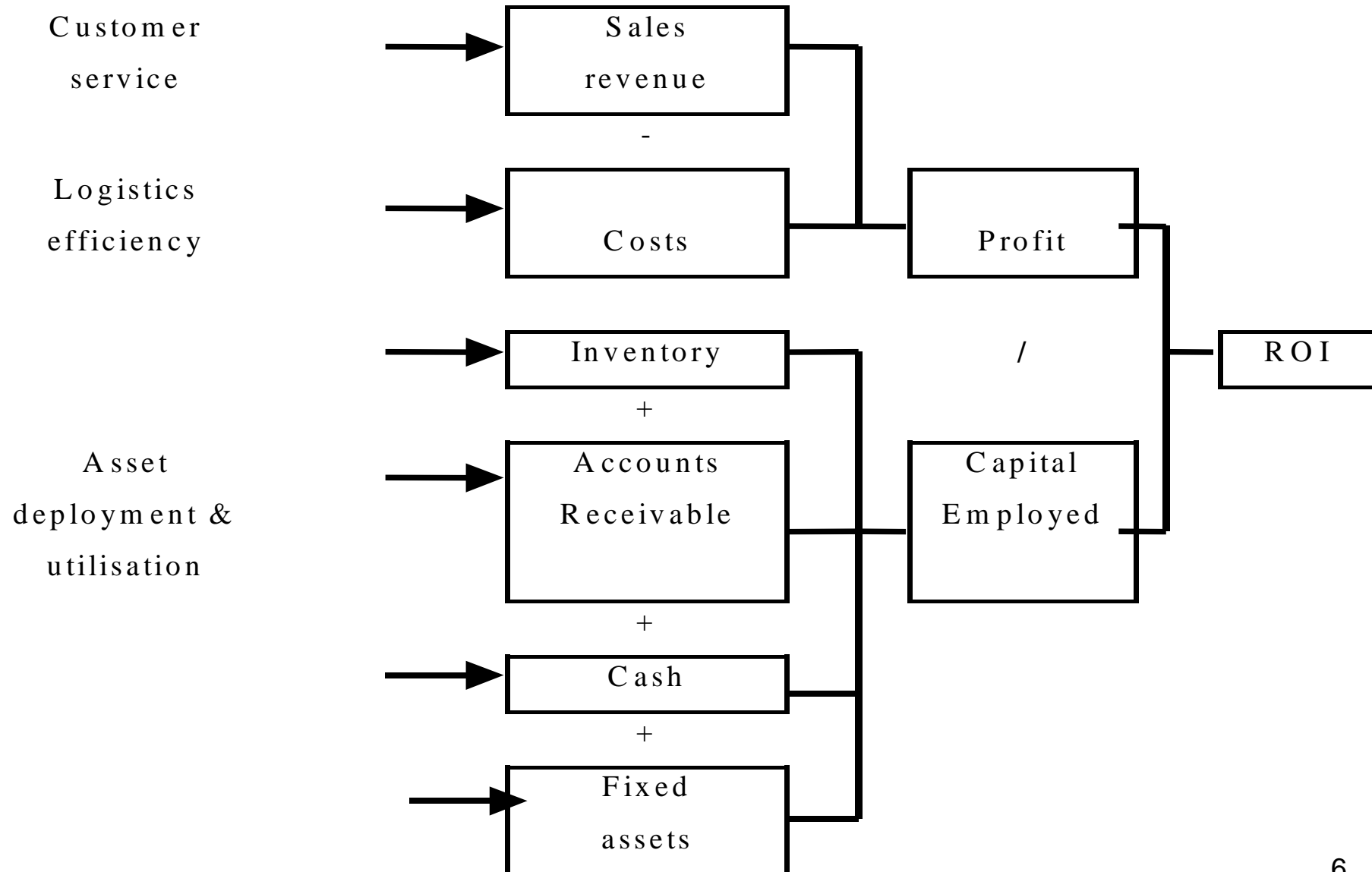
- Categories of Performance Measures:
 - Cycle time metrics (e.g., production cycle time and cash-to-cash cycle)
 - Cost metrics (e.g., cost per shipment; cost per warehouse pick; ABC)
 - Service/quality metrics (delivery in full/on time and defective products)
 - Asset metrics (e.g., inventories)



Performance-Cycle Uncertainty



Logistics impact on ROI





CPP: Customer Profitability Matrix

Net sales value
Of customer account

Hi	Protect	Cost engineer
Lo	Build	Danger zone
	Lo	Hi
	Cost of Service	

Delivery In Full On Time



This measure considers the performance of the order management process from the **time the order is taken** through to the **time the product is delivered to the customer**.

EXAMPLE OF CALCULATION OF DELIVERY IN-FULL AND ON-TIME

Customer 1 orders	5,000 units of product AAAA	And gets	5,000 units of product AAAA
	7,000 units of product BBBB	And gets	6,000 units of product BBBB
	8,000 units of product CCCC	And gets	8,000 units of product CCCC
	9,000 units of product DDDD	And gets	8,000 units of product DDDD
Total	29,000	DELIVERED ON TIME	27,000

Customer 2 orders	2,000 units of product EEEE	And gets	2,000 units of product EEEE
	7,000 units of product FFFF	And gets	7,000 units of product FFFF
	8,000 units of product GGGG	And gets	8,000 units of product GGGG
	17,000	ORDER 2 HOURS LATE	17,000
TOTAL ORDERS	46,000		44,000

IN FULL BY ORDER:	1 order out of 2 orders are correct	= 50%
IN FULL BY LINE:	5 lines out of 7 lines in full	= 71%
IN FULL BY UNIT:	44,000 out of 46,000 were delivered	= 96%

ON TIME ORDER :	1 order out of 2 is on time	= 50%
ON TIME LINE	4 lines out of 7 are on time	=57%
ON TIME UNIT	27,000 units out of 44,000 are in time	=61%

In full and on time is the in full rate multiplied by the on time rate

IN FULL AND ON TIME BY ORDER: (.5 X .5):	= 25%
IN FULL AND ON TIME BY LINE: (.71 X .57)	=40%
IN FULL AND ON TIME BY UNIT: (.96 X .61)	= 59%



Other examples of logistics KPI

- Purchasing

- Purchasing order fill rate
- Preferred supplier status

- Marketing (Customer Service)

- Customer response rate
- Order cycle time
- Inventory turnover per hour
- Planned vs. actual sales (measurement of gap)
- Ratio of total market share
- Cancellation order per month/week/day



Other examples of logistics KPI

- Transportation
 - Number of drops per round
 - % of maintenance over total transport cost
 - Order fill rate
 - Truck turnaround time
- Warehousing (Distribution)
 - Stock Turnover rate
 - Cycle time
 - Number of movements
 - Throughput per hour (or day?)
- Production/Operation
 - Machine breakdown per month
 - Number of reject per batch



Transport M.O.V.E. Metric

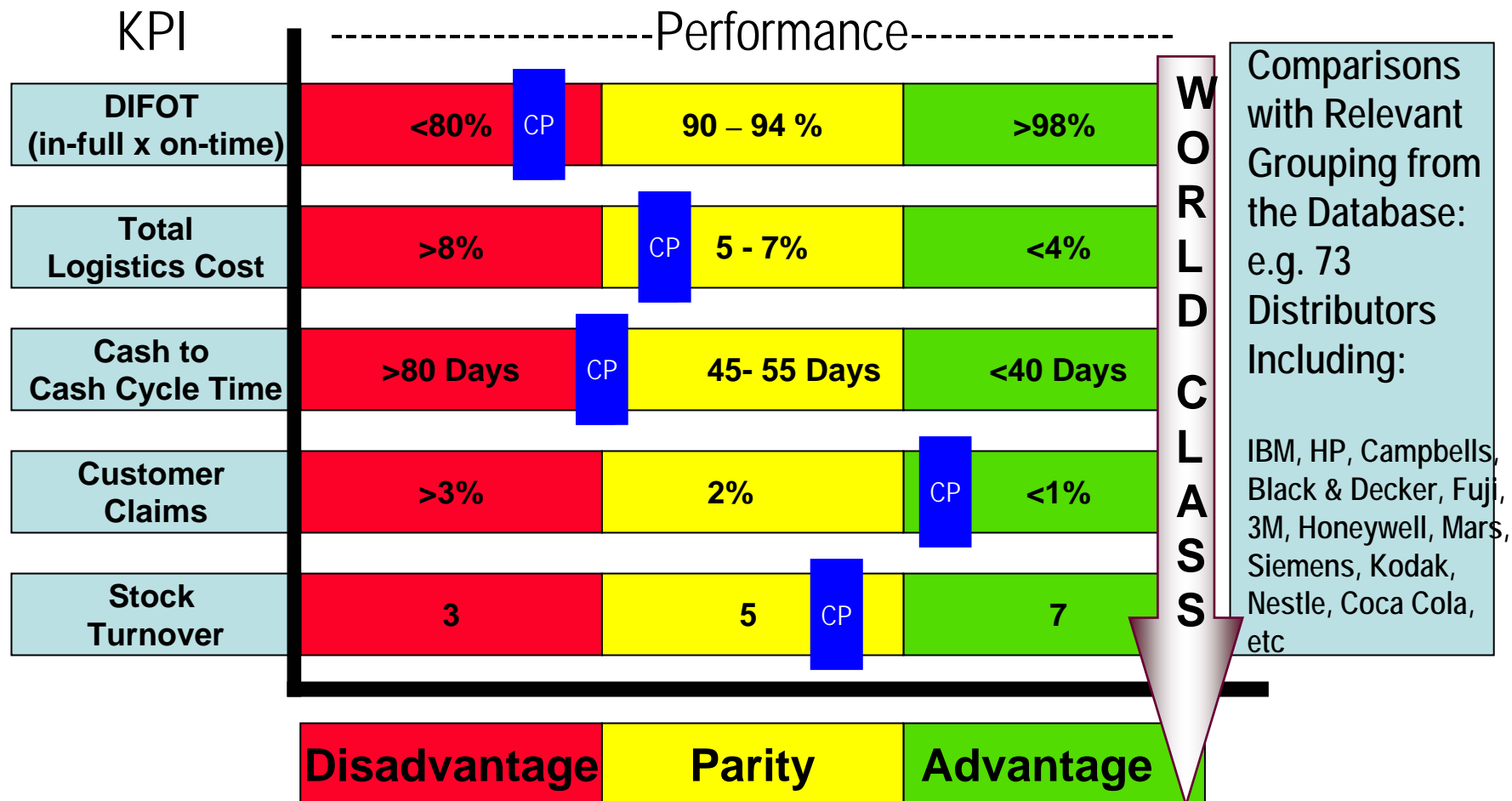
- Modified Overall Vehicle Effectiveness

MOVE = Vehicle Utilisation \times Route Efficiency \times Time efficiency \times Quality

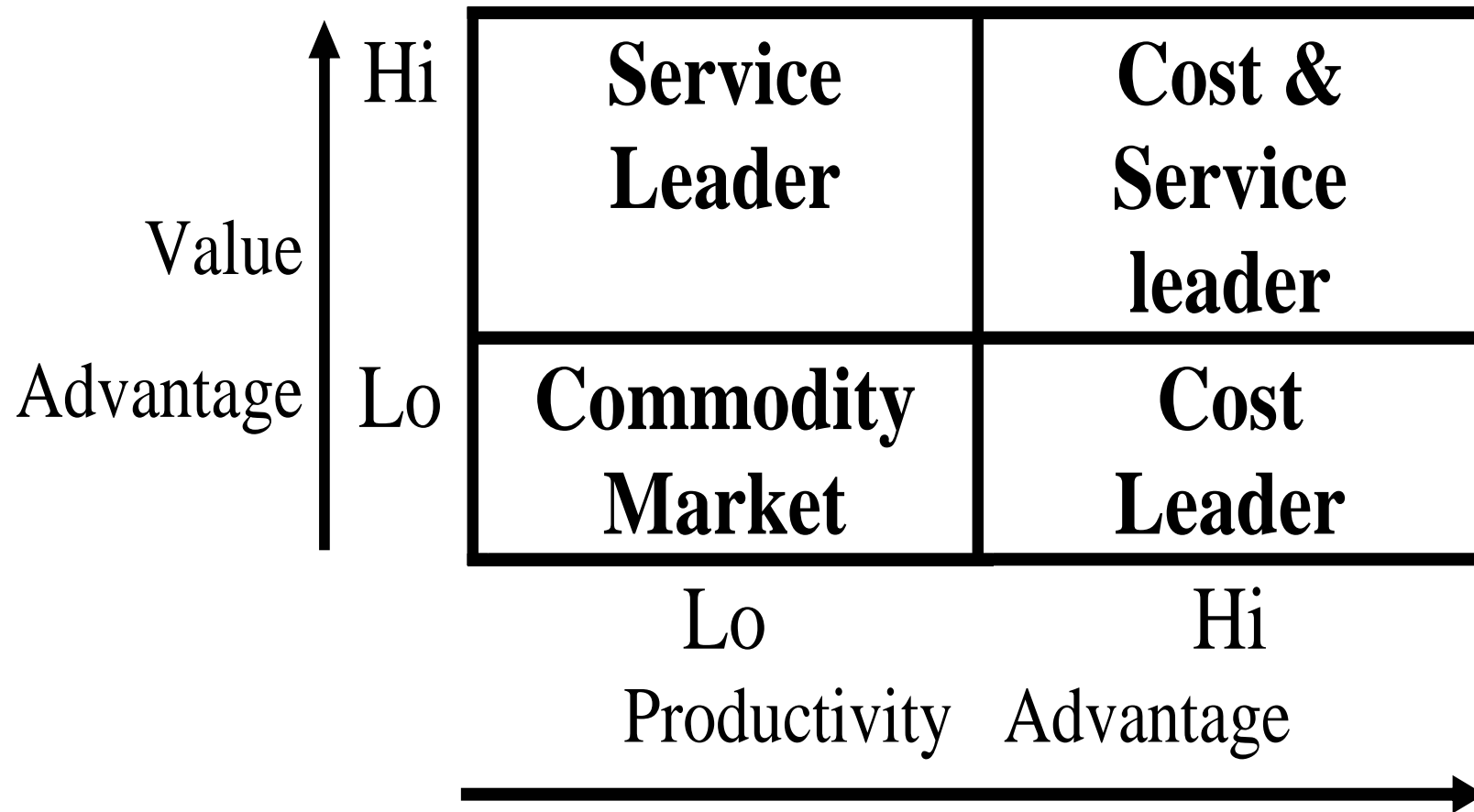


Relevant Logistics KPI Comparison

[Sample only]



Logistics & Competitive Advantage





Supply Chain Performance Drivers

Cost Efficiency

Responsiveness



Supply Chain Structure



Physical Network



Inventory Management



Transportation Management



Information Management

Source: Flextronics



Examples of SCM KPI

- Customer satisfaction index? (CSAT)
- Service quality index? (SERVQUAL)
- Total supply chain cost?
- Order fill rate to the final customer?

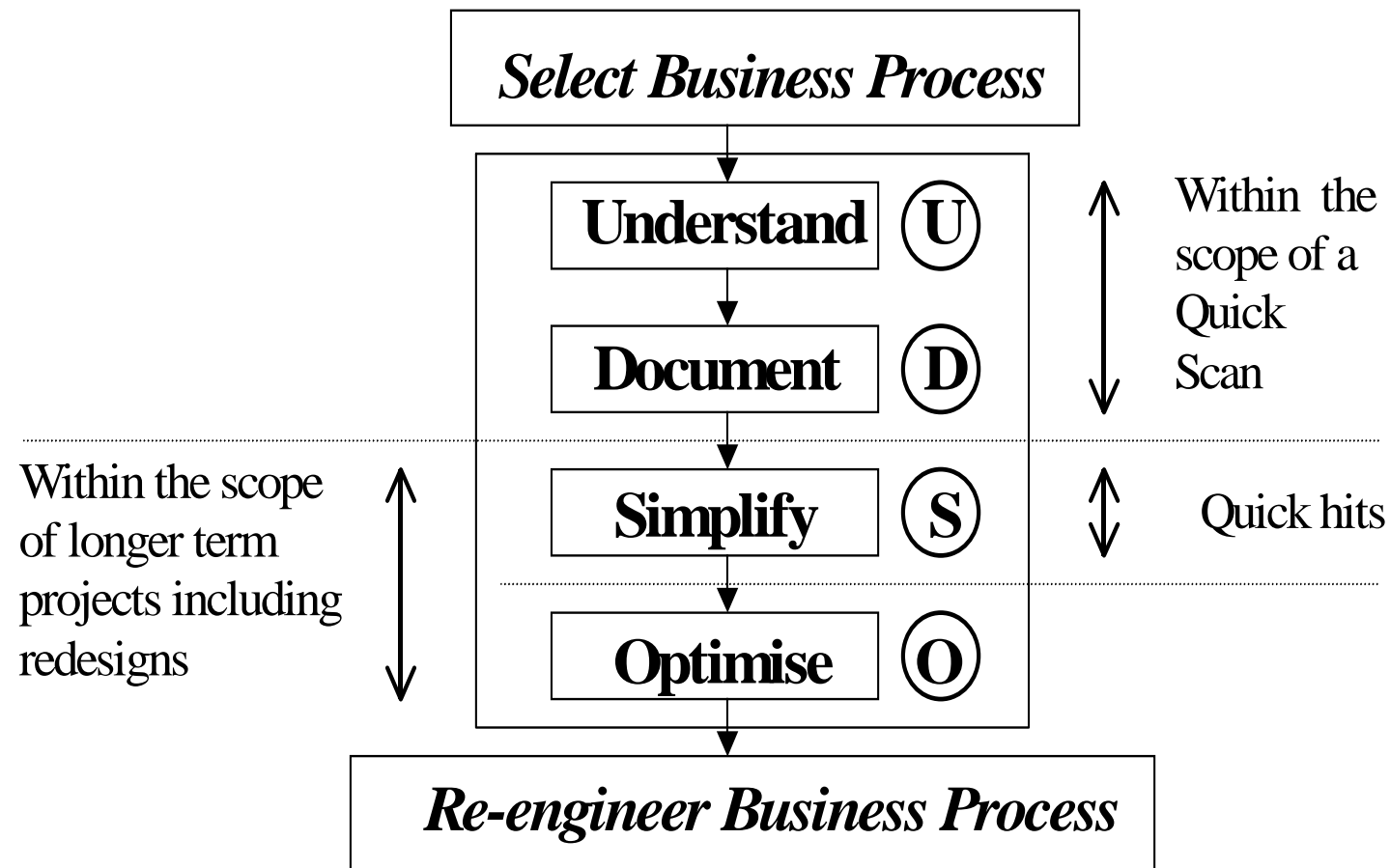


A logistics & supply chain performance tool

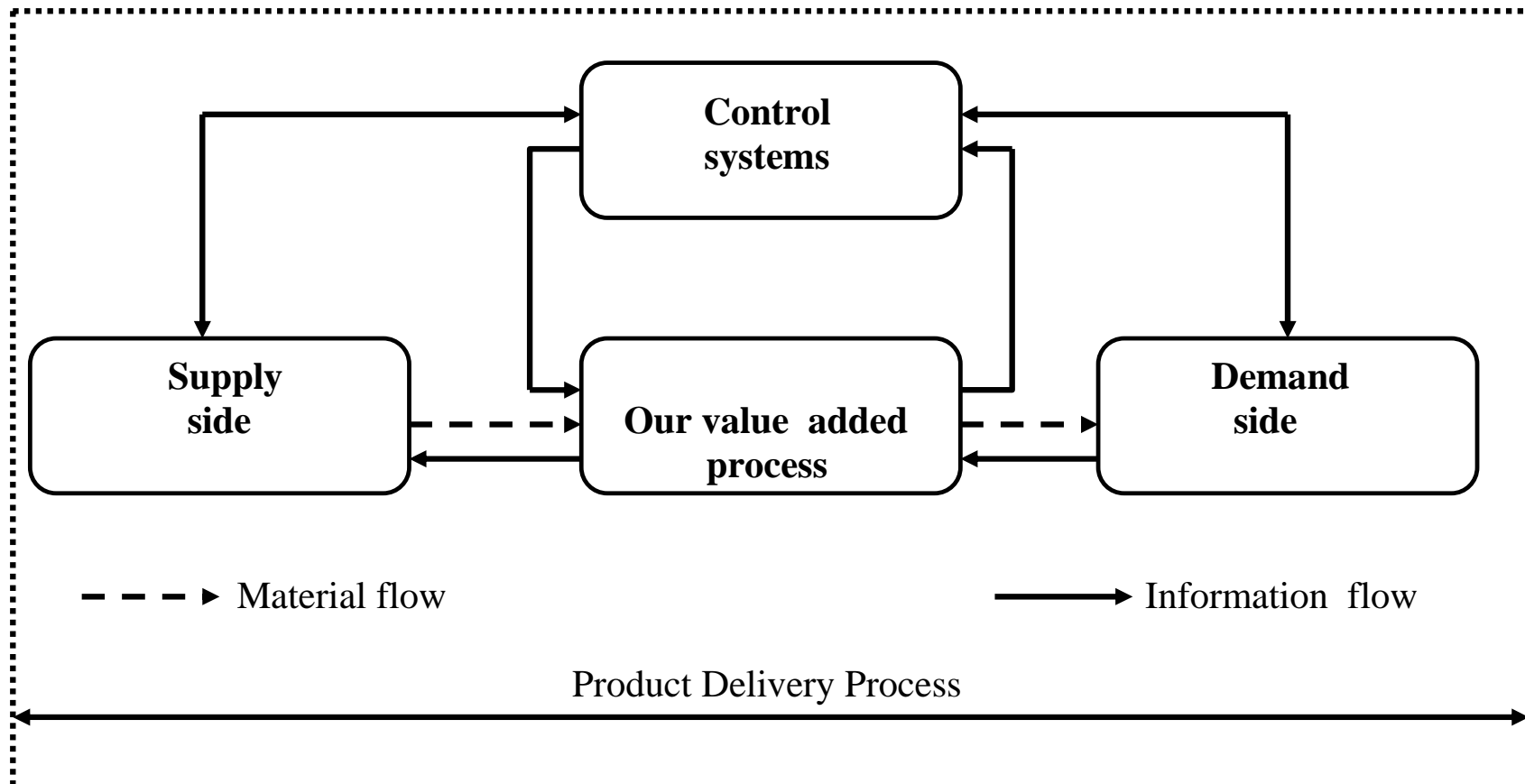
- A “ Quick Scan” is a supply chain oriented business diagnostic.
- Designed to take a “snapshot” of the present operation of the logistics/SC system.
- Focus is on Information Control Process & Product Delivery Process.



Scope of Quick Scan: The USDO Model



The 4 causes of logistics/SC system uncertainty





In the end...

- The logistics/SC system exhibit best practice - do nothing but transfer best practice
- The logistics/SC system can be improved with a few simple actions-implement the most important Quick Hits
- The logistics system/SC needs major re-engineering must set up new task force



To summarise...

- Many tools exist to evaluate logistics & supply chain systems.
- Importance is what to do with the data collected.
- National, regional database could be beneficial to all...