

# Supply Chain Design & Inventory Optimization

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# Why focus on the Supply Chain?

**Successful companies view their supply chain as a strategic asset and can be an important source of competitive advantage**

- ◆ They understand that their supply chain strategy needs to support their business strategy – copying other companies supply chain strategies won't work
- ◆ They design their supply chains to deliver specific supply chain performance linked to their business objectives
  - They understand that supply chain design is about making choices
  - And that trying to be 'best-in-class' on every dimension of performance isn't always possible or the right approach
- ◆ They use appropriate metrics to manage their supply chain performance and set targets for performance improvement
- ◆ They adjust their supply chains to meet new business conditions

**In these companies, senior managers understand how their supply chain contributes to their business performance**

# Supply Chain Strategy

## Supply chain strategy involves choices and trade-offs:

- ◆ Network Growth/Rationalization
- ◆ Postponement
- ◆ Make vs. Buy
- ◆ Capital Allocation
- ◆ Make-to-Stock vs. Make-to-Order

## Success is measured by

- ◆ Flexibility/Responsiveness = Service
- ◆ Efficiency = Total Delivered Cost
- ◆ And how well you balance the need for both



# Complexities Affecting Strategy

**Today, supply chains are more complex due to a series of factors:**

- ◆ Globalization
- ◆ Mass customization of products
- ◆ Compressed product lifecycles
- ◆ Outsourcing
- ◆ New product introductions
- ◆ Competitive market entrants
- ◆ Fluctuations in supplier costs
- ◆ Capacity constraints
- ◆ Distributed planning
- ◆ Mergers and acquisitions



# The Market Evolution

1980s

1990s

Late 90s

Today

MRP

ERP

SCM

SCDO

Manufacturing  
Resource Planning

- Unconstrained requirements planning
- Improvements over manual systems

Enterprise  
Resource Planning

- Forecasting
- DRP
- Inventory management
- Capacity planning

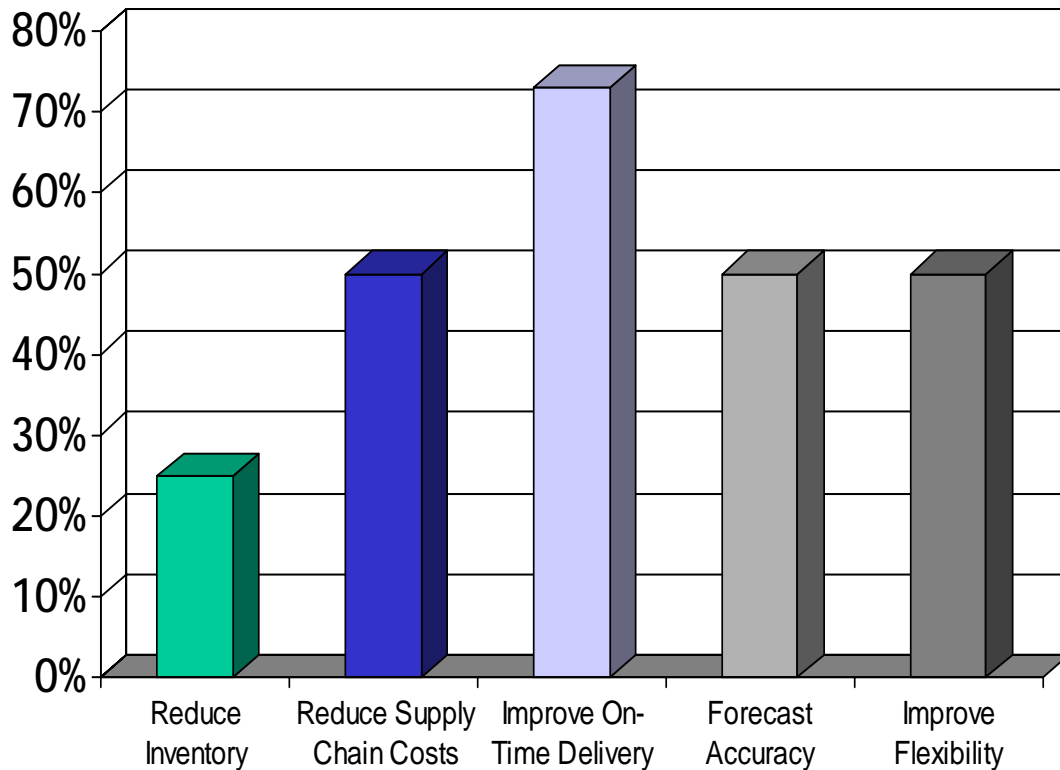
Supply Chain  
Management

- Constraint-based manufacturing optimization
- Transportation optimization
- Network design

Supply Chain  
Design & Optimization

- **Multi-stage/multi-echelon optimization**
- **Plan for and minimize risk of uncertainty**
- **Account for supply chain inter-dependencies**
- **Include total supply chain cost picture, including inventory-driven costs**

# Why a new approach is needed



**While companies achieved 70% of their on-time delivery (OTD) goals, they reached only 25% of their inventory targets -- the most-cited reason for supply chain planning tools**

**Many companies won't achieve the desired results because they limit the scope of their projects to planning, not overall supply chain design**

Source: PRTM Analysis, March 2002



# Why a new approach is needed

**45% of respondents were dissatisfied with their SCM implementation**

◆ \$19 billion was spent on SCM applications worldwide

**Most efforts to improve supply chain efficiency fall short because they do not challenge the fundamental structure of the supply chain, but instead attempt to improve performance within existing limitations, often by installing expensive new technology**

Source: Booz Allen Hamilton 2003

# FACT or FICTION?

## ***FICTION***

**A company that wants to move their source of manufacturing to take advantage of low labor costs in another region will see clear financial benefit**

## ***FACT***

**Additional logistics and inventory related costs, coupled with the need to add warehousing may in fact exceed the labor cost savings**

# FACT or FICTION?

## ***FICTION***

**A company implemented “lean manufacturing” and there have reduced costs**

## ***FACT***

**A company can do a great job minimizing raw material and component inventory. However, this can come at the expense of more finished goods inventory to provide the appropriate service levels**

# FACT or FICTION?

## ***FICTION***

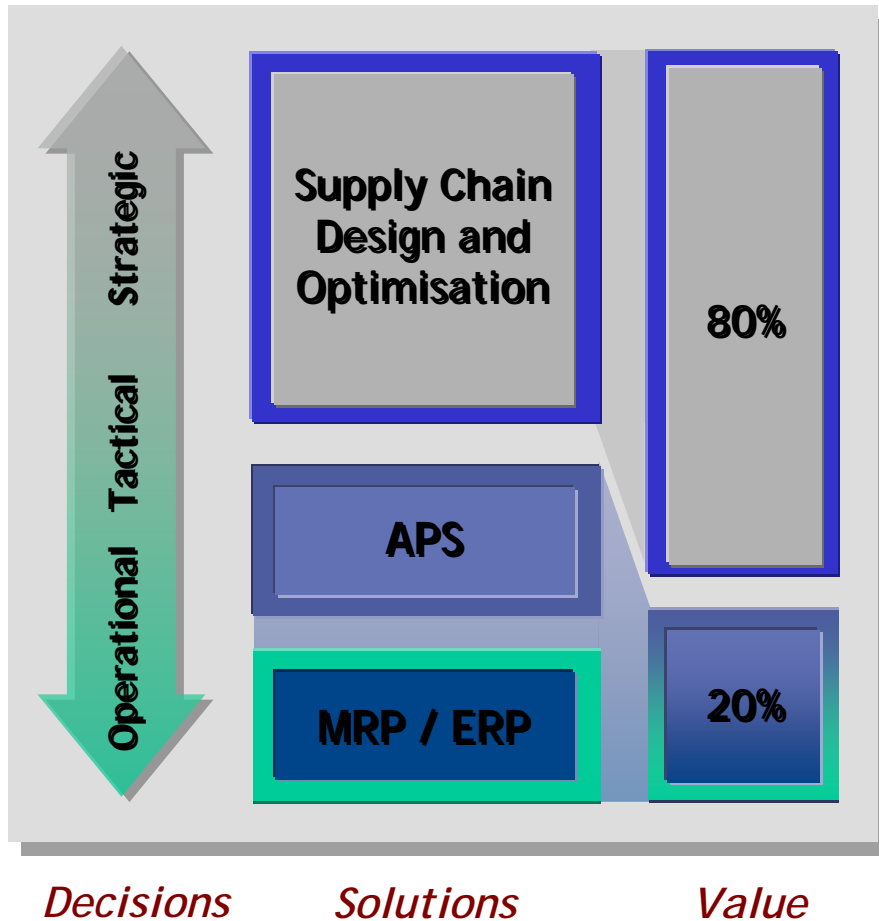
**A company that invests in forecasting techniques will reduce inventory**

## ***FACT***

**Simply improving forecasting has had little impact on supply chain. Other factors proved to be much better investments**

# Supply Chain Design and Optimisation

*The majority of a supply chain's lifecycle value is determined by the design*

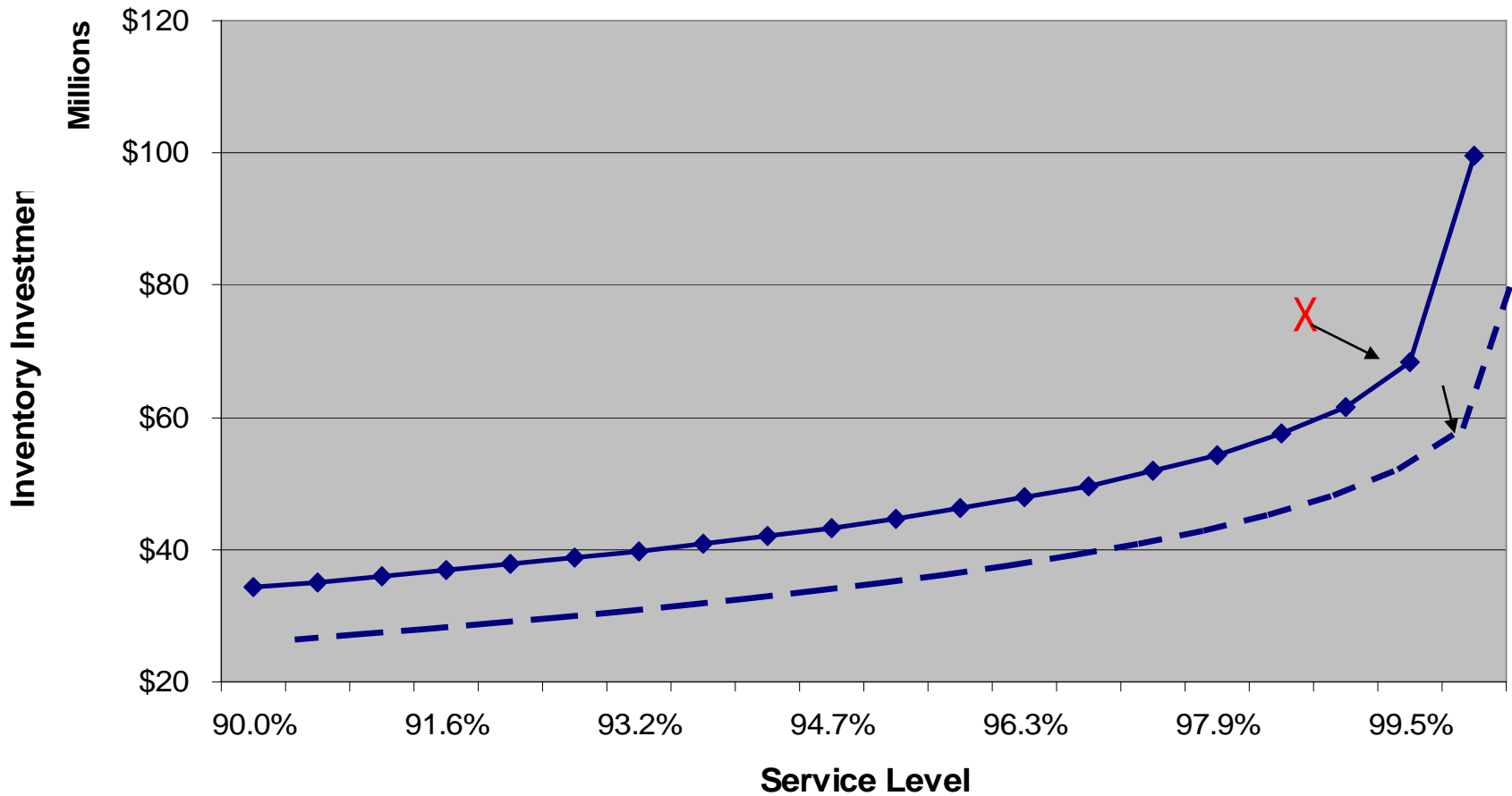


## Upfront decisions include:

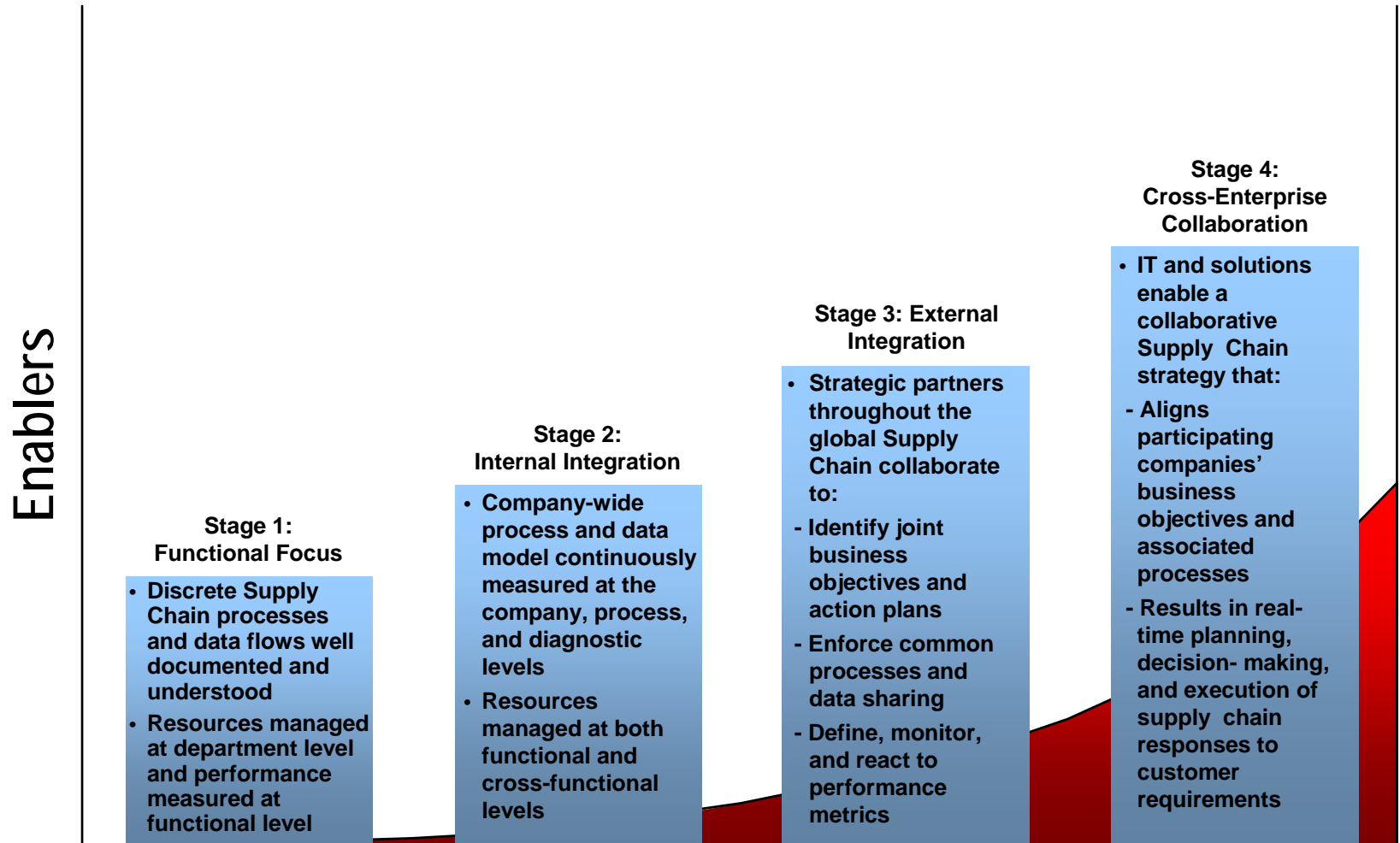
- Inventory levels
- Inventory locations
- Assembly network
- Distribution network
- Raw material and packaging suppliers
- Desired raw material, WIP, and FGI availability
- Desired raw material, WIP, and FGI costs
- In-house vs. contract manufacturers
- Logistics suppliers

# Company X's Efficient Frontier

*Optimal inventory targets will get X to the efficient frontier*  
*New inventory strategies will shift the frontier*

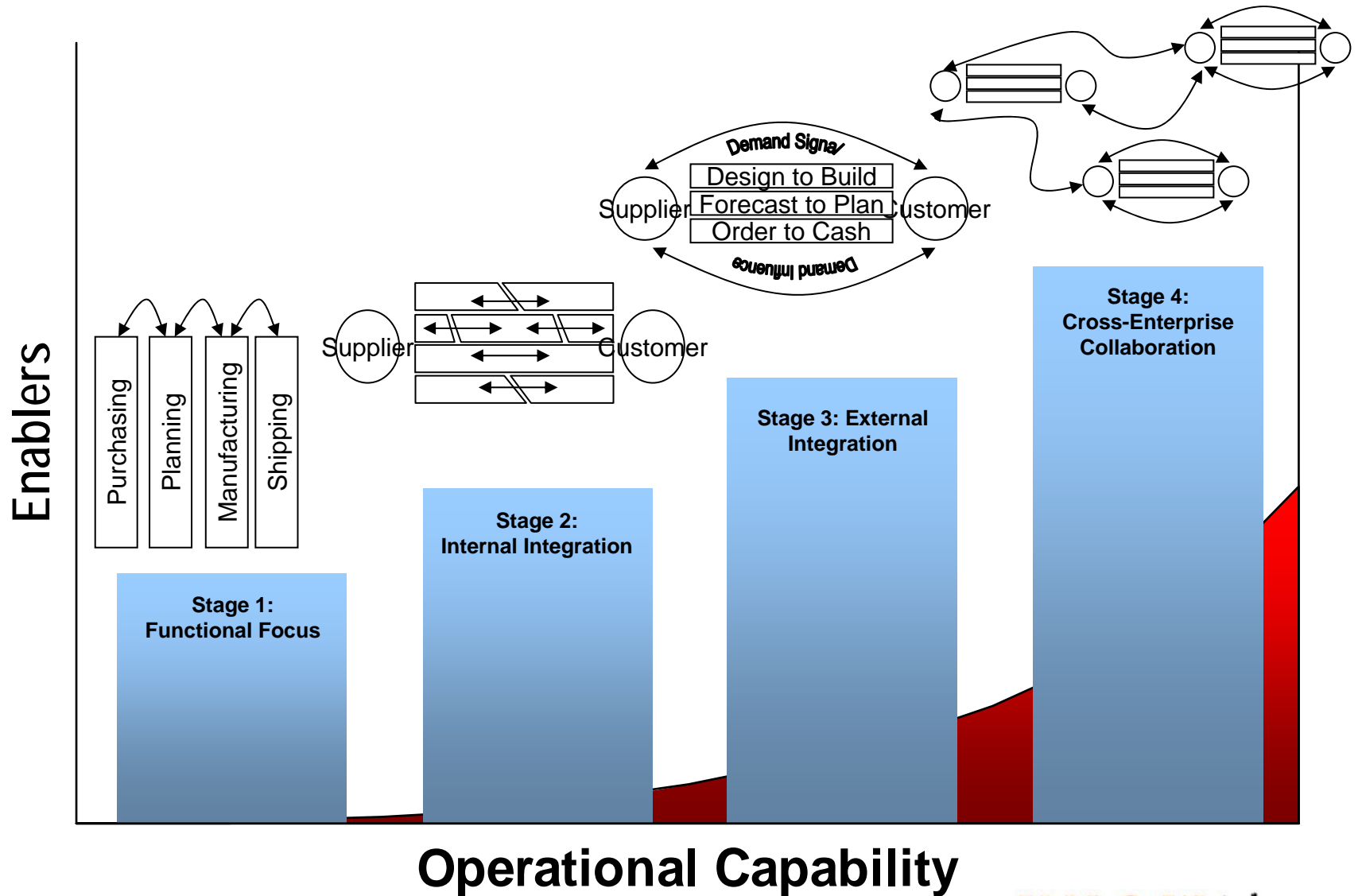


# The more mature – the more complex

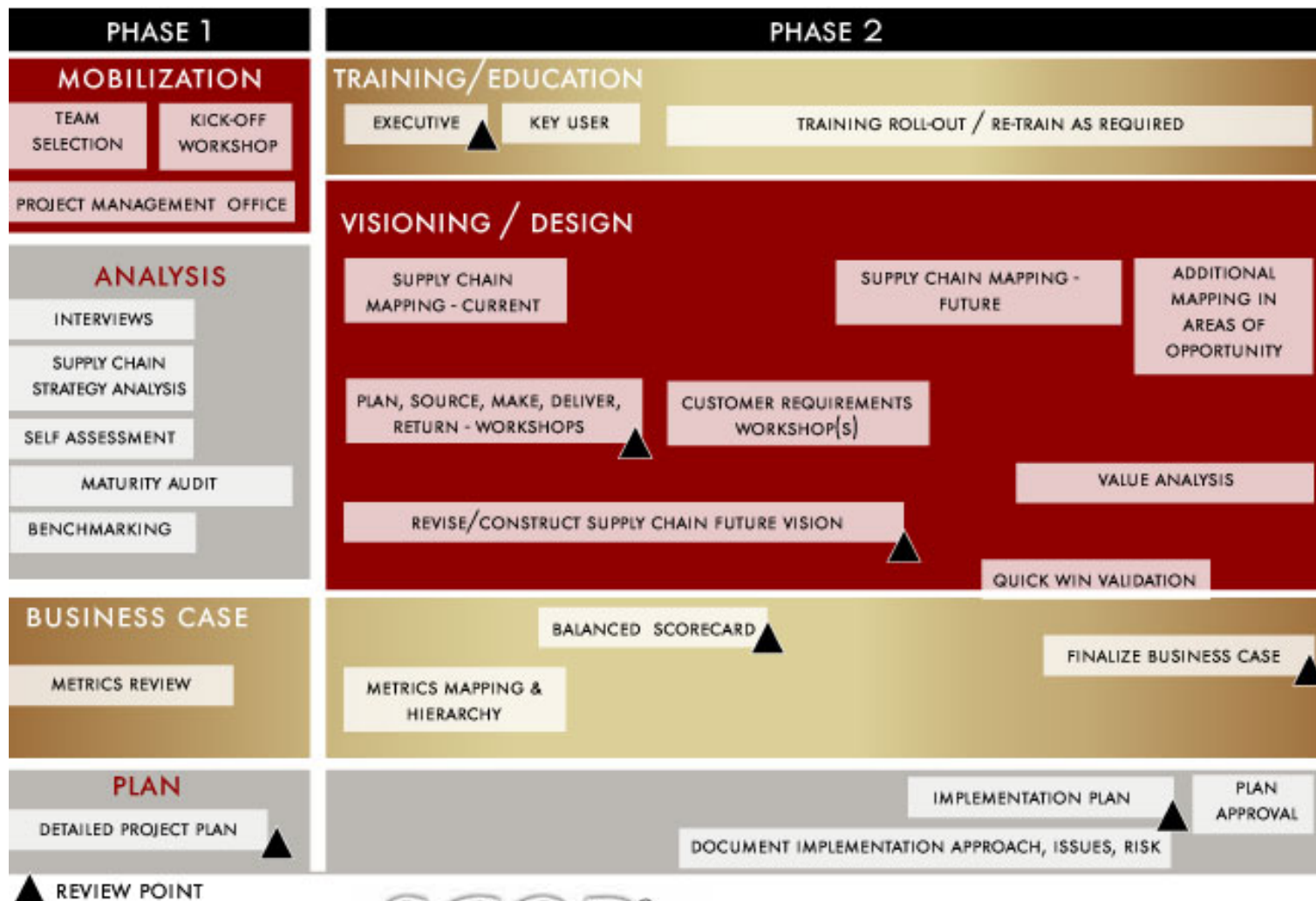


**Operational Capability**

# Supply Chain Maturity



# eLuminate the opportunity



Supply-Chain Council - Enabled

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# Key Take-aways

**Companies need to incorporate all components of supply chain costs and model the end-to-end supply chain, not just a single component.**

**Optimization tools can help evaluate all drivers of costs in a complex environment.**

**Data driven decisions can differ greatly from assumption based decisions.**

**No one supply chain strategy fits all organizations**

- ◆ More importantly: probably no single strategy fits all your different types of products and markets

**SCOR® can help you decide upon your best option(s)!**

# Thank You!

***[www.eKNOWtion.com](http://www.eKNOWtion.com)***

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