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Measuring the Supply Chain Financial Performance

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Outline

- Relevance of supply chain management
- Supply chain financial impact
- Supply chain project at a Fortune 500 company
- Impact of SC on shareholder value
- Top down approach for creating shareholder value
- New and future trends



Few Executives Question the Relevance of Supply Chain Management ...

- Senior executives at most companies view supply chain management as a critical driver of competitive advantage.
(Accenture, INSEAD & Stanford Study)

A Few Reasons...

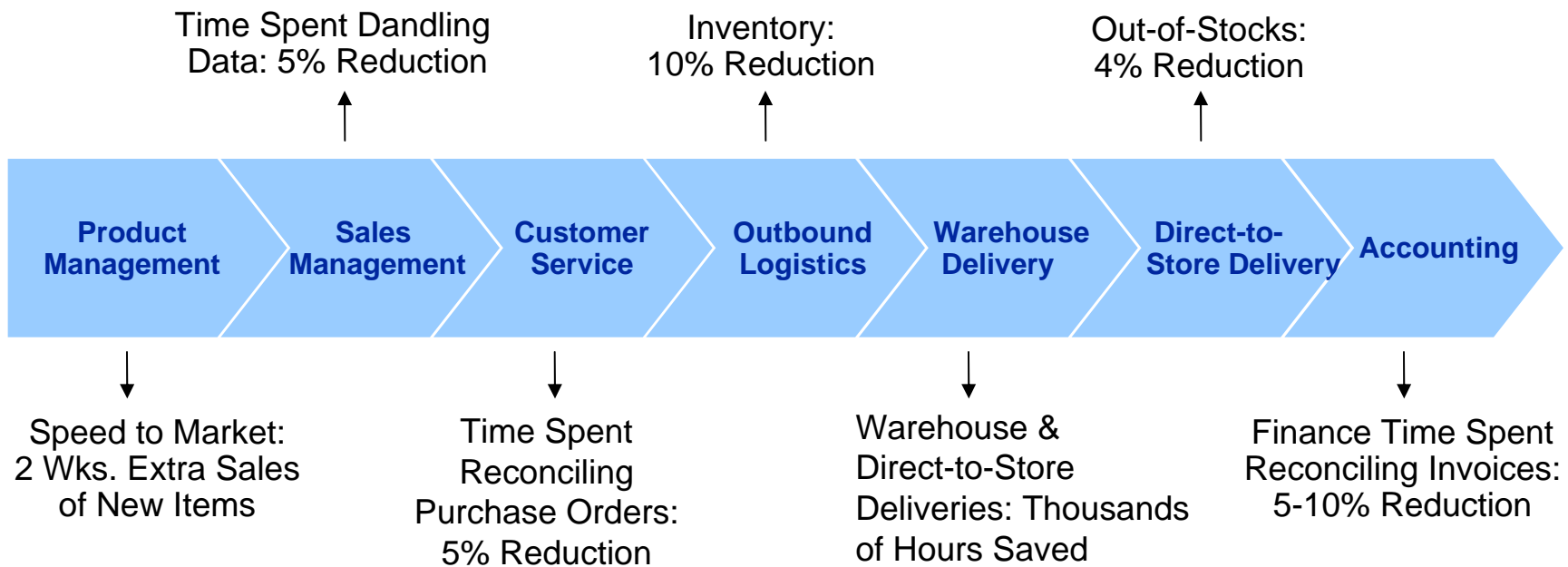
- Availability of better information systems
- Increasing product variety
- Decreasing product life cycles
- Less vertical integration
- Operations efficiency generally already achieved
- Skyrocketing logistics costs
- Etc.



Not Equally Confident About the Financial Impact of SC Initiatives

- Cost reduction continues to be the primary driver
 - 60% ranked cost reduction as most important
- But, many companies struggle to quantify the actual savings and develop metrics to track them
 - Linking common supply chain metrics to financial performance & shareholder value is a challenge for many

SC Benefits Can be Very Difficult to Quantify





SC Project at a Fortune 500 Company

- Poor service levels despite keeping lots of inventory in the multi-echelon system (i.e., 3 Manuf. Plants, 7 Cent. DCs and 20 Reg. DCs)
- The project involved:
 - Flow charting the supply chain for key items
 - Developing appropriate inventory models and placing safety stocks strategically to “optimize” the supply chain
 - Comparing the “optimized” supply chain with the current one & identifying areas for improvement
 - Quantifying the savings
 - Providing recommendations

Recommendations

- Push safety stocks upstream to take advantage of risk pooling
 - especially for items with high demand variability.
- Calculate safety stocks based on “actual data” by utilizing appropriate inventory models & identify areas for imp.
- Reduce avg. and std. dev. of transp. & processing times as much as possible to further reduce safety stocks

Recommendations – cont.

- Reduce std. dev. of demand by aligning incentives
 - “Draining the swamp at the end of quarter / year!”
- Use data/models to set corporate inventory targets & identify areas for improvements to achieve the targets



Results

- Reduction of total inventories by 22% by utilizing appropriate multi-echelon inv. models, resulting in significant annual \$ savings. Main problems:
 - Holding safety stocks in wrong locations; too much safety stocks at certain DCs; too little at others.
- Identification of areas for improvement
 - Examples: Avg. transit time from SF to Seattle: 6 days with a std. dev. of 3.2; LA to Phoenix: 7 days with a std. dev. of 4; a few took about 20 days!

Lessons Learned

Inv. models can help significantly reduce safety stocks and help quantify the savings.

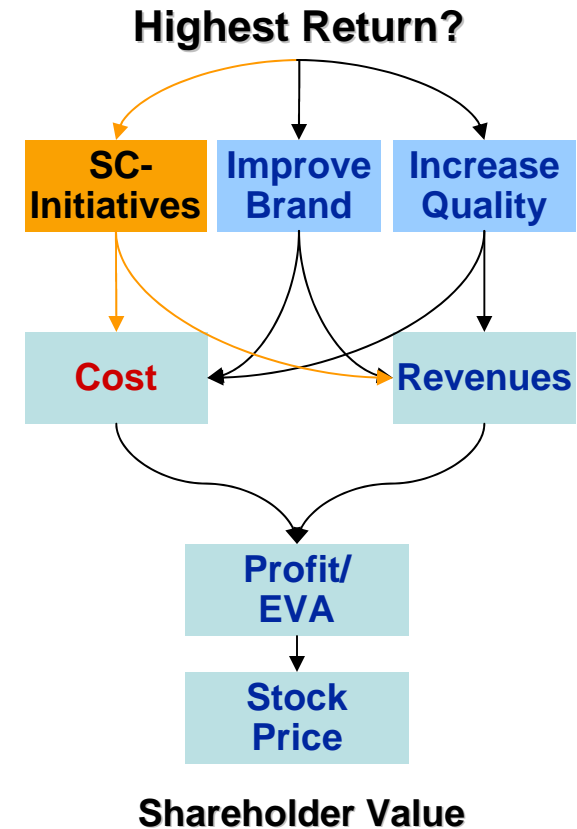
- Not very widely used:
 - Lack of knowledge regarding the models / mathematics intimidating(?)
 - Data is sometimes not readily available
- Many think just in terms of avg. (do not realize the imp. of the var.). It is such var. (in demand, supply, lead times) that causes many of the costly SC disruptions!

*The lower the variation, the lower the cost.
(savings can be measured)*

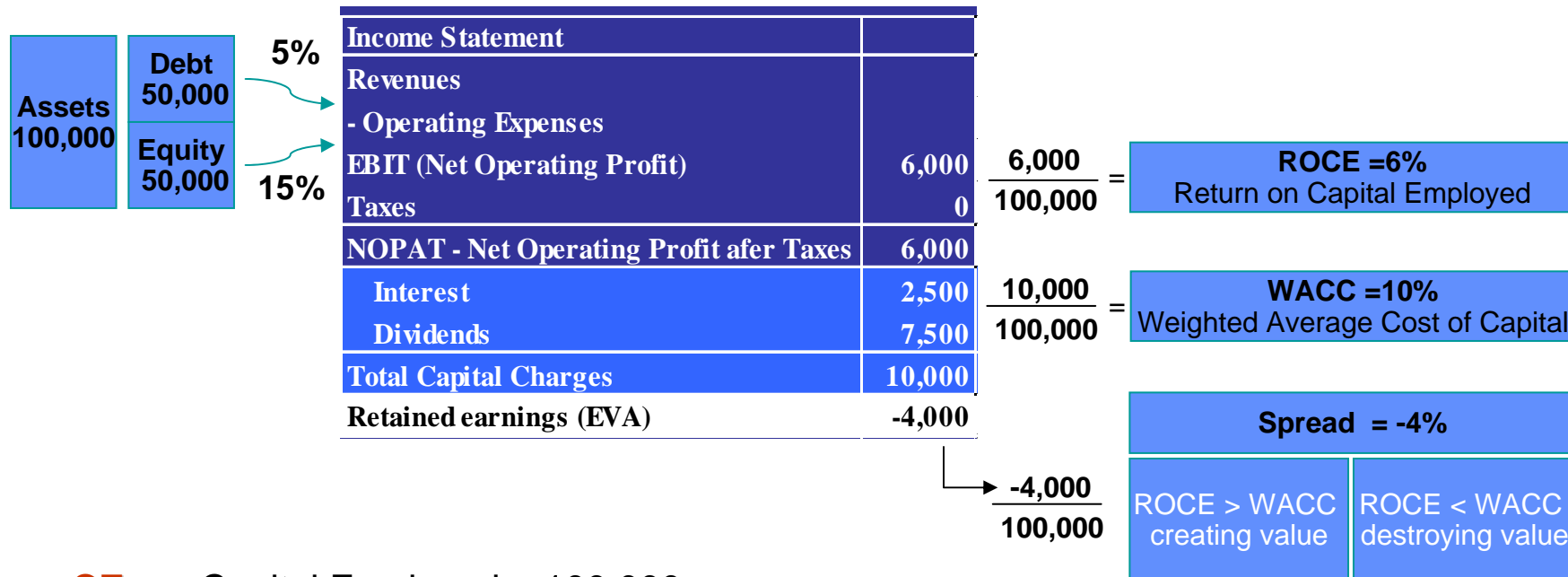
Traditional Cost View Does Not Recognize the Full Potential Impact on the Financial Perf.

The impact of SCM on shareholder value goes well beyond cost reduction (front-end initiatives become more important)

Many SC-decisions require a trade-off between revenues, cost and assets!



Metric: Economic Value Added (EVA)



CE Capital Employed = 100,000

ROCE Return on Capital Employed = Profit/ Capital Employed = 6,000/100,000 = 6%

WACC Weighted Average Cost of Capital = 50% *5% + 50%*15% = 10%

EVA Economic Value Added = (ROCE - WACC)*CE = (6%-10%)*100,000 = -4,000

EVA for the Average S&P Industrials Company

Value driver	\$ million
1 Revenues	5.000
2 Costs	
Operating Expenses	4.450
Effective tax rate	36,4%
3 Capital Employed	3.500
4 Cost of Capital	9,6%

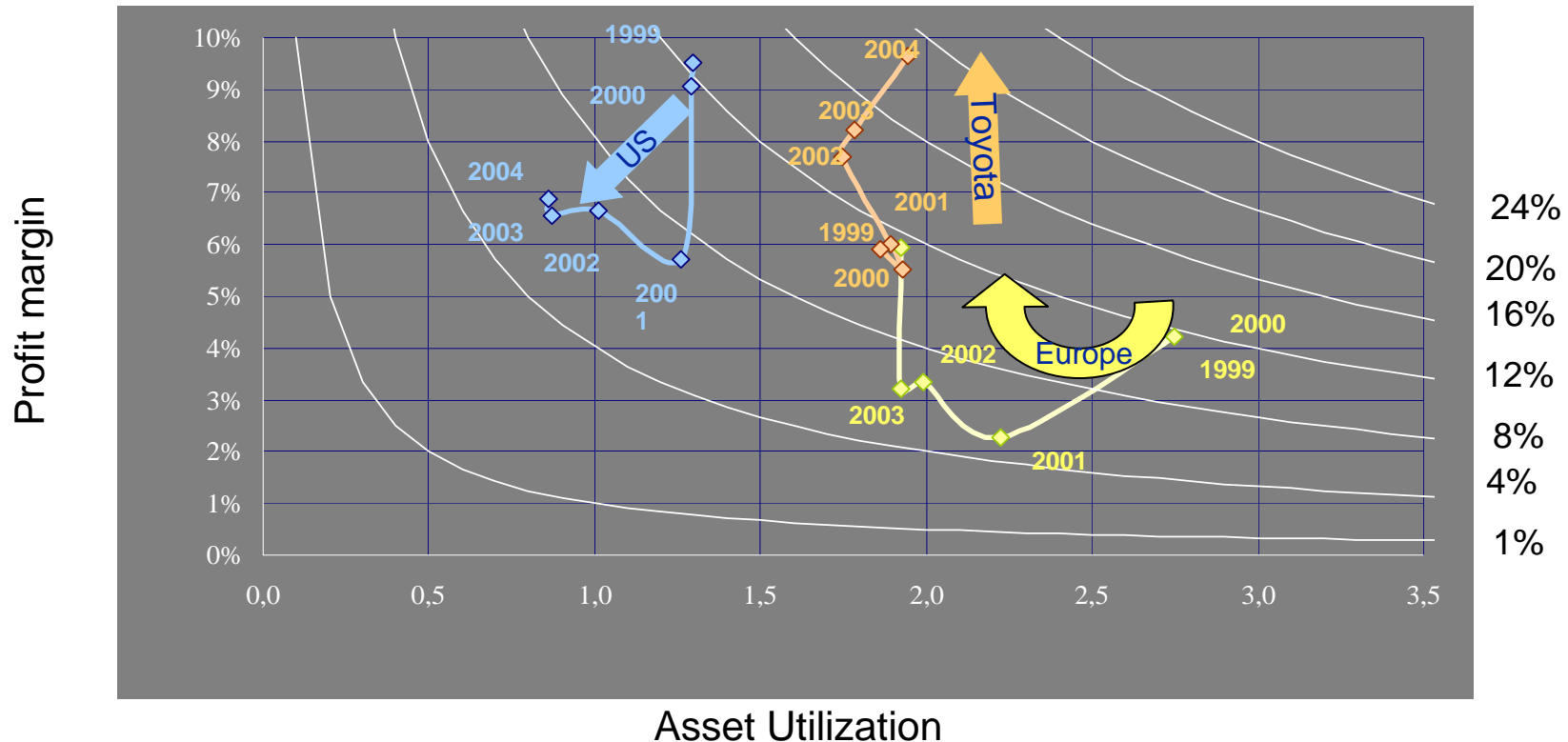


Average S&P 500 Industrials	\$ million
Revenues	5.000
Operating Expenses	4.450
Net Operating Profit (EBIT)	550
Taxes	200
Net Operating Profit after Taxes (NOPAT)	350
Capital Charge	336
Economic Value Added	14
ROCE	10,0%
Spread	0,4%
EVA	13,40

Source: Adapted from FinListics Solutions

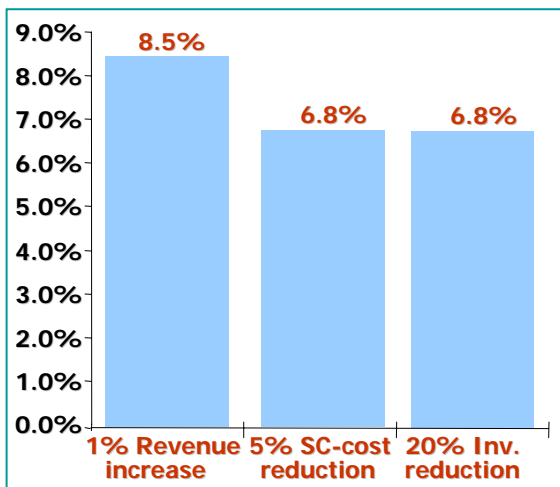
SCM as a Powerful Tool Impacting 3 Drivers of Financial Performance

ROCE: (EBIT/(Net Fixed Assets + WC))
 Toyota vs. European and US OEMs

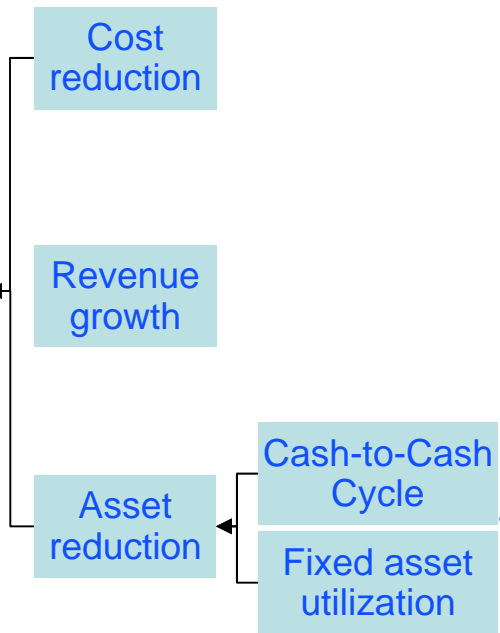


Identify SC Drivers That Create Most Value

SCM's impact on average S&P Industrials company's stock price

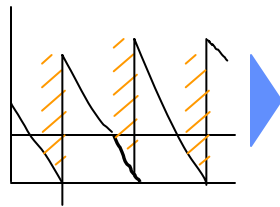


$$ROCE = \frac{\text{Profit}}{\text{CE}}$$



- SC-driver**
- Material
 - Transportation
 - Setup costs
 - Inventory carrying
 - Administration, etc.
- Existing businesses**
- Reduced stock-outs
 - Perfect order
 - Customer Service
- New businesses**
- time to market
- Reduced C₂C
 - Increased capacity utilization
 - Etc.

The Most Promising SC-driver of Shareholder Value: Capital Util. (Speed)



Average S&P Industrials company	\$ million
Base Inventory	500
Inventory reduction at 20% (12 days from 60)	100
Cost of Capital	9,6%
Reduced Capital Charge =EVA Improvement -9,6	

Higher operational speed

Allows higher SC-costs

- Transportation costs
- Etc.

Frees cash for SC-Initiatives

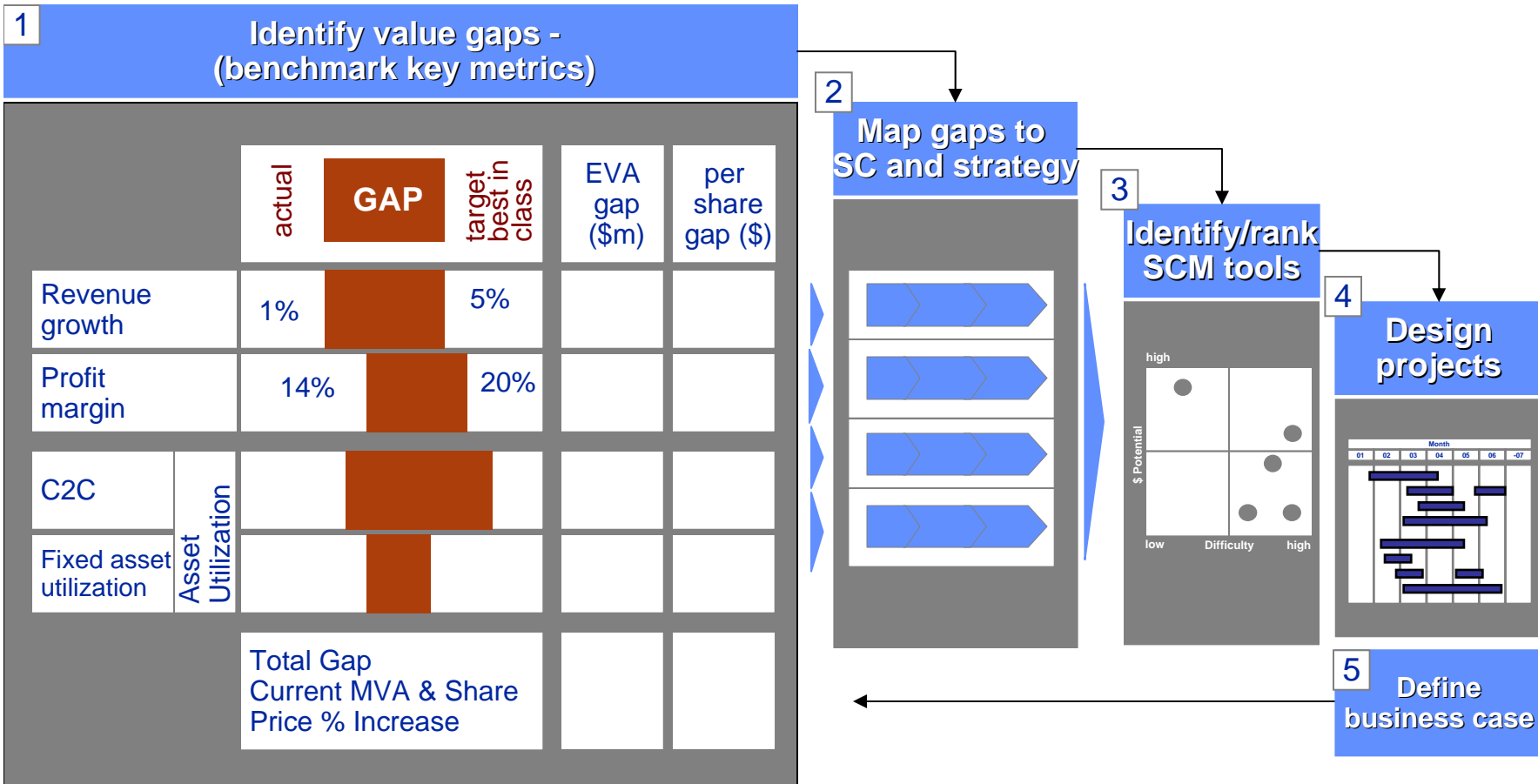
- SC-Synchronization
- Customer service, etc.

Frees cash to take advantage strategic opportunities

- Increase research
- Enter new markets
- Compete at lower margins

Create value

A 5-step Approach for Creating Shareholder Value Through SCM



Current & Future Trends

- **The front-end of supply chains become more important for improving financial performance**
 - Revenue enhancement
 - Reduction in time to market
- **SC-risk as the 4th driver of financial performance**
- **New cost accounting methods**
 - RCA – resource consumption accounting
 - Time driven ABC
- **Supply chain scorecards**
 - Linking non-financial and financial metrics

Questions





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Today's Speakers can be reached at

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