

Strategic Profitability Analysis

(A tool to control the implementation of strategy
with the help of adapted variance analysis.)

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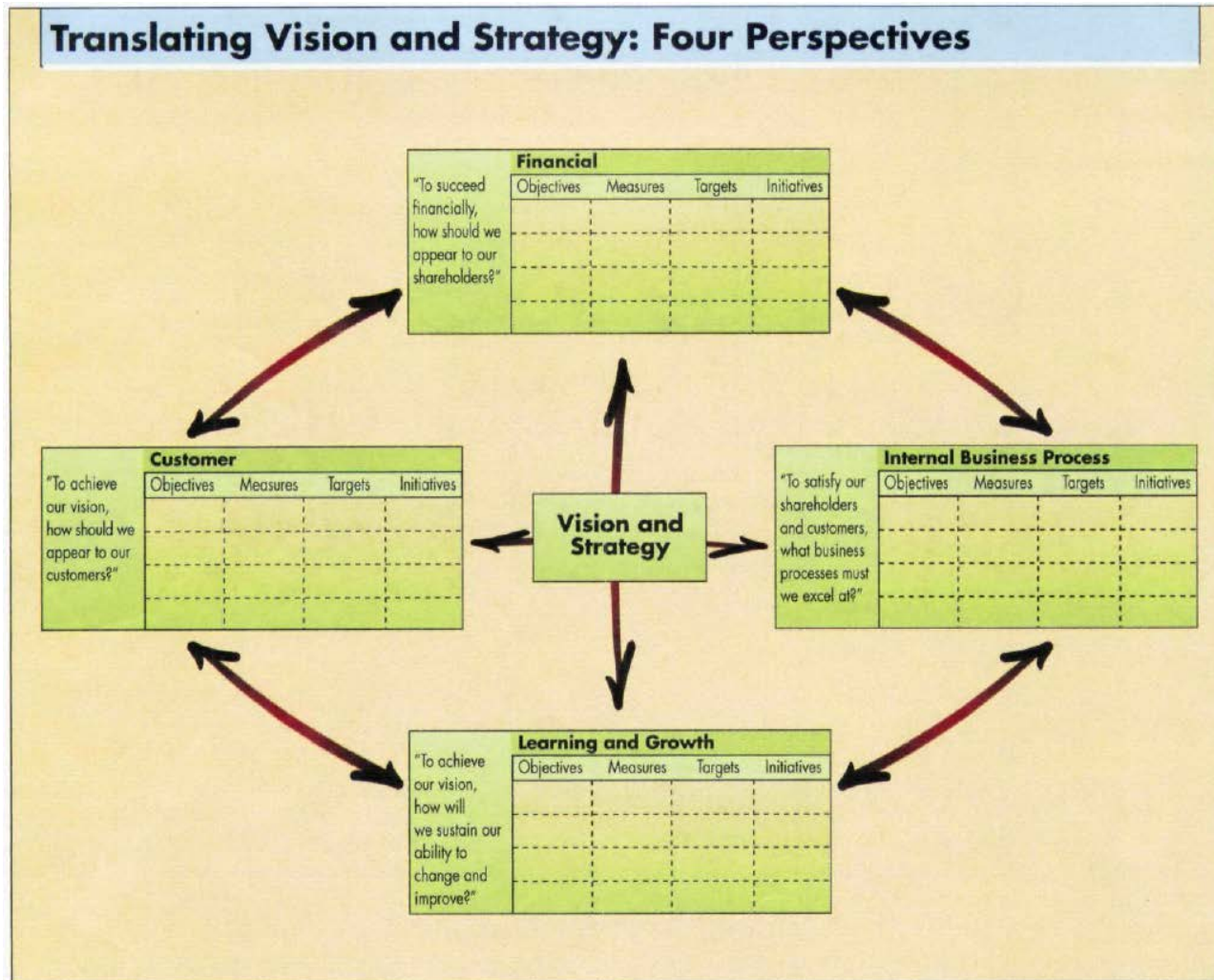
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Lead

- Balanced Scorecard as a management system to align strategy failed very often.
- Too many objectives and measures were set.
- Very often the cause-and-effect sequence was not clear.
- Setup time for a good BSC is between 1 and 2 years.
- Solution: By applying a strategic-profitability-analysis [SPA] approach a strategy conformity check can easily be established.

BSC

Kaplan / Norton, 1996, p. 76



Performance Management

A good performance management system sticks to the following behavioral measurement principles:

- What gets measured, gets done!
- Tell me how you measure me, and I will tell you how I will behave!

Effectiveness & Efficiency

A good performance measurement system should look at two dimensions:

- “To get the right things done” [effectiveness] and
 - “To do things right” [efficiency]
-
- Effectiveness deals with the strategy of the company, efficiency looks at the way how the company achieves the (strategic) goals.

Drucker, 1966

SPA as a tool to blend effectiveness and efficiency



Measurement of effectiveness on the basis of e.g. Porter's Generic Competitive Strategies

Porter, 1980, p. 35ff

"In coping with the five competitive forces [see next page], there are three potentially successful generic strategic approaches to outperforming other firms in an industry:

1. overall cost leadership
2. differentiation
3. focus"

[The 'focus' strategy is 'differentiation' or overall leadership on a particular segment only. We will not discuss this 'specialization' separately.]

Porter's Five Competitive Forces

Porter, 1998, p. 6

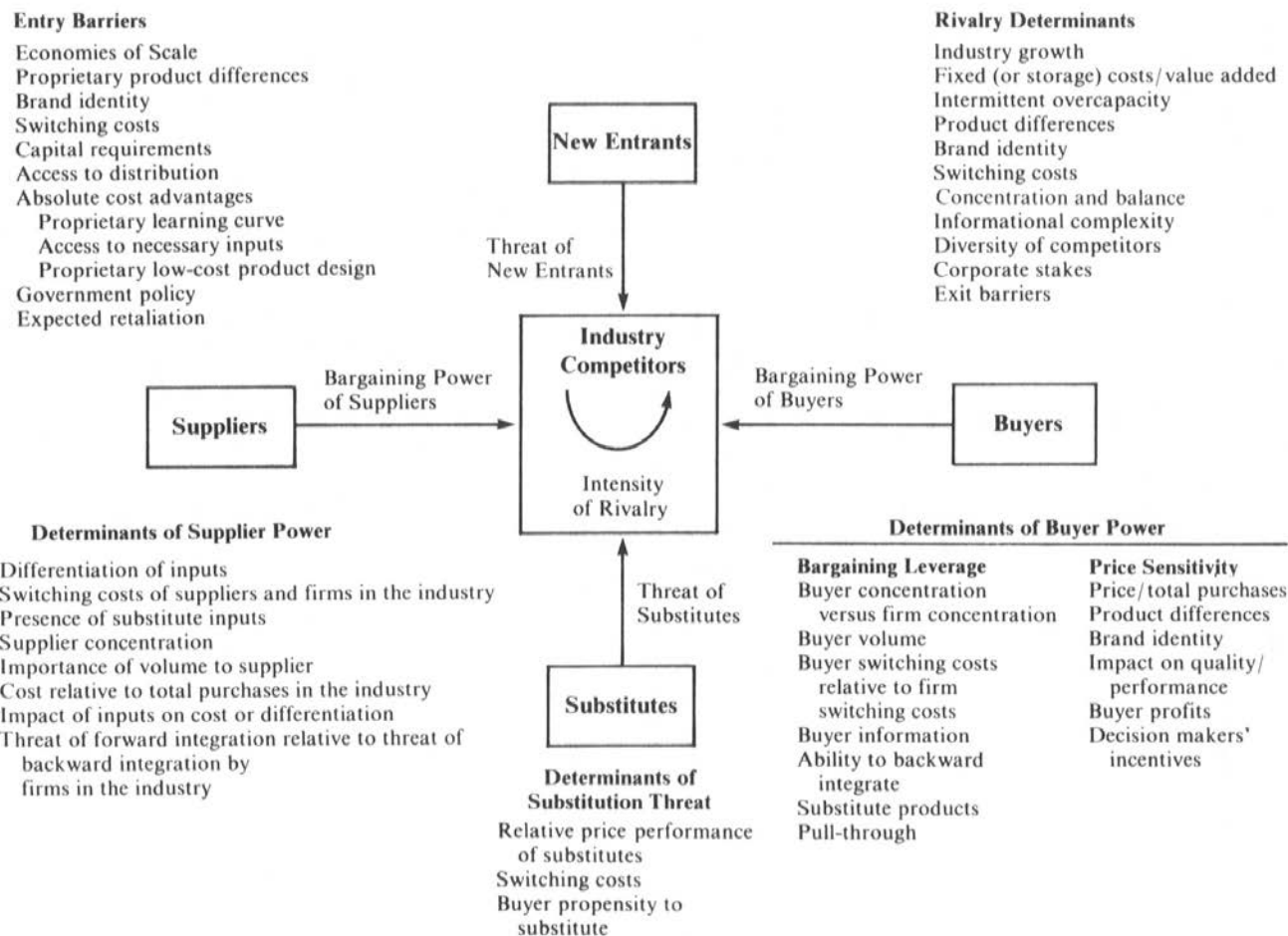


Figure 1-2. Elements of Industry Structure

Overall Cost Leadership

Based on the experience curve concept , overall cost leadership pursues the following objectives:

- Aggressive construction of efficient-scale facilities
- Vigorous pursuit of cost reductions from experience
- Tight cost and overhead control
- Avoidance of marginal customer accounts
- Cost minimization in areas like R&D, service, sales force, advertising, and so on

Differentiation

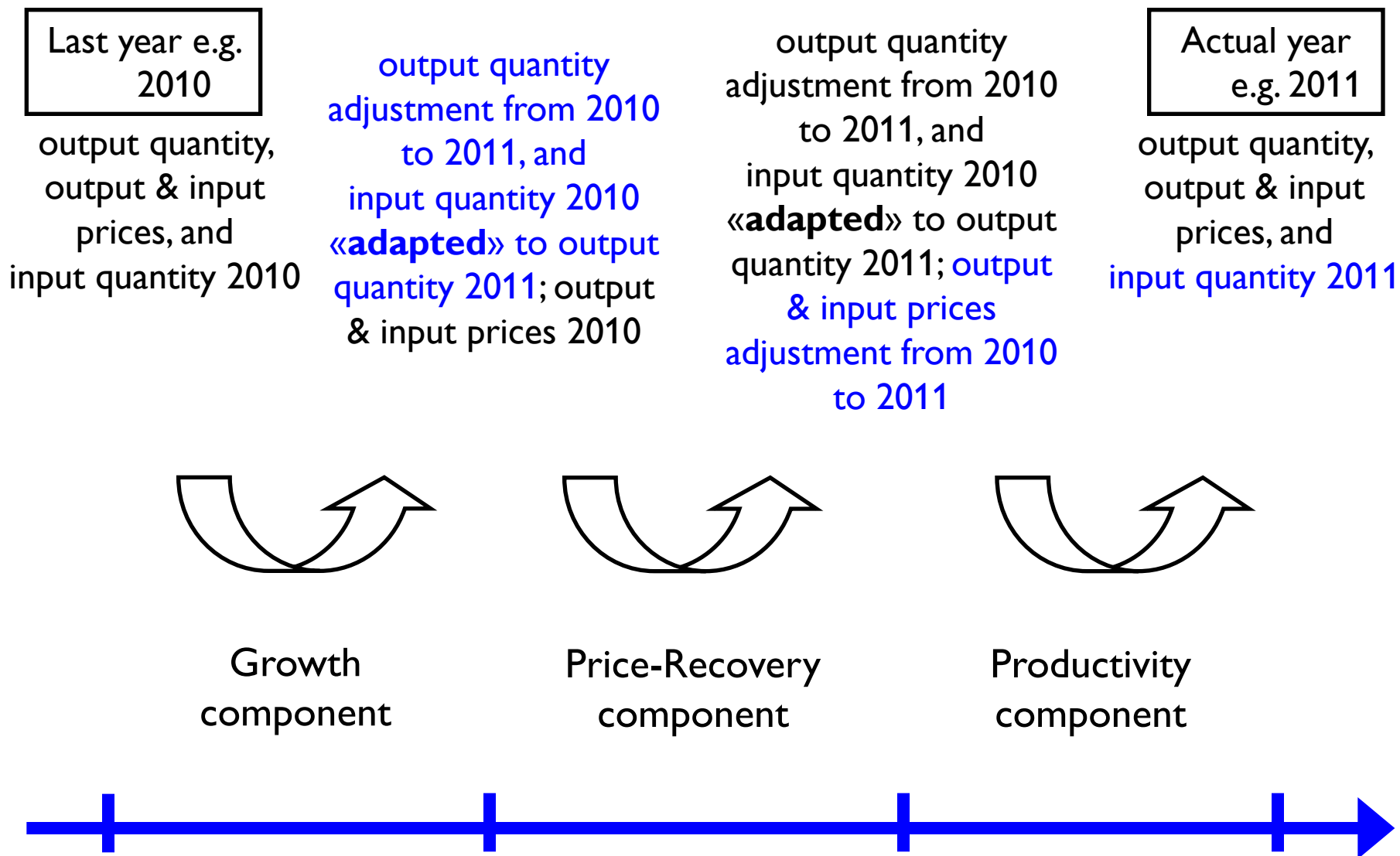
‘Differentiating’ can be achieved by offering a product or service, which is being perceived industrywide as unique on the following dimensions:

- Design or brand image
- Technology
- Features
- Customer service
- Dealer network
- and so on

Measurement of efficiency on the basis of the Adapted Variance Analysis

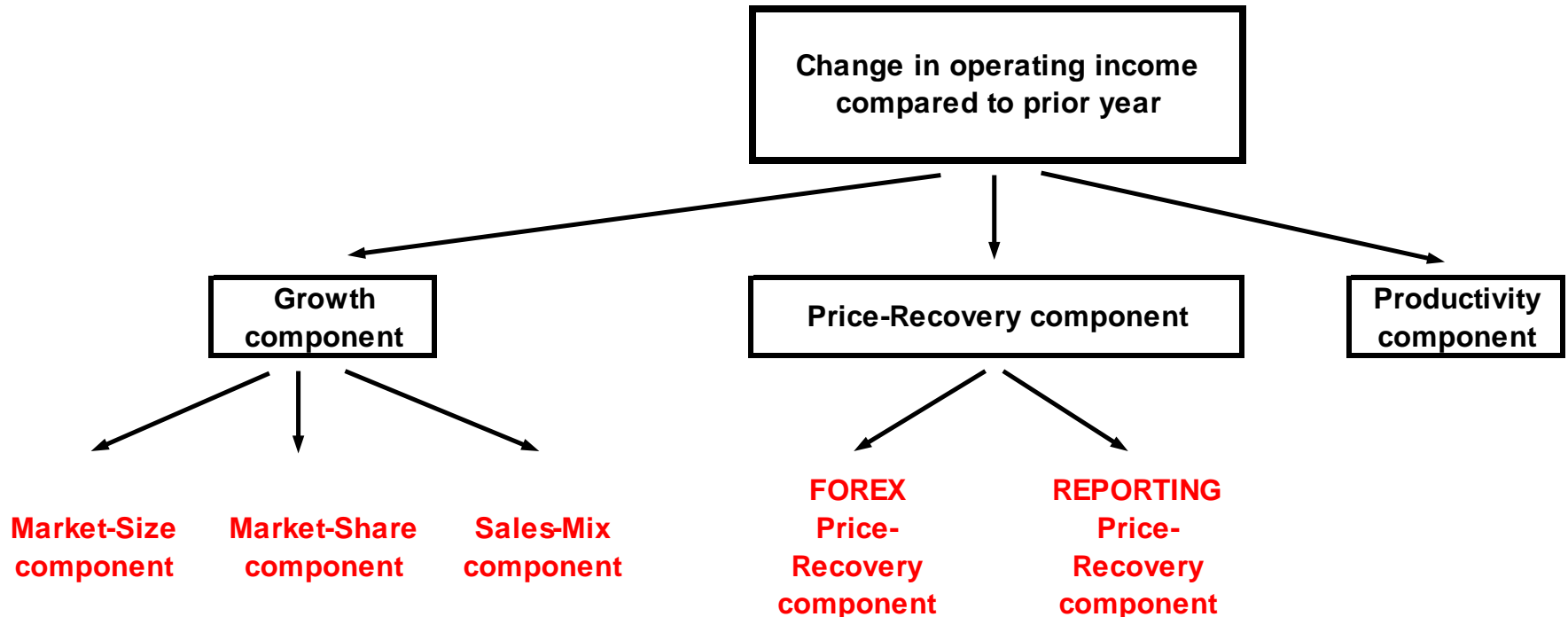
- Variance **Analysis** is done not versus budget, but versus **prior year**!
- To focus more on 'unused' capacity for all fixed costs 'capacity' has to be defined!
- All values are the product of price and quantity.
- Within quantity we must distinguish between output and input quantity.
- Adjusting for output quantity leads to the **Growth** component of variance analysis, adjusting for price leads to the **Price-Recovery** component, adjusting for input quantity to the **Productivity** component.

Van Loggerenberg / Cucchiaro, 1981



Adapted Variance Analysis

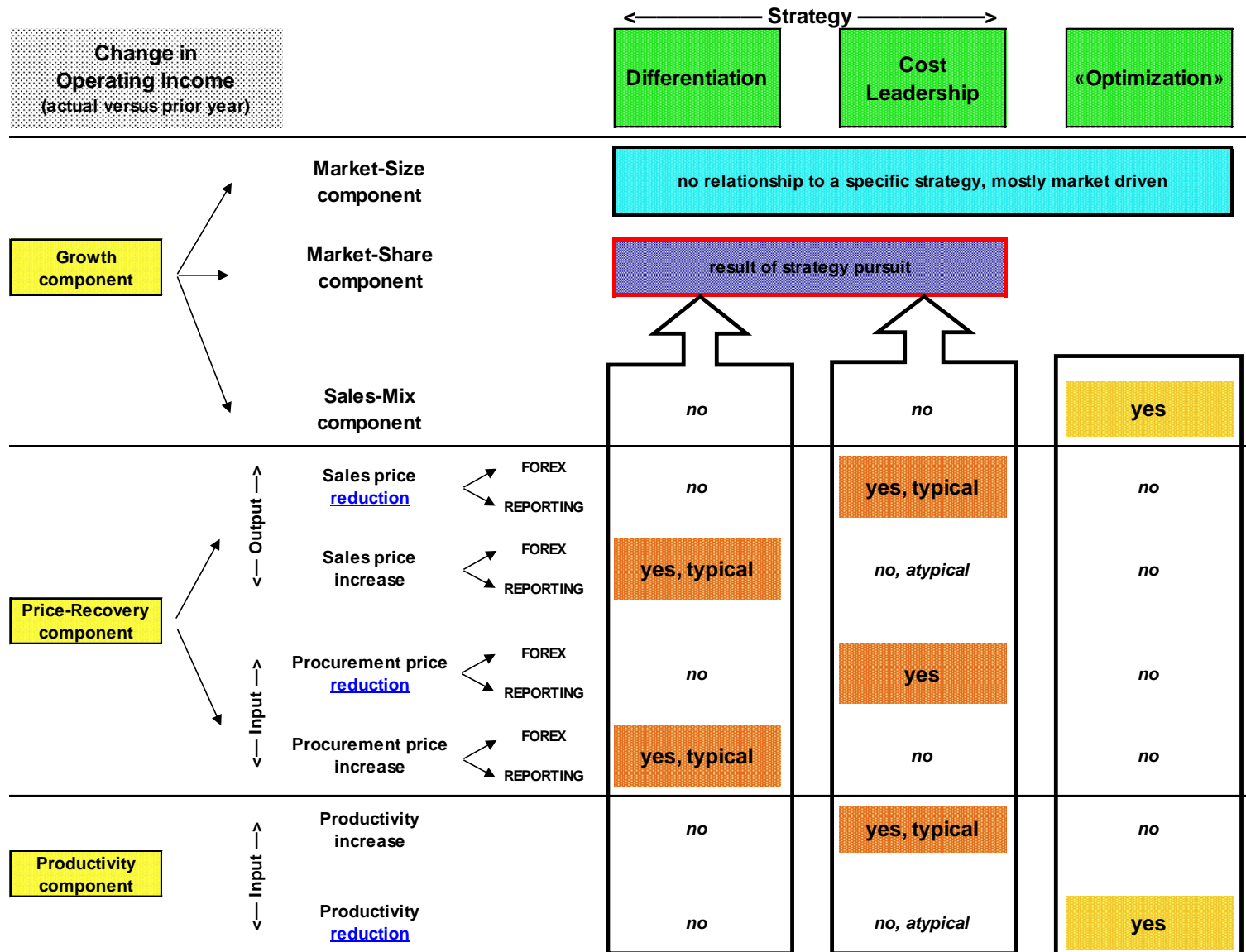
with subdivided Growth and Price-Recovery components



Linking Effectiveness and Efficiency (cause-and-effect connection)

- We now link the Generic Competitive Strategies with the Adapted Variance Analysis.
- Depending your perception the allocation can be done differently.
- One possibility is shown next page.

New: Introduction of a 'Optimization' dimension in addition to the two Generic Competitive Strategies.



Case Study: Meredith

Based on: Horngren / Datar / Foster / Rajan / Ittner, 2008, 13-22 to 13-24, p. 520f

- Meredith Corporation makes a special-purpose machine, D4H, used in the textile industry. Meredith has designed the D4H machine for 2009 to be distinct from its competitors. It has been generally regarded as a superior machine.
- Meredith produces no defective machines, but it wants to reduce direct materials usage per D4H machine in 2009. (Fixed) conversion costs in each year depend on production capacity defined in terms of D4H units that can be produced, not the actual units produced. (Fixed) selling and customer-service costs depend on the number of customers that Meredith can support, not the actual number of customers it serves. Meredith has 70 customers in 2008 and 80 customers in 2009.
- At the start of each year, management uses its discretion to determine the number of design staff for the year. The design staff and its costs have no direct relationship with the quantity of D4H produced or the number of customers to whom D4H is sold.

Case Study: Meredith (suggested solution)

	<u>2008</u> Actual	<u>2009</u> Actual
Units of D4H produced and sold	200	210
Ø Selling price per unit sold	40'000.00	42'000.00
Direct materials (kilograms)	300'000	310'000
Ø Direct material cost per kilogram	8.00	8.50
Manufacturing capacity in units of D4H	250	250
Total conversion costs	2'000'000.00	2'025'000.00
Ø Conversion costs per unit of capacity (units of D4H)	8'000.00	8'100.00
Selling and customer-service capacity (# customer)	75	85
Actual numbers of customers (# customer)	70	80
Total selling and customer-service costs	1'012'500.00	940'525.00
Ø Selling and customer-service capacity costs per customer	13'500.00	11'065.00
Design staff	12	12
Total design costs	1'200'000.00	1'212'000.00
Ø Design cost per # of design staff	100'000.00	101'000.00

Required:

1. Is Meredith's strategy one of product differentiation or cost leadership? Explain briefly.
Meredith Corporation follows a product differentiation strategy in 2009. Meredith's D4H machine is distinct from its competitors and generally regarded as superior to competitors' products. To succeed, Meredith must continue to differentiate its product and charge a premium price.

Case Study: Meredith (suggested solution, continuation)

Required:

2. Calculate the operating income of Meredith Corporation in 2008 and 2009.

Operating Income calculations of Meredith Corp.

	<u>2008</u>	<u>2009</u>
	Actual	Actual
Sales	8'000'000.00	8'820'000.00
- Direct materials costs	-2'400'000.00	-2'635'000.00
- Manufacturing conversion costs	<u>-2'000'000.00</u>	<u>-2'025'000.00</u>
= Gross margin	3'600'000.00	4'160'000.00
- Selling and customer-service costs	-1'012'500.00	-940'525.00
- Design costs	<u>-1'200'000.00</u>	<u>-1'212'000.00</u>
= Operating income	<u><u>1'387'500.00</u></u>	<u><u>2'007'475.00</u></u>
Change in Operating income	619'975.00	

positive variances are «favorable», negative variances are «unfavorable»

Case Study: Meredith (suggested solution, continuation)

Required:

- Calculate the growth, price-recovery, and productivity components that explain the change in operating income from 2008 to 2009.

Meredith Corp.

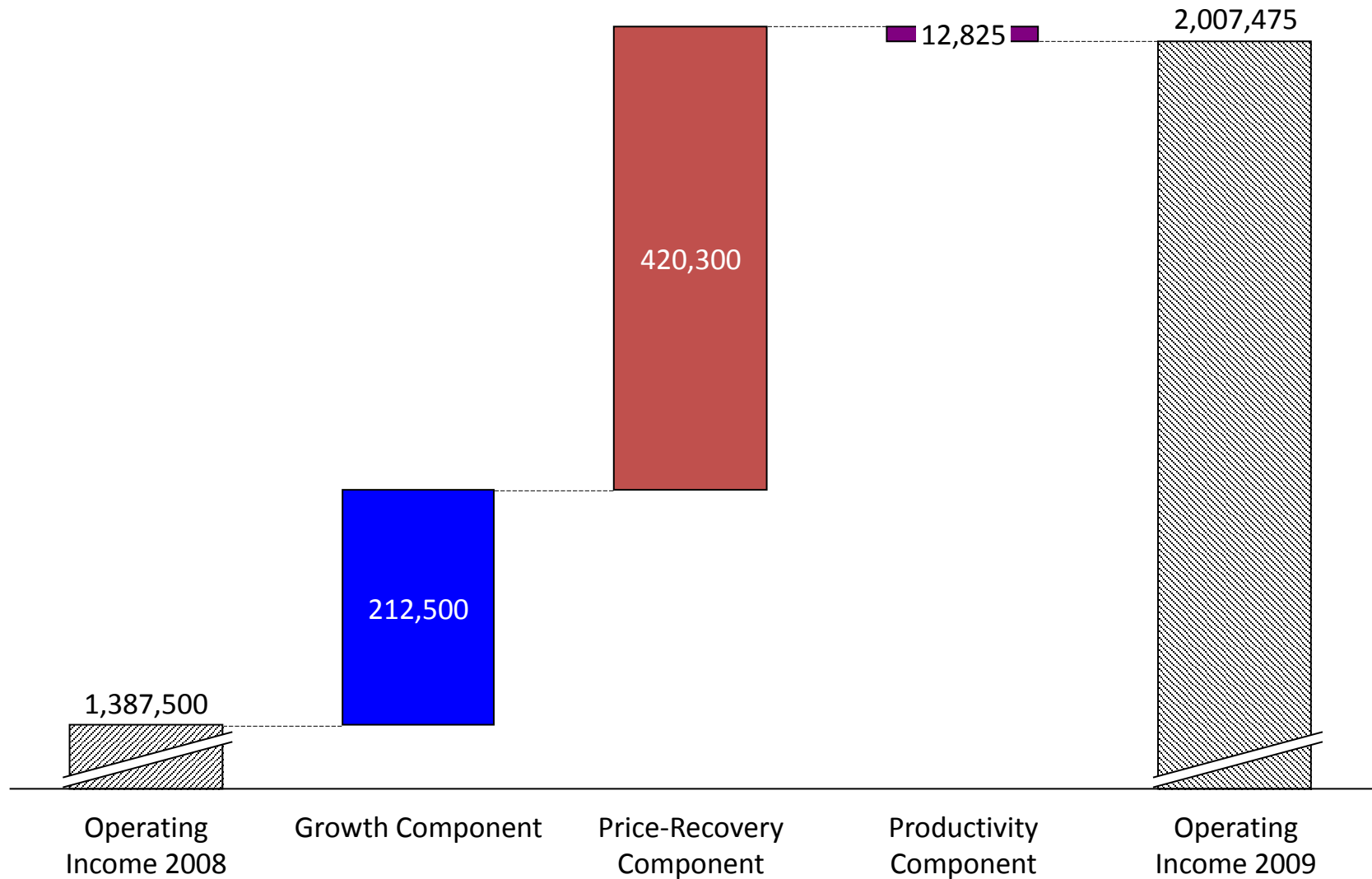
Adapted Variance Analysis

	2008 Actual	2009 sold units with 2008 standards rest		2009 sold units with 2009 prices and 2008 yield		2009 Actual
Units of D4H produced and sold	200	210	←-----	210	←-----	210
∅ Selling price per unit sold	40'000.00	40'000.00		42'000.00		42'000.00
Direct materials (kilograms)	300'000	315'000		315'000		310'000
∅ Direct material cost per kilogram	8.00	8.00		8.50		8.50
Manufacturing capacity in units of D4H	250	250		250		250
Total conversion costs	2'000'000.00					2'025'000.00
∅ Conversion costs per unit of capacity (units of D4H)	8'000.00	8'000.00		8'100.00		8'100.00
Selling and customer-service capacity (# customer)	75	80		80		85
Actual numbers of customers (# customer)	70	80	←-----	80	←-----	80
Total selling and customer-service costs	1'012'500.00					940'525.00
∅ Selling and customer-service capacity costs per customer	13'500.00	13'500.00		11'065.00		11'065.00
Design staff	12	12		12		12
Total design costs	1'200'000.00					1'212'000.00
∅ Design cost per # of design staff	100'000.00	100'000.00		101'000.00		101'000.00

	2008 Actual	Growth Component	2009 sold units with 2008 standards rest	Price-Re- covery Component	2009 sold units with 2009 prices and 2008 yield	Productivity Component	2009 Actual
Sales	8'000'000.00	400'000.00	8'400'000.00	420'000.00	8'820'000.00	-	8'820'000.00
- Direct materials costs	-2'400'000.00	-120'000.00	-2'520'000.00	-157'500.00	-2'677'500.00	42'500.00	-2'635'000.00
- Manufacturing conversion costs, <u>used</u>	-1'600'000.00	-80'000.00	-1'680'000.00	-21'000.00	-1'701'000.00	-	-1'701'000.00
- Manufacturing conversion costs, <u>unused</u>	-400'000.00	80'000.00	-320'000.00	-4'000.00	-324'000.00	-	-324'000.00
= Gross margin	3'600'000.00	280'000.00	3'880'000.00	237'500.00	4'117'500.00	42'500.00	4'160'000.00
- Selling and customer-service costs, <u>used</u>	-945'000.00	-135'000.00	-1'080'000.00	194'800.00	-885'200.00	-	-885'200.00
- Selling and customer-service costs, <u>unused</u>	-67'500.00	67'500.00	-	-	-	-55'325.00	-55'325.00
- Design costs	-1'200'000.00	-	-1'200'000.00	-12'000.00	-1'212'000.00	-	-1'212'000.00
= Operating income	1'387'500.00	212'500.00	1'600'000.00	420'300.00	2'020'300.00	-12'825.00	2'007'475.00

positive variances are «favorable», negative variances are «unfavorable»

Case Study: Meredith (suggested solution, continuation)



Case Study: Meredith

- Suppose that during 2009 the market for Meredith's special-purpose machines grew by 3%. All increases in market share (that is, sales increases greater than 3%) are the result of Meredith's strategic actions.
[Conclusion: 6 sold units of D4H are attributable to market-size increase, 4 sold units of D4H are attributable to market-share increase. Because no sales-mix component is existent in this case, the growth component is only subdivided in a market-size and market-share component.]

Required:

4. Calculate how much of the change in operating income from 2008 to 2009 is due to the industry-market-size factor, cost leadership, and product differentiation. How successful has Meredith been in implementing its strategy? Explain.

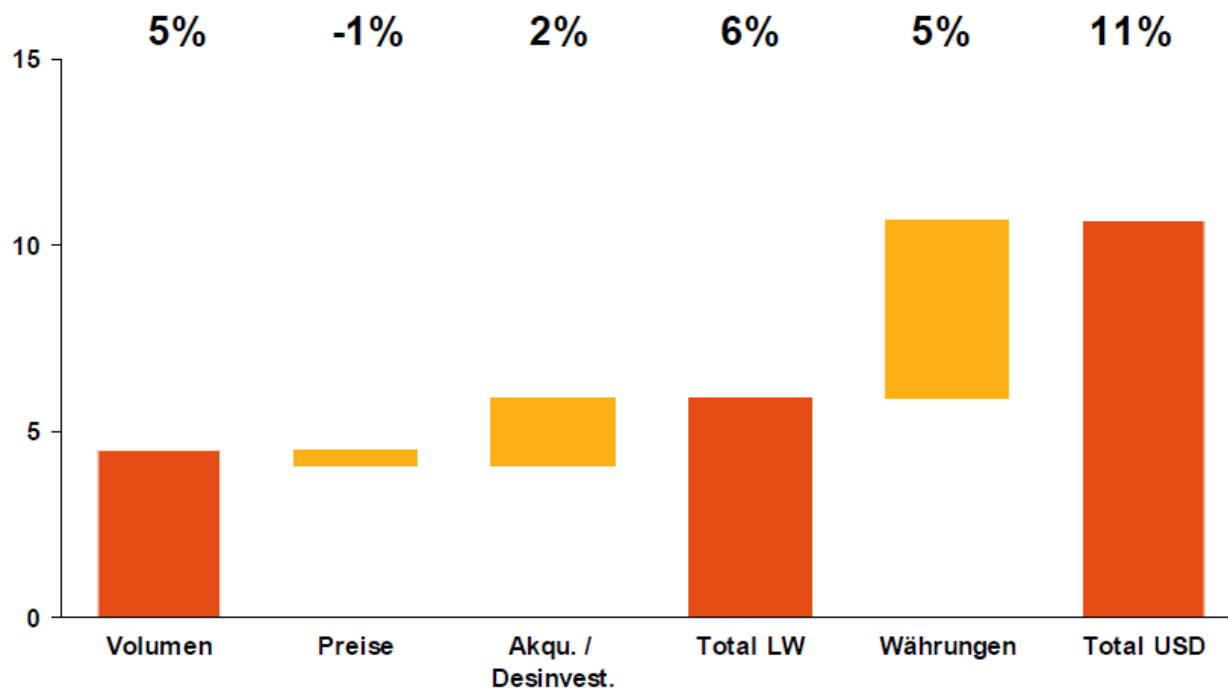
Case Study: Meredith (suggested solution, continuation)

Change in Operating Income (actual versus prior year)			Strategy			
			Differentiation	Cost Leadership	«Optimization»	
Growth component	Market-Size component		127'500.00			
	Market-Share component		85'000.00			
	Sales-Mix component		no	no	n.a.	
Price-Recovery component	Output	Sales price <u>reduction</u>	FOREX REPORTING	no	yes, typical	no
		Sales price increase	FOREX REPORTING	420'000.00	no, atypical	no
	Input	Procurement price <u>reduction</u>	FOREX REPORTING	no	194'800.00	no
		Procurement price increase	FOREX REPORTING	-194'500.00	no	no
Productivity component	Input	Productivity increase		yes, typical	no	
		Productivity <u>reduction</u>		no, atypical	-12'825.00	
Δ total due to differentiation strategy			310'500.00	194'800.00	-12'825.00	

Example: Novartis

Volumensteigerungen und Währungsumrechnungen als Hauptfaktoren des Nettoumsatzwachstums¹ im Jahr 2007

Wachstum 12 Monate 2007 (%)



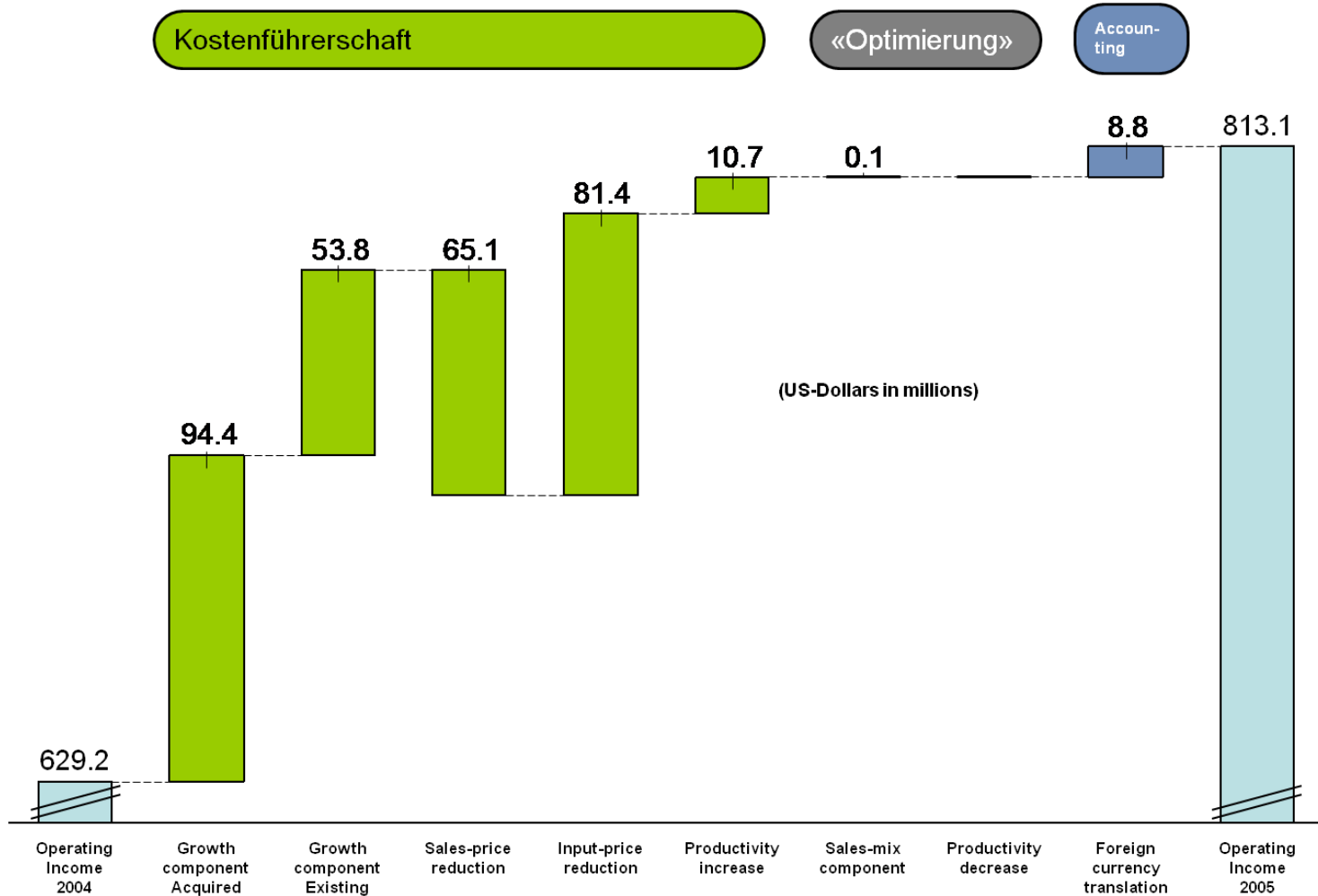
¹ Nettoumsatz aus fortzuführenden Geschäftsbereichen, ohne Nutrition & Santé, Medical Nutrition und Gerber

5 | 2007 Annual Results Media Conference | Raymund Breu | 17. Januar 2008



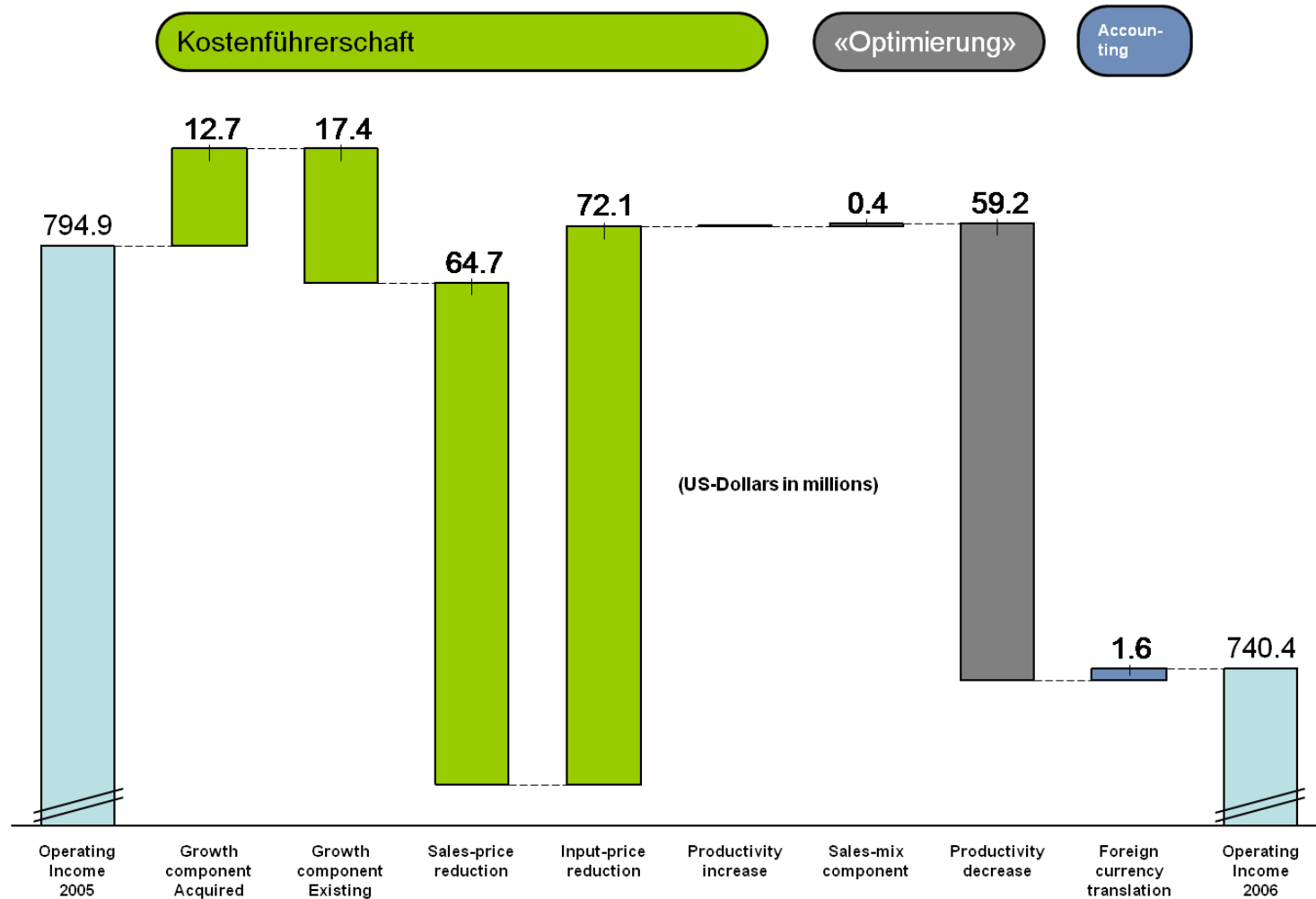
Example: BDK

«Strategische» Erfolgsanalyse der Black & Decker Corp. von 2005 versus 2004



Example: BDK

«Strategische» Erfolgsanalyse der Black & Decker Corp. von 2006 versus 2005



Case Study: Snyder

Based on: Horngren / Datar / Foster, 2005, 13-26 to 13-28, p. 485

- Snyder Corporation is a small information-system consulting firm that specializes in helping companies implement sales-management software. The market for Snyder's products is very competitive. To compete, Snyder must deliver quality service at a low cost. Snyder bills clients in terms of units of work performed, which depends on the size and complexity of the sales-management system.
- Software-implementation labor-hour costs are variable costs.
- Software-implementation support costs for each year depend on the software-implementation support capacity (defined in terms of units of work) that Snyder chooses to maintain each year. It does not vary with the actual units of work performed that year. At the start of each year, management uses its discretion to determine the number of software development employees. The software-development staff and costs haven no direct relationship with the number of units of work performed.
- Snyder presents the following data for 2005 and 2006.

Case Study: Snyder (suggested solution)

	<u>2005</u> Actual	<u>2006</u> Actual
Units of work performed, i.e. sold	60	70
ø selling price per unit sold	50'000.00	48'000.00
Software-implementation labor-hours	30'000	32'000
ø cost per software-implementation labor hour	60.00	63.00
Software-implementation support capacity (in units of work)	90	90
Total cost of software-implementation support	360'000	369'000
ø software-implementation support-capacity cost per unit of work	4'000.00	4'100.00
No. of employees doing software-development	3	3
Total software-development costs	375'000.00	390'000.00
ø software-development cost per employee	125'000.00	130'000.00

Required:

1. Is Snyder Corporation's strategy one of product differentiation or cost leadership? Explain briefly.
Snyder Corporation's strategy in 2006 is cost leadership. Snyder's consulting services for implementing sales management software is not distinct from its competitors. The market for these services is very competitive. To succeed, Snyder must deliver quality service at low cost. Improving productivity while maintaining quality is key.

Case Study: Snyder (suggested solution, continuation)

Required:

2. Calculate the operating income of Snyder Corporation in 2005 and 2006.

	<u>2005</u> Actual	<u>2006</u> Actual
Sales	3'000'000.00	3'360'000.00
- Software-implementation costs	<u>-1'800'000.00</u>	<u>-2'016'000.00</u>
= Gross margin	1'200'000.00	1'344'000.00
- Software-implementation support costs	-360'000.00	-369'000.00
- Software-development costs	<u>-375'000.00</u>	<u>-390'000.00</u>
= Operating income	<u><u>465'000.00</u></u>	<u><u>585'000.00</u></u>
Change in Operating income	120'000.00	

positive variances are «favorable», negative variances are «unfavorable»

Case Study: Snyder (suggested solution, continuation)

Required:

- Calculate the growth, price-recovery, and productivity components that explain the change in operating income from 2005 to 2006.

Snyder Corp.

Adapted Variance Analysis

Units of work performed, i.e. sold

ø selling price per unit sold

Software-implementation labor-hours

ø cost per software-implementation labor hour

Software-implementation support capacity (in units of work)

Total cost of software-implementation support

ø software-implementation support-capacity cost per unit of work

No. of employees doing software-development

Total software-development costs

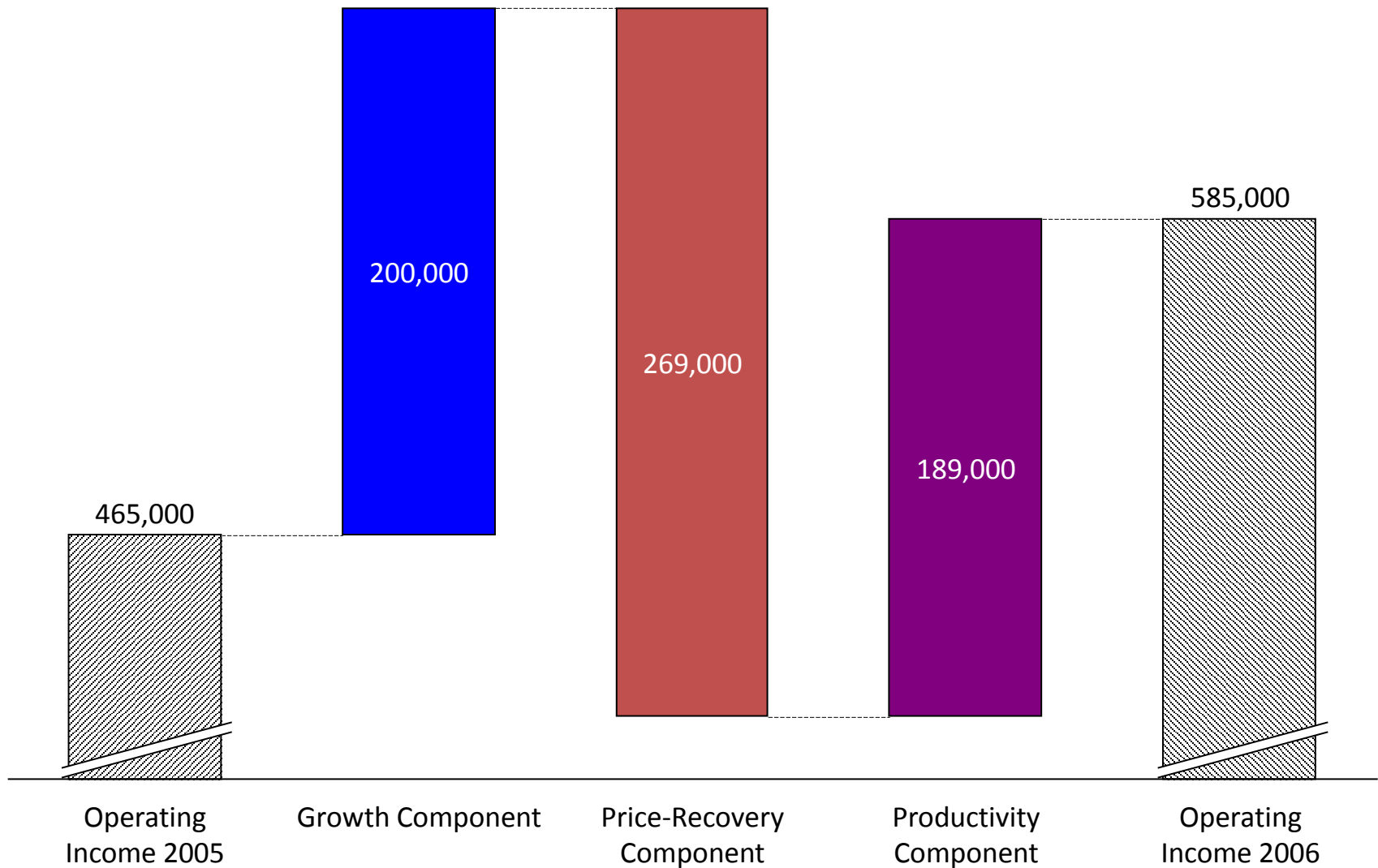
ø software-development cost per employee

	2005 Actual	2006 sold units with 2005 standards rest	2006 sold units with 2006 prices and 2005 yield	2006 Actual
Units of work performed, i.e. sold	60	70	70	70
ø selling price per unit sold	50'000.00	50'000.00	48'000.00	48'000.00
Software-implementation labor-hours	30'000	35'000	35'000	32'000
ø cost per software-implementation labor hour	60.00	60.00	63.00	63.00
Software-implementation support capacity (in units of work)	90	90	90	90
Total cost of software-implementation support	360'000			369'000
ø software-implementation support-capacity cost per unit of work	4'000.00	4'000.00	4'100.00	4'100.00
No. of employees doing software-development	3	3	3	3
Total software-development costs	375'000.00			390'000.00
ø software-development cost per employee	125'000.00	125'000.00	130'000.00	130'000.00

	2005 Actual	Growth Component	2006 sold units with 2005 standards rest	Price-Re- covery Component	2006 sold units with 2006 prices and 2005 yield	Productivity Component	2006 Actual
Sales	3'000'000.00	500'000.00	3'500'000.00	-140'000.00	3'360'000.00	-	3'360'000.00
- Software-implementation costs	-1'800'000.00	-300'000.00	-2'100'000.00	-105'000.00	-2'205'000.00	189'000.00	-2'016'000.00
= Gross margin	1'200'000.00	200'000.00	1'400'000.00	-245'000.00	1'155'000.00	189'000.00	1'344'000.00
- Software-implementation support costs, <u>used</u>	-240'000.00	-40'000.00	-280'000.00	-7'000.00	-287'000.00	-	-287'000.00
- Software-implementation support costs, <u>unused</u>	-120'000.00	40'000.00	-80'000.00	-2'000.00	-82'000.00	-	-82'000.00
- Software-development costs	-375'000.00	-	-375'000.00	-15'000.00	-390'000.00	-	-390'000.00
= Operating income	465'000.00	200'000.00	665'000.00	-269'000.00	396'000.00	189'000.00	585'000.00

positive variances are «favorable», negative variances are «unfavorable»

Case Study: Snyder (suggested solution, continuation)



Case Study: Snyder

- Suppose that during 2006 the market for implementing sales-management software increases by 5% and that Snyder experienced a 1% decline in selling prices. Assume that any further decreases in selling price and increase in market share are strategic choices by Snyder's management to implement their strategy.
[Conclusion: 3 units of work performed are attributable to market-size increase, 7 units of work performed are attributable to market-share increase. \$500 decrease of selling price per unit is attributable to a general market price decrease, \$1500 decrease of selling price per unit is attributable to the cost leadership strategy.
Because no sales-mix component is existent in this case, the growth component is only subdivided in a market-size and market-share component.]

Required:

4. Calculate how much of the change in operating income from 2005 to 2006 is due to the industry-market-size factor, cost leadership, and product differentiation. How successful has Snyder been in implementing its strategy? Explain.

Case Study: Snyder (suggested solution, continuation)

Change in Operating Income (actual versus prior year)		Strategy		
		Differentiation	Cost Leadership	«Optimization»
Growth component	Market-Size component	60'000.00		
	Market-Share component	140'000.00		
	Sales-Mix component	no	no	n.a.
Price-Recovery component	Output	no	-105'000.00	-35'000.00
		yes, typical	no, atypical	no
	Input	no	yes	no
		-129'000.00	no	no
Productivity component	Productivity increase	no	189'000.00	no
	Productivity reduction	no	no, atypical	yes
Δ total due to cost leadership strategy		-129'000.00	224'000.00	-35'000.00