Managerial Accounting

COURSE OVERVIEW

Session	Topic	Hilton / Platt
1	The Changing Role of Managerial Accounting	Chapter 1
	Basic Cost Management Concepts	Chapter 2
2	Product / Job Costing	Chapter 3
	Transfer Pricing	Chapter 13
3	Cost-Volume-Profit Analysis	Chapter 7
	Inventory Costing (Absorption vs. Variable Costing)	Chapter 8
4	Decision-Making: Relevant Costs and Benefits	Chapter 14
	Responsibility Center, Performance Measures & Controls	(Chapter 12/13)
5	Activity-Based Costing	Chapter 5
6	Activity Analysis, Cost Behavior, and Cost Estimation	Chapter 6
	Budgets – Financial Planning and Analysis	Chapter 9
7	Standard Costing and Direct Cost Variances	Chapter 10
8	Signaling Effects of Incentives	
	Sustainability and Controlling	

CHAPTER 14
DECISION-MAKING: RELEVANT COSTS AND BENEFITS

DECISION-MAKING

OUTLINE

INFORMATION FOR DECISION-MAKING

ANALYSIS OF SPECIAL DECISIONS

OTHER ISSUES IN DECISION-MAKING

DECISION-MAKING

INFORMATION FOR DECISION-MAKING

RELEVANT

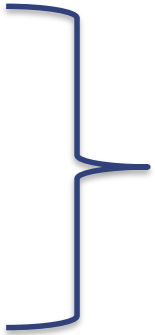
- Pertinent to a decision problem

ACCURATE

- Information should be precise

TIMELY

- Available in time for a decision



TRADE-OFF!

DECISION-MAKING

RELEVANT INFORMATION …

- … is bearing on the future
- … differs among competing alternatives

EXAMPLES:

- Exclude sunk costs
- Include all relevant opportunity costs
- Exclude costs that are identical between alternatives: use differential costs

DECISION-MAKING

RELEVANT INFORMATION - EXAMPLE

- Worldwide Airways is thinking about replacing a three year-old loader with a new loader.

New loader	
List price	$ 15.000
Annual operating expenses	45.000
Expected life in years	1
Old loader	
Original cost	$ 100.000
Remaining book value	25.000
Disposal value now	5.000
Annual operating expenses	80.000
Remaining life in years	1

DECISION-MAKING

RELEVANT INFORMATION - EXAMPLE

	Keep Old Loader	Replace Old Loader	Differential Cost
Depreciation of old loader	$ 25,000		
Write-off of old loader		$ 25,000	$ -
Proceeds from sale of old loader		(5,000)	5,000
Depreciation of new loader		15,000	(15,000)
Operating costs	80,000	45,000	35,000
Total costs	$ 105,000	$ 80,000	$ 25,000

- If we keep the old loader, we will have depreciation costs of $25,000. If we replace the old loader, we will write off the $25,000 when sold. There is no difference in the cost, so it is not relevant.
- Neither of these results in incremental expenditure of cash!
- Sunk cost

DECISION-MAKING

RELEVANT INFORMATION - EXAMPLE

	Keep Old Loader	Replace Old Loader	Differential Cost
Depreciation of old loader	$ 25,000		
Write-off of old loader		$ 25,000	$ -
Proceeds from sale of old loader		(5,000)	5,000
Depreciation of new loader		15,000	(15,000)
Operating costs	80,000	45,000	35,000
Total costs	$ 105,000	$ 80,000	$ 25,000

- The $5,000 proceeds will only be realized if we replace the old loader.
- This amount is relevant.

DECISION-MAKING

RELEVANT INFORMATION - EXAMPLE

	Keep Old Loader	Replace Old Loader	Differential Cost
Depreciation of old loader	$ 25,000		
Write-off of old loader		$ 25,000	$ -
Proceeds from sale of old loader		(5,000)	5,000
Depreciation of new loader		15,000	(15,000)
Operating costs	80,000	45,000	35,000
Total costs	$ 105,000	$ 80,000	$ 25,000

- We will only have depreciation on the new loader if we replace the old loader. This cost is relevant.

DECISION-MAKING

RELEVANT INFORMATION - EXAMPLE

	Keep Old Loader	Replace Old Loader	Differential Cost
Depreciation of old loader	$ 25,000		
Write-off of old loader		$ 25,000	$ -
Proceeds from sale of old loader		(5,000)	5,000
Depreciation of new loader		15,000	(15,000)
Operating costs	80,000	45,000	35,000
Total costs	$ 105,000	$ 80,000	$ 25,000

- The difference in operating costs is relevant to the immediate decision.

RELEVANT INFORMATION - EXAMPLE

- Here is an analysis that includes only relevant costs:

Relevant Cost Analysis		
Savings in variable expenses provided by the new loader	$	35,000
Cost of the new loader		(15,000)
Disposal value of old loader		5,000
Net effect	$	25,000

DECISION-MAKING

TYPES OF DECISIONS

OUTSOURCING A PRODUCT OR SERVICE (MAKE-OR-BUY)

ADD OR DROP A SERVICE/PRODUCT/DEPARTMENT

ACCEPT OR REJECT A SPECIAL ORDER

- Excess capacity vs. no excess capacity

ALLOCATION OF LIMITED RESOURCES

DECISION-MAKING

OUTSOURCE A PRODUCT OR SERVICE

- An Atlanta bakery has offered to supply in-flight desserts for 21¢ each.
- Here are Worldwide Airline's current cost for desserts:

Variable costs:		
Direct material	$	0.06
Direct labor		0.04
Variable overhead		0.04
Fixed costs:		
Supervisory salaries		0.04
Depreciation of equipment		0.07
Total cost per dessert	$	0.25

DECISION-MAKING

OUTSOURCE A PRODUCT OR SERVICE

- Not all of the allocated fixed costs will be saved if Worldwide purchases from the outside bakery.

	Cost per Dessert	Savings from Outsourcing
Variable costs:		
Direct material	$ 0.06	$ 0.06
Direct labor	0.04	0.04
Variable overhead	0.04	0.04
Fixed costs:		
Supervisory salaries	0.04	0.01
Equipment depreciation	0.07	-
Total cost per dessert	$ 0.25	$ 0.15

- If Worldwide purchases the dessert for 21 cents, it will only save 15 cents.
- Hence, Worldwide will have a loss of 6 cents per dessert purchased!

DECISION-MAKING

BEWARE OF “UNITIZED” FIXED COSTS

- Remember – fixed costs are fixed in total, not on a unit basis
- Many fixed costs will remain, regardless of a decision to outsource or produce internally

DECISION-MAKING

ADD/DROP A PRODUCT, SERVICE, ETC.

- Similar to outsourcing
  - What are avoidable costs that will be eliminated: variable costs/some fixed costs
  - If profit higher before (after) dropping the product/service then keep (drop) the product/service
  - Some fixed costs may be avoidable in the long-run, but not in the short run

- However, be aware of long-term implications: customer visibility, cross selling, supplier relations, etc.

DECISION-MAKING

ADD/DROP A PRODUCT, SERVICE, ETC.

- Worldwide Airways offers its passengers the opportunity to join its World Express Club.
- Club membership entitles a traveler to use the club facilities at the airport in Atlanta.
- Club privileges include a private lounge and restaurant, discounts on meals and beverages, and use of a small health spa.
- Avoidable fixed costs: salary & airport fees

DECISION-MAKING

ADD/DROP A PRODUCT, SERVICE, ETC.

	Keep Club
Sales	200,000
Food / Beverage	(70,000)
Personnel	(40,000)
Variable overhead	(25,000)
Contribution margin	65,000
Depreciation	(30,000)
Supervisor salary	(20,000)
Insurance	(10,000)
Airport fees	(5,000)
Allocated overhead	(10,000)
Loss	(10,000)

DECISION-MAKING

ADD/DROP A PRODUCT, SERVICE, ETC.

	Keep Club	Eliminate	Differential
Sales	200,000	0	200,000
Food / Beverage	(70,000)	0	(70,000)
Personnel	(40,000)	0	(40,000)
Variable overhead	(25,000)	0	(25,000)
Contribution margin	65,000	0	65,000
Depreciation	(30,000)	(30,000)	0
Supervisor salary	(20,000)	0	(20,000)
Insurance	(10,000)	(10,000)	0
Airport fees	(5,000)	0	(5,000)
Allocated overhead	(10,000)	(10,000)	0
Loss	(10,000)	(50,000)	40,000

DECISION-MAKING

ADD/DROP A PRODUCT, SERVICE, ETC.

	Keep Club	Eliminate	Differential
Sales	200,000	0	200,000
Food / Beverage	(70,000)	0	(70,000)
Personnel	(40,000)	0	(40,000)
Variable overhead	(25,000)	0	(25,000)
Contribution margin	65,000	0	65,000
Depreciation	(30,000)	(30,000)	0
Supervisor salary			(20,000)
Insurance			0
Airport fees			(5,000)
Allocated overhead			0
Loss	(10,000)	(50,000)	40,000

The differential amount reflects the fact that the company is $40,000 better off by keeping the club.

- What are other factors to consider when decising on keeping or dropping a product/service?

DECISION-MAKING

ANALYSIS OF AVOIDABLE COSTS

- Decisions like outsourcing or dropping/adding a product/service depend on avoidable costs in each scenario
- Big proportion of costs is fixed costs
- Avoidable fixed costs differ over time
  - Short-run: all variable, some fixed
  - Long-run: proportion of fixed costs that are avoidable increases – partition fixed into categories to analyze and identify avoidable costs
- Multi-level contribution margin

DECISION-MAKING

MULTI-LEVEL CONTRIBUTION MARGIN

- Multi-level CM partitions fixed costs into how they are assignable to the products/services, i.e. on which level

	Contribution margin
Revenue	
- Variable costs	CM I
- Product fixed costs	**CM II**
- Product group fixed costs	**CM III**
- Department fixed costs	**CM IV**
- Firm fixed costs	Operating Profit (CM V)

DECISION-MAKING

MULTI-LEVEL CONTRIBUTION MARGIN

- When would you drop a product?

	Organization					Total:
	Product line 1			Product line 2		
	Group A		Group B	Group A	Group B	
In $:	Product 1Aa	Product 1Ab	Product 1Ba	Product 2Aa	Product 2Ba	
Revenues	3000	5000	4000	2000	3000	17000
Variable costs	2000	3500	2500	1200	1800	11000
CM I	**1000**	**1500**	**1500**	**800**	**1200**	**6000**
Product fixed costs	200	400	200	100	300	1200
CM II	800	1100	1300	700	900	4800
Product Group fixed costs	500		400	200	300	1400
CM III	1400		900	500	600	3400
Department fixed costs	1000			500		1500
CM IV	1300			600		1900
Firm fixed costs	1200					1200
Operating Income	700					700

DECISION-MAKING

MULTI-LEVEL CONTRIBUTION MARGIN

- Multi-level CM is a tool to analyze/control variable and fixed costs
- Supportive for make-or-buy decisions/adding or dropping a product (long-run considerations)
- Generally helpful for cost control
  - See where largest share of fixed costs lies
  - Investigate changes in variable and fixed costs over time
  - Try to constantly reduce fixed costs

DECISION-MAKING

ACCEPT OR REJECT A SPECIAL ORDER

- A travel agency offers Worldwide Airways $150,000 for a round-trip flight from Hawaii to Japan on a jumbo jet for group charter.
- Worldwide usually gets $250,000 in revenue from this flight.
- The airline is not planning to currently add any new routes and has two planes that are idle and could be used to meet the needs of the agency.

DECISION-MAKING

ACCEPT OR REJECT A SPECIAL ORDER

- Relevant cost data:

Typical Flight Between Japan and Hawaii		
Revenue:		
Passenger	$ 250.000	
Cargo	30.000	
Total		$ 280.000
Expenses:		
Variable expenses	90.000	
Allocated fixed expens	100.000	
Total		190.000
Profit		$ 90.000

- Worldwide will save about $5,000 in reservation and ticketing costs if the charter is accepted.

ACCEPT OR REJECT A SPECIAL ORDER

WITH EXCESS CAPACITY

Under excess capacity		
Special price for charter		$ 150,000
Variable cost per flight	$ 90,000	
Reservation cost savings	(5,000)	
Variable cost of charter		85,000
Contribution from charter		$ 65,000

- Since the charter will contribute to fixed costs and Worldwide has idle capacity, it should accept the flight.

DECISION-MAKING

ACCEPT OR REJECT A SPECIAL ORDER

WITHOUT EXCESS CAPACITY

- What if Worldwide had no excess capacity?
- If Worldwide adds the charter, it will have to cut its least profitable route that currently has a contribution margin of $80,000.

- Should Worldwide still accept the charter?

DECISION-MAKING

ACCEPT OR REJECT A SPECIAL ORDER

Assumes no excess capacity		
Special price for charter		$ 150,000
Variable cost per flight	$ 90,000	
Reservation cost savings	(5,000)	
Variable cost of charter	85,000	
Opportunity cost:		
Lost contribution on route	80,000	165,000
Total		$ (15,000)

- If Worldwide has no excess capacity, it should reject the special charter.

DECISION-MAKING

ACCEPT OR REJECT A SPECIAL ORDER

WITH EXCESS CAPACITY

- Relevant costs will usually be the variable costs associated with the special order.
- Attention: This means that selling price is lower than the full costs! This should only be done if the special orders have no long-run implications.

WITHOUT EXCESS CAPACITY

- Same as above but opportunity cost of using the firm's facilities for the special order are also relevant.

DECISION-MAKING

ALLOCATION OF LIMITED RESOURCES

- Firms often face the problem of deciding how limited resources are going to be used.

- Usually, fixed costs are not affected by this decision, so management can focus on maximizing total contribution margin.

DECISION-MAKING

ALLOCATION OF LIMITED RESOURCES

- Product-mix decisions
  are decisions
  that managers make
  about which products to sell
  and in what quantities

DECISION RULE (WITH ONE CONSTRAINT)

- Choose the product that produces the highest contribution margin per unit of the constraining resource (not the highest contribution margin per unit of the product)

DECISION-MAKING

ALLOCATION OF LIMITED RESOURCES

- Martin, Inc. produces two products and selected data is shown below:

	Products	
	Webs	Highs
Selling price per unit	$ 60	$ 50
Less: variable expenses per unit	36	35
Contribution margin per unit	$ 24	$ 15
Current demand per week (units)	2,000	2,200
Contribution margin ratio	40%	30%
Machine time required per unit	1.00 min.	0.50 min.

- The amount of machine hours required to satisfy demand is higher than the capacity available.

What should Martin do?

DECISION-MAKING

ALLOCATION OF LIMITED RESOURCES

- Calculate the contribution margin per unit of the scarce resource (machine hours).

		Products			
		Webs		Highs	
Contribution margin per unit		$ 24		$ 15	
Machine hours required per unit	÷	1.00	min.	0.50	min.
Contribution margin per minute		$ 24	min.	$ 30	min.

- Highs should be emphasized. It is the more valuable use of the scarce resource (MH), yielding a contribution margin of $30 per minute as opposed to $24 per minute for the Webs.
- If there are no other considerations, it is optimal to produce to meet current demand for Highs and then use remaining capacity to make Webs.

DECISION-MAKING

ALLOCATION OF LIMITED RESOURCES

- Let‘s see how this plan would work.
- Allotting the scarce resource: machine hours

Weekly demand for Highs	**2,200 units**
Time required per unit	x .50 minutes
Time required to make Highs	1,100 minutes
Total machine time available	**2,400 minutes**
Time used to produce Highs	1,100 minutes
Time available for Webs	1,300 minutes
Time required per unit	x 1.00 minute
Production of Webs	**1,300 units**

DECISION-MAKING

ALLOCATION OF LIMITED RESOURCES

- According to the plan, Martin will produce 2,200 Highs and 1,300 Webs. Martin's CM looks like this.

	Webs	Highs
Production and sales (units)	1,300	2,200
Contribution margin per unit	$ 24	$ 15
Total contribution margin	$ 31,200	$ 33,000

- The total contribution margin for Martin, Inc. is $64,200.
- Any other combination would result in less profit.

DECISION-MAKING

ALLOCATION OF LIMITED RESOURCES

LINEAR PROGRAMMING

- When there are multiple constraints (limited demand, limited resources of several kinds), we can use linear programming
- It maximizes the total contribution margin from multiple products under multiple constraints
- To make decisions with multiple constraints, we need some computing power
- Possible solution: Excel Solver (Navigation bar “Data”)

DECISION-MAKING

P14-58

- Oceana Co. sells 3 products, manufactured in 4 departments.
- Machine and labor skills are specialized, hence cannot be switched from one department to another.
- Inventory remains constant, price and cost data as follows:

	Product		
	M50	T79	B81
Unit costs:			
Direct material	$ 28	$ 52	$ 68
Direct labor:			
Department 1	48	24	48
Department 2	84	56	56
Department 3	$ 96	—	$ 64
Department 4	36	$ 72	36
Variable overhead	108	80	100
Fixed overhead	60	40	128
Variable selling expenses	12	8	16
Unit selling price	784	492	668

DECISION-MAKING

P14-58

EXPECTED SALES DEMAND

Product	Monthly Unit Sales
M50	500
T79	400
B81	1,000

EXPECTED CAPACITY

	Department			
Monthly Capacity Availability	1	2	3	4
Normal machine capacity in machine hours	3,500	3,500	3,000	3,500
Capacity of machines being repaired in machine hours	(500)	(400)	(300)	(200)
Available machine capacity in machine hours	3,000	3,100	2,700	3,300
Available labor in direct-labor hours	3,700	4,500	2,750	2,600

DECISION-MAKING

P14-58

- Requirements per product:

Labor and Machine Specifications per Unit of Product

Product	Labor and Machine Time				
M50	Direct-labor hours	2	3	3	1
	Machine hours	1	1	2	2
T79	Direct-labor hours	1	2	—	2
	Machine hours	1	1	—	2
B81	Direct-labor hours	2	2	2	1
	Machine hours	2	2	1	1

1. Calculate monthly requirement for MH and DLH to determine bottleneck
2. Determine the monthly production schedule that maximizes profit
3. Identify alternatives management might consider to meet the entire demand

DECISION-MAKING

OTHER ISSUES IN DECISION-MAKING

- Managerial performance should be judged on the same factors that are considered in making decisions.
- Short-term vs. long-term decisions
- Several helpful hints in decision making:
  - Ignore sunk costs.
  - Beware of unitized fixed costs.
  - Beware of allocated fixed costs and identify avoidable costs.
  - Pay special attention to identifying and including opportunity costs in the analysis of alternatives.

(CHAPTERS 12 / 13)
RESPONSIBILITY CENTERS, PERFORMANCE MEASUREMENT & CONTROLS

OUTLINE

THE ENVIRONMENT

DECENTRALIZATION

RESPONSIBILITY CENTERS

DELEGATION & GOAL CONGRUENCE

PERFORMANCE MEASUREMENT

MANAGEMENT CONTROLS

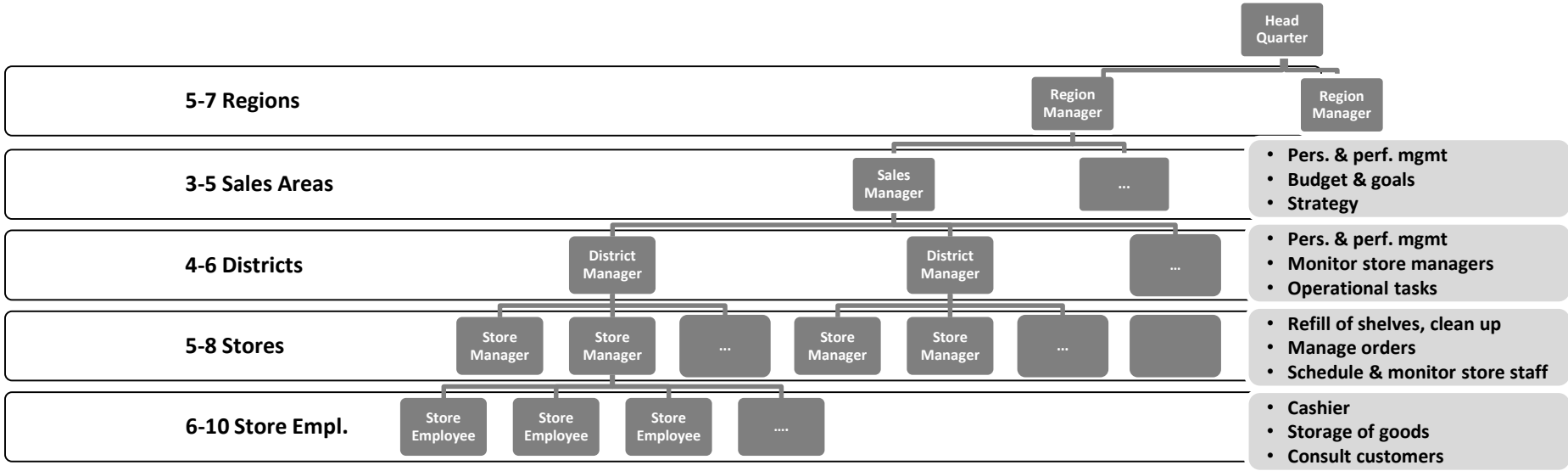
BALANCED SCORECARD

A POSSIBLE ENVIRONMENT

A GERMAN DISCOUNT RETAIL CHAIN

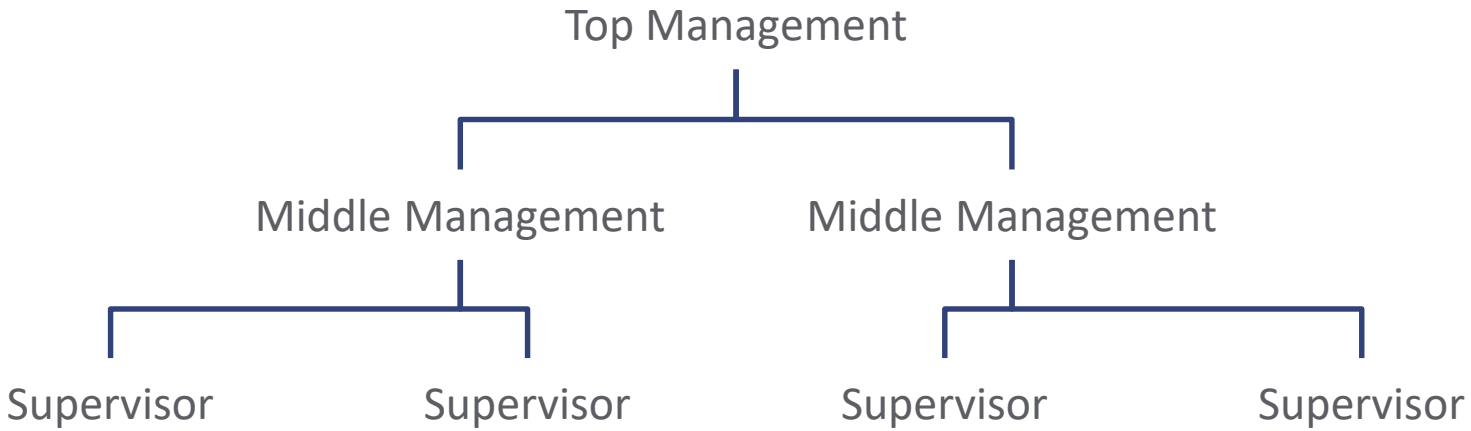
SUPERMARKET

- Large nationwide retailer operating discount supermarkets in Germany with >2,000 stores



RESPONSIBILITY CENTERS

DECENTRALIZATION



What are the advantages and disadvantages of decentralized decision-making?

RESPONSIBILITY CENTERS

DECENTRALIZATION

PROS

- Lower level managers have more “local” information
- Improved reaction time
- Reduces burden on top management

CONS

- Top management (perhaps) includes better decision makers (more global information, more talent)
- People lower in the hierarchy will serve their own interests

  → Try to align their goals to the goals of the company

RESPONSIBILITY CENTERS

RESPONSIBILITY ACCOUNTING

- Responsibility accounting measures the performance of people and departments

  → Name the “owners” of a part of the business and measure their results

RESPONSIBILITY CENTER

- A subunit whose manager is held accountable for specified results – he/she is the “owner”
- Types of responsibility center reflects the extent to which decision making is delegated (i.e., the extent of decentralization)

RESPONSIBILITY CENTERS

COST CENTER

- Unit has control over the incurrence of costs (e.g. *Bottling plant of a soft drink company*)

REVENUE CENTER

- Responsible for revenue generation (e.g. *Ticket sales division of an airline*)

PROFIT CENTER

- Unit has control over both costs and profits (e.g. *College of engineering at a university*)

INVESTMENT CENTER

- Responsible for profits and capital invested (e.g. *European division of a multinational company*)

What type of responsibility center is most appropriate for a supermarket store?

MANAGEMENT CONTROLS

GOAL CONGRUENCE

- Goal congruence: get center managers to strive to achieve the goals set by the company
- Difficult to achieve
  - Managers are often unaware of the effect of their decisions on the firm/other units
  - Managers are typically more concerned with their unit's performance than the firm's performance

- How do organizations get managers to make decisions in the best interest of the company?
- (Principal-Agent Problem, Nobel Prize 2016, Bengt Holmström and Oliver Hart)

MANAGEMENT CONTROLS

PRINCIPAL-AGENT-MODELS (VERY BROAD OVERVIEW)

- A principal hires an agent to perform a task (effort e in exchange for a wage w)
- The final outcome x depends on e and some random variable
- (principal is risk neutral, agent is risk averse)
- Principal has utility $\boldsymbol{u_p = x - w}$ and agent has utility $\boldsymbol{u_a = v_1(w) - v_2(e)}$
- (v_1 is increasing and concave and v_2 is increasing an convex)
- With **symmetric information**, effort is verifiable and principal offers a fixed wage for specified effort level
- With **moral hazard**, when effort is not contractible, the agent can choose the effort that is best for him given the contract

  → **If the principal proposes a fixed wage, the agent's payment does not depend on effort and she will chose the lowest possible effort level**

MANAGEMENT CONTROLS

MANAGEMENT INCENTIVES

CARROTS AND STICKS

- What mechanisms incentivize managers to act in the company's best interest?

- Bonus payments
- Promotions
- Terminations/Demotions
- Perks/autonomy

MANAGEMENT CONTROLS

MANAGEMENT CONTROLS IN GENERAL

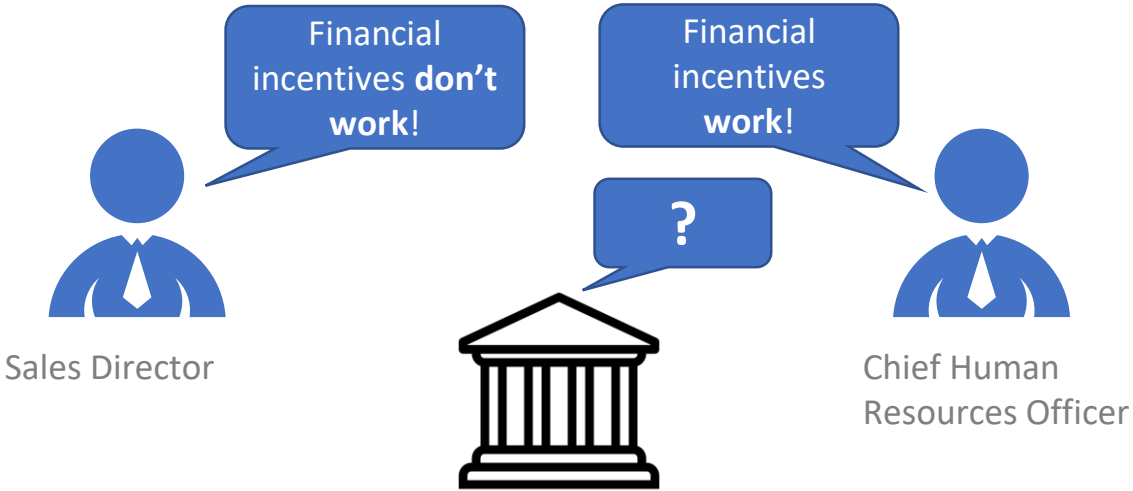
(FEICHTER & GRABNER 2020)

- **Result Controls:** Based on explicit performance measures
- **Action Controls:** Employee behavior will be directly guided (direct monitoring, supervisor monitoring, mystery shopping etc.)
- **Culture Controls**: Cooperate culture ensures that employees act in the interest of the organization. Employees may control each other (social pressure).
- **Personnel Controls**: Intrinsic motivation of employees. Employees know how to contribute to the organizational goal and have the ability/resources to do so

A COMMON SCENARIO

BONUS PAYMENTS

SUPERMARKET



How to proceed?

EXCURSION – HOW TO ADDRESS THE QUESTION

EVALUATION

Normally:

Intervention (for all)

Case 1

Case 2

Pilot Study

(„A-B Test“, Randomized Controlled Trial (RCT)):

Intervention (randomly assigned)

Case 1

Case 2

Case 3

No Change

All change (cannot be related to the intervention)

Only randomly assigned subgroup changes (must be related to intervention)

EXCURSION – HOW TO ADDRESS THE QUESTION

THE POTENTIAL OUTCOME FRAMEWORK (VERY BROAD OVERVIEW)

- Suppose we want to know the causal effect of a binary treatment X_i on the outcome Y_i
- For example let Y_i be health and the treatment is a new medicine with
  - X_i = 1 → takes new medicine
  - X_i = 0 → does not take new medicine
- For each individual there exist **two potential outcomes**
- $\boldsymbol{Y_i(1)}$ is the outcome of individual i if she takes the new medicine
- $\boldsymbol{Y_i(0)}$is the outcome of individual i if she does not take the new medicine

- The causal effect of the treatment on the outcome of individual i is

Causal effect of individual i = $Y_i(1) - Y_i(0)$

EXCURSION – HOW TO ADDRESS THE QUESTION

THE POTENTIAL OUTCOME FRAMEWORK (VERY BROAD OVERVIEW)

- **The identification problem:** We cannot identify the causal effect for individual i because we either observe $Y_i(1)$ or $Y_i(0)$, but never both!

- **The selection problem:** If we let individuals select into different treatments the effect between both groups might depend on individual characteristics

- However, if we **randomly assign** the treatment to individuals the individual characteristics should on average be the same in both groups and we are able to estimate the **average causal effect in a population**

- (Causal Inference, Nobel Prize 2021, Guido Imbens, Joshua Angrist, David Card)

PERFORMANCE MEASUREMENT

MANAGEMENT INCENTIVES

- What information do firms have to determine manager's performance?

QUANTITATIVE INFORMATION

- Financial performance measures
- Non-financial performance measures

QUALITATIVE INFORMATION/OBSERVATION

MARKET INFORMATION

Which performance measure should be incentivized?

PERFORMANCE MEASUREMENT

PERFORMANCE MEASURES IN A SUPERMARKET STORE

Big questions when thinking about performance measures:

- What can be influenced?
  - Personnel Expenses, Inventory Losses, Sales, Profits?
- What aligns the interests between Headquarter and Store?
  - e.g. sales or profits? Customer Satisfaction?
- What are the store managers capable of?
  - Do they understand the underlying production function (e.g. in case of profits)?
- What creates the least dysfunctional behavior (e.g. gaming or multitasking problems)
  - Personnel Expenses might reduce profits, Sales might create a strong focus etc.

Possible Performance Figures (KPIs) of a Supermarket Store:
Store profit? Store sales? Inventory losses? Customer Satisfaction?

PERFORMANCE INCENTIVES

BONUS PAYMENTS

Big questions when thinking about implementing bonus payments:

- Monetary or non-monetary
  - Employees might have preference for **different bonus domains** (e.g. leisure time)
- How big?
  - Small incentives might **crowd-out** motivation, big incentives are not possibly not profitable and create **dysfunctional** behavior
- For which group? Only store managers or all store employees?
  - Team incentives aligns all interests in a store but might lead to **freeriding** problems
- Tournament (the best performing stores receive something), Goal, or Performance Pay?
  - Tournament might lead to unfavorable high levels of **competition.** Performance goals might lead to reduced effort after reaching the goal. Performance pay is potentially difficult to implement.

PERFORMANCE INCENTIVES

BEHAVIORAL ECONOMICS OF BONUS PAYMENTS

Unintentional effects of bonus payments that can result in no or negative effects:

"the road to hell is paved with good intentions“

- The Cobra Effect:
  - India during British rule. The British government, concerned about the number of cobras in Delhi
  - offered a bounty/reward for every dead cobra
  - ….what happened?

  - Further historical example: Hanoi, Vietnam (1902, French colonial rule), bounty program that paid a reward for each rat killed. To receive the bounty, people needed to provide the tail of a rat.

PERFORMANCE INCENTIVES

BEHAVIORAL ECONOMICS OF BONUS PAYMENTS

- Soviet Union, state glass-production
- Managers and employee paid on the basis of the weight of the glass produced
- What happened?

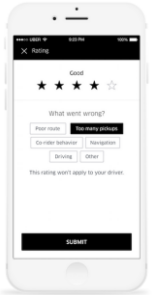
PERFORMANCE INCENTIVES

BEHAVIORAL ECONOMICS OF BONUS PAYMENTS

- Soviet Union, state glass-production
- Managers and employee paid on the basis of the weight of the glass produced
- What happened?

- The factory changed (instead of added) the incentive
- They payed based on size (square meters of glass produced)
- What happened?

Uber

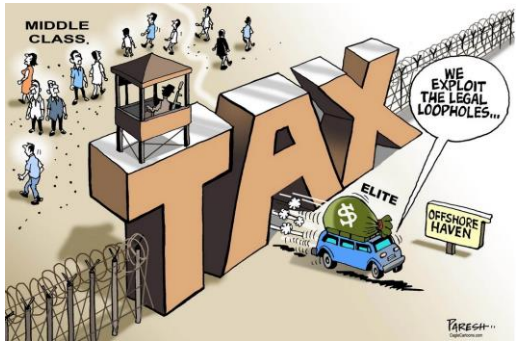


➢ Sometime you need to add instead of replace incentives:

PERFORMANCE INCENTIVES

WHY CAN A BONUS GO WRONG?

- Loophole



- Social signal
  (more in the last lecture)

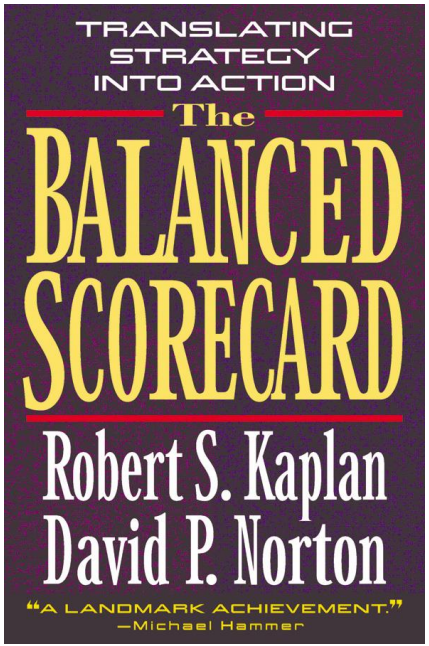
PERFORMANCE MEASUREMENT

BALANCED SCORECARD

- We talked about incentivizing one or two KPIs but how can you align the overall goal?
- The balanced scorecard is a balanced approach to the area of performance evaluation.
- Managers are evaluated on a series of financial and nonfinancial measures in a variety of areas.

BALANCED SCORECARD

KAPLAN / NORTON (1992)



PERFORMANCE MEASUREMENT

BALANCED SCORECARD

EVIDENCE FROM PRACTICE:

USERS OF THE BALANCED SCORECARD

PERFORMANCE MEASUREMENT

BALANCED SCORECARD

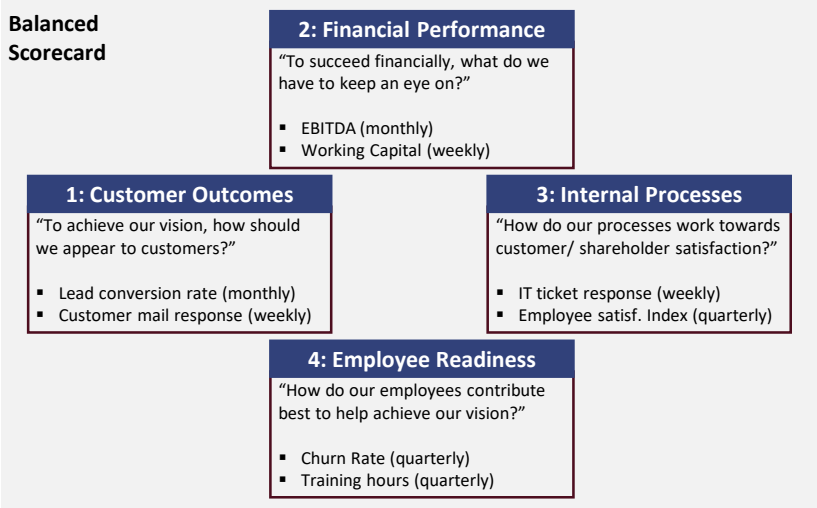
https://www.spiderstrategies.com/blog/the-benefits-of-the-balanced-scorecard/

PERFORMANCE MEASUREMENT

BALANCED SCORECARD (KAPLAN / NORTON 1992)

- The Balanced Scorecard (BSC) helps align performance with strategic goals by assembling measures of different aspects that are relevant for a company's strategy.

- The BSC enables a "balanced" view on performance measurement by its diversity of incorporated perspectives and measures.



PERFORMANCE MEASUREMENT

STRATEGY & BALANCED SCORECARD

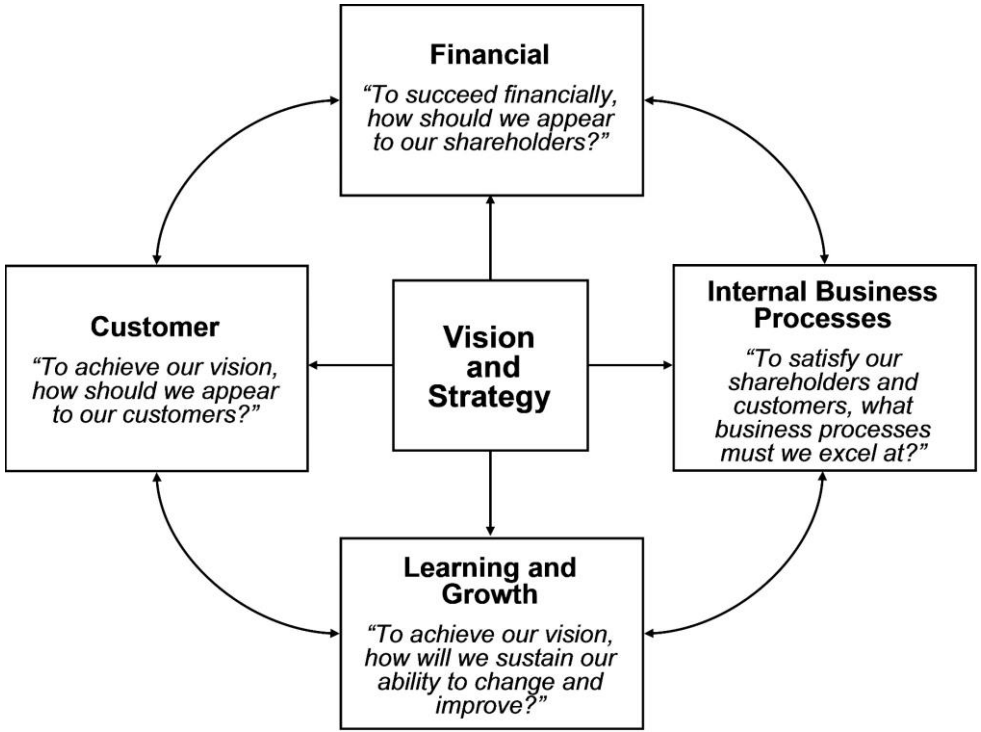
- All perspectives of the BSC (and the associated performance measurement) are in line with the firm's vision and strategy and crucial in achieving them
  - Leading indicators – actions, if performed properly, should lead to the desired outcome (often financial performance)
  - Lagging indicators – evaluation of whether leading actions happened / of their result

- Define cause-and-effect chain across BSC perspectives:

HOW DO ACTIONS LEAD TO INCREASED FINANCIAL PERFORMANCE?

PERFORMANCE MEASUREMENT

THE BALANCED SCORECARD PERSPECTIVES



PERFORMANCE MEASUREMENT

SUPERMARKET CASE – BALANCED SCORECARD (EXAMPLE)

2: Financials

- Store sales (daily)
- Sales per shelf meter (daily)
- Inventory held (daily)

1: Customers

- Customer complaints (weekly)
- Customer satisfaction compared to other stores of the supermarket chain (quarterly)
- % of customers with chain discount card (monthly)

3: Internal Processes

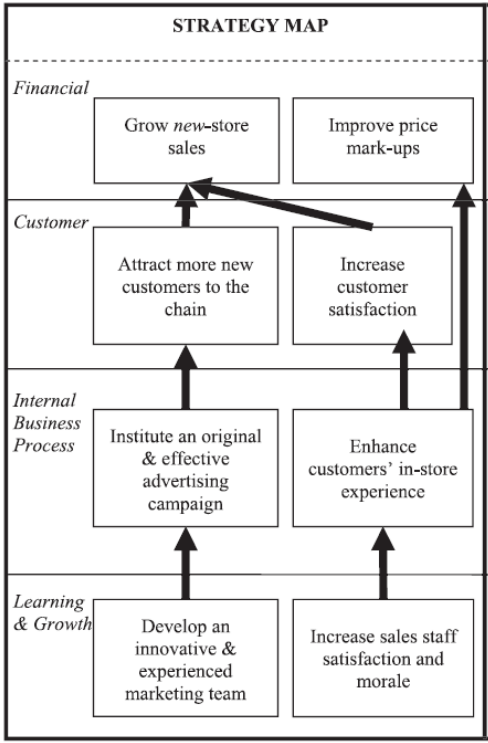
- Avg. queuing time per customer (daily)
- Empty shelf incidences (weekly)
- Products spotted after “best before” date (weekly)

4: Employees

- Churn Rate (quarterly)
- Employee satisfaction compared to other stores of the supermarket chain (quarterly)
- Share of part-time posts (monthly)

PERFORMANCE MEASUREMENT

EXAMPLE: STRATEGY MAP & PERFORMANCE MEASUREMENT



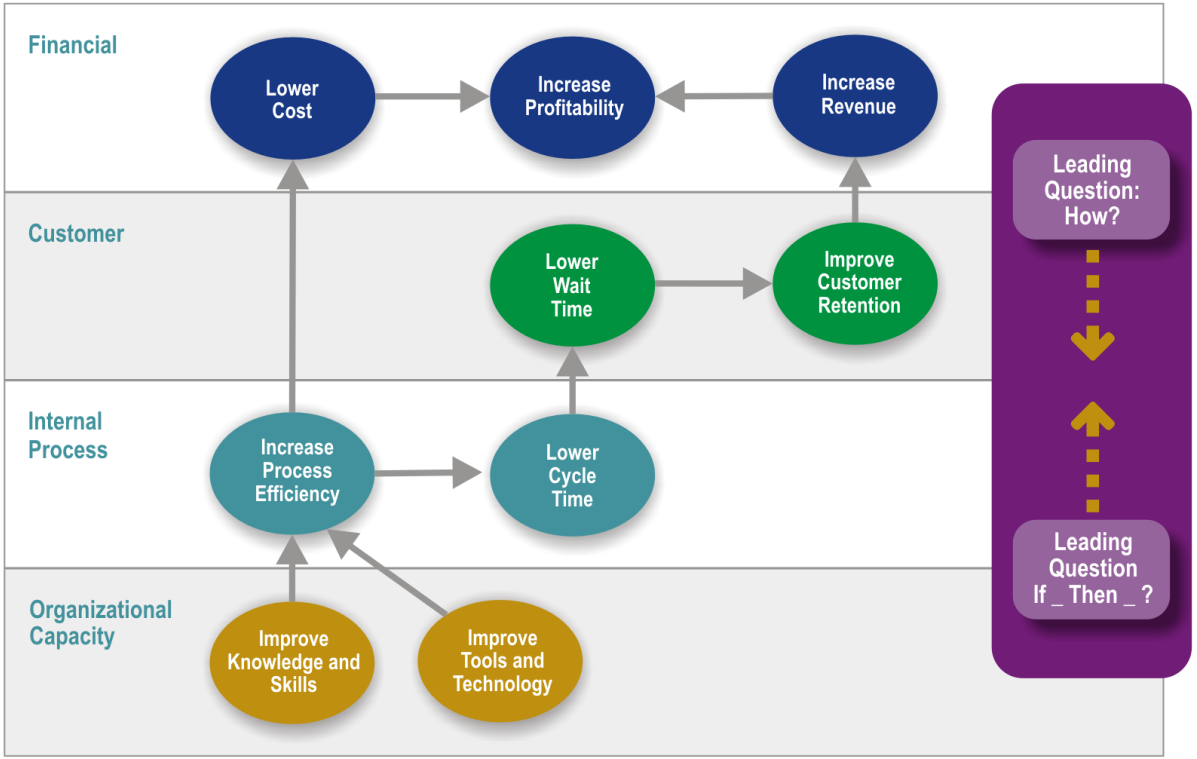
MEASURE	TARGET	ACTUAL	PERCENT BETTER THAN TARGET
Financial			
1. Sales margin	12.0%	13.0%	8.33
2. Percentage of sales from new stores	30.00%	31.04%	3.47
3. Average price mark-up growth	7.00%	7.60%	8.57
4. Sales growth per new store	16.00%	17.11%	6.94
Customer			
1. New relationships with target customers	120	123	2.50
2. 'Mystery shopper' store experience rating (/10)	7.50	8.51	13.47
3. Sales to new customers	34.0%	36.7%	7.94
4. Customer satisfaction rating	92.00%	94.88%	3.13
Internal Business Process			
1. Retail Industry Association sales staff knowledge & attitude rating	80.00%	93.04%	16.30
2. Advertising campaign awareness rating (/10)	8.0	8.90	11.25
3. Sales staff non-compliance with company service code	30.0%	25.2%	16.00
4. New advertising campaign awards	25	27	8.00
Learning & Growth			
1. Awards won by marketing team recruits	49	53	8.16
2. Sales staff training investment ($m)	6.60	6.90	4.55
3. Retail experience of new marketing managers (years)	17.00	17.50	2.94
4. Employee satisfaction	72.00%	82.68%	14.83

Humphreys & Trotman 2011, JMAR, p. 86

PERFORMANCE MEASUREMENT

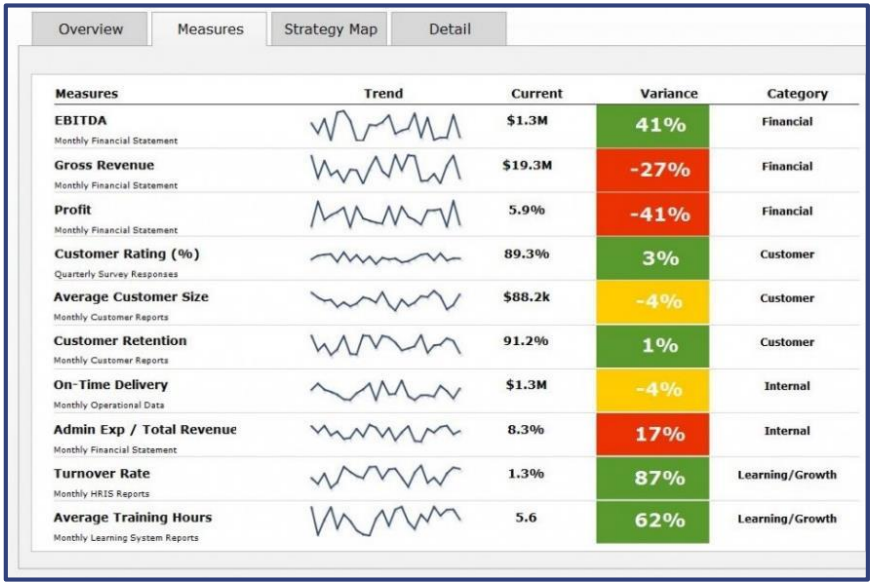
STRATEGY & BALANCED SCORECARD

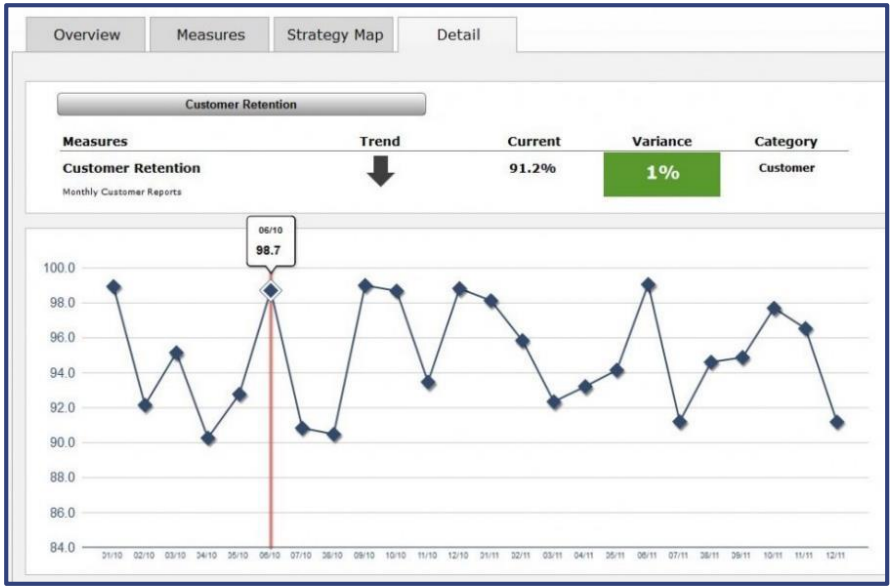
STRATEGIC MAPPING



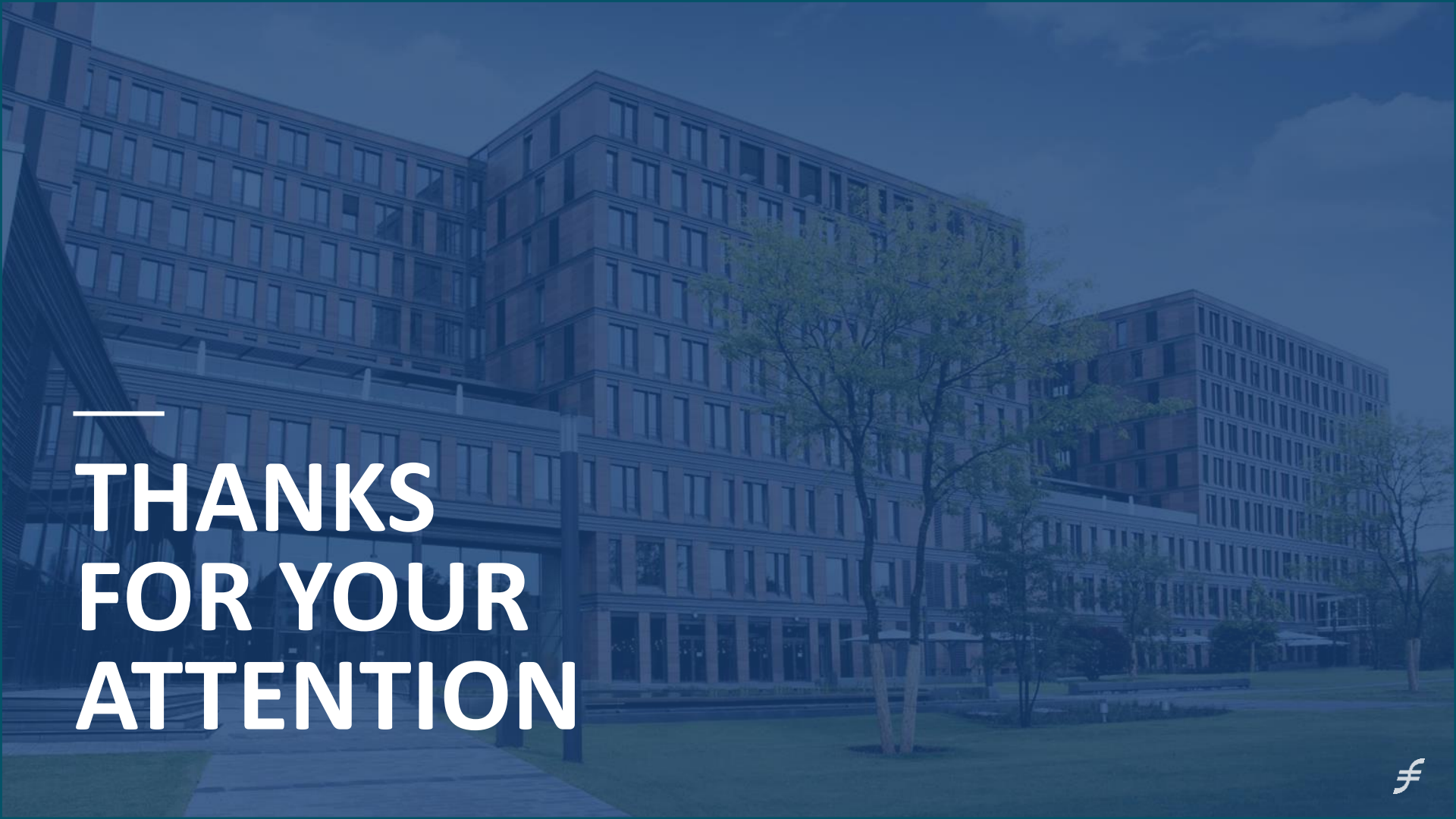
PERFORMANCE MEASUREMENT

EXAMPLE OF A DASHBOARD IN PRACTICE





Humphreys & Trotman 2011, JMAR, p. 86


THANKS
FOR YOUR
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