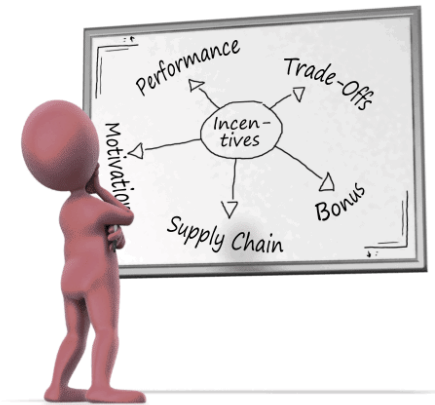


SUMMARY

MSC ALEXANDRA MÜLLER, PROF. DR. KAI HOBERG

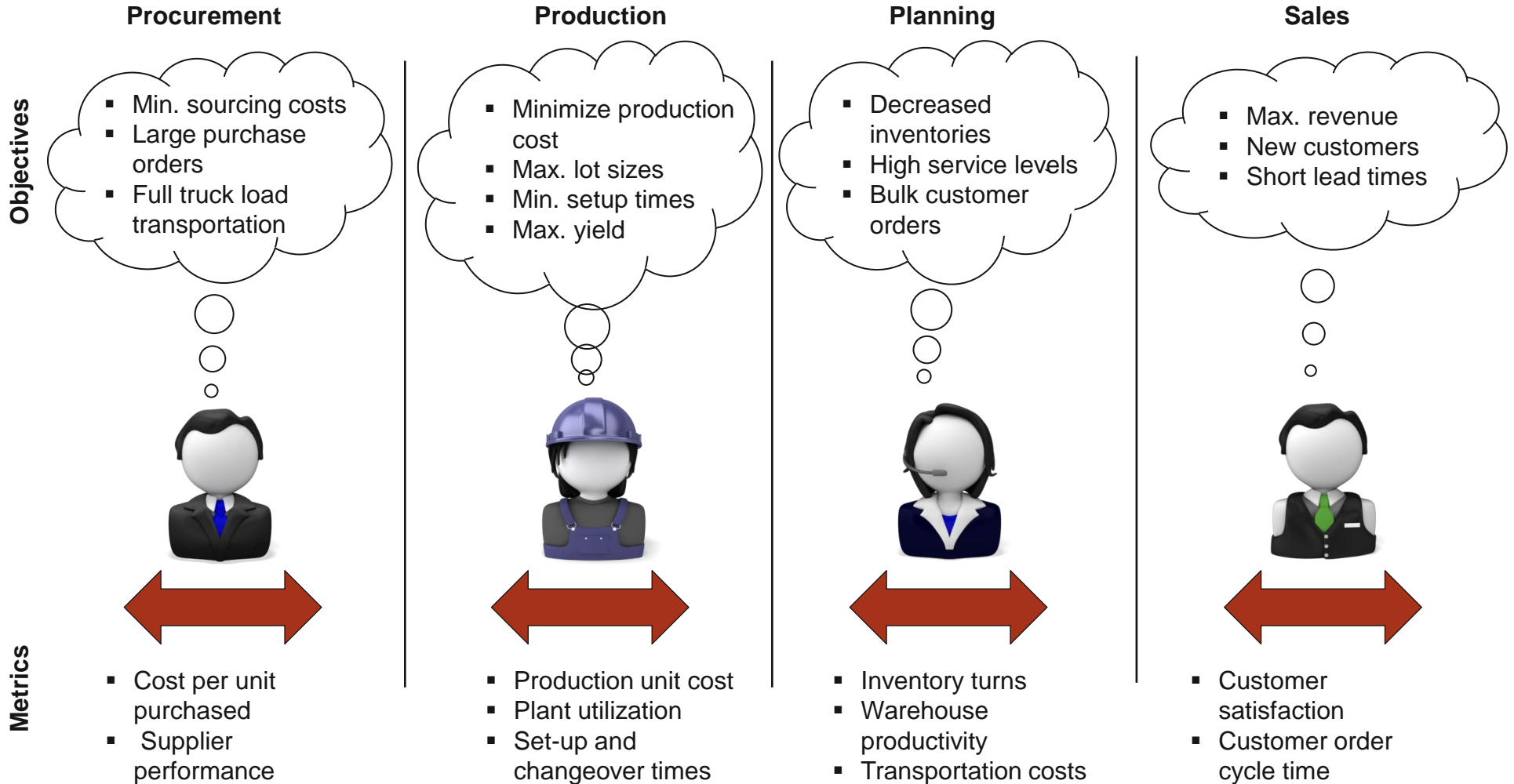
# MOTIVATING SUPPLY CHAIN BEHAVIOR -DESIGNING THE RIGHT INCENTIVE SYSTEM

MASTER THESIS INSIGHTS



# INCENTIVES TYPICALLY PROMOTE SILO-OPTIMIZATION IN THE FUNCTIONS OF THE INTRA-FIRM SUPPLY CHAIN

## Typical Functional Incentives



# AGAINST THIS BACKGROUND, A NUMBER OF RESEARCH QUESTIONS CONCERNING INCENTIVE SYSTEMS IN SUPPLY CHAIN MANAGEMENT ARISE

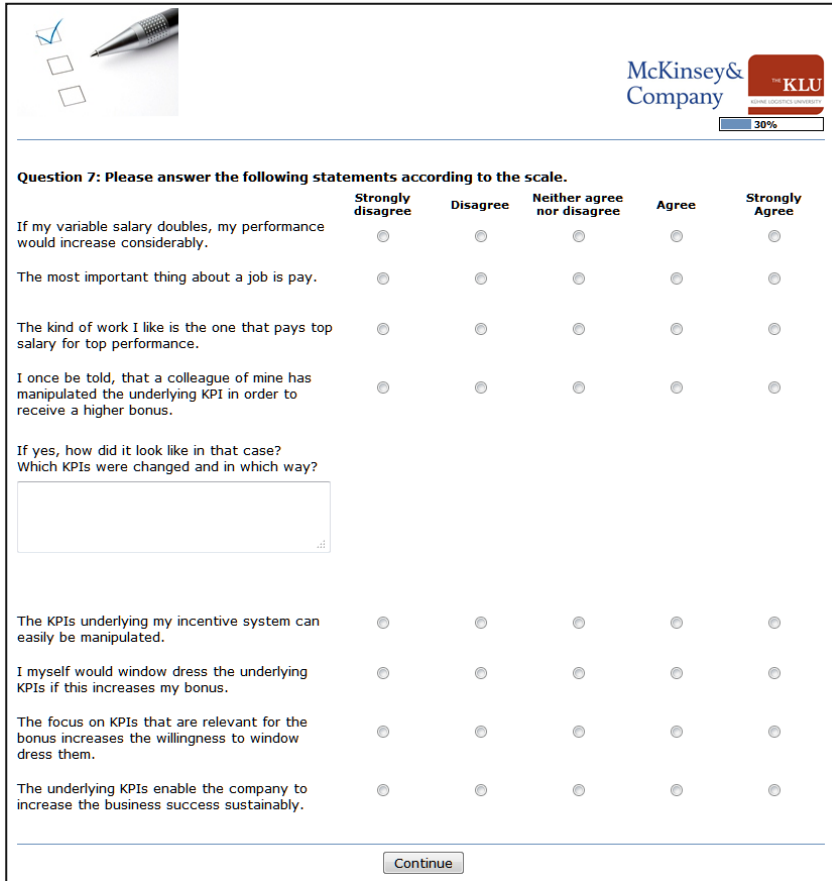
## Overview Research Questions

- 1. Which incentive systems are currently applied in SC functions?**
  - How high is the variable component of the salary?
  - Which type of non-financial awards exist?
  - Are the goals subjective or measurable?
  - Which dimensions for compensation exist (KPIs)?
- 2. Which effects do incentive systems have for the company?**
  - Do they help drive value of the firm?
  - Do they help supply chain functions?
  - Do they intensify conflicting goals?
- 3. How does the “right” incentive system in supply chain management look like?**
  - What are the correct objectives?
  - How high should the variable salary be?
  - How often does the company measure / pay out?



# WE OBTAINED 347 RESPONSES FROM SUPPLY CHAIN EXPERTS ON OUR SURVEY ON INCENTIVES

## About the Survey



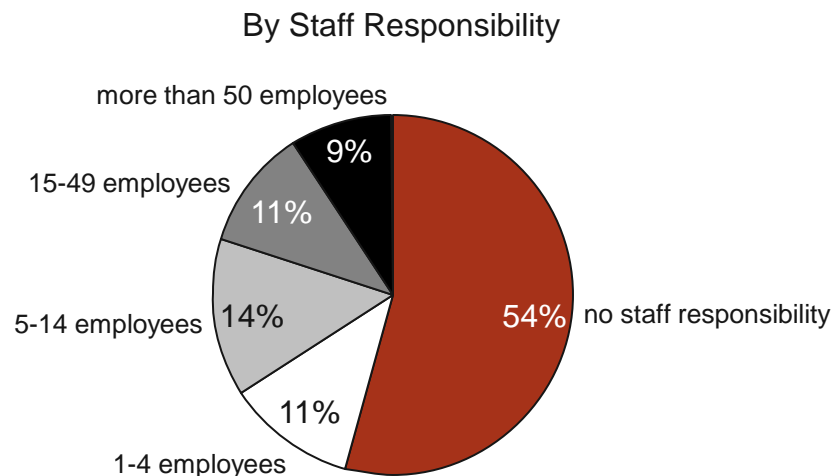
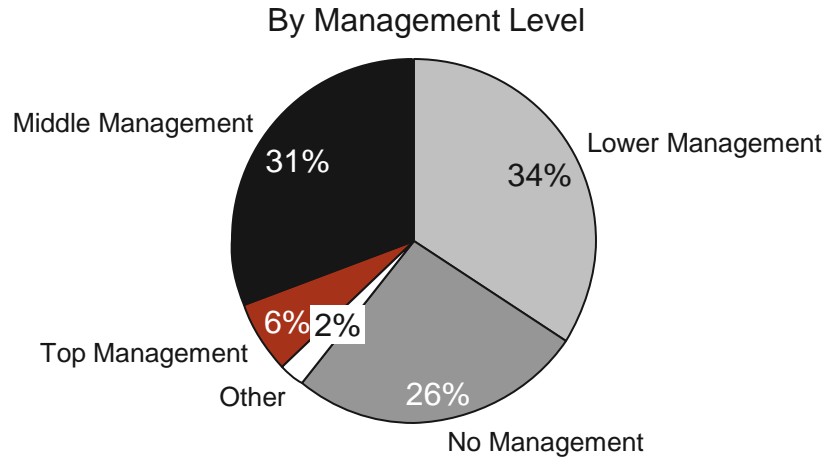
The screenshot shows a survey question from McKinsey & Company and KLU. The question asks respondents to rate statements on a scale from 'Strongly disagree' to 'Strongly Agree'. The statements are:

- If my variable salary doubles, my performance would increase considerably.
- The most important thing about a job is pay.
- The kind of work I like is the one that pays top salary for top performance.
- I once be told, that a colleague of mine has manipulated the underlying KPI in order to receive a higher bonus.
- If yes, how did it look like in that case? Which KPIs were changed and in which way?
- The KPIs underlying my incentive system can easily be manipulated.
- I myself would window dress the underlying KPIs if this increases my bonus.
- The focus on KPIs that are relevant for the bonus increases the willingness to window dress them.
- The underlying KPIs enable the company to increase the business success sustainably.

The survey interface includes a progress bar at 30%, a 'Continue' button, and logos for McKinsey & Company and KLU.

- Master thesis **supervised as part of the joint KLU-McKinsey project** “Who is managing our supply chains”.
- Survey was sent to employees working in a supply chain environment of **small and medium-sized companies as well as multinational corporations**
- We obtained responses from **347 participants** and **140 participants** completed the survey.
- The responding companies were mainly **large corporations in terms of revenue** (revenue: more than 1000m. (41.6% of respondents)) with more than **10,000 employees**
- Most of the participants work in the **chemicals, pharmaceuticals & medicals industry** (20.7%) as supply chain managers/analysts (39.3%) on a lower level position (34.3%) with **no staff responsibility** (54.3%)
- Time frame of the survey: 28<sup>th</sup> of May 2013, until 22<sup>th</sup> of June 2013
- **Incentive** for survey participation: a 15 Euro Amazon.de voucher or a donation of 25 vaccinations for children against measles
- We **donated 1815 vaccinations** to SOS Kinderdörfer

# OUR SURVEY FOCUSES ON THE GROUPS OF PEOPLE WHO HAVE STAFF RESPONSIBILITY AND THOSE WHO HAVE NOT

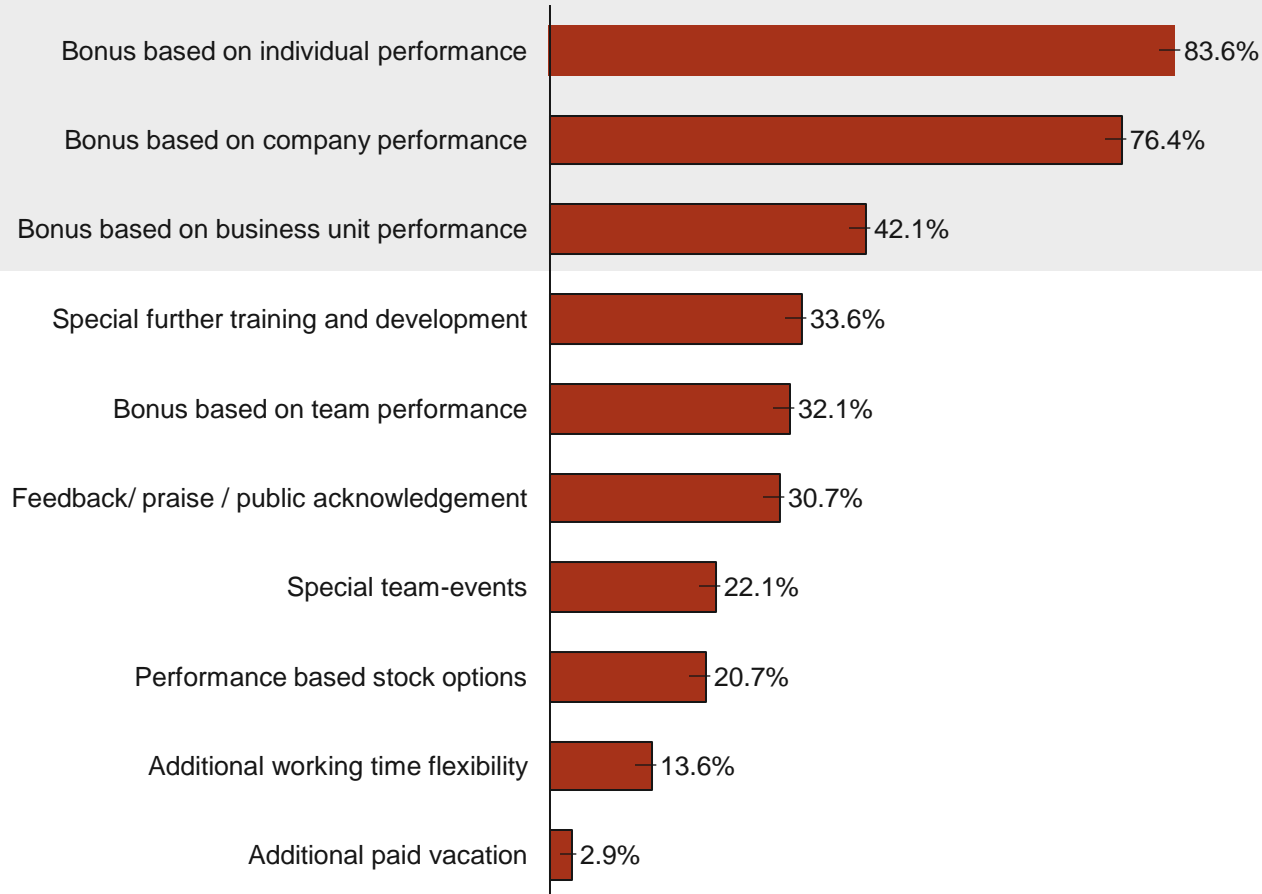


- Comments**
- Both groups, those with staff responsibility and those without, are of equal size
  - Both groups are of high interest when regarding their satisfaction with their incentive systems
  - Moreover, **we equate staff responsibility with management level** as there exists a strong significant relationship
  - We expect to see **high differences between them**, as **higher-level managers** are often responsible for planning, setting and evaluating objectives, whilst **lower-level managers** need to execute the instructions of the superior to receive the variable salary

# PERFORMANCE-BASED BONUSES BASED ON INDIVIDUAL, COMPANY AND BUSINESS UNIT PERFORMANCE ARE MOST COMMON

## Incentives Applied

### Top 3 Incentives



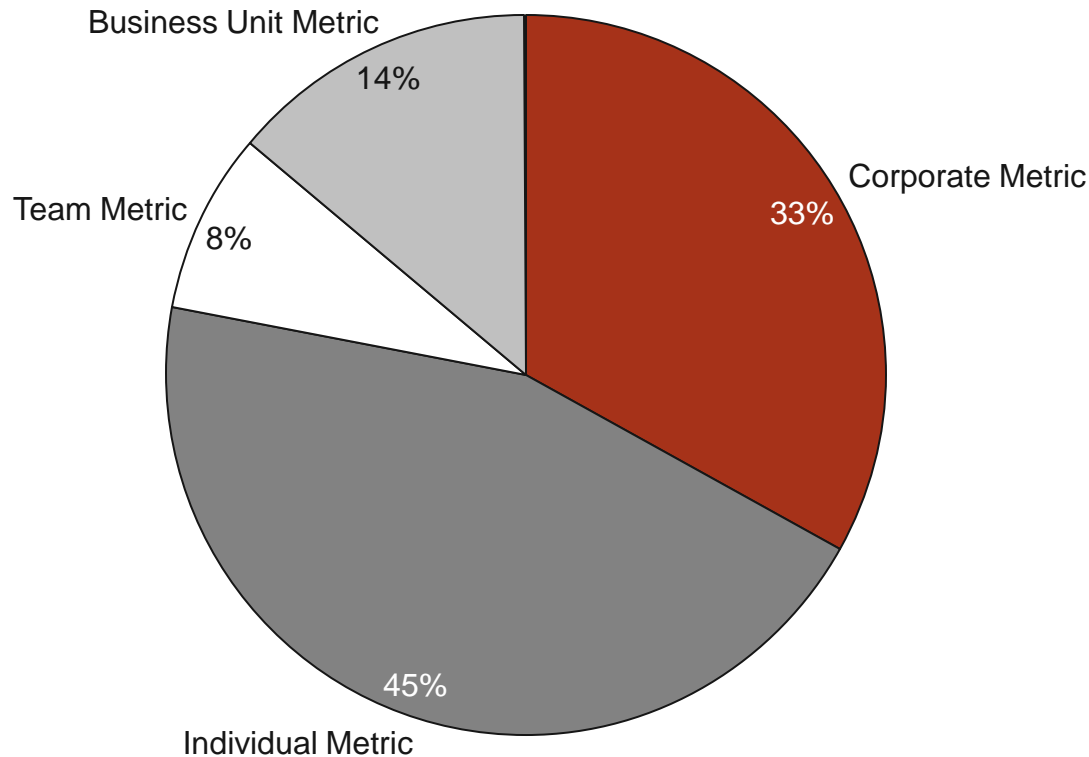
### Comments

- **Individual performance based schemes** are the **most popular** type of financial incentives in a supply chain setting selected by 83.6% of the participants
- Bonuses based on company performance (e.g., EBIT, ROI) are the second most frequent incentives used by 76.4% of companies
- **Special further training and development** are favored as non-financial incentives by 33.6 % of the participants
- **Personal career plans, innovation awards and talent selection** as non-monetary incentives were also mentioned

Note: Multiple answers were possible

# NEARLY HALF OF THE BONUS OF AN EMPLOYEE IS DETERMINED BY INDIVIDUAL MEASURES

Relative Weighting of the Different Measures



## Comments

- The **variable salary** is, on average, comprised as follows:
  - 45% by individual performance based measures,
  - 33% by corporate measures,
  - 14% business unit measures and
  - 8% team measures.
- One respondent stated **occupational safety** as a measure used in his/her company
- **Project success** and **costs** were the most frequently mentioned types of metrics
- **Customer satisfaction**, on the other hand, was selected only by every third participant

# VARIABLE PAY LEVELS DEPEND ON THE JOB POSITION

**Maximum and Realized Bonus (in percent of base salary)**  
 - Average of Participants -



Comments	
<ul style="list-style-type: none"> <li>On average, <b>incentive levels differ significantly</b> between managers with and without staff responsibility</li> </ul>	
<ul style="list-style-type: none"> <li><b>Managers with staff responsibility receive a higher actual</b> and can also earn a higher possible variable salary</li> </ul>	
<ul style="list-style-type: none"> <li>The <b>maximum possible</b> average percentage of variable salary of all responses is <b>18.6%</b> The <b>actual variable pay</b> accounts for <b>12.3%</b> of gross annual salary resulting in an <b>average payout of 66%</b> of the maximum possible variable salary</li> </ul>	
<ul style="list-style-type: none"> <li><b>Relative payout is 8% higher for managers with staff responsibility</b> than for those without</li> </ul>	



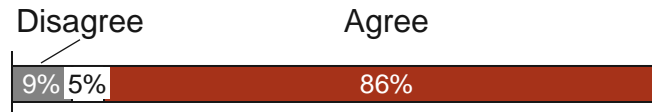
# IN GENERAL THE PARTICIPANTS FEEL THAT INCENTIVE SYSTEMS FOLLOW THE SMART METHODOLOGY

## Agree SMART-Methodology

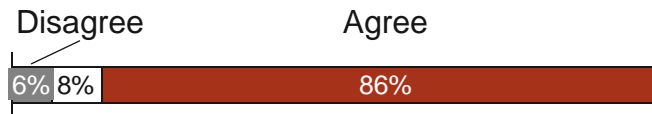
### Managers with staff responsibility

### Managers without staff responsibility

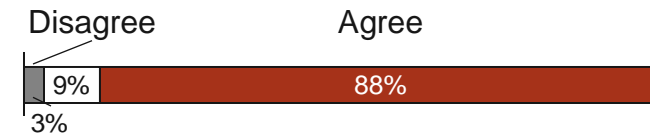
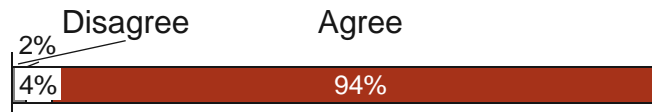
**S** **Specific:** Goals need to be clear, unambiguous and specific



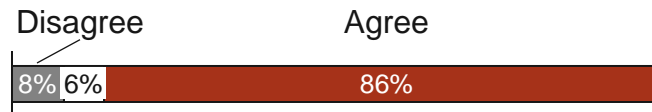
**M** **Measurable:** Goals need to be measurable



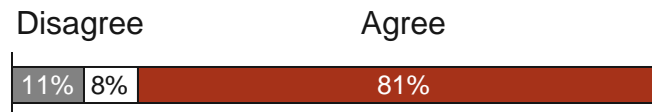
**A** **Achievable:** Goals need to be challenging but possible



**R** **Relevant:** Goals need to be relevant and realistic



**T** **Time-Bound:** Goals need to be given a target date

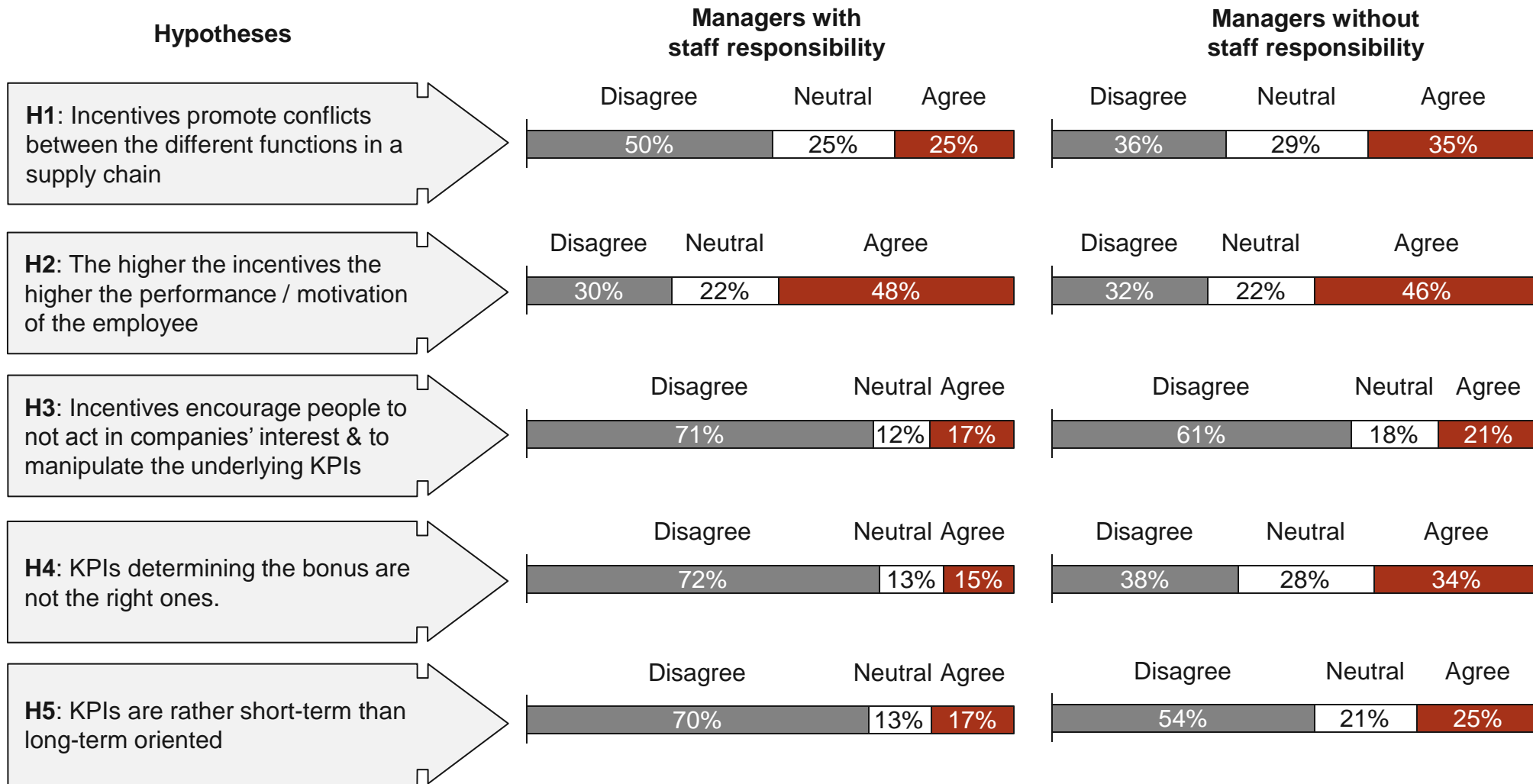


Neutral

Neutral

# FROM A SUPPLY CHAIN PERSPECTIVE MANAGERS WITH STAFF RESPONSIBILITY ARE MORE SATISFIED WITH THEIR INCENTIVE SYSTEMS

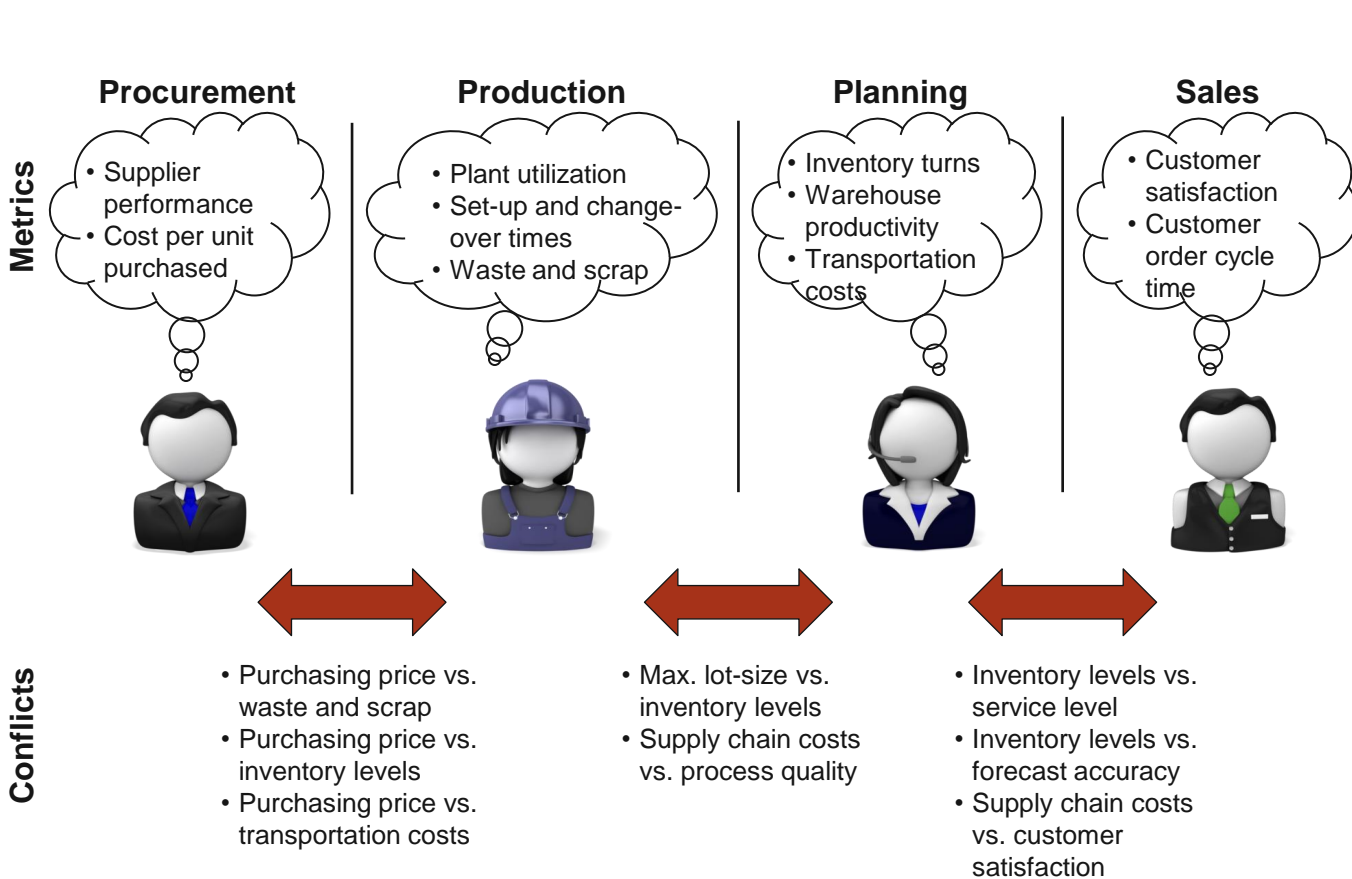
## Overview Hypotheses



# H1: Incentives promote conflicts

## MANAGERS WITHOUT STAFF RESPONSIBILITY SEE MORE CONFLICTS BETWEEN DEPARTMENTS

### Conflicts between departments

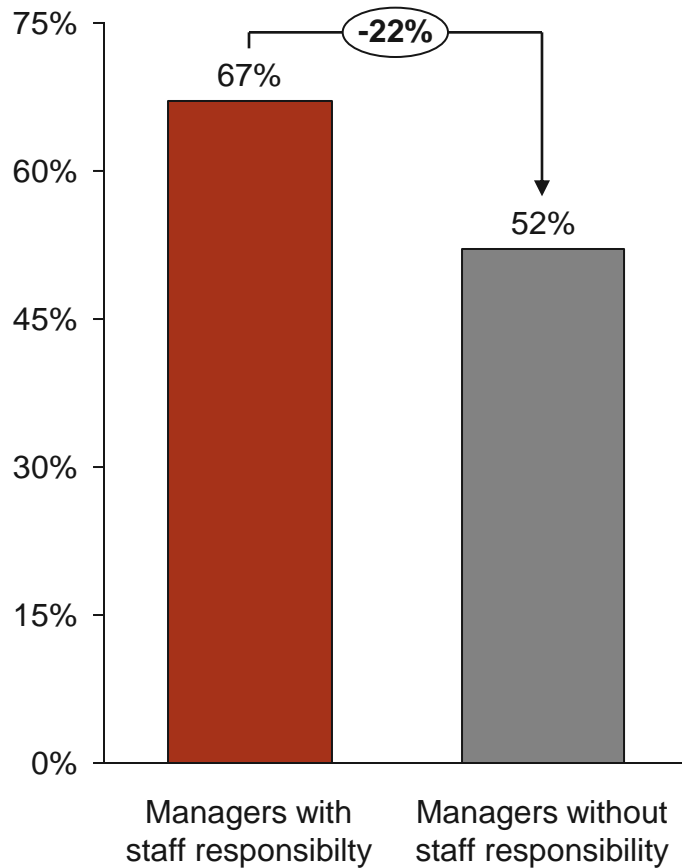


- ### Comments
- **43% of lower level managers cannot** observe that superiors of different departments **meet regularly** to discuss incentives holistically
  - **47% of top managers** agreed that the incentive system **promotes communication** between departments compared to only 27.6% of the managers with no staff responsibility
  - Most respondents equate conflicts with **conflicting goals resulting in win-lose situations for all departments**
  - **Insufficient information sharing** was also mentioned as a hindrance to good collaboration.

## H2: Incentives promote motivation

# THE CURRENT INCENTIVE SYSTEM MOTIVATES TOP-LEVEL MANAGERS MORE THAN LOWER LEVEL MANAGERS

Motivation of employee (in percent of agreement)  
- Average of Participants -



### Comments

- Managers with and without personnel responsibility agree on the fact that they **would perform worse without an incentive system** (51.6% and 44.7%)
- Both groups would **not see an increase in their performance** if the **variable salary doubles** (46.9% and 39.4%)
- Results show that **42.2% of all participants take their bonus payment for granted** which actually indicates that the incentive system does not contribute to their motivation as they presume that they will receive their bonus either way

### H3: Incentives promote unethical behavior

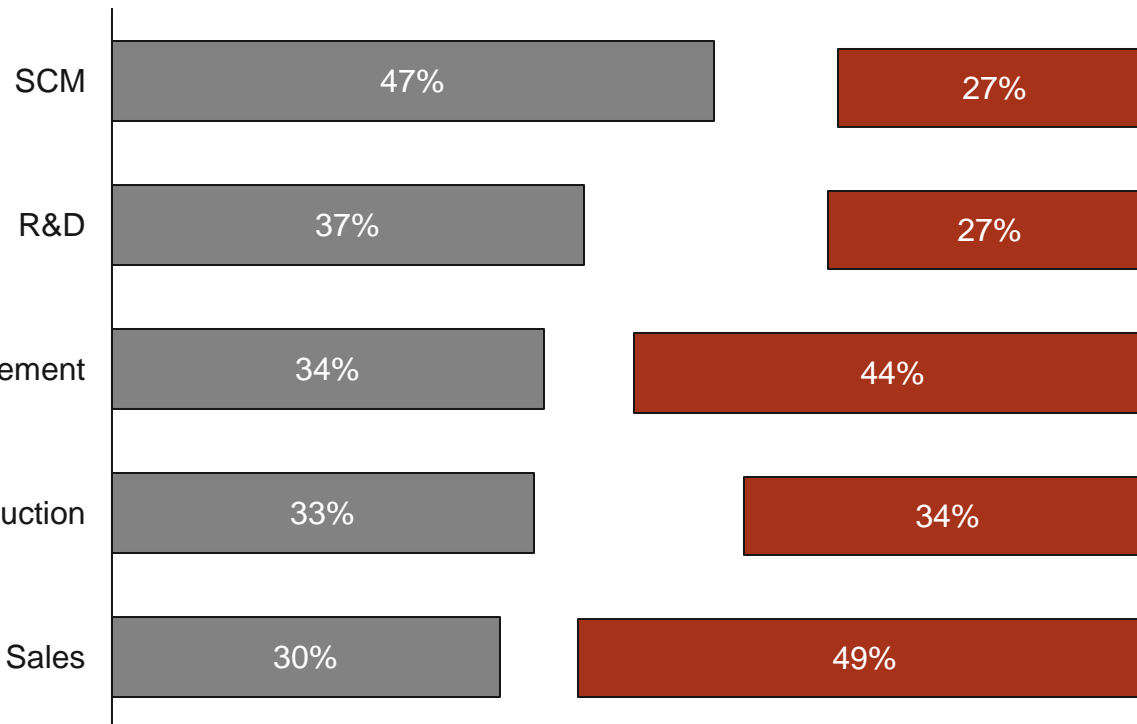
## IN PARTICULAR PROCUREMENT AND SALES SEEM TO OPTIMIZE THEIR OWN OBJECTIVES WITHOUT CONSIDERING THE COMPANY GOAL

Frequency of Agreement with Statement

Statement "Department optimizes its own objectives without considering the overall company objective"

Disagree

Agree



### Comments

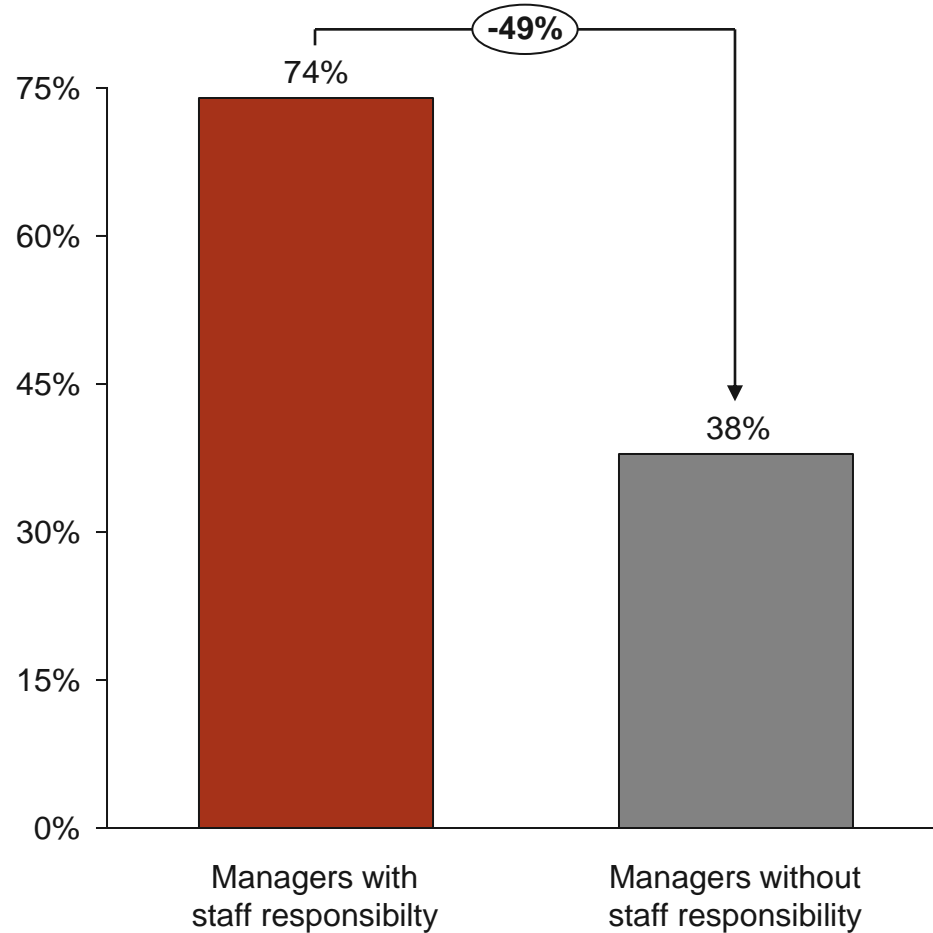
- **8.0% of lower-level managers would window dress the KPIs** if this increases the bonus compared to only **6.3% of top level managers**
- Managers with staff responsibility assume that the **focus on KPIs does not increase willingness to manipulate metrics** (48.4%) but **46.0% of lower-level managers believe that it does**
- Nevertheless, all state that it is **difficult to manipulate the KPIs** in their companies (82.8% and 71.0%)
- Participants further stated that **KPIs are usually not so clearly defined** that no **room for certain interpretation** exists that can be exploited to one's own advantage

#### H4: KPIs are not the right ones

## LOWER-LEVEL MANAGERS ARE NOT SATISFIED WITH THEIR METRICS USED TO DETERMINE THE VARIABLE PAY LEVELS

Satisfaction of employees concerning performance measures (in percent of agreement)

- Average of Participants -



### Comments

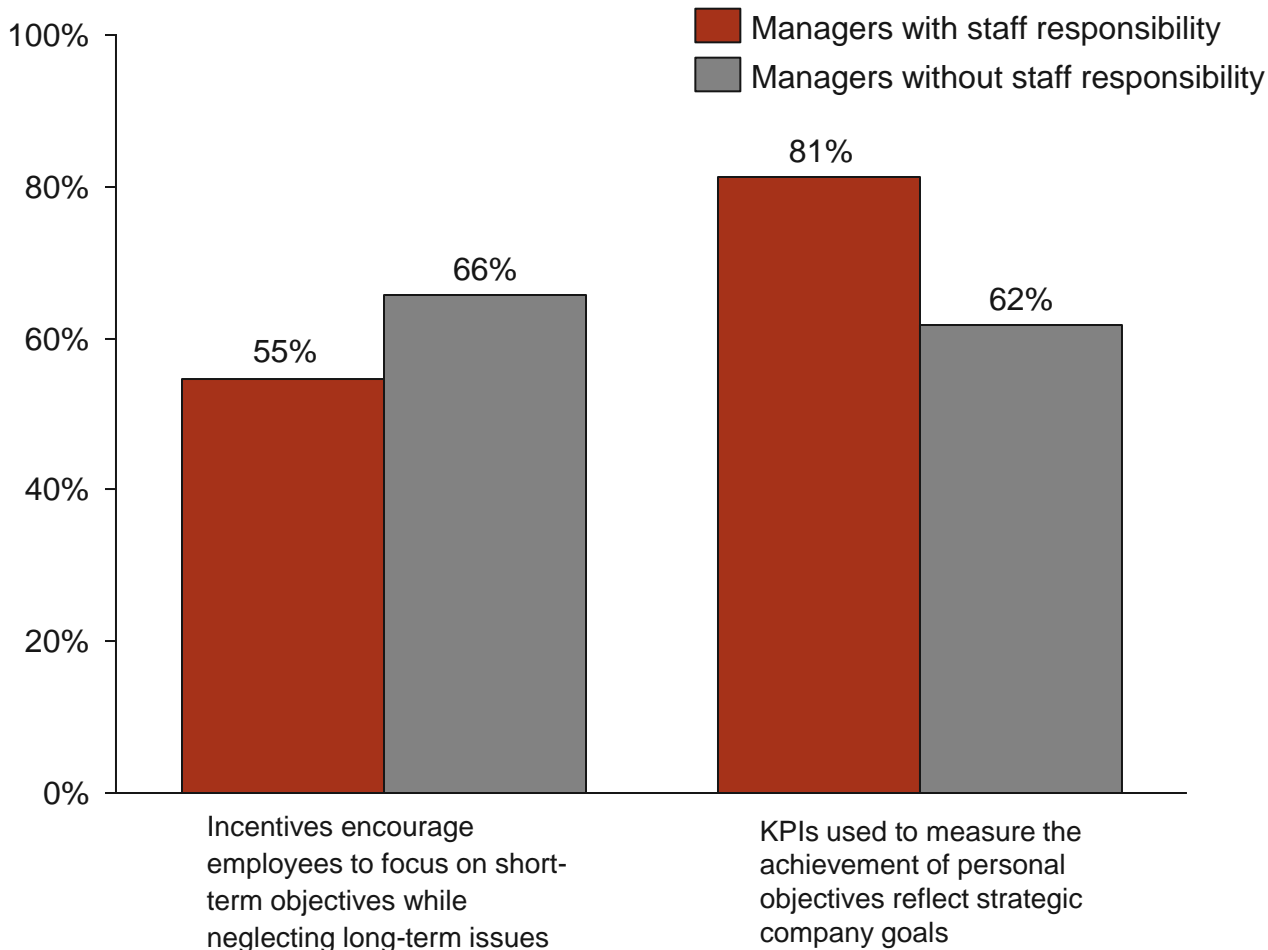
- Results show that **73.5% of managers with staff responsibility are satisfied with the metrics** that are used to measure the achievement of their personal objectives compared to only **38.1% of lower-level managers**
- **One third of lower level managers** consider their incentives to be the **wrong ones**
- The measures underlying the incentive systems are **not objective for 30.3% of managers without staff responsibility**
- **Top-level managers' objectives** are based on **objective KPIs (70.3%)**

## H5: KPIs are short-term oriented

# INCENTIVES ENCOURAGE EMPLOYEES TO FOCUS ON SHORT-TERM OBJECTIVES WHILE NEGLECTING LONG-TERM ISSUES

### Perception of short-term objectives (in percent of agreement)

- Average of Participants -



### Comments

- Incentives encourage employees to focus on short-term objectives while neglecting long-term issues
- KPIs enable the company to increase the business success sustainably was agreed **on by 49% of lower level** managers compared to nearly **80% of top-level** managers
- An incentive formula needs to **include both short-term performance criteria** (e.g. average return on assets), **and long-term performance criteria** (e.g. average growth rate) in determining executive bonuses

# DESPITE THE HIGH SATISFACTION LEVELS OF MANAGERS FIELDS OF CONFLICT DO STILL EXIST IN SUPPLY CHAIN MANAGEMENT

## Challenges of incentive systems

“There are **consultation, communication and constructive collaboration problems** between our departments“

“**individual objectives are counterproductive** for the cooperation with very target-oriented colleagues“

“**No real measurable and objective KPIs exist**; performance evaluation depends mostly on subjective interpretation and justification“

“**conflicting goals** are present every day“

“**Well-coordinated objectives across functions** are essential“

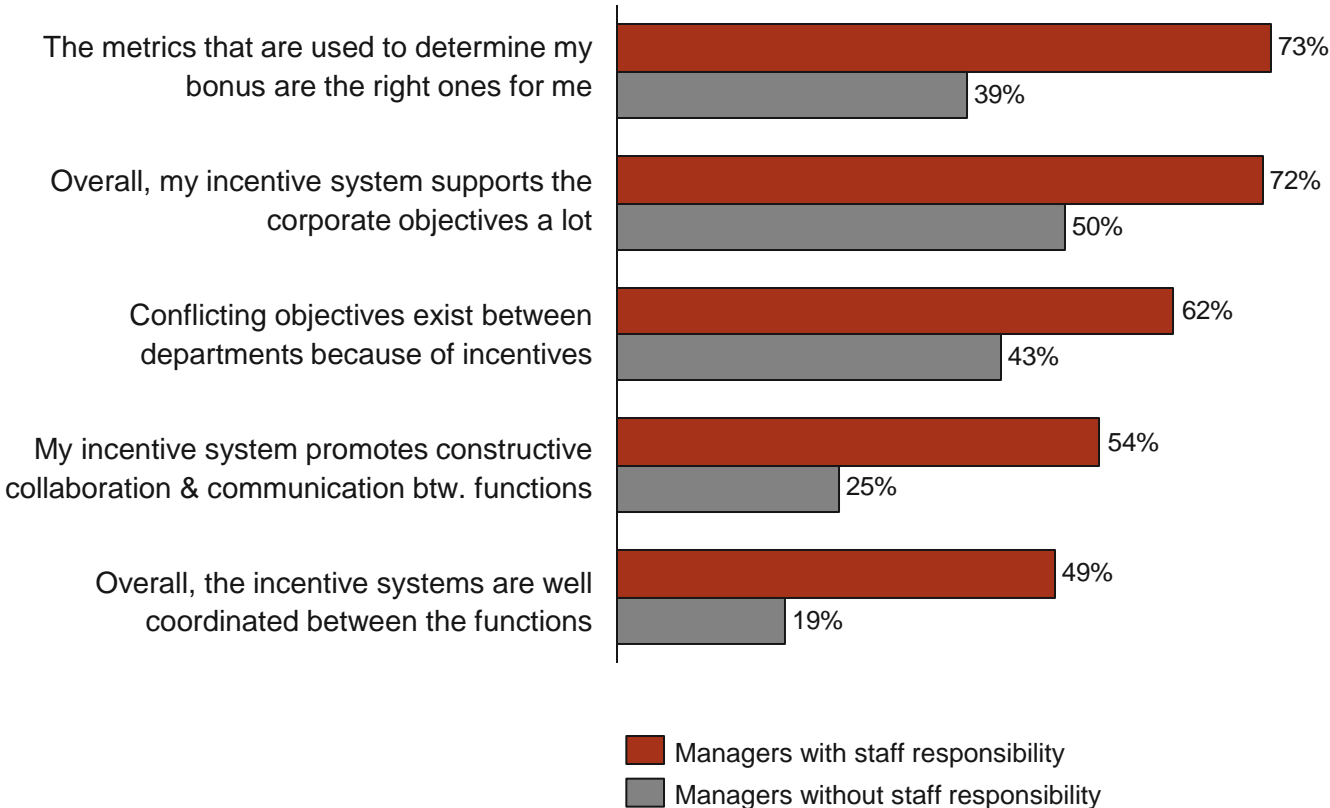
“The **company success** needs to be the **first priority** for all departments“





# WELL-COORDINATED OBJECTIVES AND COLLABORATION BETWEEN FUNCTIONS ARE OFTEN NOT SEEN BY LOWER LEVEL MANAGERS

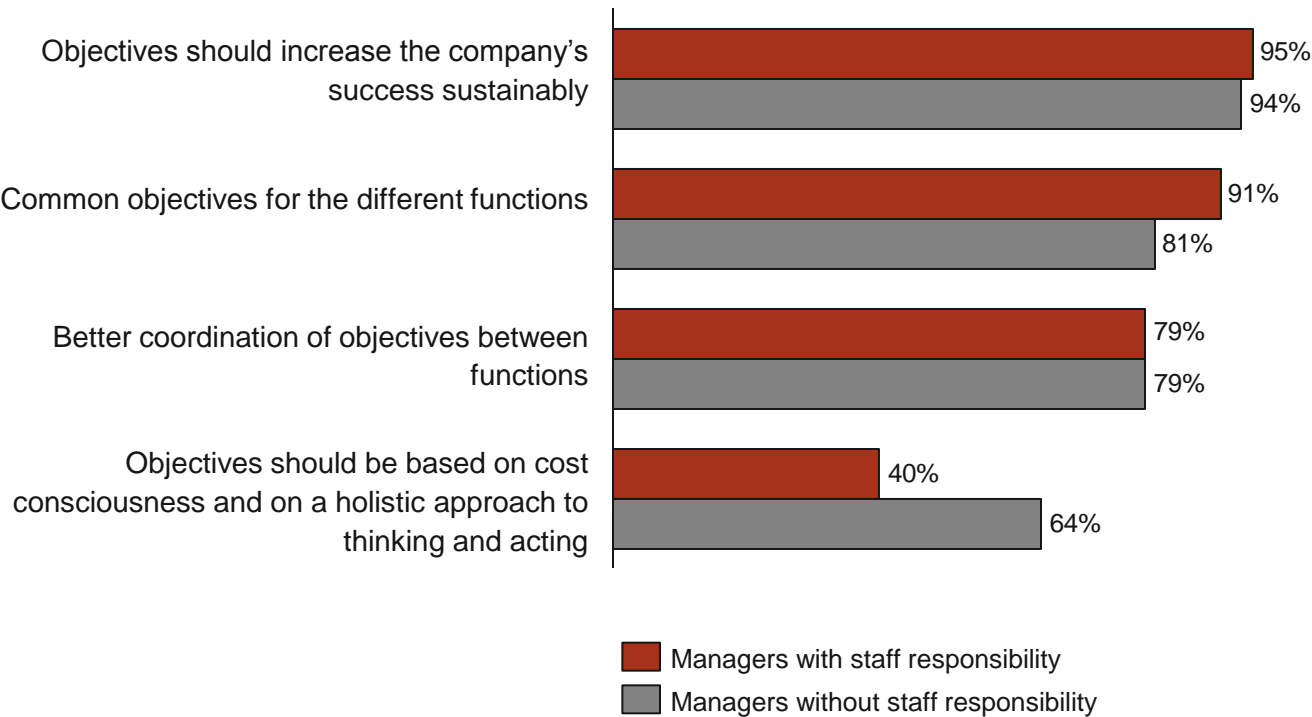
Effects of Incentive Systems (Agreement in %)



Comments
<ul style="list-style-type: none"> <li>Both groups are satisfied with the incentive system (<b>SMART goals, higher motivation, KPIs are not easy to manipulate, objectives reflect strategic goals</b>), but managers with staff responsibility always to a greater extent</li> <li>Managers without staff responsibility think that there are consultation, communication and constructive collaboration problems between departments.</li> <li>They also see that <b>incentive systems are not well coordinated</b> between the departments</li> <li>Overall, <b>only 48% of lower level managers are satisfied</b> with their incentive system compared to <b>80% of top level managers</b></li> </ul>

# BOTH GROUPS SEE ROOM FOR IMPROVEMENT BUT MANAGERS WITH STAFF RESPONSIBILITY TO A GREATER EXTENT

Suggestions for Incentive System Improvements (Agreement in %)



Comments
<ul style="list-style-type: none"> <li>Managers without staff responsibility would like to have <b>objectives that are based on cost consciousness</b> as 43% think that bonus is based on subjective evaluation of the superior</li> <li>Managers with staff responsibility instead are neutral as their bonus is already based on objective KPIs (70%)</li> <li><b>89.1% of managers with staff responsibility</b>, as well as <b>81.6% of lower-level managers</b>, prefer <b>monetary incentives</b></li> <li><b>Training, working time flexibility</b> or acknowledgment is favored by 10.9% or by 18.4% respectively</li> </ul>

# RIGHT-DESIGNED INCENTIVE SYSTEMS PAY OFF

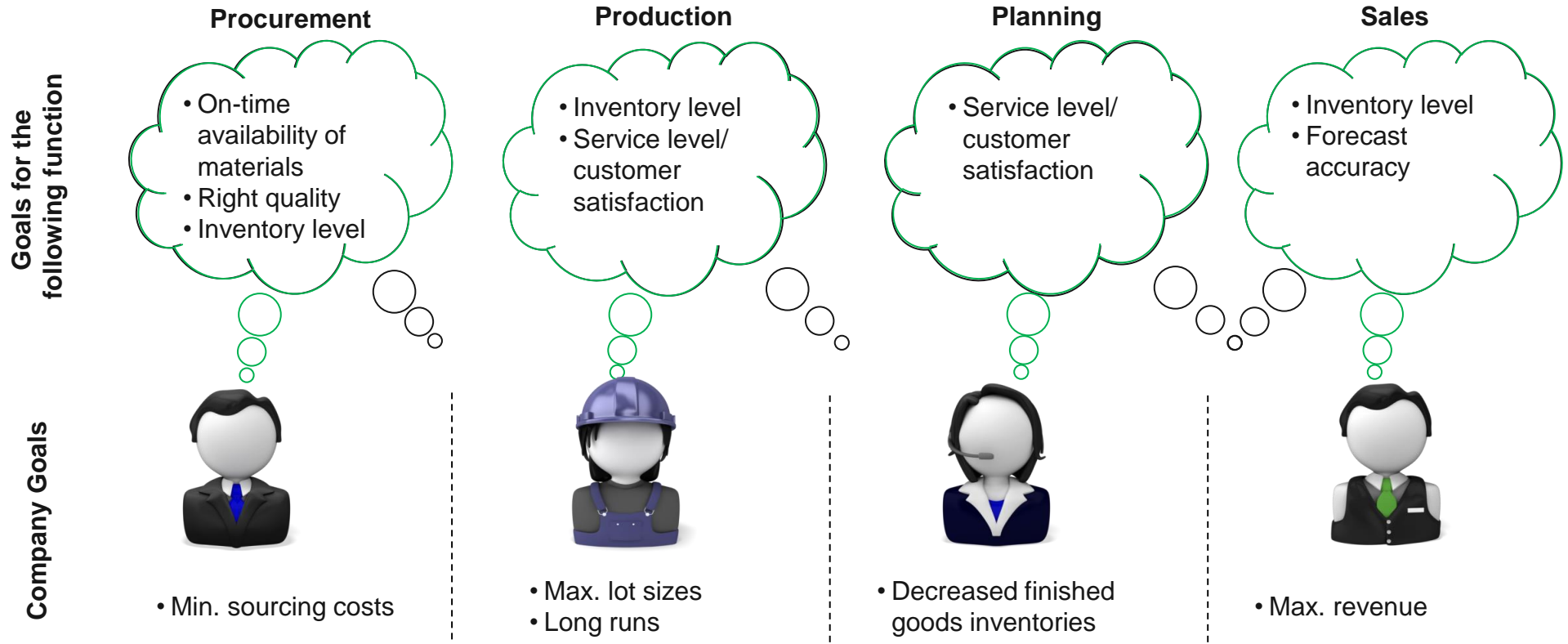
## Managerial Implications for the Optimal Incentive System Design

- 1 **Incentive systems pay off:** they do not promote conflicts, increase the motivation of the employee and thus his performance, encourage people to act in companies' interests, KPIs are long-term oriented and the right ones for individual functions
- 2 Top-level managers need to **acknowledge that incentive misalignment exists** across different functions leading to different satisfaction levels along the hierarchy
- 3 **Global supply chain metrics** need to be implemented and included in the bonus schemes to focus on the overall company performance, for instance total SCM costs, inventory turn, and on-time delivery
- 4 **Aligning the responsibility for achieving specific objectives with the responsibility for the related operational tasks**
- 5 The marketing and sales department is given **ownership of finished goods inventories** and stock levels are included into their objectives. On the other hand, **customer satisfaction** metrics need to be included in the planning and production department's objectives
- 6 The sales department should not only be incentivized on **total sales**, but also on **forecast accuracy** and **working capital**. On the other hand, the production and planning department should be incentivized on the **service level to end customers** to align them with sales
- 7 Objectives of the procurement department should not only include the **average purchasing price**, but also the **on time availability** of the right-quality materials at the start of production




# CROSS-FUNCTIONAL OBJECTIVES NEED TO BE INCLUDED FOR EACH FUNCTION IN ORDER TO SATISFY THE FOLLOWING FUNCTION

## Suggestions for the Optimal Incentive System Design




Each function should receive an incentive that is aligned with its internal customer


# HOW DOES THE “RIGHT” INCENTIVE SYSTEM IN SUPPLY CHAIN MANAGEMENT LOOK LIKE?




Functional objectives based on company objectives that can be further drilled down to individually **controllable objectives**




Goals do not need to be bonus relevant – company’s success can also be achieved by a **common vision**




The **company’s success** must have the highest priority for all departments!



**Omit individual objectives** as they are counterproductive for the cooperation with very target-oriented colleagues



The incentive system must be **well coordinated** between the different functions. All functions must confirm that the objectives are **SMART!**



Interdepartmental objectives with focus on single function’s KPIs to **avoid silo mentality!**

FOR FURTHER QUESTIONS PLEASE FEEL FREE TO CONTACT US

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