Cherry picking for self-enhancement – The comparison between self-reporting and management accountant reports and the effect on decision quality

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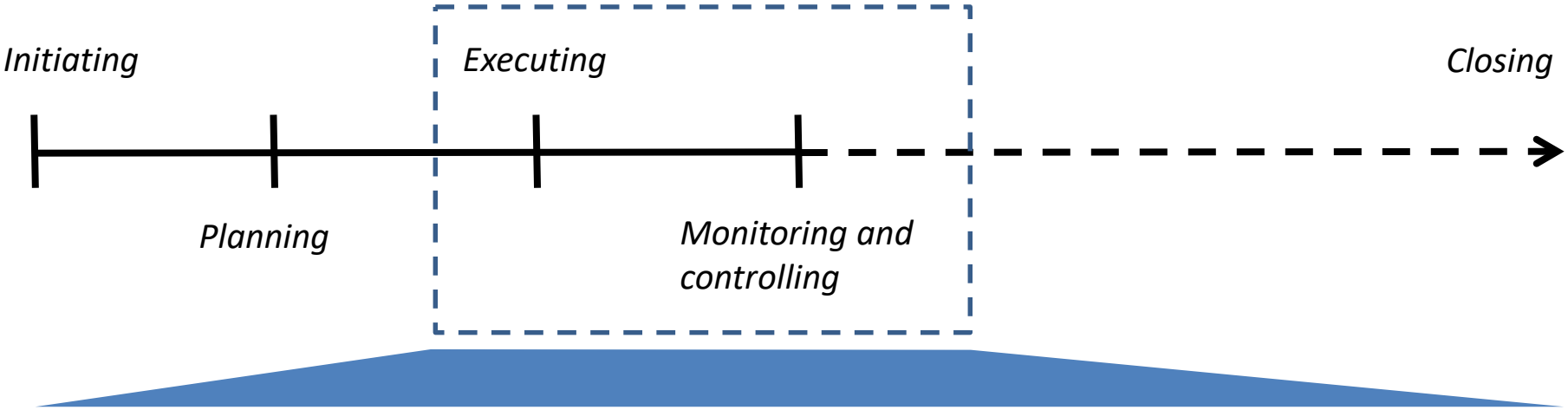
Project management and steering [e.g., Wells and Kloppenborg 2015]



Executing

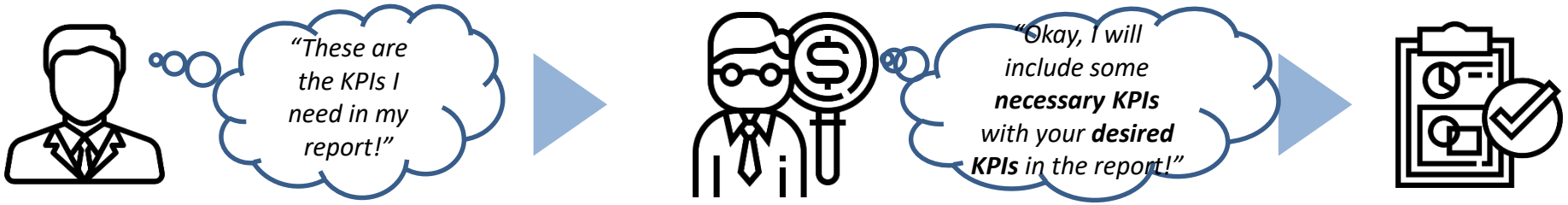
- A manager receives a **business plan** (including project information, forecasts, scenarios, further analyses, …)
- The manager decides **whether to invest into the project or not**

Monitoring and controlling

- After the project decision, the manager needs a **regular report with KPIs** to steer the project and future decisions (continue, discontinue, etc.)
- Every decision includes **a number of consequences for the manager** (e.g. reputation) **or others** (e.g. employees)

How regular reports are created and how KPIs are selected

Traditionally…



- The manager **requests KPIs** from the **management accountant (MA)** and asks him to include them in the **report**
- Noteworthy, the manager already knows potential developments of the KPIs!

- The management accountant includes the **requested KPIs** and **other important KPIs** (e.g. NPV) into the **report**
- Provides the manager with the report on a regular basis

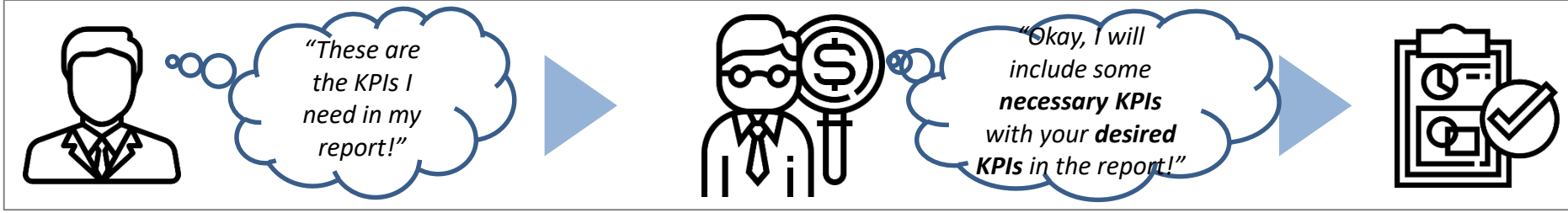
Nowadays…

- The manager **requests KPIs** from a digital **dashboard**
- Noteworthy, the manager already knows potential developments of the KPIs!

- The dashboard presents the requested **KPIs** and **some predefined KPIs** (e.g. NPV) in a **report**
- Provides the manager with the report on a regular basis

How regular reports are created and how necessary KPIs are selected

Traditionally…



Nowadays…

Research question 1

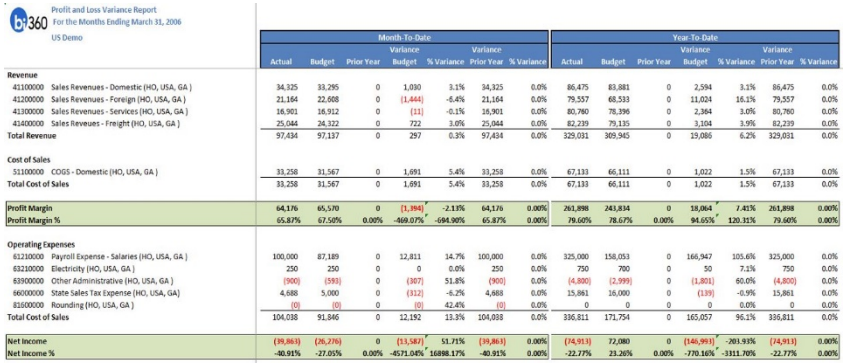
» Do managers **request less KPIs** that **indicate a negative development of the project** (and their decision) front of a *management accountant* vs. a *dashboard* because of self-esteem concerns?

Management dashboards and reporting

» 86% (90%) of management accountants (MA) prepare reports in U.S. (German) firms [Stoffel 1995] and is, hence, a key decision-supporting function

» The management accountant selects only **some** KPIs for the performance reports solely because managers *"know their key performance measures and key success factors better than anyone else"* [Frigo and Krumwiede 2000, pp. 51–52]

» At the same time, reporting via digital dashboards is spreading; 89% of U.S. firms have management dashboards available for reporting [KPMG 2017]



Profit and Loss Variance Report
For the Months Ending March 31, 2006
US Demo

		Month To-Date							Year To-Date						
					Variance		Variance					Variance		Variance	
		Actual	Budget	Prior Year	Budget	% Variance	Prior Year	% Variance	Actual	Budget	Prior Year	Budget	% Variance	Prior Year	% Variance
Revenue															
41100000	Sales Revenues - Domestic (HO, USA, GA)	34,325	33,295	0	1,030	3.1%	34,325	0.0%	86,475	83,881	0	2,594	3.1%	86,475	0.0%
41200000	Sales Revenues - Foreign (HO, USA, GA)	21,164	22,608	0	(1,444)	-6.4%	21,164	0.0%	79,557	68,533	0	11,024	16.1%	79,557	0.0%
41300000	Sales Revenues - Services (HO, USA, GA)	16,901	16,912	0	(11)	-0.1%	16,901	0.0%	80,780	78,396	0	2,364	3.0%	80,780	0.0%
41400000	Sales Reveues - Freight (HO, USA, GA)	25,044	24,322	0	722	3.0%	25,044	0.0%	82,239	79,135	0	3,104	3.9%	82,239	0.0%
Total Revenue		97,434	97,137	0	297	0.3%	97,434	0.0%	329,031	309,945	0	19,086	6.2%	329,031	0.0%
Cost of Sales															
51100000	COGS - Domestic (HO, USA, GA)	33,258	31,567	0	1,691	5.4%	33,258	0.0%	67,133	66,111	0	1,022	1.5%	67,133	0.0%
Total Cost of Sales		33,258	31,567	0	1,691	5.4%	33,258	0.0%	67,133	66,111	0	1,022	1.5%	67,133	0.0%
Profit Margin		64,176	65,570	0	(1,394)	-2.13%	64,176	0.00%	261,898	243,834	0	18,064	7.41%	261,898	0.00%
Profit Margin %		65.87%	67.50%	0.00%	-469.07%	-694.90%	65.87%	0.00%	79.60%	78.67%	0.00%	94.65%	120.31%	79.60%	0.00%
Operating Expenses															
61210000	Payroll Expense - Salaries (HO, USA, GA)	100,000	87,189	0	12,811	14.7%	100,000	0.0%	325,000	158,053	0	166,947	105.6%	325,000	0.0%
63210000	Electricity (HO, USA, GA)	250	250	0	0	0.0%	250	0.0%	750	700	0	50	7.1%	750	0.0%
63900000	Other Administrative (HO, USA, GA)	(900)	(593)	0	(307)	51.8%	(900)	0.0%	(4,800)	(2,999)	0	(1,801)	60.0%	(4,800)	0.0%
66000000	State Sales Tax Expense (HO, USA, GA)	4,688	5,000	0	(312)	-6.2%	4,688	0.0%	15,861	16,000	0	(139)	-0.9%	15,861	0.0%
81600000	Rounding (HO, USA, GA)	(0)	(0)	0	(0)	42.4%	(0)	0.0%	0	0	0	0	0.0%	0	0.0%
Total Cost of Sales		104,038	91,846	0	12,192	13.3%	104,038	0.0%	336,811	171,754	0	165,057	96.1%	336,811	0.0%
Net Income		(39,863)	(26,276)	0	(13,587)	51.71%	(39,863)	0.00%	(74,913)	72,080	0	(146,993)	-203.93%	(74,913)	0.00%
Net Income %		-40.91%	-27.05%	0.00%	-4571.04%	16898.17%	-40.91%	0.00%	-22.77%	23.26%	0.00%	-770.16%	-3311.70%	-22.77%	0.00%

Management accountant report
Source: solverglobal.com

Self-service BI system
Source: SAP

Again, there are consequences for others as well

» Decisions include several consequences for the **manager** (e.g. reputation, self-esteem, etc.) and for the **firm (e.g. employees)**

» Do managers weight all consequences equally? No!

- Managers make "self-maximizing decisions that may not necessarily be in the best interest of shareholders" (e.g., empire building)
- And "these decisions include aggressively growing the firm, which reduces profitability and destroys firm value" [Hope and Thomas 2008]

Research question 1 & 2

» Do managers **request less KPIs** that **indicate a negative development of the project** (and their decision) front of a *management accountant* vs. a *dashboard* because of self-esteem concerns?

» Will the manager balance his KPI request better (i.e., request more KPIs, that make his decision look bad) when decision consequences for others are more salient?

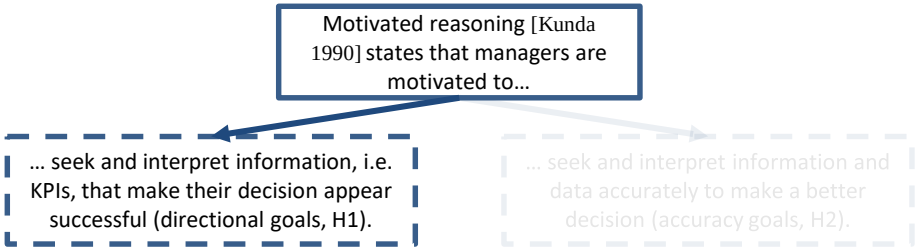
Cognitive processes on information search

Motivated reasoning [Kunda 1990] states that managers are *motivated* to…

… seek and interpret information, i.e. KPIs, that make their decision appear successful (directional goals, H1).

… seek and interpret information and data accurately to make a better decision (accuracy goals, H2).

H1: The Effect of Information Source on KPI Requests

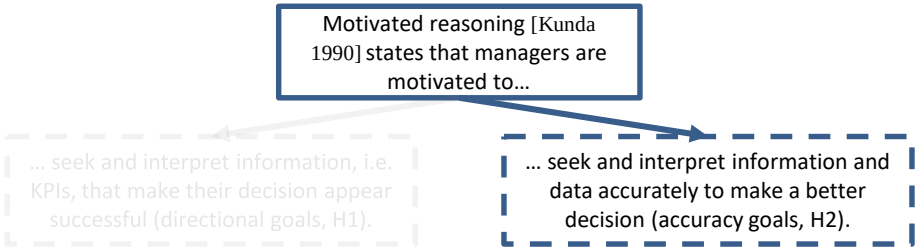


Does **the presence of the management accountant** strengthens directional goals?

- Once a manager decides to invest in a project, he prefers information that confirm that he is a good decision maker (maintaining **self-esteem** [Pyszczynski and Greenberg 1987])
- This natural urge is magnified when an expert, i.e. the management accountant, can observe and evaluate the decision [Tetlock 1985, 1983]
- Through the KPIs, the MA can evaluate the managers decision making skills
- Hence, the managers self-esteem is at stake!
- *Hence, he requests less KPIs that have a potential negative future development (Threat KPIs)*

H1: Requested **Threat KPIs** (self-report) > Requested **Threat KPIs** (MA report)

H2: The Effect of Salience of Decision Consequences for Others



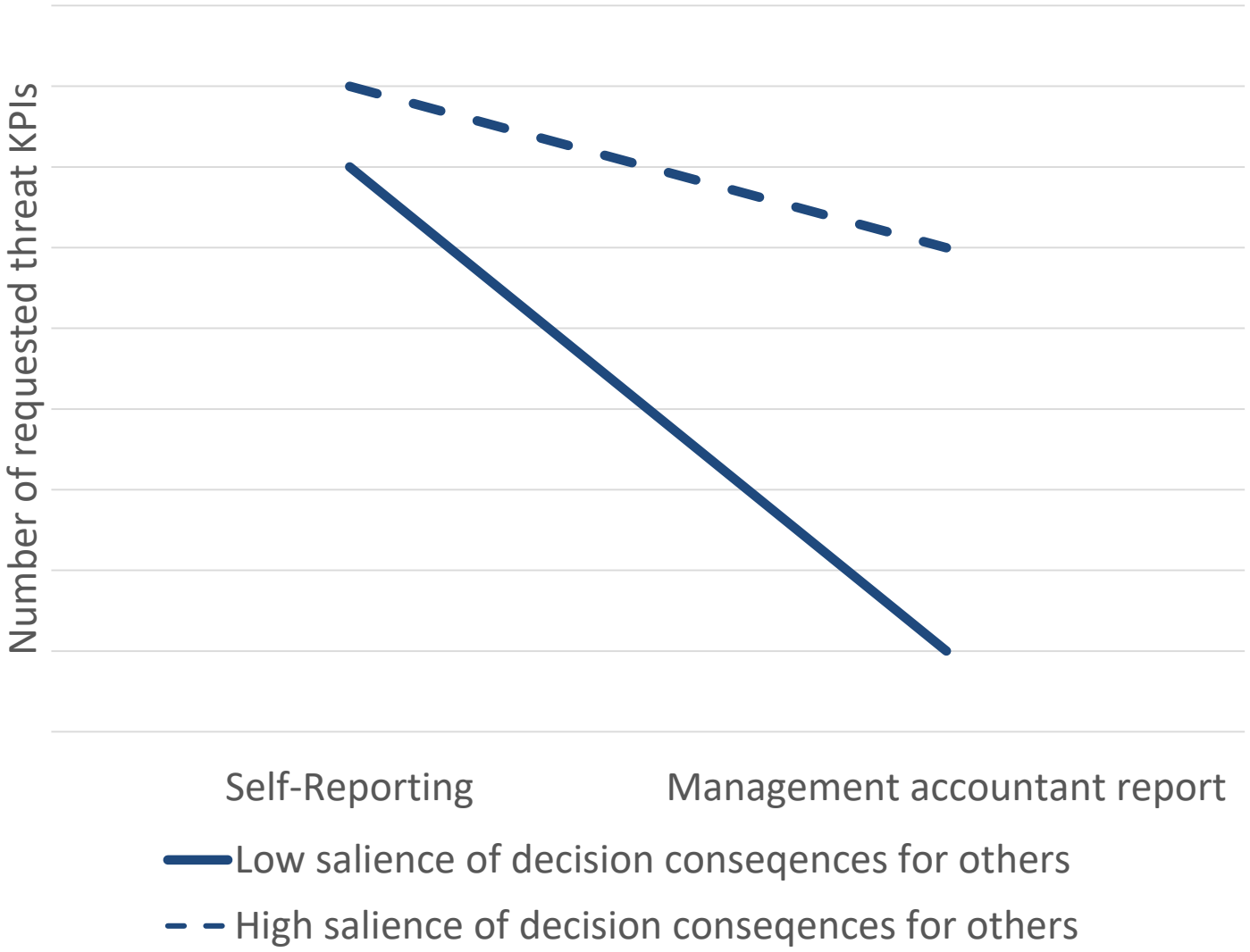
Does **salience of decision consequences for others** help to overcome self-esteem concerns?

- There are not only conseqences for the manager (self-esteem at stake) but as well for others (e.g. the firm or other employees)
- Managers are focused on maintaining self-esteem
- Contingency model for the selection of decision strategies [McAllister et al. 1979]
  - When managers are more aware that their decision affect others as well, they scrutinize information („I have to be accurate in my decisions to help my colleagues" instead of "My perception of my competence is threatened").
- *They focus on KPIs that indicate a negative future development as well a positive future development of the to make better decisions!*

H2a: Requested **threat KPIs** (Salience High) > Requested **threat KPIs** (Salience Low)

H2b: Δ Selected **alerting KPIs** (Salience H/L – MA report) > Δ Selected **alerting KPIs** (Salience H/L – self-reporting)

Summary of hypotheses (predicted effects)



Design and experimental task

» Experimental Task

Part 1 — Business plan and investment decision — Period 1

- Participants receive **business plan** with information about project (including description, **NPV**, costs, **potential future development of 20 KPIs**, etc.)
- Participants decide to **invest into the project or not**

Part 2 — KPI selection for the report — Period 1

- Subjects **select 8 KPIs out of 20** for further project management; 8 KPIs indicate a *negative development* (threat KPIs) and 12 a *positive development* (opportunity KPIs)
- A real management accountant sees the selected information (management accountant report) or not (self-reporting)
- Participants were told that future decisions will affect other employees financially (salience high) or nothing was told (salience low)

Part 3 — Report with chosen KPI and decision cancelation or continuation of the project — Period 2

- Participants receive their **report** with their **selected 8 KPIs and NPV**
  - NPV dropped significantly
- Participants were asked how much budget they want to pull out of the project and invest into safe alternative (safe alternative always has higher NPV, Decision quality)

Dependent variable, manipulations and compensation

» **Measurement of dependent variable**

- *# Threat KPIs:* Number of requested KPIs that indicate a negative future development
- *Decision Quality:* Amount of budget invested in the safe alternative in period 2

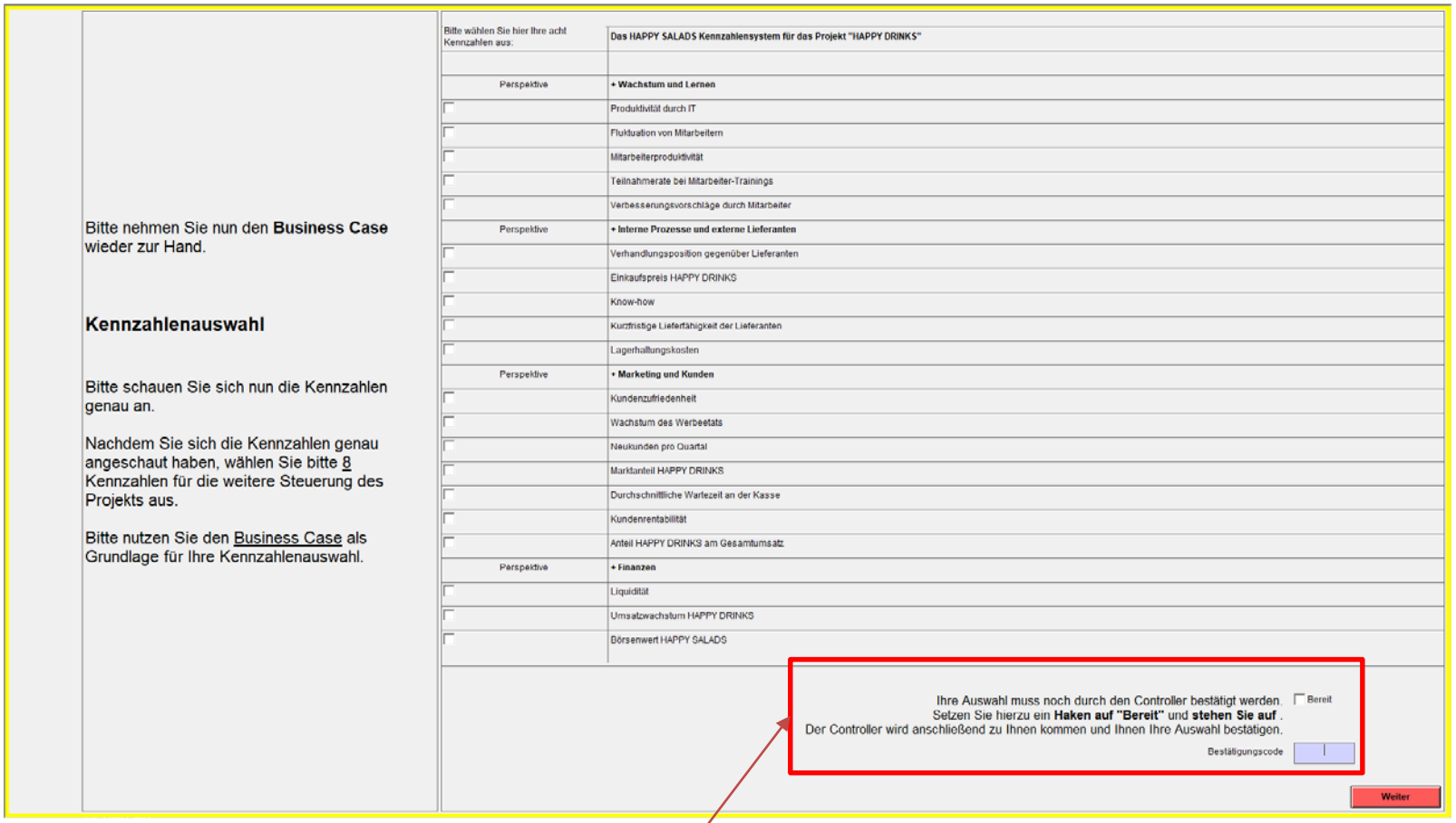
» **Manipulated variables**

- KPI Source
  - *Management accountant report:* KPIs were requested from a real management acountant
  - *Self-Reporting:* KPIs were requested from a dashboard
- Salience of decision consequences to others
  - *High salience:* Participants were told that their decision in period 2 will not only affect their own compensation but other employees‘ as well (other employees were real student assistants)
  - *Low salience:* No information

» **Compensation**

- Fix plus performance-contingent pay based on decision quality in period 2

Manipulation of „management accountant report“



Manipulation of „management accountant report“

Design – Measurement of Decision Quality

Fluktuation von Mitarbeitern		Know-how		Kundenzufriedenheit		Kundenrentabilität	
Teilnahmerate bei Mitarbeiter-Trainings		Lagerhaltungskosten		Neukunden pro Quartal		Anteil HAPPY DRINKS am Gesamtumsatz	

Verteilen Sie nun das Investitionsvolumen i.H.v. 140.000.000 Lira auf die folgenden Optionen:

Der im Jahr 2019 erwirtschaftete Kapitalwert beträgt: (+) 5.019.073,00 Lira.

Betrag, der zum **Fortführen vom Projekt "HAPPY DRINKS"** genutzt wird:	Projekt "HAPPY SALADS" zum Teil abbrechen und (Teil-)Betrag in **sichere Anlage** investieren:
100000000	40000000

Has always the higher NPV

Treatments

» **Subjects**

- 168 business students
- finished introductory classes in accounting, management accounting and management

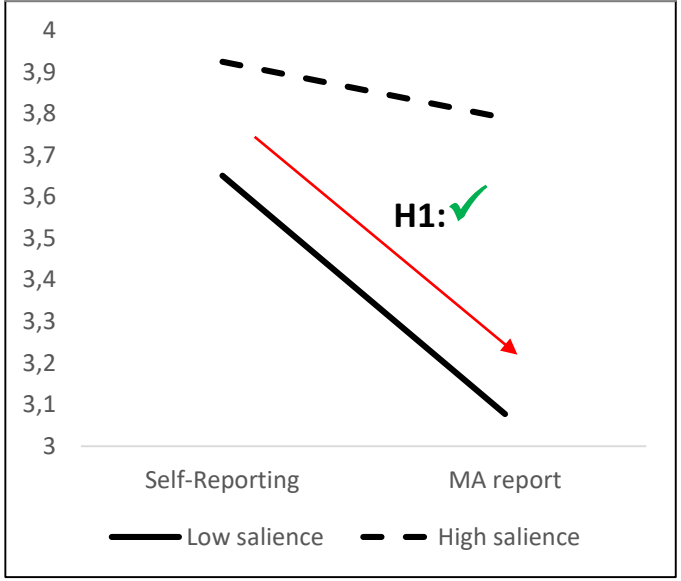
» **Treatments***

	KPI Source **Self-reporting**	KPI Source **Management accountant report**
Salience of decision consequences to others Low	n = 43	n = 39
Salience of decision consequences to others High	n = 40	n = 38

* We dropped 8 participants because they decided not to invest in the projects. These participants proceeded directly to the end of the experiment.

H1: Managers' information selection for MA reports and self-reports

selected alerting KPIs



Test H1 (simple effects): Alerting KPIs (self-report) > Alerting KPIs (MA report)

Dependent variable: Number of selected alerting KPIs (n = 160)

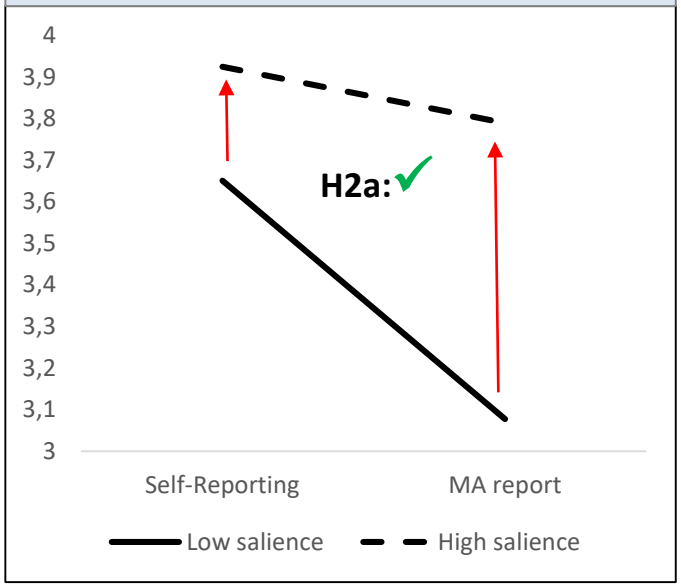
Source	Df	MS	F-Statistic	p-value	
Effect of self-reporting versus management accountant report for low salience of decision consequences to others	1	6.74	3.19	0.04[a]	**H1: ✓**
Effect of self-reporting versus management accountant report for high salience of decision consequences to others	1	0.36	0.17	0.68[b]	

[a] The p-value is reported on a one-tailed basis, due to the directional hypothesis for this effect.

[b] The p-value is reported on a two-tailed basis, due to the lack of a directional hypothesis for this effect.

H1: Managers' information selection for MA reports and self-reports

selected alerting KPIs



Test H2a (ANOVA) and H2b (Contrast analysis)

Panel A: ANOVA

Dependent variable: Number of selected alerting KPIs (n = 160)

Source	Df	MS	F-Statistic	p-value
KPI Source	1	5.03	2.38	0.06[a]
Salience of decision consequences for others	1	9.71	4.59	0.02[a]
KPI Source x Salience of decision consequences for others	1	1.92	0.91	0.17[a]
Error	15 6	2.11		

H1: ✓
H2a: ✓

Panel B: Model contrast[c]

Dependent variable: Number of selected alerting KPIs (n = 160)

Source	Df	MS	F-Statistic	p-value
KPI Source	1	15.09	7.14	< 0.01[a]

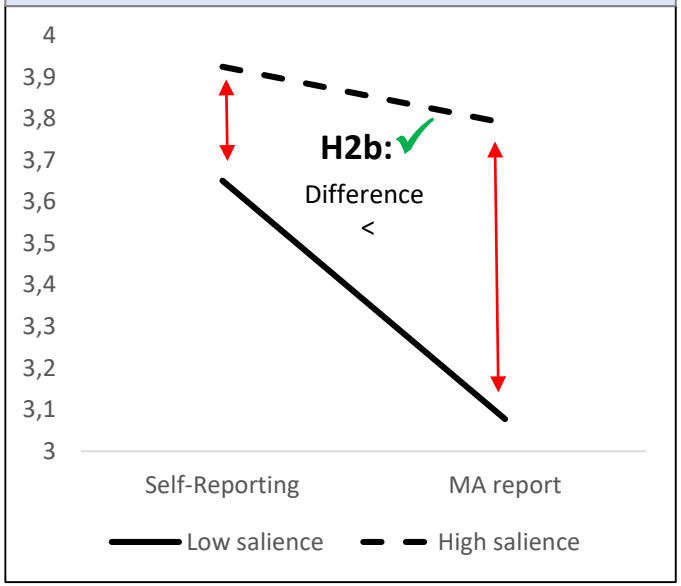
[a] The p-value is reported on a one-tailed basis, due to the directional hypothesis for this effect.

[b] The p-value is reported on a two-tailed basis, due to the lack of a directional hypothesis for this effect.

[c] The contrast coefficients are -1 for Self-reporting/Low salience, -4 for Management accountant report/Low salience, +3 for Self-reporting/High salience and +2 for Management accountant report/High salience.

H1: Managers' information selection for MA reports and self-reports

selected alerting KPIs



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Panel A: ANOVA

Dependent variable: Number of selected alerting KPIs (n = 160)

Source	Df	MS	F-Statistic	p-value	
KPI Source	1	5.03	2.38	0.06[a]	**H1:** ✓
Salience of decision consequences for others	1	9.71	4.59	0.02[a]	**H2a:** ✓
KPI Source x Salience of decision consequences for others	1	1.92	0.91	0.17[a]	
Error	15 6	2.11			

Panel B: Model contrast[c]

Dependent variable: Number of selected alerting KPIs (n = 160)

Source	Df	MS	F-Statistic	p-value	
KPI Source	1	15.09	7.14	< 0.01[a]	**H2b:** ✓

[a] The p-value is reported on a one-tailed basis, due to the directional hypothesis for this effect.

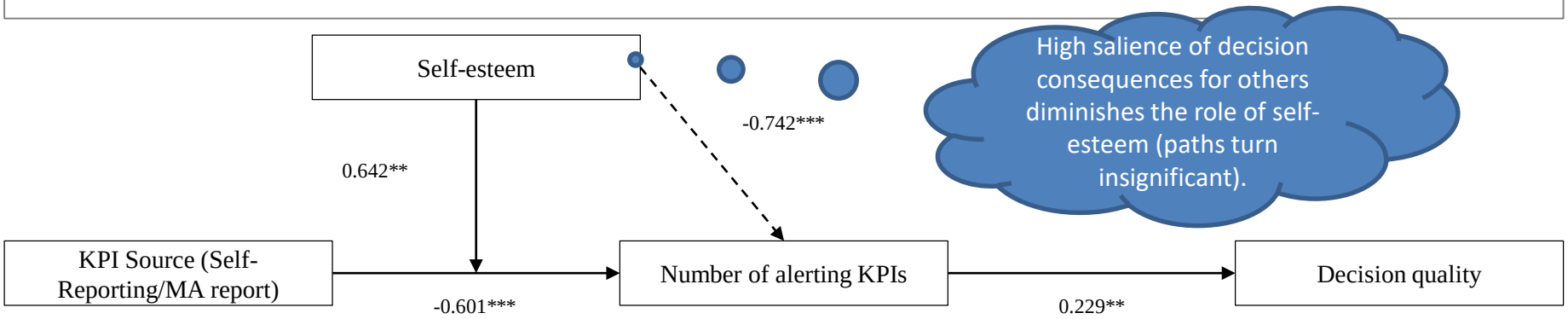
[b] The p-value is reported on a two-tailed basis, due to the lack of a directional hypothesis for this effect.

[c] The contrast coefficients are -1 for Self-reporting/Low salience, -4 for Management accountant report/Low salience, +3 for Self-reporting/High salience and +2 for Management accountant report/High salience.

Additional Analysis – The role of self-esteem

Self-esteem and the selection of information

- A stream of literature shows that self-esteem is a driver of motivated reasoning [Pyszczynski and Greenberg 1987; Kunda 1990]
- Individuals with higher self-esteem have a higher need to protect their own image as being a good decision maker [Pyszczynski and Greenberg 1987] and choose less alerting KPIs
- Hence, individuals with lower self-esteem are more critical to themselves and choose more alerting KPIs



$\chi^2 = 2.22$, $p = 0.53$
n = 82 (only participants in low salience of decision consequences condition)

The moderating role of self-esteem

- When a management accountant is involved, individuals with low self-esteem have a need to please him, i.e. to make a successful decision in front of the MA [Baumeister 1989]
- Through this pressure, these individuals select less alerting KPIs that indicate a bad decision

Warp-up

- Through the presence of the management accountant, managers ignore alerting information (i.e. alerting KPIs) to maintain self-esteem
- The salience of decision consequences to others mitigates this negative effect
- Self-esteem is a driving factor for motivated reasoning, salience of decision consequences to others diminishes the effect of self-esteem
- Implications for practice
  - Through management dashboards, management accountants can focus on the role as a business partner
  - Management accountants should be involved into creating the dashboards and advising the management
- Limitations
  - Management and management accountants are in the same firm for a long time, hence, the influence on the KPI selection should be stronger
  - Reports and KPI selection are done after the decision to invest into the project

Many thanks for your attention!

Questions? Comments?

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Descriptives

Descriptive statistics (mean, [standard deviation])

	KPI Source[a]						**Total**
	Self-reporting			Management accountant report			
	Salience of decision consequences for others			Salience of decision consequences for others			
	Low	High	**Total**	Low	High	**Total**	
Number of subjects	43	40	**83**	39	38	**77**	**160**
Number of selected alerting KPIs	3.65 [1.40]	3.93 [1.61]	**3.78 [1.50]**	3.08 [1.18]	3.79 [1.60]	**3.43 [1.44]**	**3.61 [1.48]**

[a] KPI Source is manipulated at two levels. In the self-reporting condition participants choose eight KPIs for further project reporting. In the management accounting report condition participants also choose eight KPIs for further project reporting. However, in the management accountant report condition, a management accountant looks at the chosen KPIs.

[b] Salience of decision consequences for others is manipulated at two levels. In the high-salience condition, participants are warned that their decision influences other employees compensation as well.

[c] Number of selected alerting KPIs represents the number of chosen alerting KPIs.

Participants

- 168 business students who finished introductory classes in accounting, management accounting and management
- Age: 23.5 years
- 54% male, 46% female
- Randomization successful:
  - Gender (p = 0.91, two-tailed, chi-square test)
  - Ex-ante risk preferences (p = 0.77, two-tailed, Kruskal-Wallis test).

Is the expertise of the observer responsible for the effect?

Self-reporting vs. an unskilled co-worker

- In the main experiment, a **real management** accountant from a real industrial firm "unlocked" the KPIs for the participants
- As a further test, we invited 23 additional participants. This time, a **law student** unlocked the KPIs for the participant
- We found no significant effect on the selection of KPIs ($F = 0.64$, $p = 0.43$, two-tailed)

Is the perceived importance of the profession accountable?

- We asked the participants (Likert scale 1 to 11): "I find the occupation of the person who unlocked my KPIs important in general."
- Participants responded 5.09 for the law student and 8.87 for the management accountant ($F = 25.27$, $p < 0.01$, two-tailed)