

The influence of individual factors on group decision-making in dynamic environments

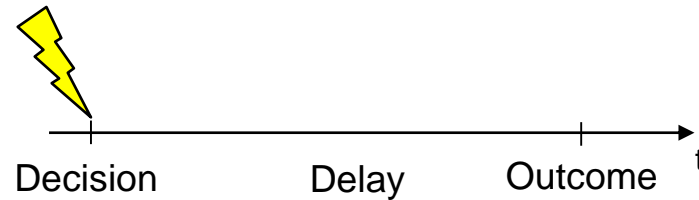
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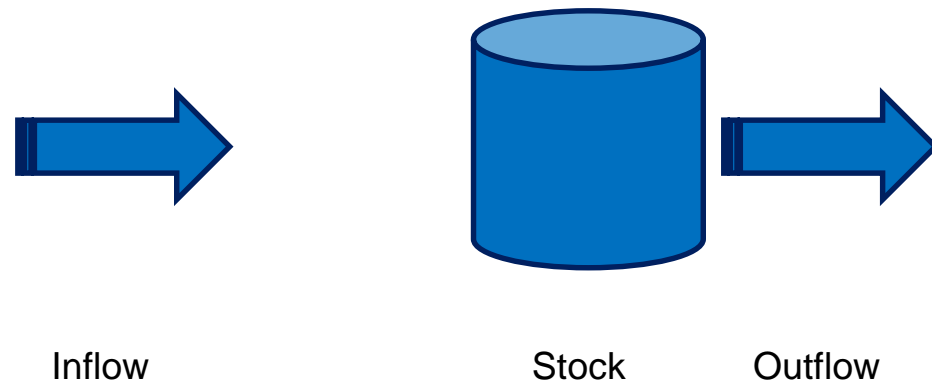
What is the problem of decision making in operations management?



Stock-flow failure



Understanding of
Accumulation

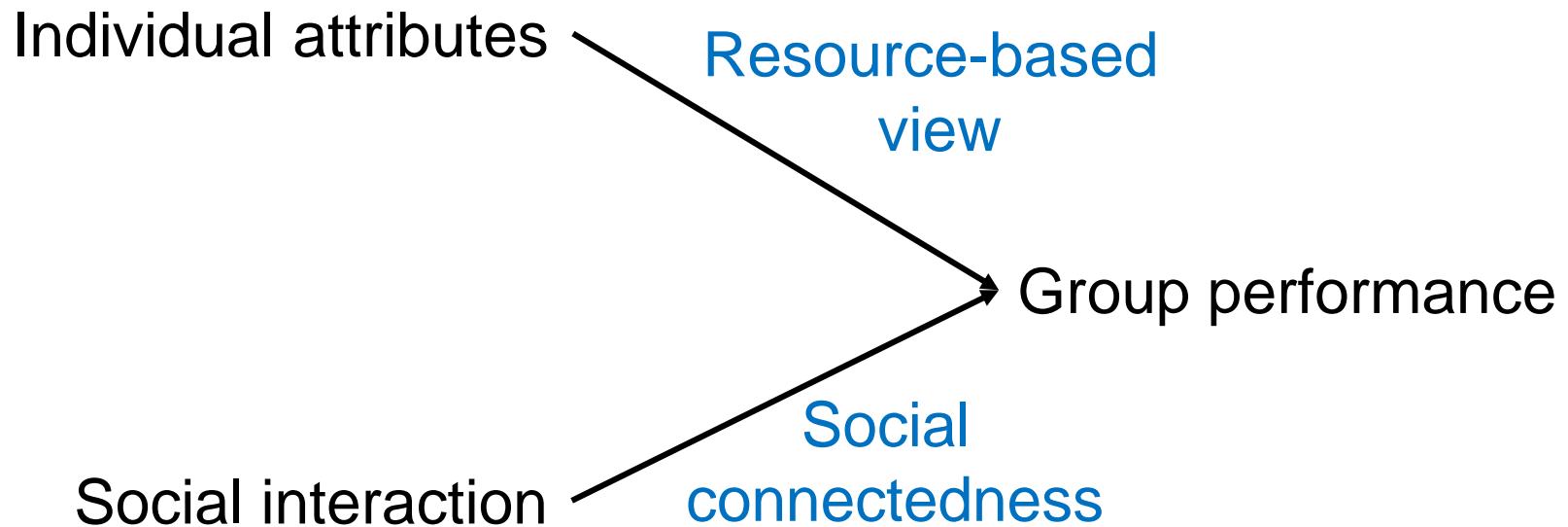


Individual influence?





- Going beyond individual decision making
- Related to team work / high performance teams
- No established teams
- No status differences
- Group decision-making



The dynamic decision setting

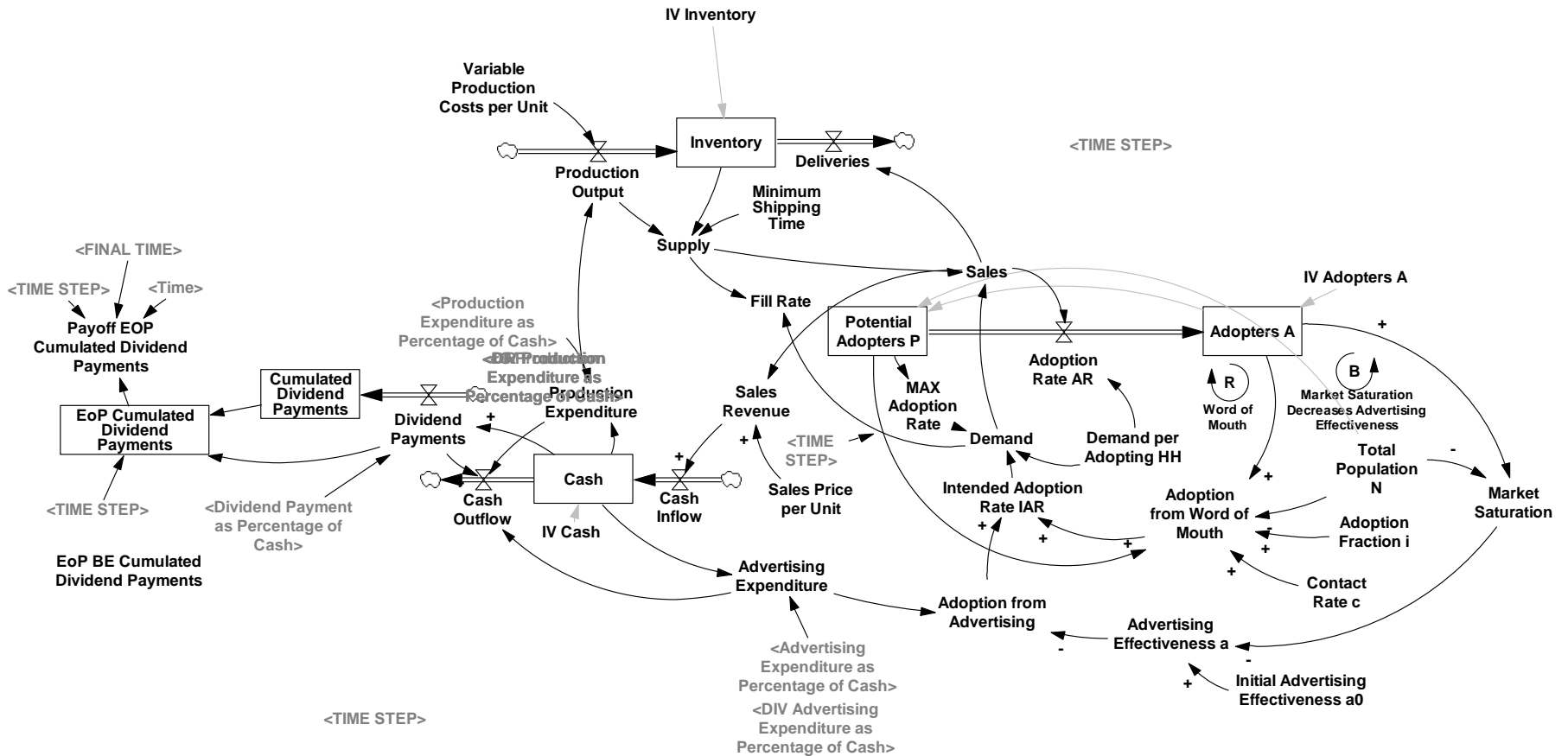
- Buy and sell robots
- No inventory costs
- Fixed number of potential customers
- Word-of-mouth effect

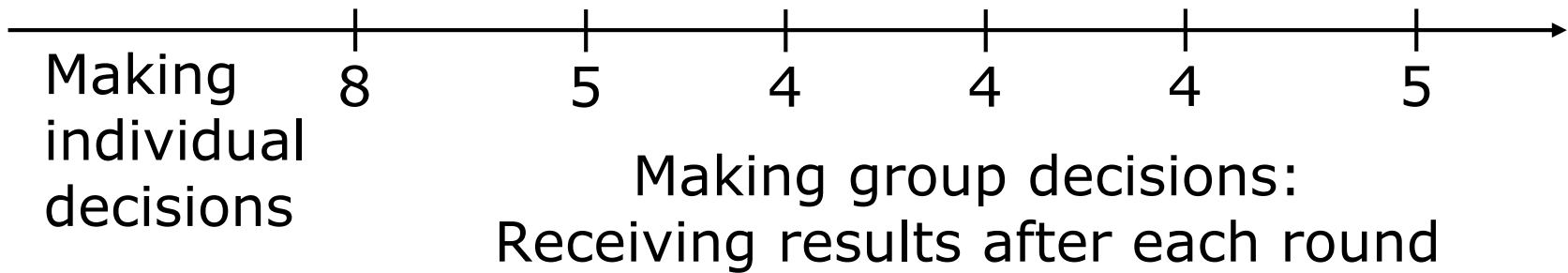
Year	2014	2015	2016	
Demand	2000	4351	9396	Number /Year
Production	5000	0	10358	Number /Year
Sales	2000	3000	9396	Number /Year
Inventory	3000	0	962	Number
Sales revenue	40	60	188	Mio. €/Year

Year	2014	2015	2016	2017	2018	2019	2020	2021
Expenditures for								
Advertisement	10%	9%	9%					
Production	50%	0%	78%					
Dividends	0%	0%	13%					
Summe ($\leq 100\%$!)	60%	9%	100%					

Goal: Maximise overall dividend payout

Underlying SD-Model



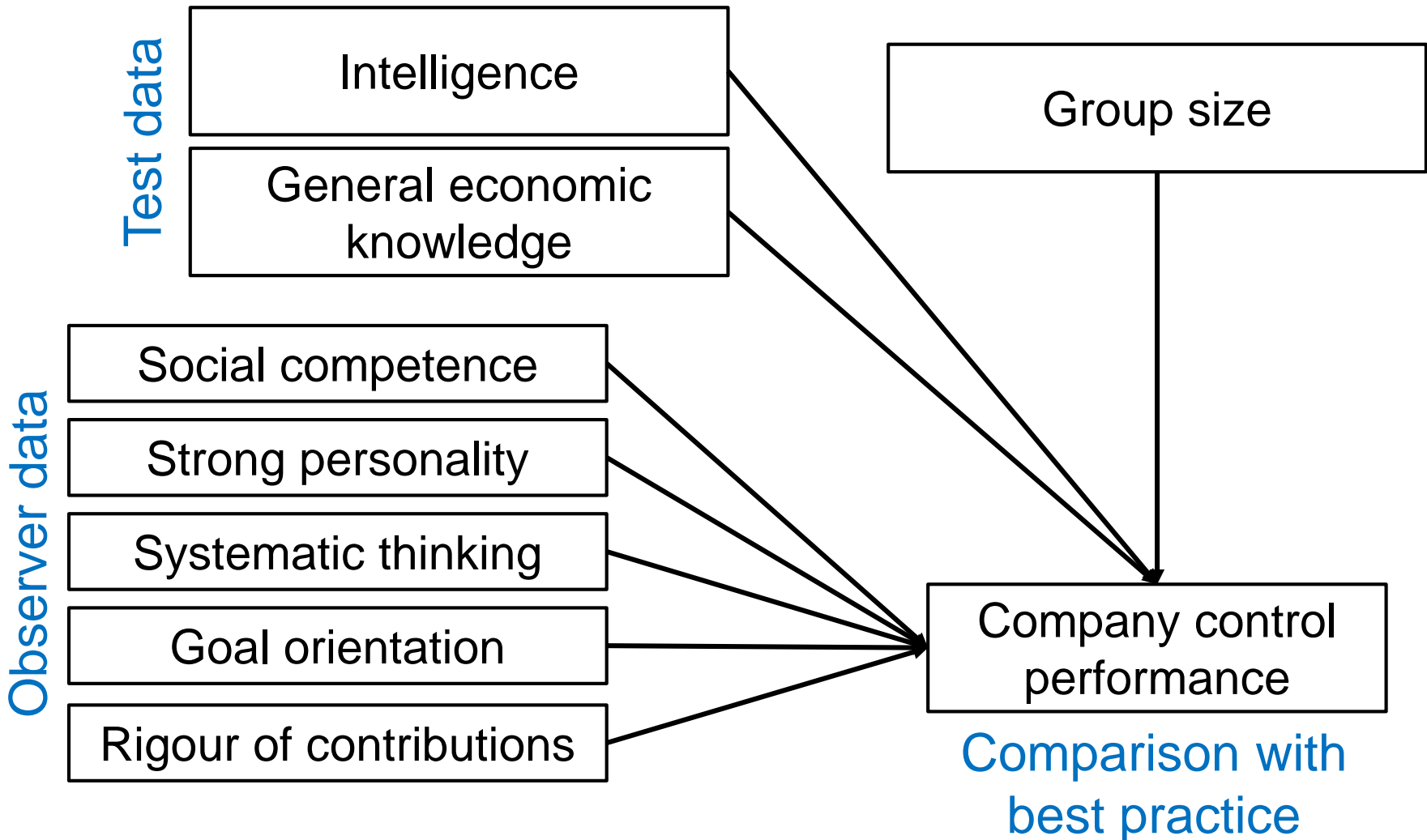




Participants

- Groups of 4 to 8 participants
- 237 participants from 34 groups
- Potential students
- High interest in performing well

Potential influences



Preliminary results (Linear regression)

	Coefficient	Significance
Intelligence	.112	.171
General economic knowledge	-.065	.434
Social competence	.225	.006
Strong personality	-.159	.069
Systematic thinking	.099	.339
Goal orientation	-.096	.321
Rigour of contributions	-.018	.852
Group size	-.148	.039



- Group dynamics seem stronger than individual attributes
- Convincing others is more important
- Individual attributes cannot be checked in the short time (Trust is important)
- Strong personalities undermine other connections



- Understanding social processes in group decision making
- Social connectedness of individuals with same status level
- Intellectual attributes vs. social attributes



- Smaller groups are more successful
- Social skills seem to be more important than intelligence (on a higher level)
- Contributions have to be accepted but no need to explain the rigour
- Strong personalities dominate negatively



Next steps

- Determining the impact of individual performance
- Integrating group characteristics
- Analysis on group level
- Acknowledgement of others' contribution by participants



Questions & Comments