

concept

DECISION MAKERS, DOERS AND ADVISORS
– JOINING FORCES TO ENHANCE UTILITY OF INVESTMENTS

Concept Symposium 2010
Oscarsborg, Norway
16 – 17 September 2010

Symposium web-site: <http://www.conceptsymposium.no/>
Concept Research Programme: <http://www.concept.ntnu.no/english/>



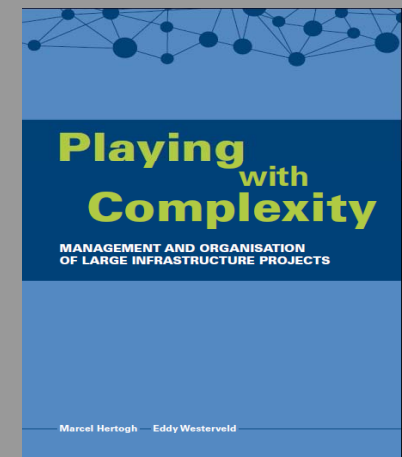
AT OSBORNE

'Playing with complexity'

management and organisation of large
infrastructure projects

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Oslo, Concept Symposium
17-09-2010



'Complexity in different sectors' – main topics

1. What is complexity?

- We all talk about it
-but what is it about?

2. How to manage complexity?

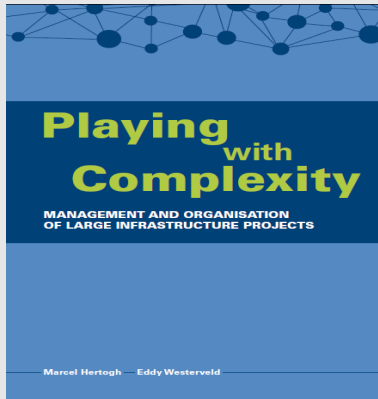
- Are we lost?
-or is there a way out of this mess?



- Today's program includes three practitioners from different fields presenting their views
- And starts with some more scientific views from the field of infrastructure

1. Objectives and background

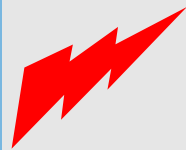
- Research approach:
 - Combined PhD research
 - Case studies – overall (6) and detail (14)
 - Multi client: EU (NETLIPSE), Ministries of Transport etc.
 - Project delivery organisation as focal point



1. Objectives and background

- Large infrastructure projects
 - Huge ambitions
 - Perceived ‘Complexity’
 - Disappointing results
- Objective: ‘Improve the management of complexity in the implementation of LIPs within Europe’

Project
management
‘promise’



Results of large
infrastructure
projects

2. Nature of complexity – combining theory and practice

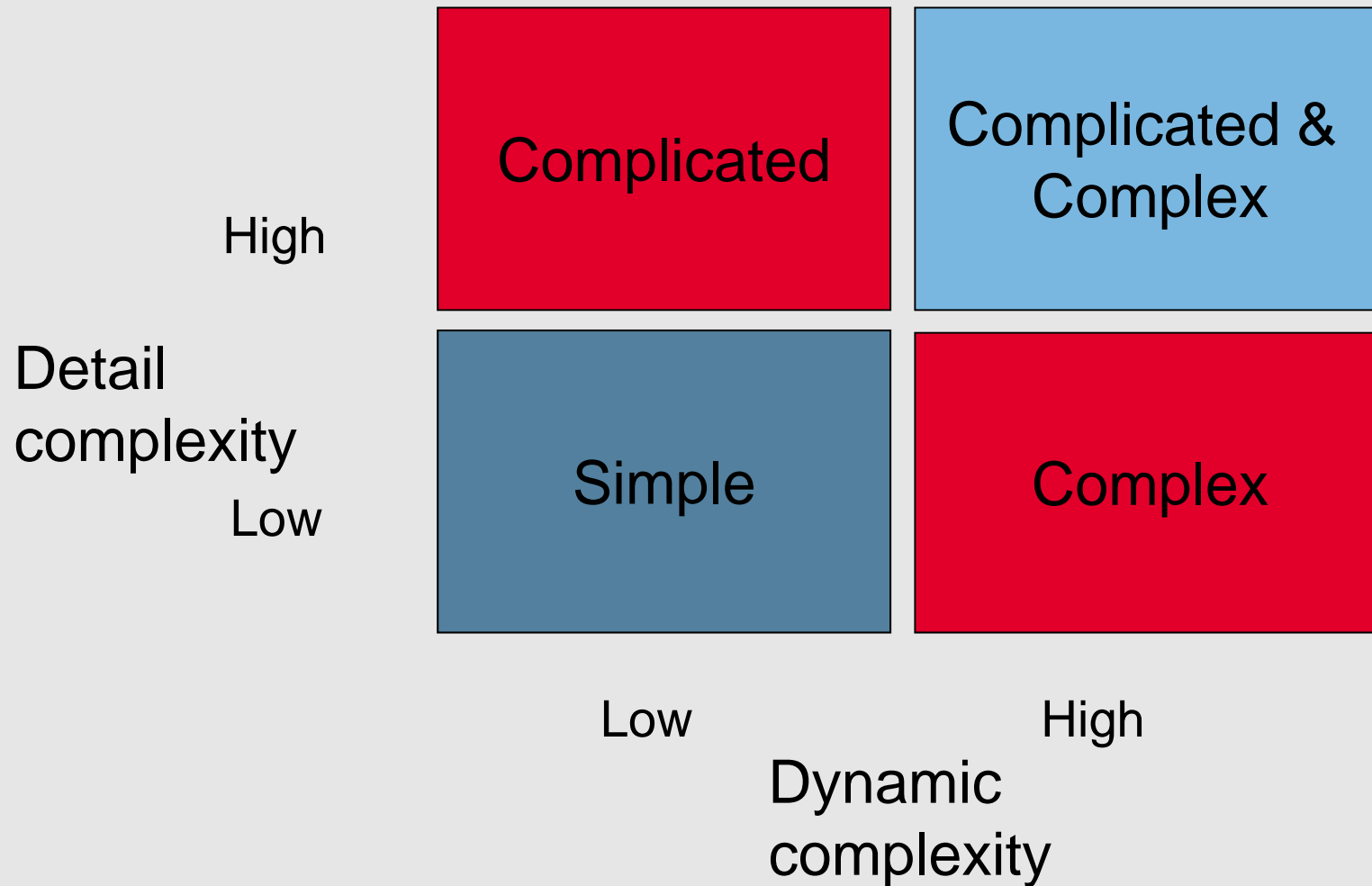
A. Detail complexity ('complicated')

- Many components which are interrelated

B. Dynamic complexity ('complex')

- New views – 'we do not know everything'
- Events – 'major things happen over the course of the project'
- External influence – 'we do not have absolute power'

2. Nature of complexity – framework



2. Dynamic complexity – changing preferences

Takeholder	Start	Completion	Triggers
1. The Minister of the Interior	1848	1850	1848
2. The Province of Gelderland	1848	1850	1848
3. Citizens	1848	1850	1848
4. Deputy of the Province of Gelderland	1848	1850	1848

2. Dynamic complexity – dissatisfaction triggers change

“In order to get a main investment boost for the maintenance of infrastructure in the United States I think we unfortunately need another major disaster to happen first”

Dana Levenson, managing director of the Royal Bank of Scotland's North American Infrastructure and Advisory business, at the Transfin conference in Barcelona, 2008.

“Intellectuals solve problems, geniuses prevent them”

A. Einstein, genius

2. Nature of complexity – implications for managers

- Change is triggered by the dissatisfaction of key stakeholders
- Decision making takes place in a situation of 'limited understanding'

This means that:

- Complete control is an illusion
- Complete control is unwanted

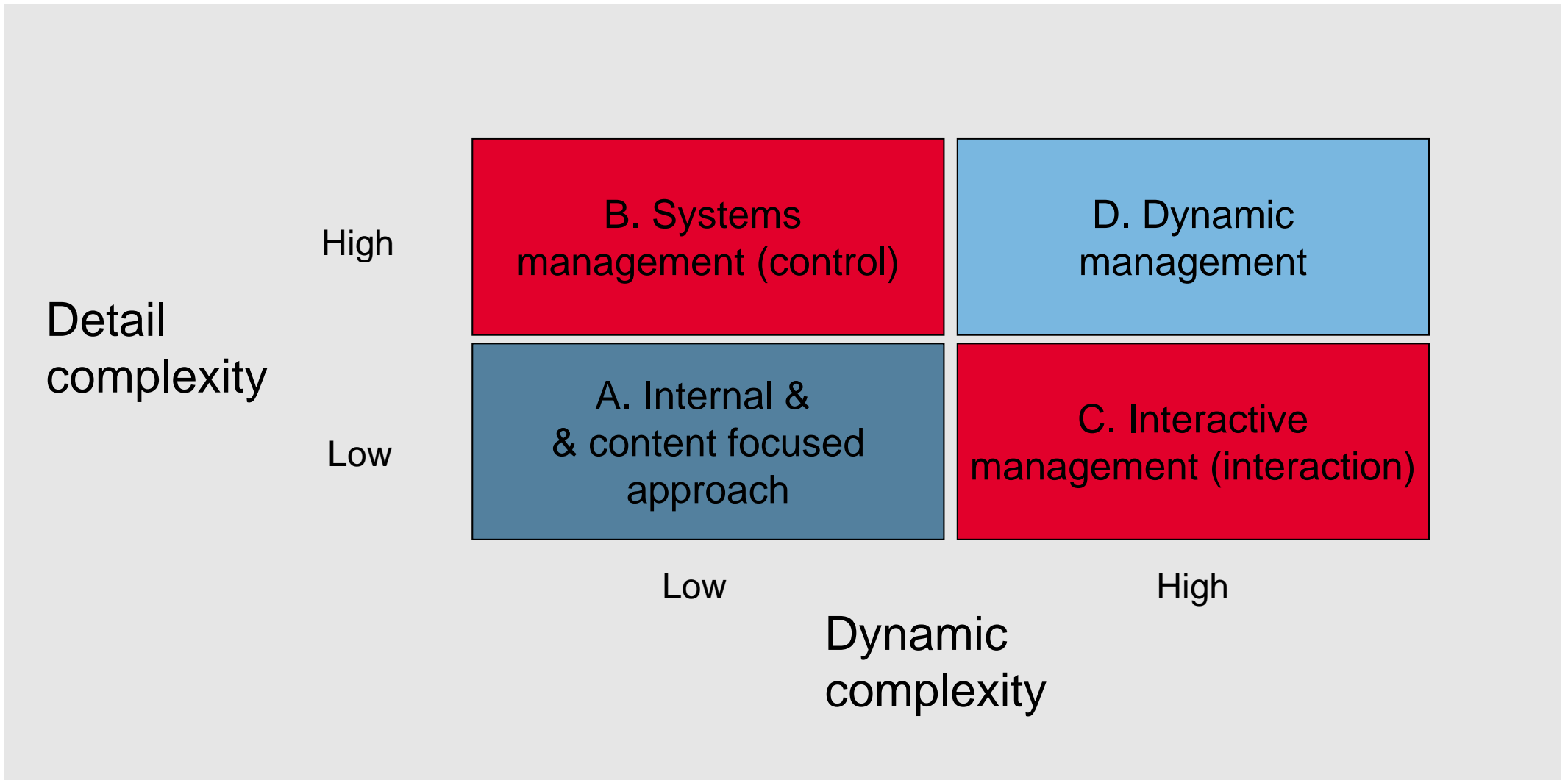
This does not match manager and client/owner expectations

**If you have the feeling you are in control,
you are not going fast enough'**

Explains why the traditional project management promise cannot be delivered

- **We need to develop an alternative perspective**

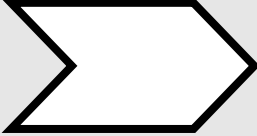
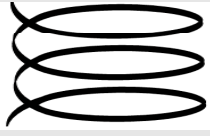
3. Management of complexity



3. Management of complexity – content focused approach

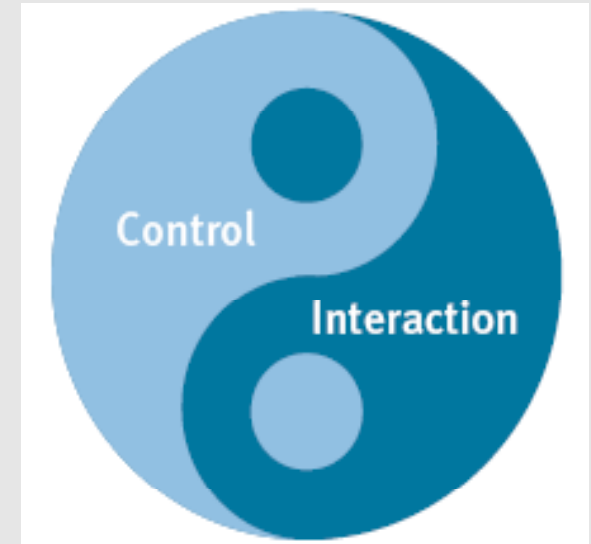
- Characterised by creating a technical solution to a problem
- Means a lack of control and a lack of interaction
- Produces very poor results in the management of complexity
- Is stimulated by:
 - Lack of management attention
 - Low priority of the subject
 - Expert project manager ‘knowing everything, managing nothing’
 - Cultural differences between stakeholders
 - Internal focus of the project team ‘groupthink’
- The negative consequences remain visible for a long time

3. Management of complexity – dynamic management

Strategy	Control	Interaction
Symbol		
Theory	<ul style="list-style-type: none"> ▪ Systems management ▪ Organisational design 	<ul style="list-style-type: none"> ▪ Public administration ▪ Complexity management
Fit for	Detail complexity	Dynamic complexity
Strategies	<ol style="list-style-type: none"> 1. Decomposition <ul style="list-style-type: none"> ▪ Time ▪ End product ▪ Organisation 2. Management processes <ul style="list-style-type: none"> ▪ Schedule ▪ Costs ▪ Scope ▪ Risks 	<ol style="list-style-type: none"> 1. Aligning 2. Redefining the problem 3. Using short term predictability <ul style="list-style-type: none"> ▪ Systematic evaluation ▪ Selection 4. Variation <ul style="list-style-type: none"> ▪ Strategies ▪ Scenario building & pattern analysis

4. Keys to succes

1. Pitfall of control: being 'out of sync' with stakeholders and context
2. Pitfall of interaction: insufficient progress
3. So a combination - dynamic management - gives the best chance of success
4. Effective combination of strategies involves adapting to the project context and objectives



'So many clues
..... and no solutions'

Quote from the 'Singing detective'

- The complexity of large infrastructure projects can be characterised as
 - Detail
 - Dynamic
- This complexity needs to be recognised fully by:
 - Project managers
 - Clients/ Owners
- To reach fitting management solutions
 - By locating project elements which are complex and complicated
 - By applying the strategies of control and interaction
 - By combining the approaches of control and interaction in dynamic management
 - To fit the unique project context and objectives

Contact information

- More information by contacting ewe@atosborne.nl
- The book can be ordered using the site www.netlipse.eu

