



# Concept Symposium 2018

## Governing Megaprojects – Why, What and How

### The front-end of Projects

#### – Structuring using a PMI literature survey

The “front-end” of a project is an under-researched area, but has been shown to be critical to the strategic success or failure of the project. This phase of the project’s lifecycle seems not to be well understood.

This presentation will describe the results of a detailed, comprehensive, systematic literature survey on the project front-end, commissioned by the Project Management Institute from University College London, the University of Hull, UK, and the Concept programme based at NTNU. Based on this, we will present an understanding of the concept of the front-end, then define a temporarily ordered structure of generic processes that form part of the “front end” and how these fit together as a coherent whole. These start from the preliminaries to the initiative, then the project purpose (for various stakeholders), the initial analysis and scenario analysis; the analysis of alternatives and choice of project concept; assessment of the project (scope; estimation of cost, benefits and schedule; risk; technology & sustainability; and the project delivery system), finishing with setting up the project execution (finance, governance, and contracts). We will note the seven Winter & Szczechpanek “images”, keeping attention on the surrounding environment, the intended project benefits, and the temporariness of the project.

The result of this is a conceptual framework and structure for the front-end. We will also discuss some particular areas where further research would be valuable.



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#### ***The Concept Symposia on Project Governance***

*The Norwegian Ministry of Finance and the Concept Research Program hosts every second year a symposium on project Governance. Project governance, in brief, is concerned about investments and their outcome and long-term effects. In view of the problem at hand, the aim is to ensure that the best conceptual solution is chosen, that resources are used efficiently and anticipated effects realized. Resource persons from ministries, governmental agencies, academia, international organizations, and industry are invited. In order to facilitate professional exchange and direct communication between participants, the number of individuals is restricted. The aim is to initiate further international cooperation and research on important issues related to project governance.*

<https://www.ntnu.edu/concept/concept-symposium>

# The Front-End of Projects: Structuring Using a PMI Literature Survey

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## Morris (2011)

- *“Data shows that most of the factors which seriously affect ...project outcome, for good or ill, will have been built-in to the front-end definitional decisions... the problem is, we don’t know generically what managing the front-end really entails”*

## Edkins et al (2013)

- *“...our understanding of the role of such ‘front-end project management’ is not well documented in the literature, despite evidence of the importance of the front-end—that many of the things that cause projects not to succeed have their origins in decisions made in the project’s front-end and that the front-end is the part of the project that has the greatest opportunity for creating value—and that, despite its importance, ‘front-end’ management issues, responsibilities, roles and actions are too often ignored by official project management guidance”*

## We found that

- While there are a few key references on the front-end of projects (Samset & Volden (2016), Williams & Samset (2010, 2012), Williams, Samset & Sunnevåg (2009), and the above), there is not a clear definition of “front-end” .....

## .....but there is general agreement on its importance in project success

critical decisions are made during this phase

the clarity with which the fundamental reasons for the project can be addressed (before the confusion between “project delivery” success and “project outcome” success)

early pre-acquisition activities can significantly reduce cost and schedule growth and improve cost and schedule performance

roots of problems in later project phases are found in processes and decisions at the front-end of projects

where the front-end is rushed or not given sufficient resource and focus, the project might simply be put into a portfolio, perhaps placing pressure for both continuing existence and resource attention.

# Literature survey

- Funded by PMI
- 3-stage process
  - ❖ Search using a primary group of 15 term combinations; for two specific combinations number reduced using a list of 118 journals.
  - ❖ Search for an exploratory group of 22 term combinations; for 14 of these terms journal list used again.
- 43,000** original papers reduced to **4,500**; preliminary study reduced to **367**.
- ❖ As part of the above, identification of key papers and using citation indices to search for good papers citing them, and particular key references used.
- Final set considered for this study comprising **524** papers.
- 50,000-word report submitted to PMI.
- Journal paper submitted for publication.

# This Presentation

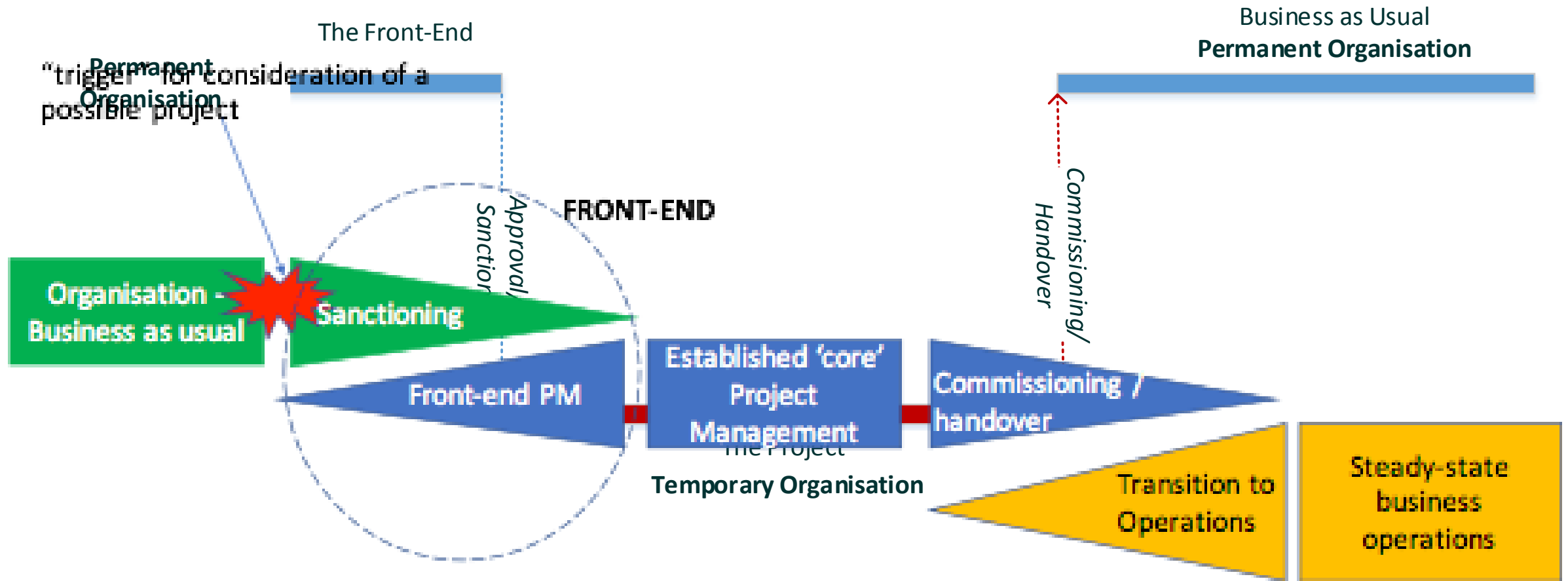
A process

Some preliminary issues

The elements of this process

Some conclusions

# Simple (simplistic) model

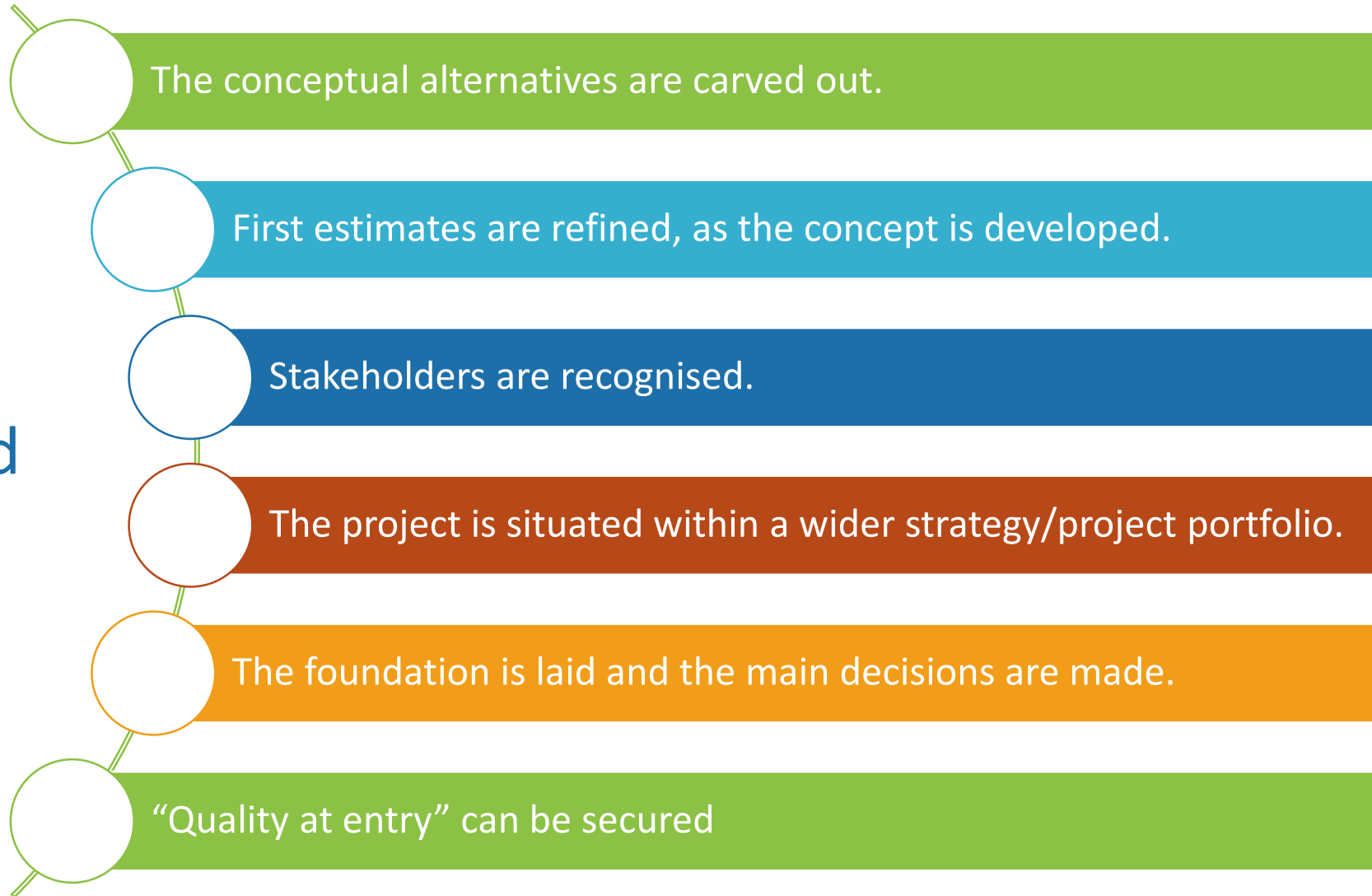


## The Front-end is where

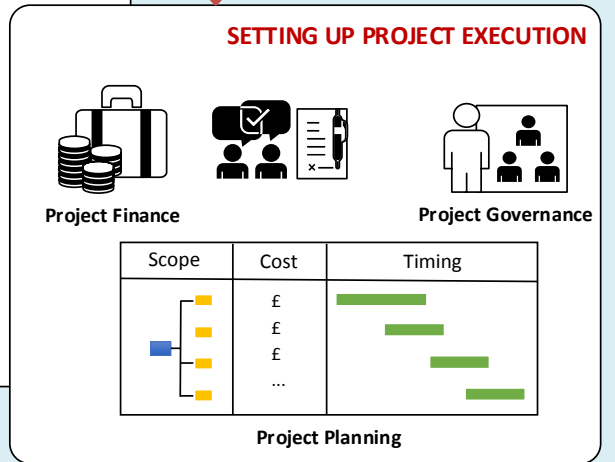
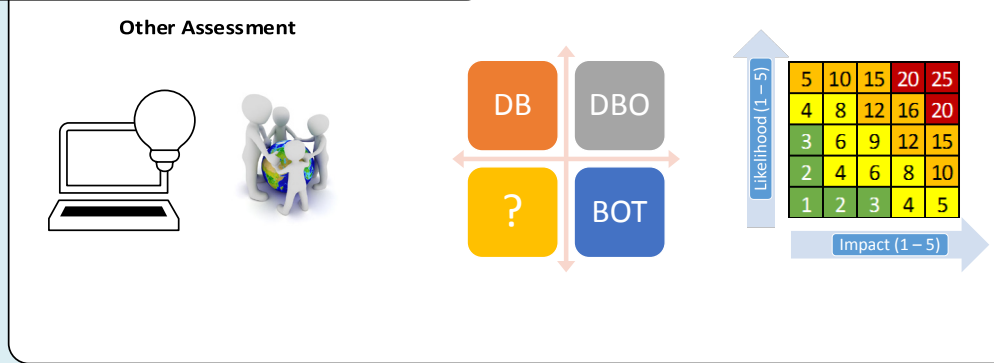
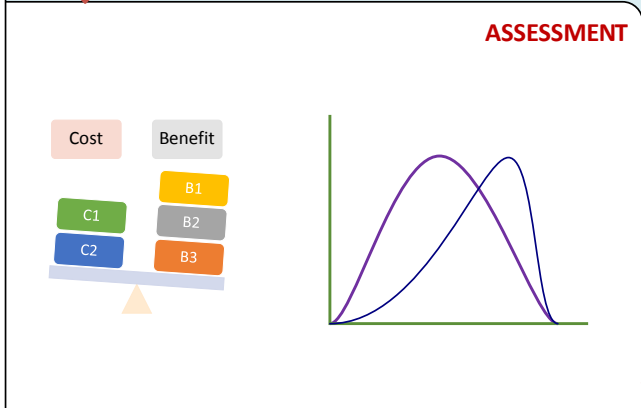
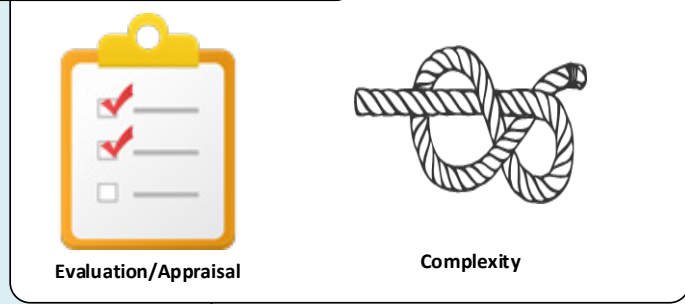
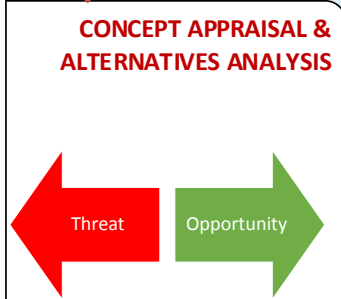
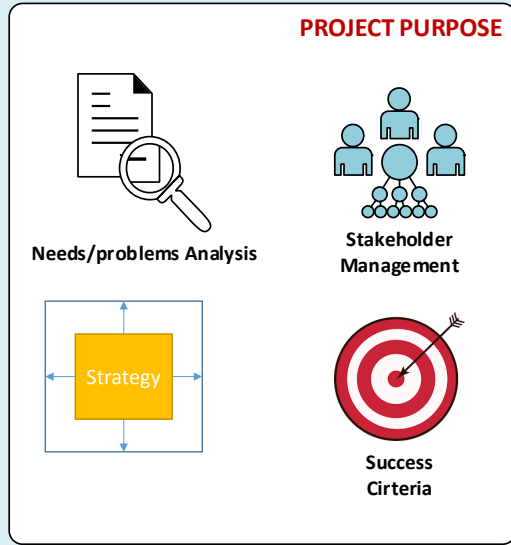
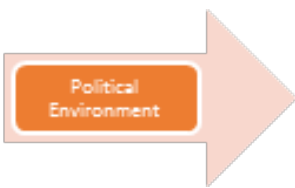
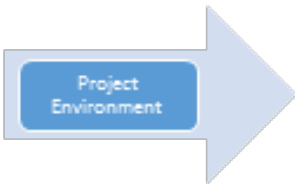




## The Front-end is where (cont)



# Project Front-End



# Some Preliminaries: Roles in the Front-end



*[but see "**Who's who in the project zoo? The ten core project roles**" of Zwikaël & Meredith (2018)]*

# Some Preliminaries: Also Covered in Paper

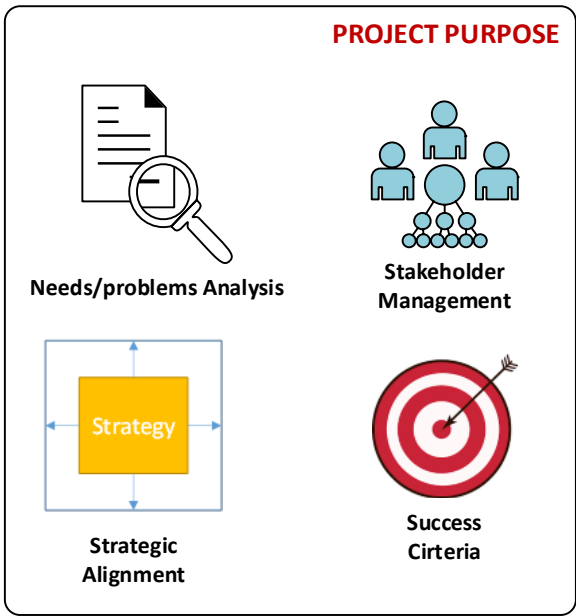
Specific  
issues of  
mega-  
projects

Issues from  
the  
environment  
from which  
the project  
arises

The  
meaning of  
“business  
case” /  
“project  
proposal”

Project  
selection

# Project Purpose



**Strategic fit**  
Connection with (and fit with) organisational strategy

**The various stakeholders**

**Perverse incentives**

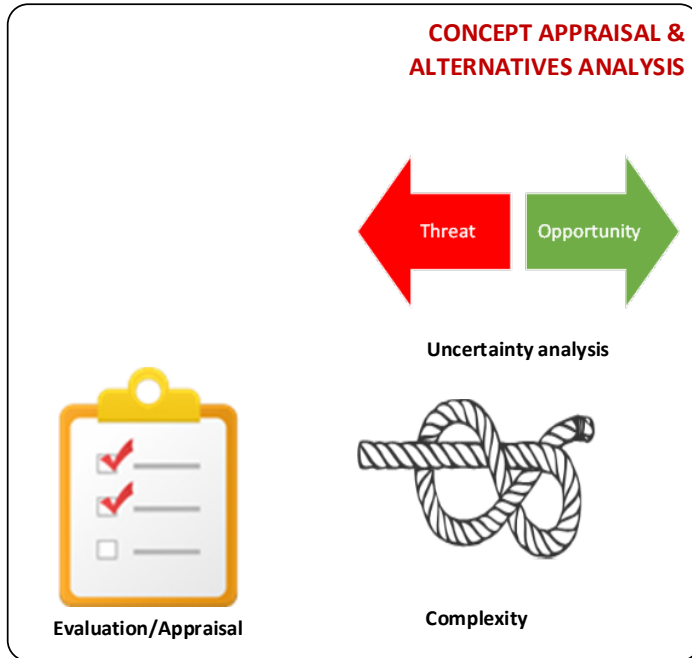
**Success criteria**

This is before definition of the project so is “outcome” or “benefit” success and longer-term (not “project management”/iron-triangle success)

**Benefits/needs analysis**

**Logframe**

# Analysis



Uncertainty and Risk

Lack of information

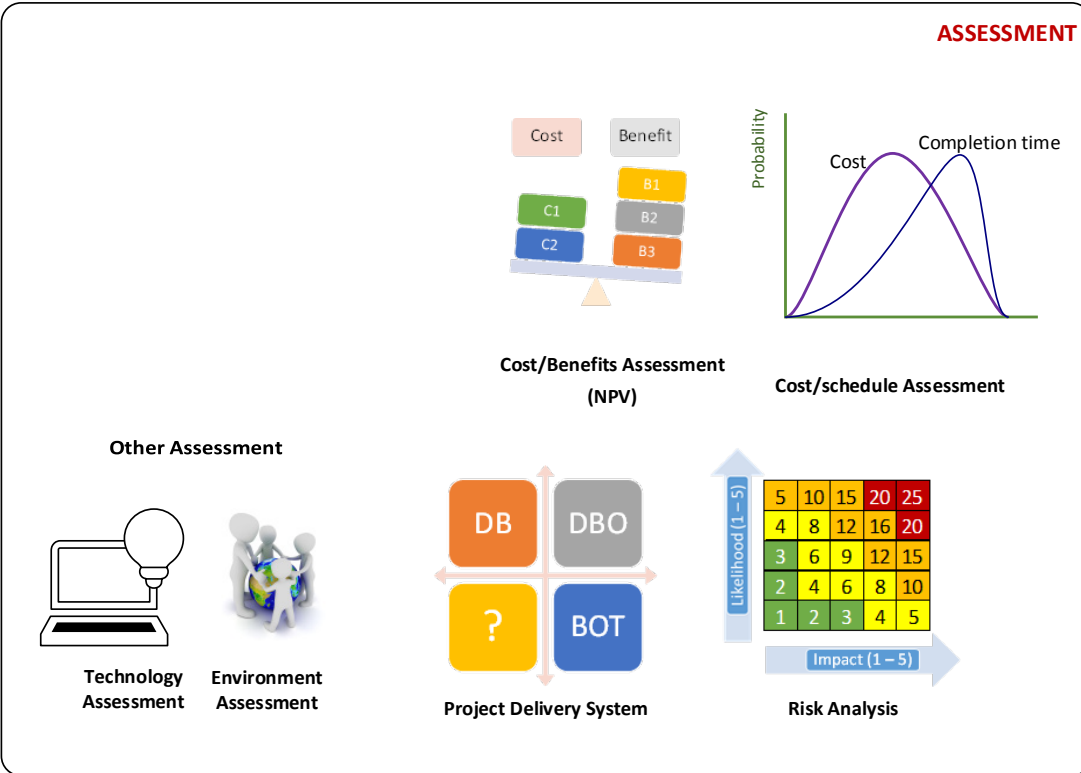
Complexity  
(particularly for mega-projects)

Project appraisal/evaluation  
leading to .....

## Choice of concept.

This “should” form the basis of the project (although search for alternative concepts often very restricted).

# Assessment



Scope

Estimating

- Cost
- Benefits
- Schedule
- Through-life costs
- Optimism bias, strategic under-estimation, RCF
- Risk analysis

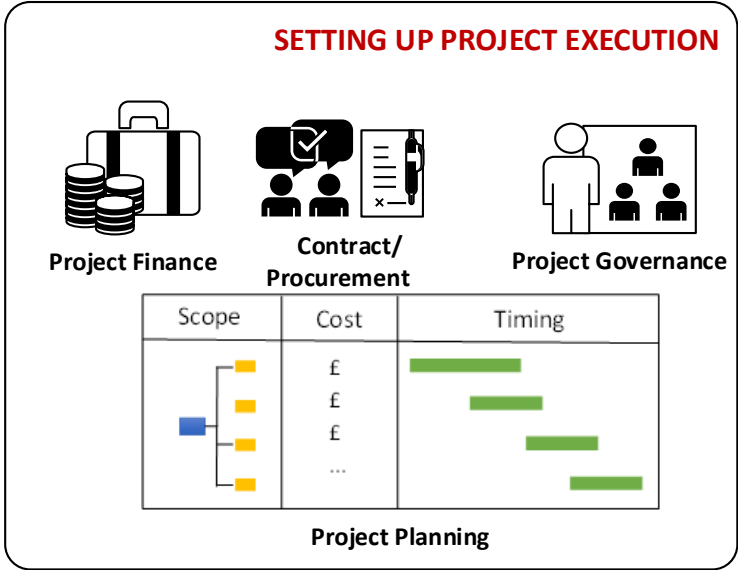
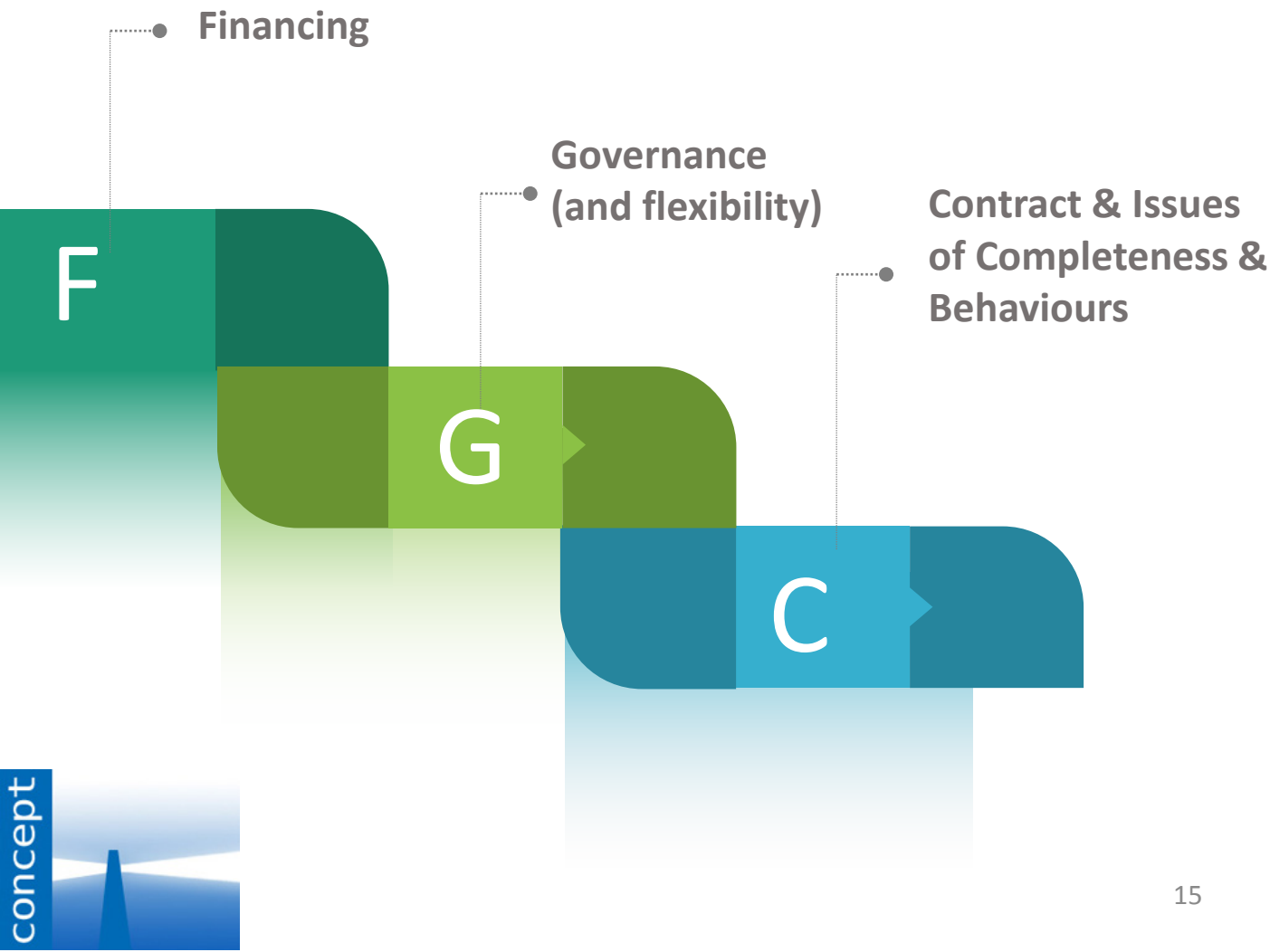
Lessons learned

Technology assessment

Environmental assessment / sustainability

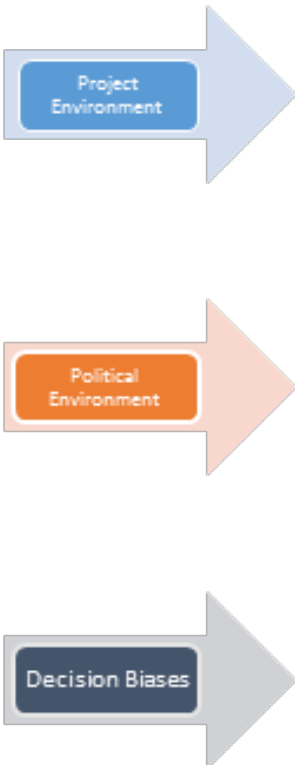
Project Delivery System

# Setting up project execution





# Project Front-End



**PROJECT PURPOSE**

Needs/problems Analysis

Stakeholder Management

Success Cirteria

Strategy

**CONCEPT APPRAISAL & ALTERNATIVES ANALYSIS**

Threat

Opportunity

Evaluation/Appraisal

Complexity

**ASSESSMENT**

Cost

C1

C2

Benefit

B1

B2

B3

**Other Assessment**

DB

DBO

?

BOT

Likelihood (1 – 5)

5	10	15	20	25
4	8	12	16	20
3	6	9	12	15
2	4	6	8	10
1	2	3	4	5

Impact (1 – 5)

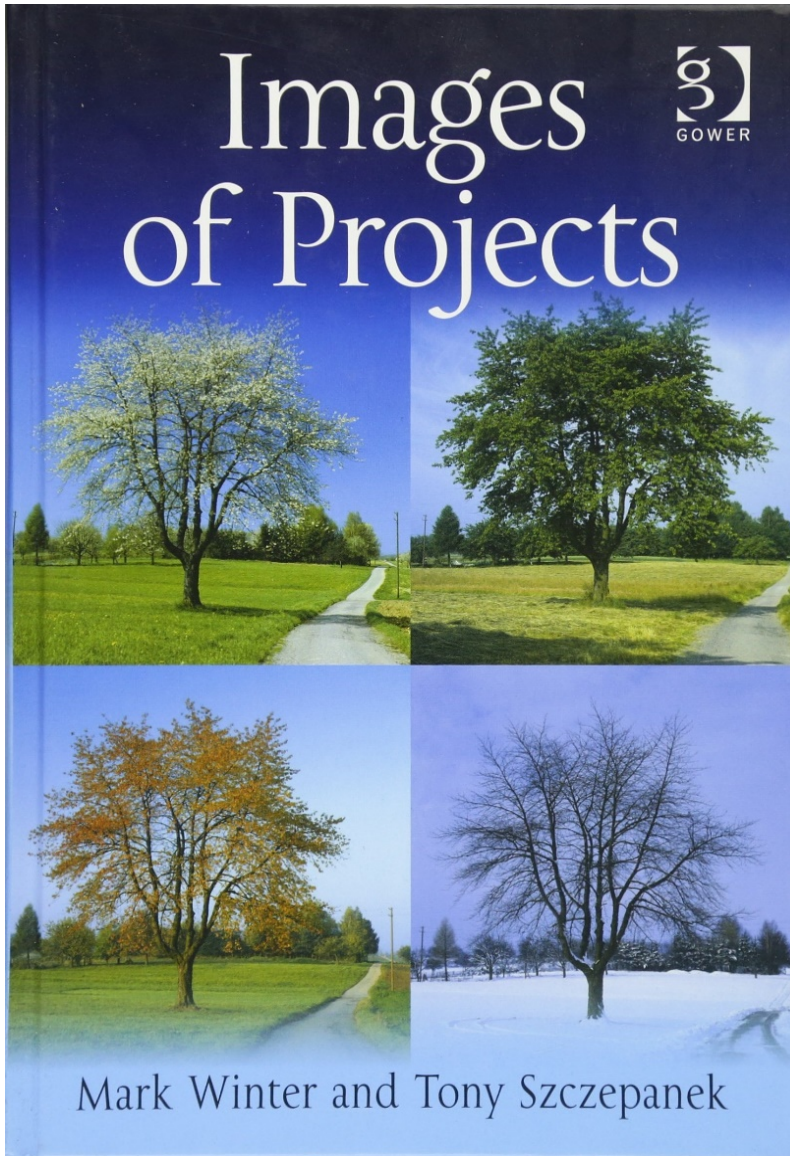
**SETTING UP PROJECT EXECUTION**

Project Finance

Project Governance

Scope	Cost	Timing
	£	
	£	
	£	
	...	

Project Planning



S

## The surrounding environment

“Projects as social / political processes”

B

## The intended benefits

“Projects as intervention / value-creation / change / development processes”

T

## Temporariness

“Projects as temporary organisations”

# More research is needed into (e.g.):

## The surrounding environment

- *How a project derives from the political environment*
- *Understanding of multiple stakeholders*
- *How analysis supports the entire process*
- *The relationship with the executive level*
- *The effect of complexity*

## The intended benefits

- *How to define success*
- *Systematic analysis of the opportunity space*
- *How to maintain attention on benefits rather than outputs*

## Temporariness

- *What is the front-end conceptually; where it stops and starts; the relationship between the temporary and permanent*



## More practically

- Need to have a conceptually sound front-end process
- 
- We should think about
    - Formalising and standardising procedures for analysis & decisions
    - Procedure to explore uncertainty space
    - Understanding decisions on scant information
    - Understanding biases
    - Concentrating on strategic benefits
    - Defining clear roles for the governance of the project.

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*We hope that definition of the front-end and the framework of processual elements will facilitate research to put the “Front-End” on a better conceptual and practical basis*

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# Questions?