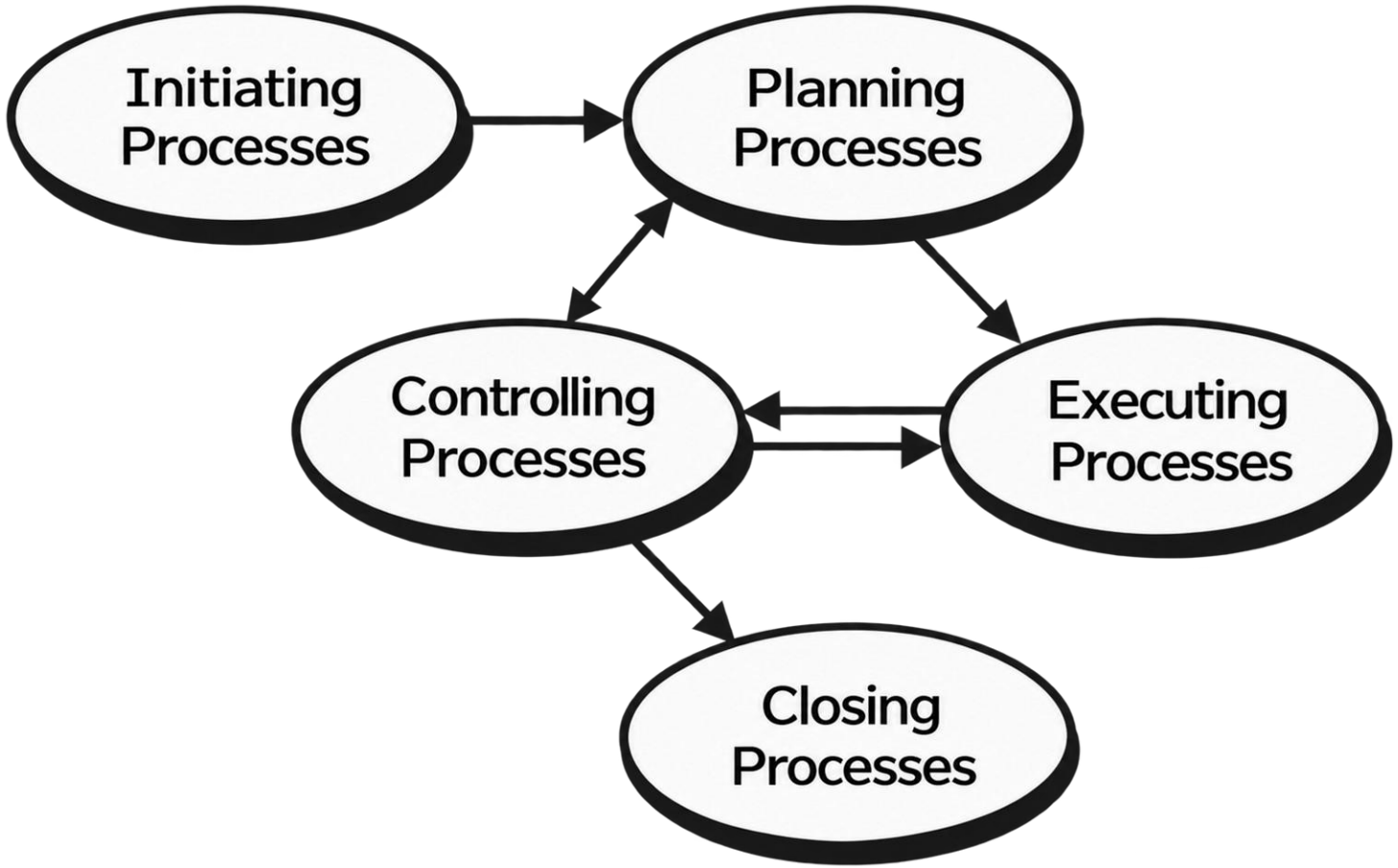


Initiating Processes

Project Management Process Groups



1. Initiating Processes

- Requirements analysis
- Feasibility study
- Cost-benefit analysis
- Functional specifications
- Setting objectives
- Developing scenarios
- Comparing alternatives

Project Requirements

- Requirements - conditions or capabilities that the product, service or result delivered by the project must meet or provide
  - Project requirements - business requirements, project management requirements, delivery requirements, etc.
  - Product requirements – technical requirements, security requirements, execution requirements, etc.

- Requirements description document: Scope Statement (Description of the project scope)

Product/Service Requirements

Functional requirements

(the WHATs)

- Created by the customer
- Describe performance
- Include product/service capabilities
- Written in business language

Technical requirements

(the HOWs)

- Created by the project team
- Contain design specifications
- Also called Technical Specifications
- Written in technical language

Feasibility

- Assessing a project's feasibility = a project in itself
- A project manager must be able to answer these questions:
  - How complete are the functional specifications?
  - How sound is the assessment of technical and technological factors?
  - Have social, political and environmental factors been adequately considered?

Feasibility Study

- Generating acceptable scenarios/potential solutions
- Objectives + Scenarios → functional specifications
- Scenario feasibility: analysis of the STEEP factors involved:
  - technological
  - economic

  } hard

  - social
  - environmental
  - political

  } soft

Scenarios

- Objective ↔ multiple strategies for achieving it
- Scenario = a brief description of *a* system, process *or set of* procedures that could achieve the identified objectives.
- *Brainstorming* plays an important role in developing scenarios

Technical Feasibility

- assessing the technology used in a scenario:
  - mature, relatively mature, at an early stage
  - safe
  - applicable
  - multiple technical aspects

- cost is not the only determining factor in a project

Financial Feasibility

- Questions:
  1. Is it worth investing resources in a particular project? How valuable is it?
  2. If there are several opportunities for investing resources, which is the most advantageous?

- Technique: ***cost-benefit analysis***
  - identifying, specifying and assessing costs, including
    - acquisition costs,
    - construction,
    - maintenance,
    - repairs and
    - operation (energy consumption, rent)

    associated with a proposal over its expected lifetime;
  - identifying, specifying and assessing the benefits of the proposal over its expected lifetime.

Attribute Analysis

- *Attributes* = features of *equipment, a* system *or other major project components* considered important in the context of project requirements.
- *Attribute analysis* = a method for collecting and processing information about different products that can serve the same purpose
  - The analysis examines the attributes associated with each requirement

Attribute Analysis (cont.)

→ identifying attributes that meet vital or very important requirements

- Weights *indicate* the relative importance of an attribute
- Each attribute may be *a* category containing several components
- Components may also have associated weights (or scores)

Example: Choosing a Car

Attributes	Weight
driver comfort	0,25
passenger/luggage capacity	0,25
safety	0,25
handling	0,10
reliability	0,10
passenger comfort	0,05
total	**1,00**

For a product:

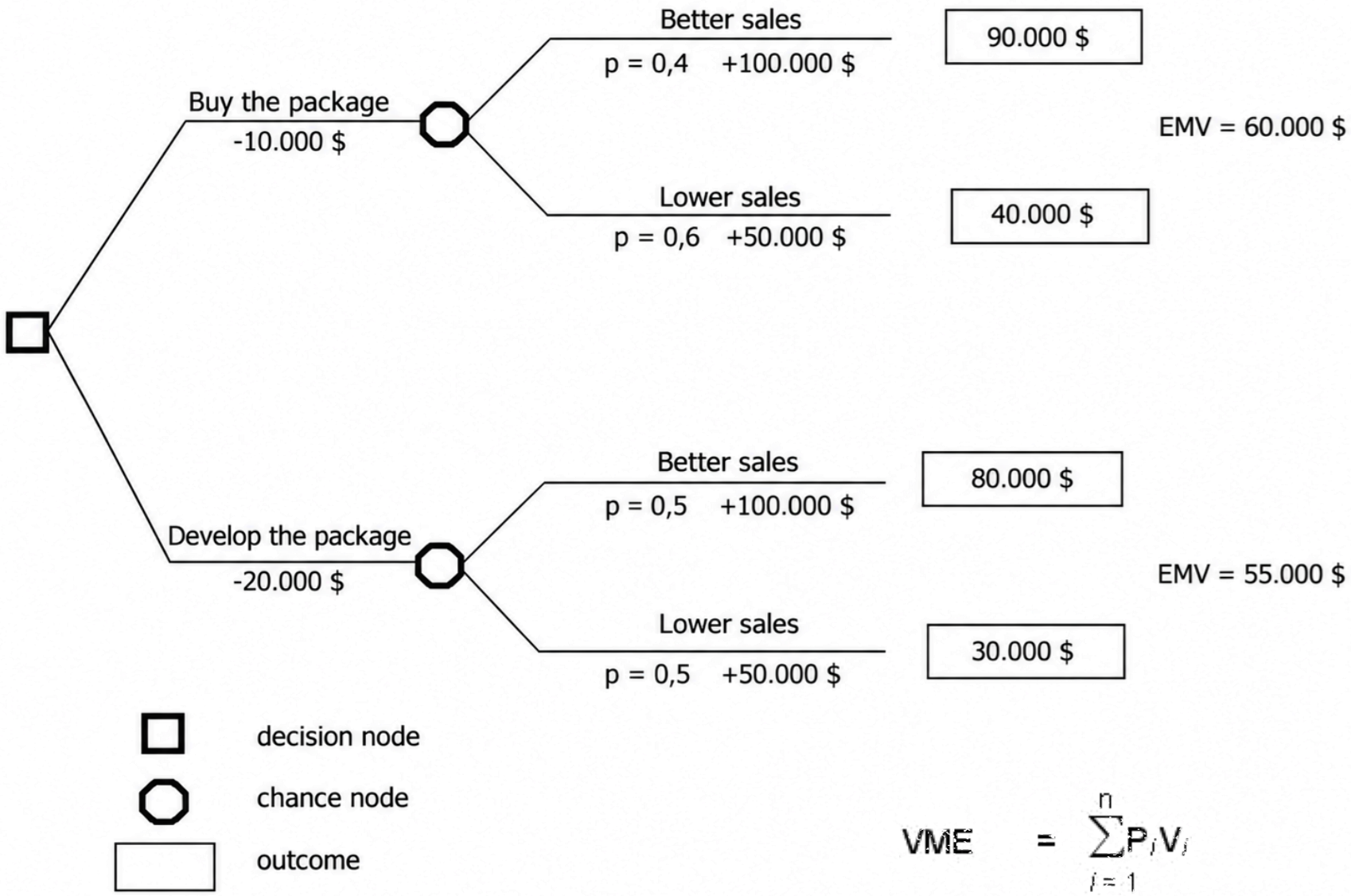
- Assign scores to components
- Sum of scores = Weight
- Sum of weighted scores = Figure of Merit (FOM)

Components of an attribute	Wt.	Score
passenger/luggage capacity	0,25	
- front-seat headroom		0,13
- front-seat legroom		0,17
- rear-seat headroom		0,10
- rear-seat legroom		0,10
- total seating capacity		0,16
- rear luggage compartment capacity		0,14
- roof luggage capacity		0,08
- ability to rearrange seats		0,06
- glove compartment capacity		0,03
- storage capacity for other small items		0,03
total		**1,00**

Attribute Analysis (cont.)

- Does the highest FOM indicate the best choice?
- Disadvantages:
  - each attribute may have many components;
  - attributes must be weighted according to their relative importance;
  - qualitative ranking systems are much harder to analyse,
  - full agreement on attribute weighting and ranking is rarely possible.
- Advantages:
  - helps an organisation identify, assess and rank important attributes more objectively

Decision Trees



$$VME = \sum_{i=1}^{n} P_i V_i$$

Measurement Paradox

	Test Drive 1	Test Drive 2	Test Drive 3	Average
Car A	1 km/l	1 km/l	4 km/l	2 km/l
Car B	1.5 km/l	1.5 km/l	1.5 km/l	1.5 km/l

	Test Drive 1	Test Drive 2	Test Drive 3	Average
Car A	1 l/km	1 l/km	0.25 l/km	0.75 l/km
Car B	0.67 l/km	0.67 l/km	0.67 l/km	0.67 l/km

Project Initiation Document

1. PROJECT TITLE
2. START DATE - END DATE
3. PROJECT MANAGER

   PROJECT OWNER
4. PROJECT OBJECTIVES
5. PROJECT NON-OBJECTIVES
6. BUSINESS OBJECTIVES
7. PROJECT PHASES
8. BUDGET
9. ASSUMPTIONS & CONSTRAINTS
10. PM, PO SIGNATURES

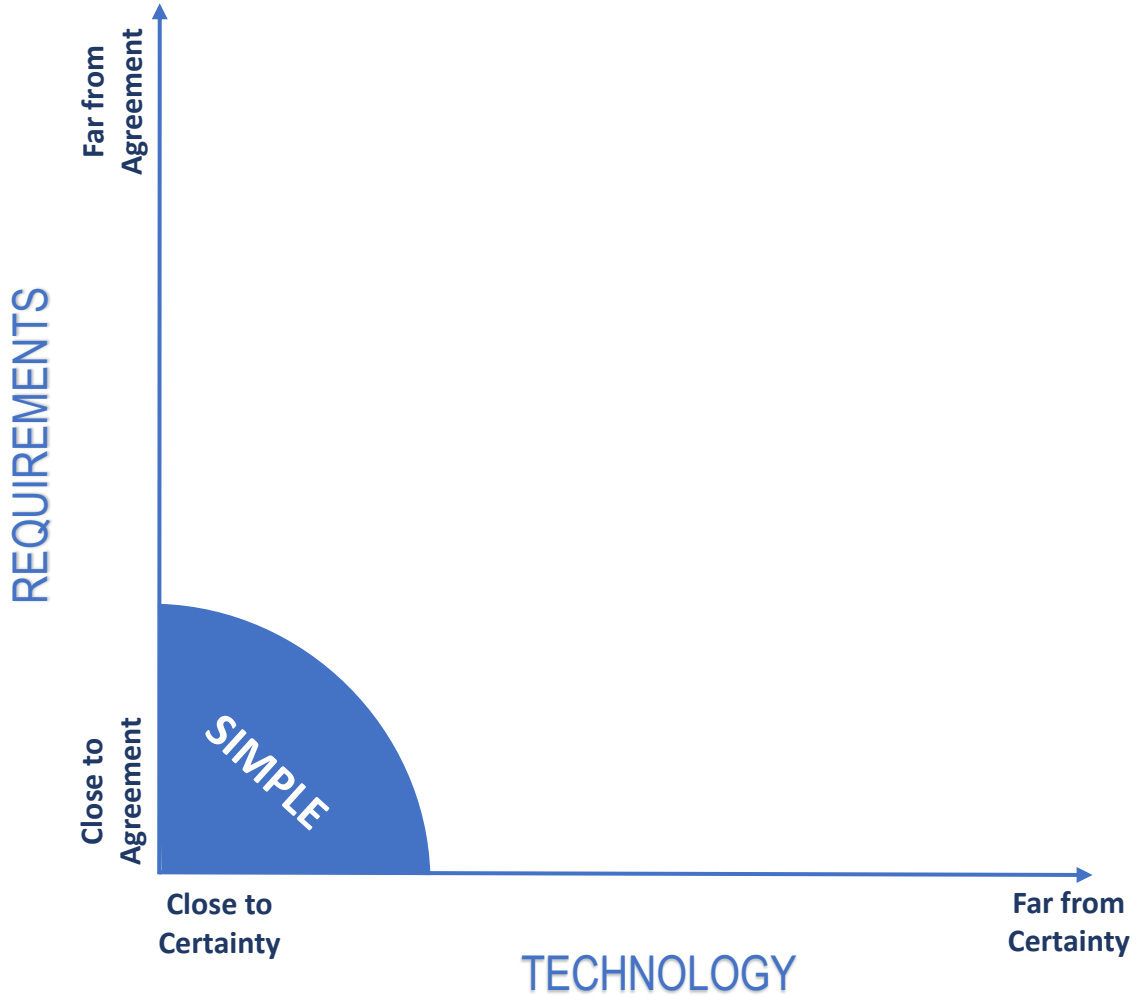
date	***author***	***version***

Stacey Matrix

SIMPLE

⇩

best practice
process
recipe



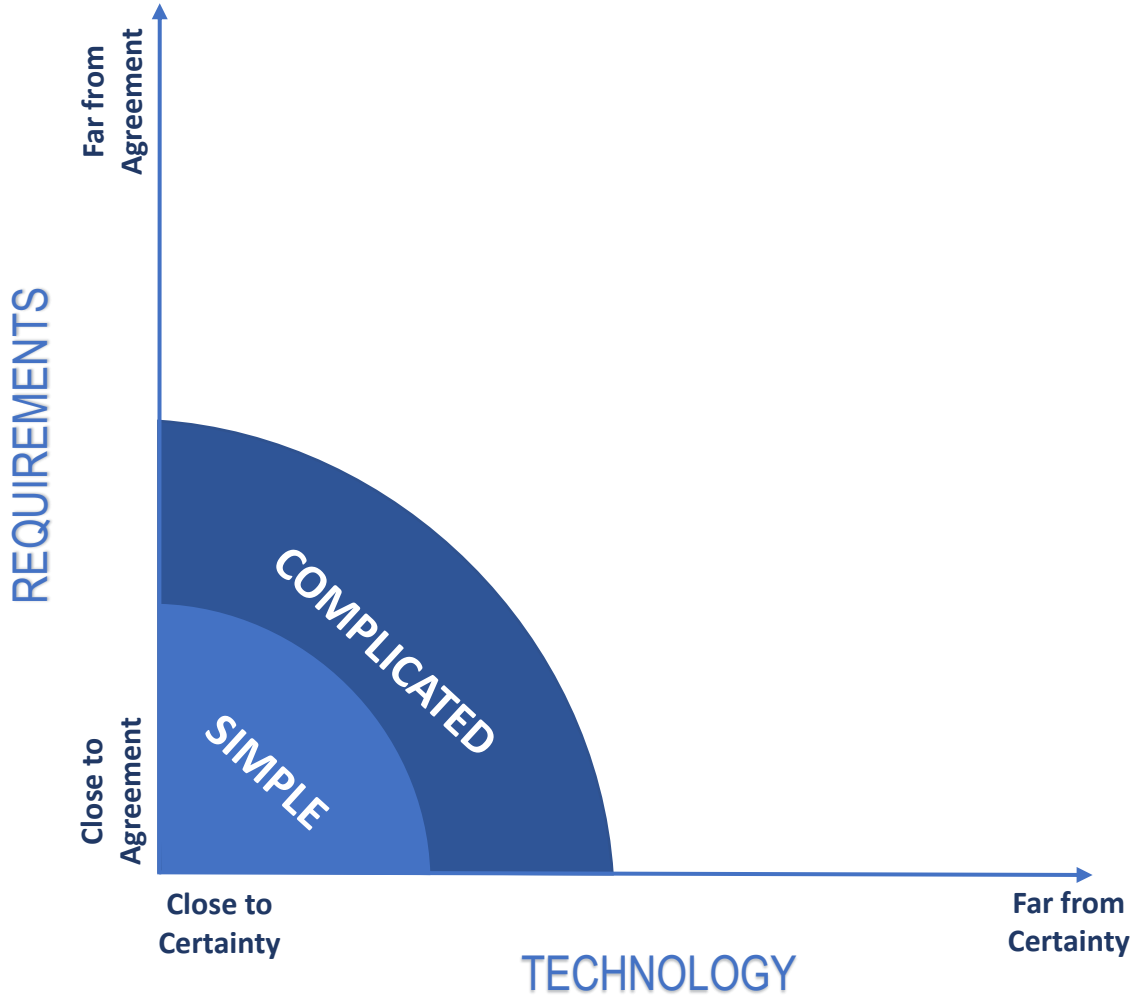
Adapted from: Stacey RD. *Strategic management and organisational dynamics: the challenge of complexity*

Stacey Matrix

COMPLICATED

⇩

analysis
good practices
expertise



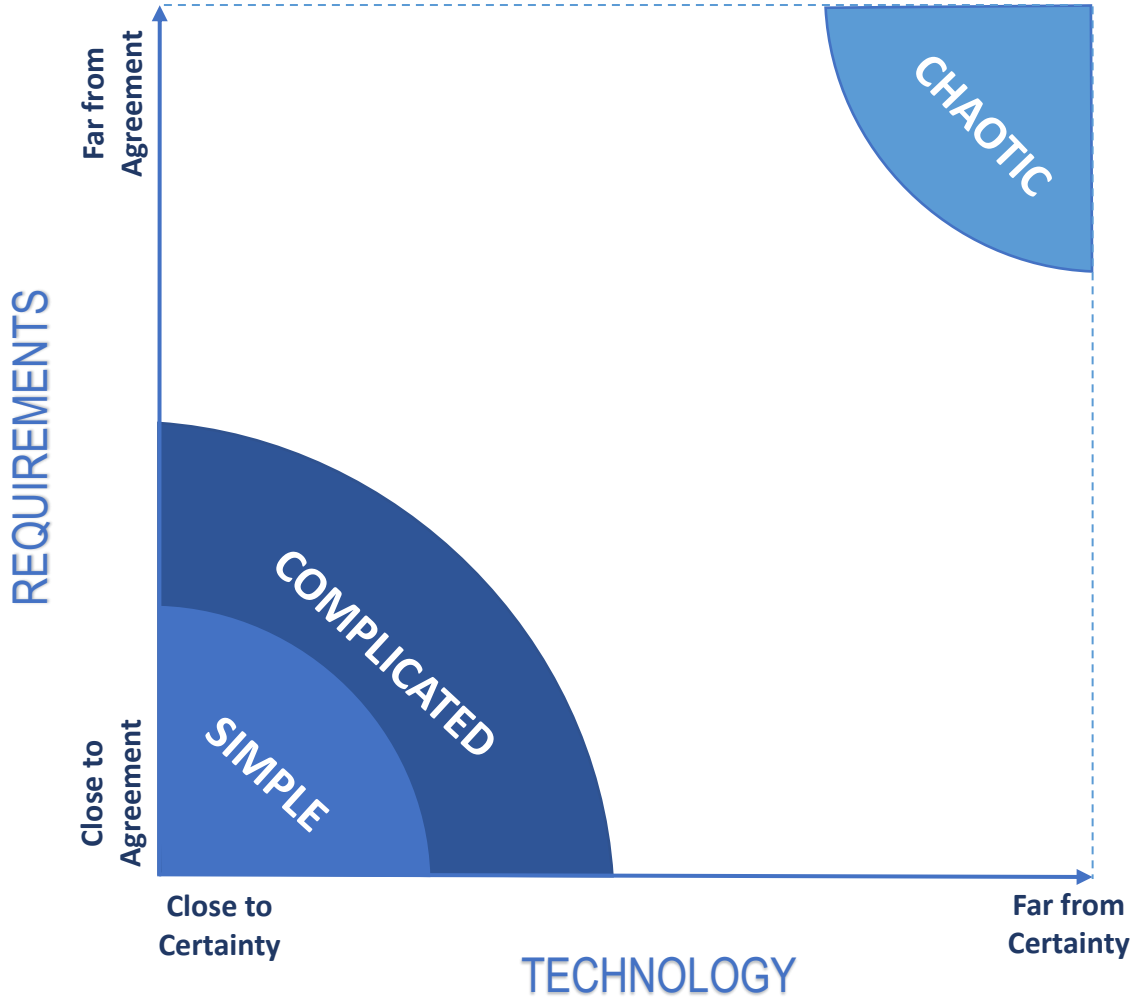
Adapted from: Stacey RD. *Strategic management and organisational dynamics: the challenge of complexity*

Stacey Matrix

CHAOTIC

⇩

stabilize the problem
counter the effects
novel practices



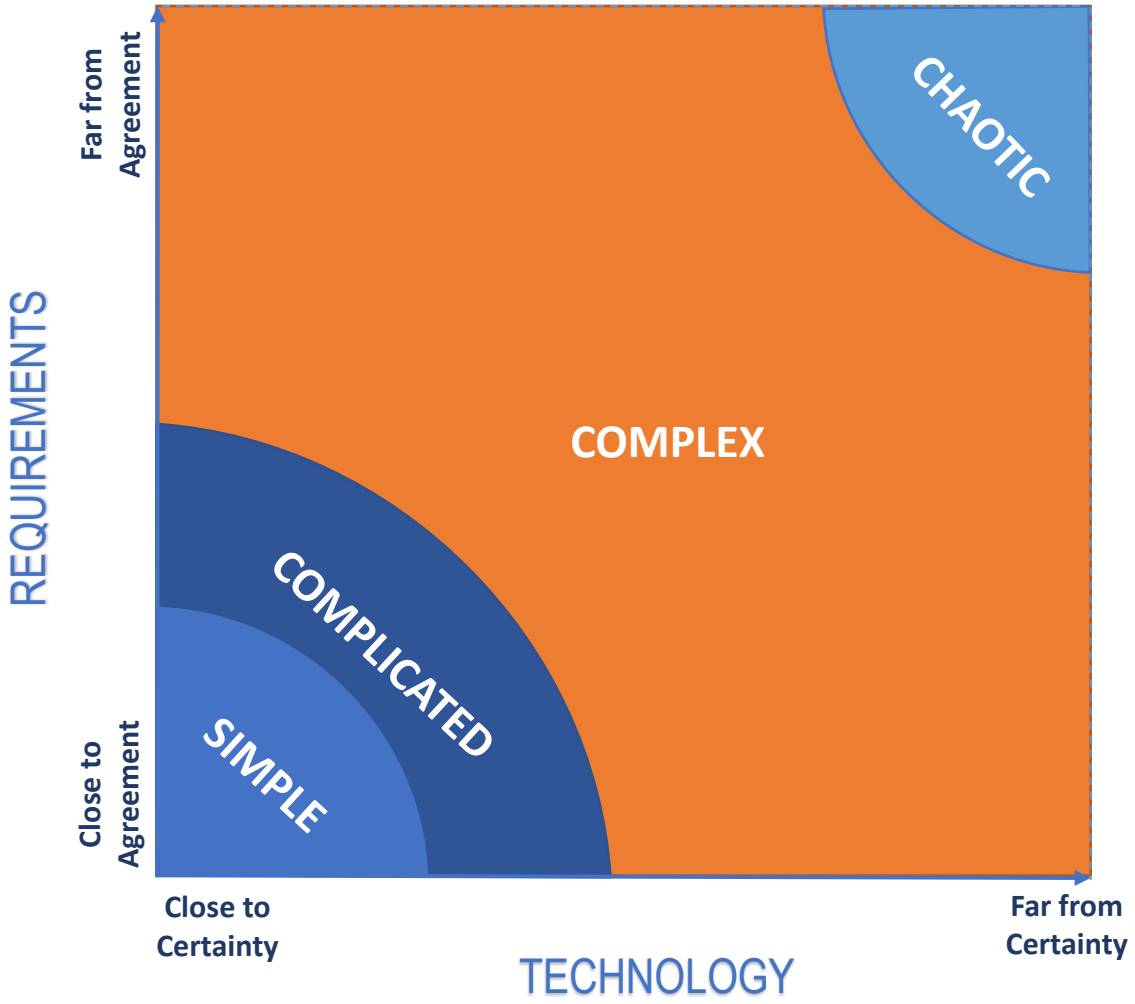
Adapted from: Stacey RD. *Strategic management and organisational dynamics: the challenge of complexity*

Stacey Matrix

COMPLEX

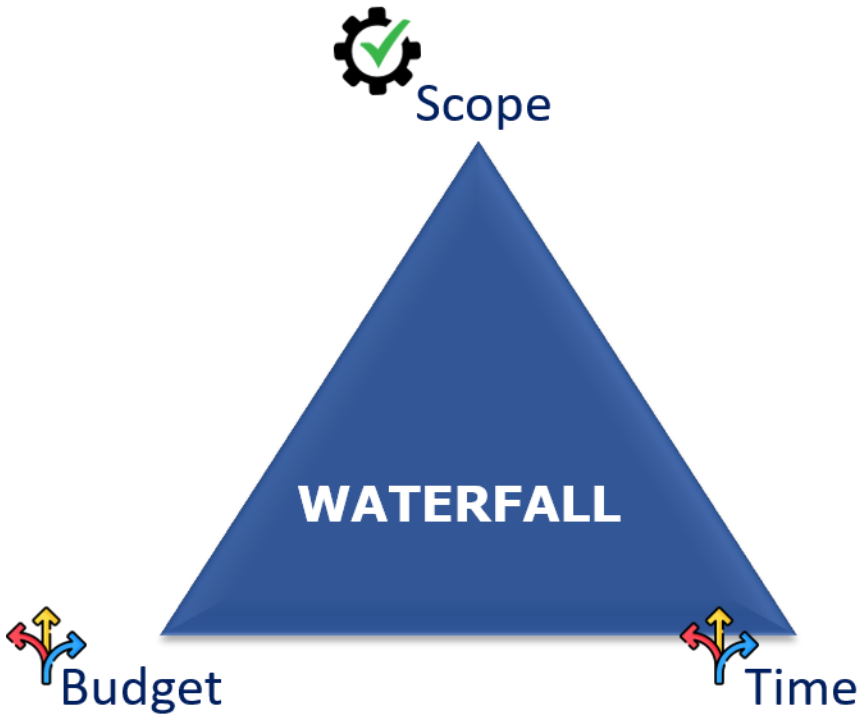
⇩

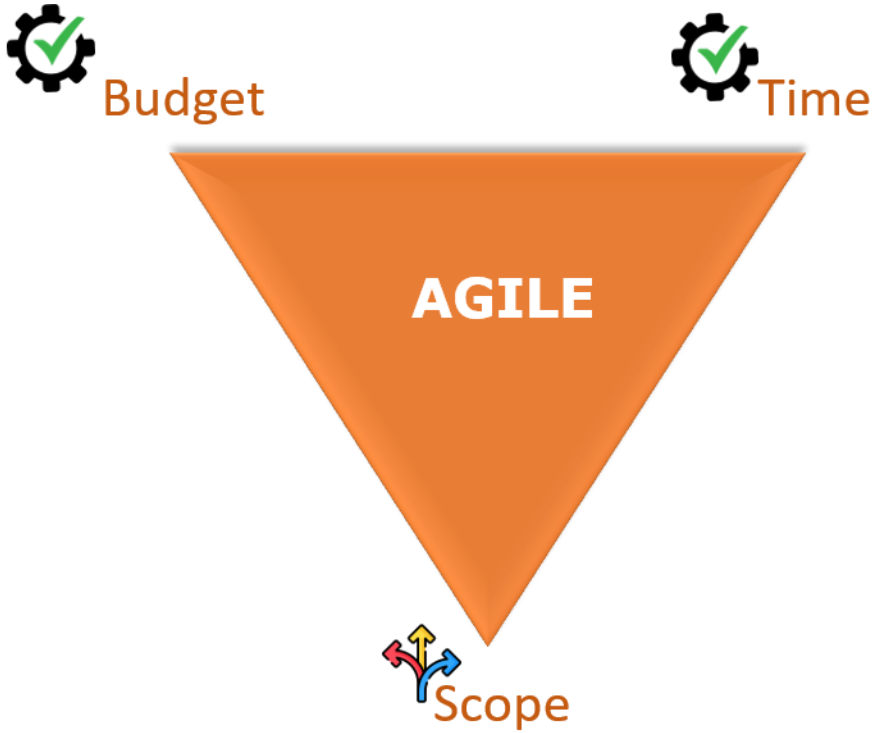
experiment & feedback
emergent practices
“*fail fast, fail often*”



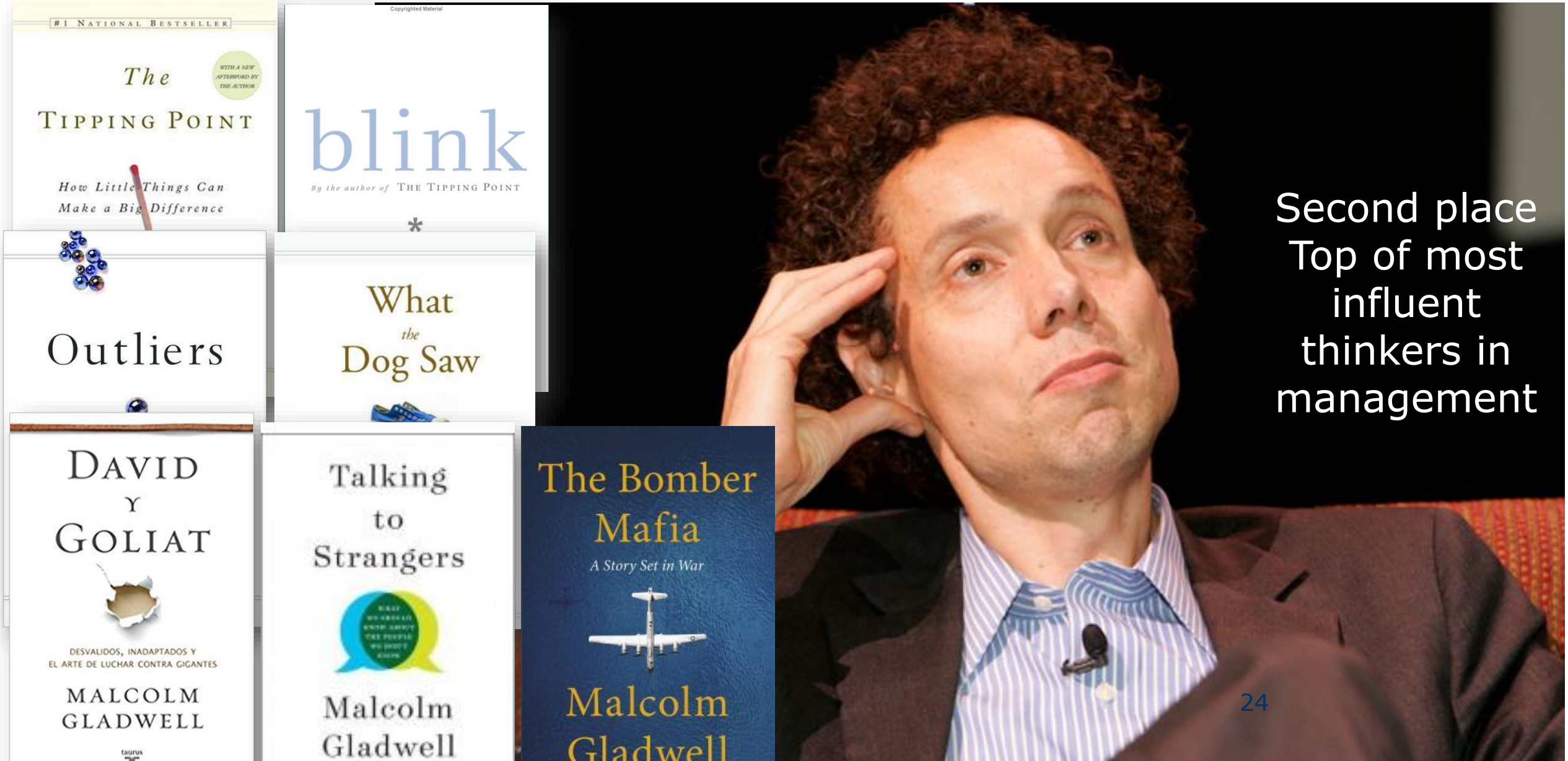
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The Triple Constraint in Project Management





MALCOLM GLADWELL



"***Gladwellism***: the hard sell of a big theme supported by dubious, incoherent but dramatically presented evidence"

Bryan Appleyard



Choice, Happiness and Spaghetti Sauce

https://www.ted.com/talks/malcolm_gladwell_choice_happiness_and_spaghetti_sauce?language=ro