



PROJECT MANAGEMENT  
CENTER FOR EXCELLENCE

A.J. CLARK SCHOOL OF ENGINEERING  
Civil & Environmental Engineering Department



# COMBINING BEHAVIORAL SCIENCE WITH PROJECT MANAGEMENT: THE ROAD TO IMPROVEMENT

*Dr. Shari De Baets*

*2021 Project Management Symposium*



# COMBINING BEHAVIORAL SCIENCE WITH PROJECT MANAGEMENT: THE ROAD TO IMPROVEMENT



## THE FIRST STEP ON

*Dr. Shari De Baets*

*2021 Project Management Symposium*

**PM**

**Project  
Management**





**PM**



**People  
Management**



**Staffing**

**Training**

**HR**

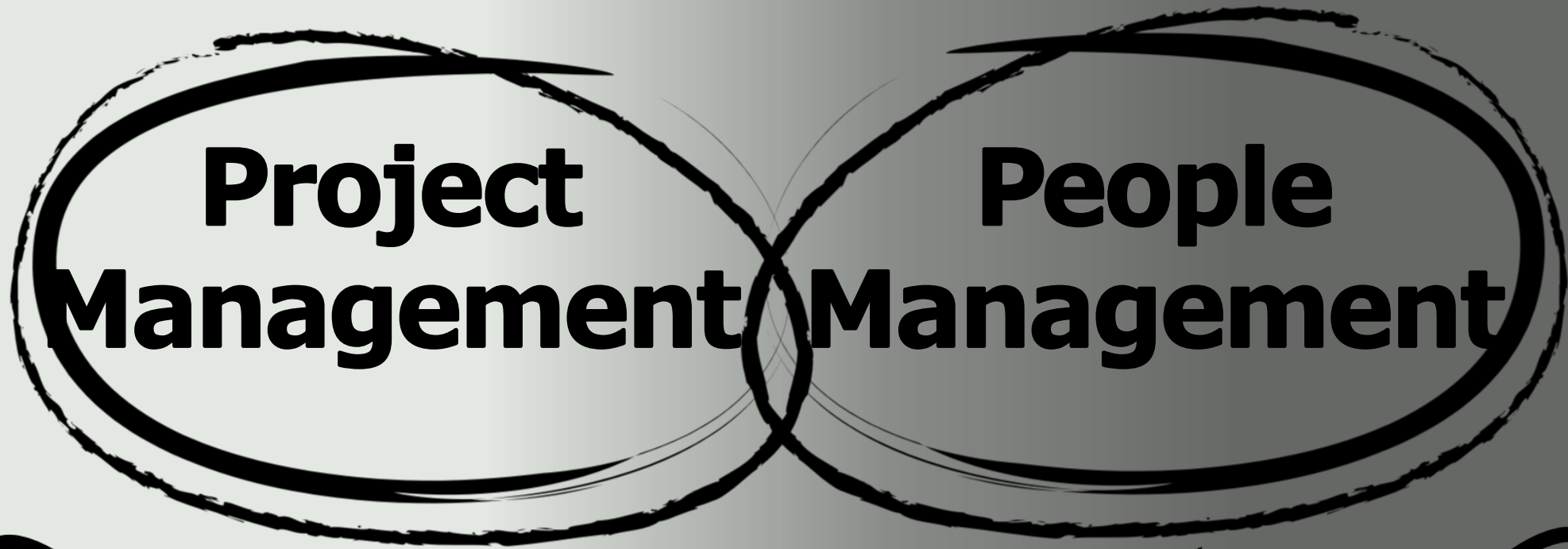
**Leadership**

**Skills**

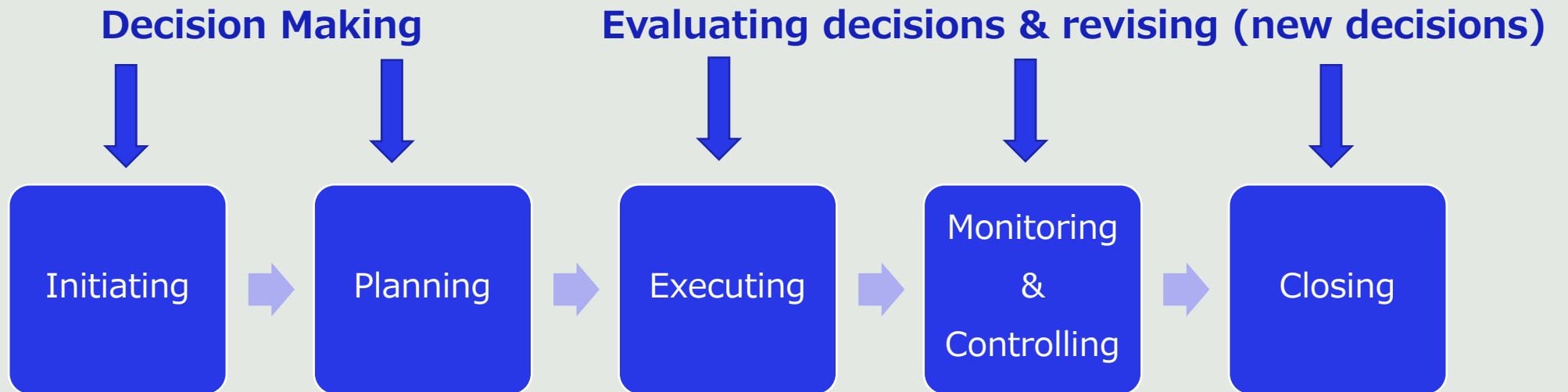
**People  
Management**



# Behavior Decision making



# Why Decision Making?





# Re-design

## Processes

Design processes to account for how the brain operates

## Metrics

Formulate metrics that measure human factors with project factors

## Interfaces

Design human interfaces around the way humans think

## Skills

Train employees in debiasing methods when using processes, interfaces, and metrics





# Behavioral Science

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## Decision making

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### Risk

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### Uncertainty

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### As Individuals

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### In Group



# Behavioral Project Management

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**Decision making**

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Risk

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Uncertainty

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As Individuals

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In Group



# Decision Making

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## **PEOPLE ARE RATIONAL ACTORS**

- Classic Economics (EUT)
- Forecasting methods
- Project Management Literature

## **NO, THEY'RE NOT**

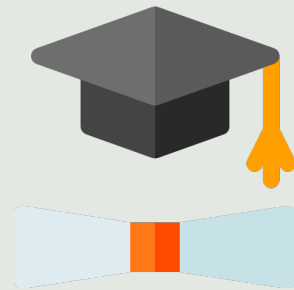
- Behavioral Economics
- Behavioral Forecasting
- Behavioral Project Management



# Decision Making

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(This is me)

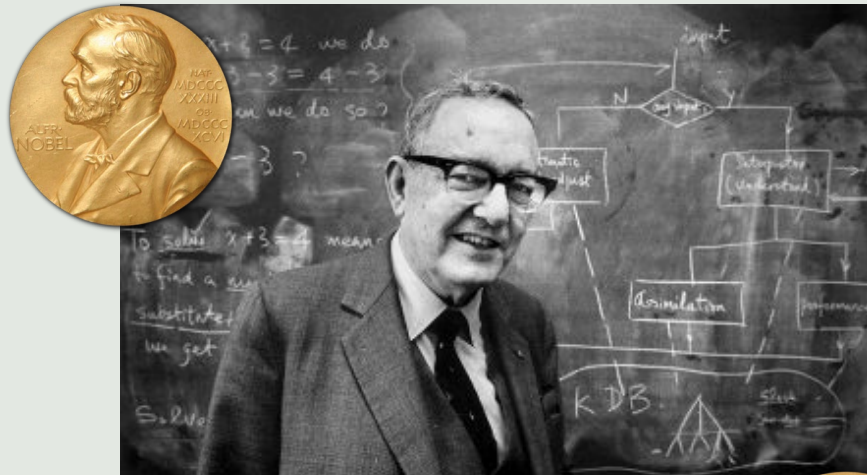


**NO, THEY'RE NOT**

- Behavioral Economics
- Behavioral Forecasting
- Behavioral Project Management



# Decision Making



**NO, THEY'RE NOT**

- Behavioral Economics
- Behavioral Forecasting
- Behavioral Project Management



# Decision Making

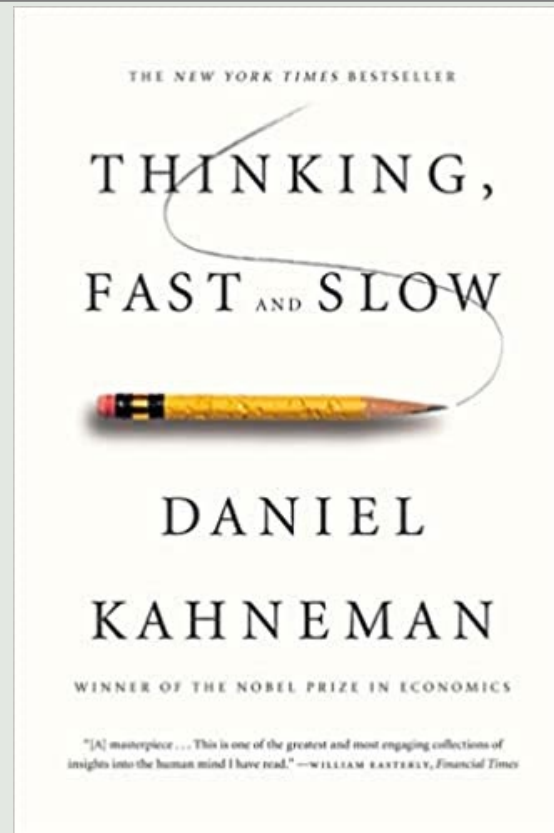
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## SYSTEM 1

Fast

Reflexive

Intuitive



## SYSTEM 2

Slow

Conscious

Deliberate

# Decision Making



HEURISTICS



MENTAL SHORTCUTS



FAST REACTIONS





# Decision Making



HEURISTICS



MENTAL SHORTCUTS



COGNITIVE BIASES

≠ Stereotypes /  
prejudice !



# Decision Making – the individual

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10



65



# Decision Making – the individual

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Is the percentage of African countries in the United Nations above or below 10%?



What is the percentage of African countries in the United Nations?



# Decision Making – the individual

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Is the percentage of African countries in the United Nations above or below 65%?



What is the percentage of African countries in the United Nations?

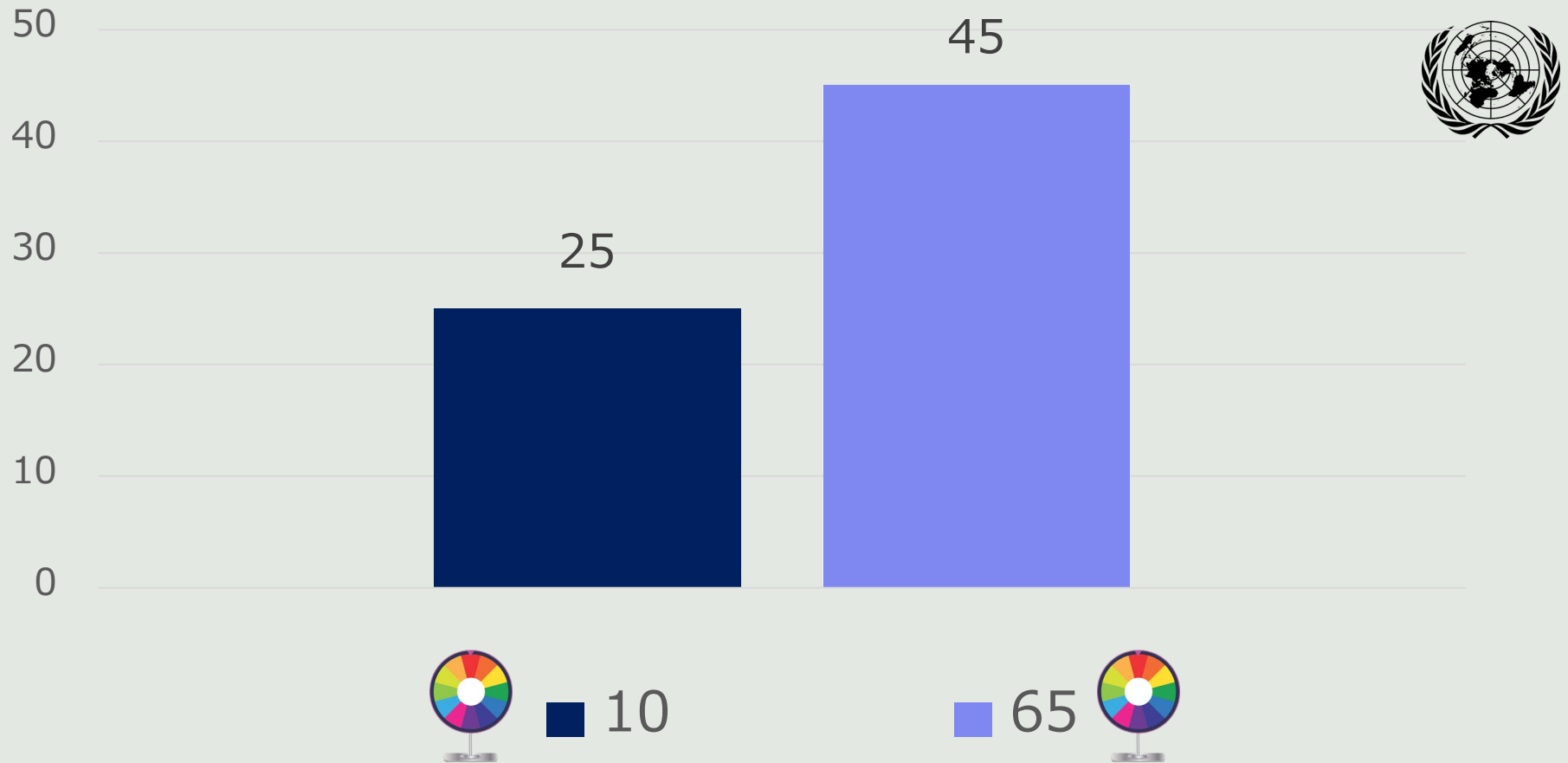


# Decision Making – the individual

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# Decision Making – the individual



# Decision Making – the individual

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–> estimation



Anchoring bias: Initial value

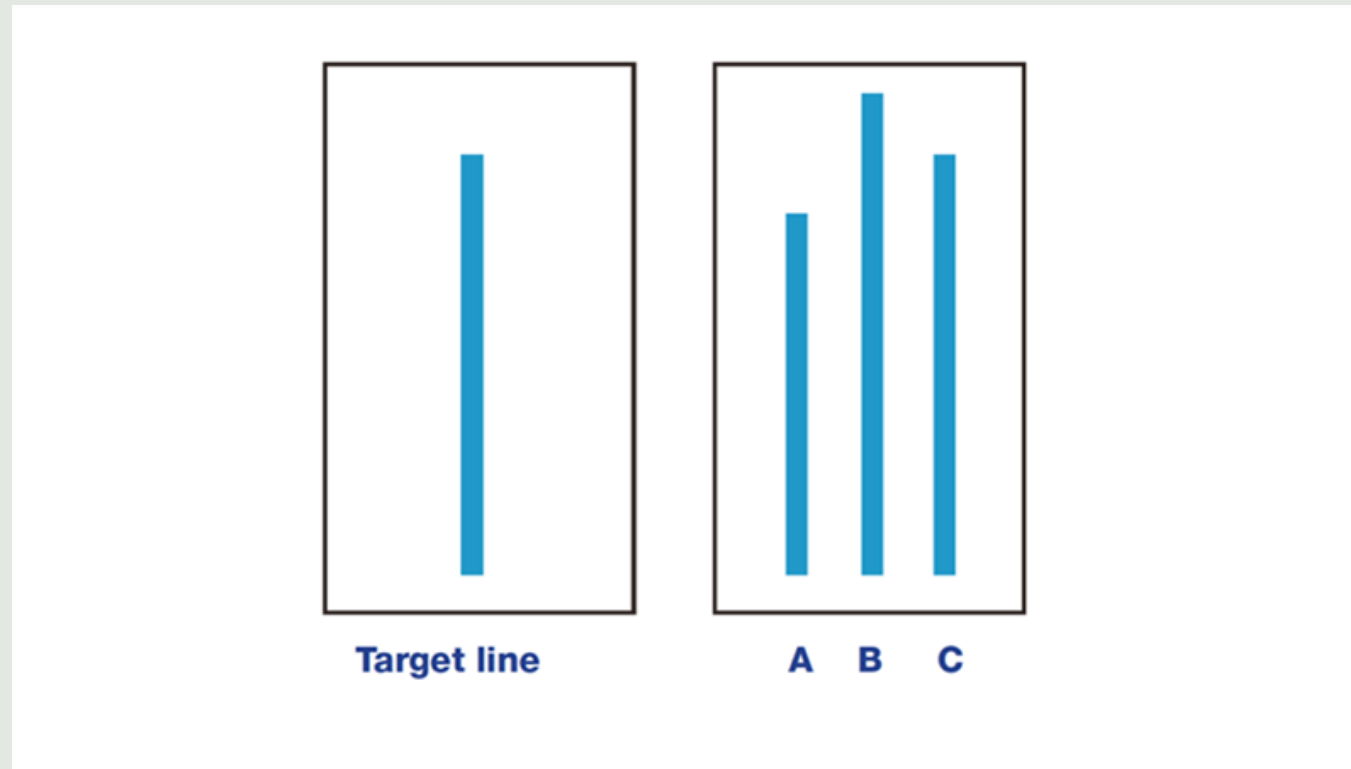
Example: estimations of values in your initial business case

- Project duration
- Resources
- Costs



# Decision Making – in group

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# Decision Making – in group

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# Decision Making – in group

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# Decision Making – in group

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# Decision Making – in group

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# Cognitive biases

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[https://en.wikipedia.org/wiki/List\\_of\\_cognitive\\_biases](https://en.wikipedia.org/wiki/List_of_cognitive_biases)

**Belief, behaviour and decision making biases: 111**

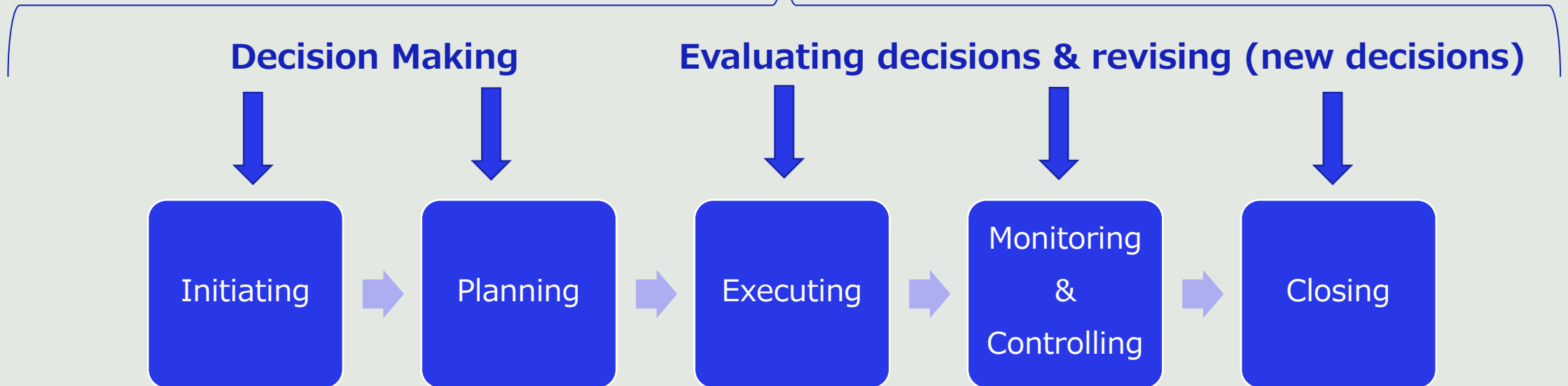
**Group biases: 42**

**Memory biases: 45**



# Why Decision Making?

Opportunities for cognitive biases

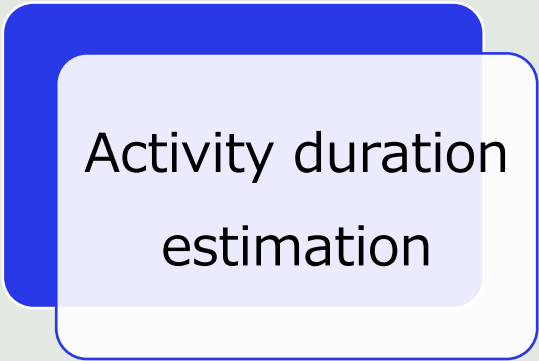


# Cognitive biases in PM

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Planning fallacy (& optimism bias):

Unrealistic planning

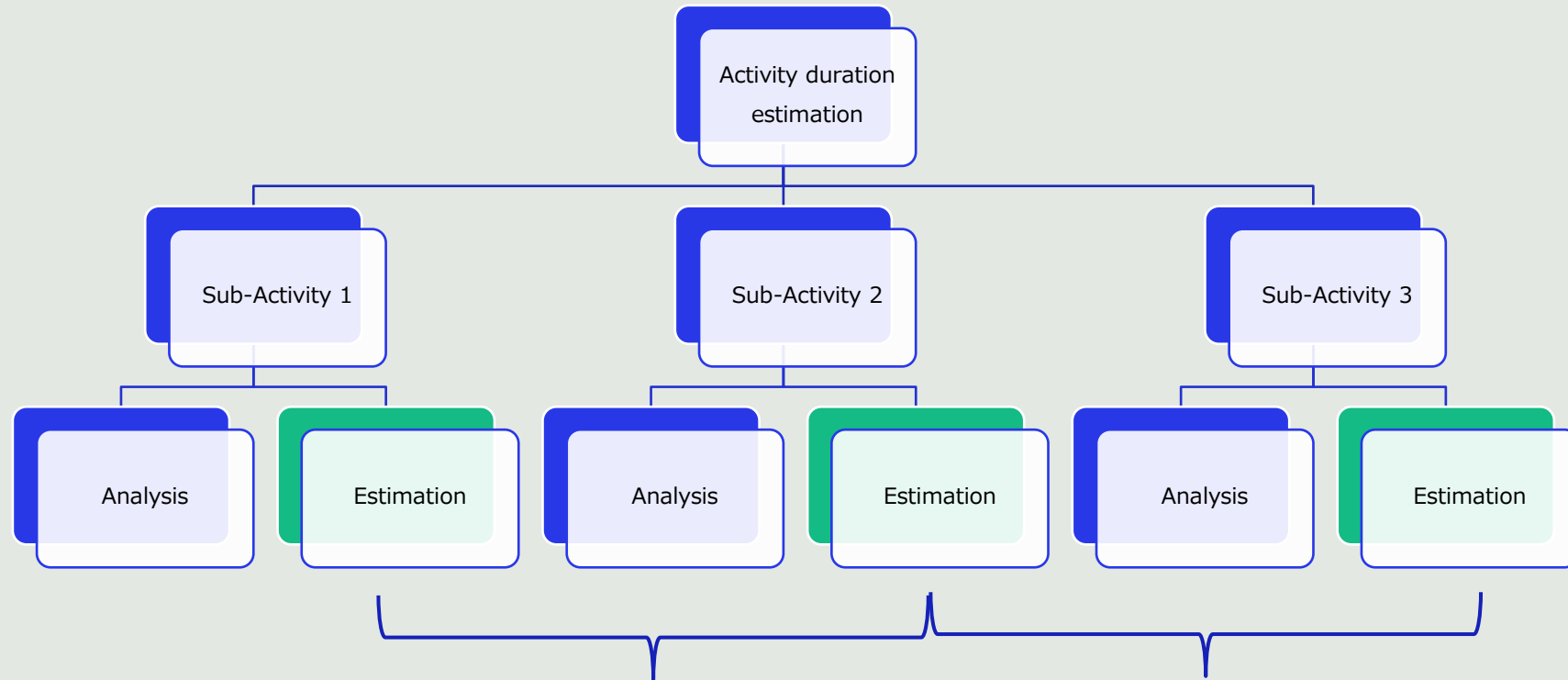


Activity duration  
estimation

# Cognitive biases in PM

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Countermeasure: unpacking (task segmentation)





# Cognitive biases in PM

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“The First Step on the Road to Improvement”



# Cognitive biases in PM

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# Want to know more?

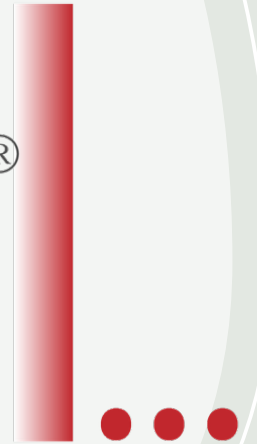
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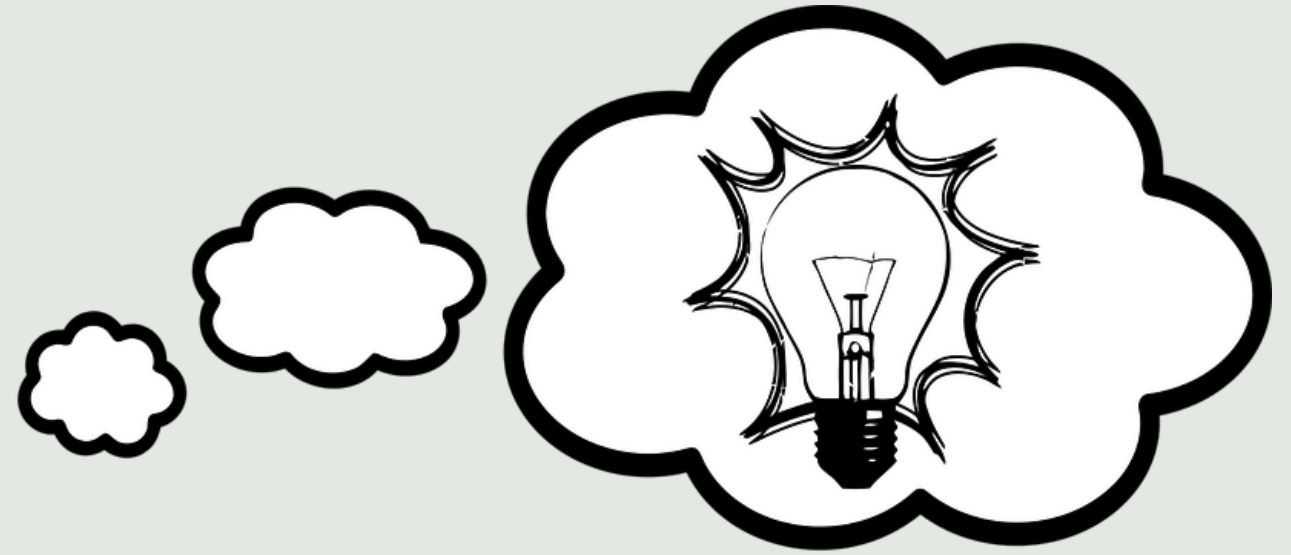


Project Management Planning, Forecast & Risk

# NEURALPLAN<sup>®</sup>

Designed Around the Brain



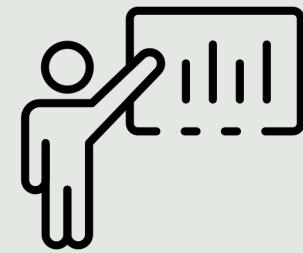
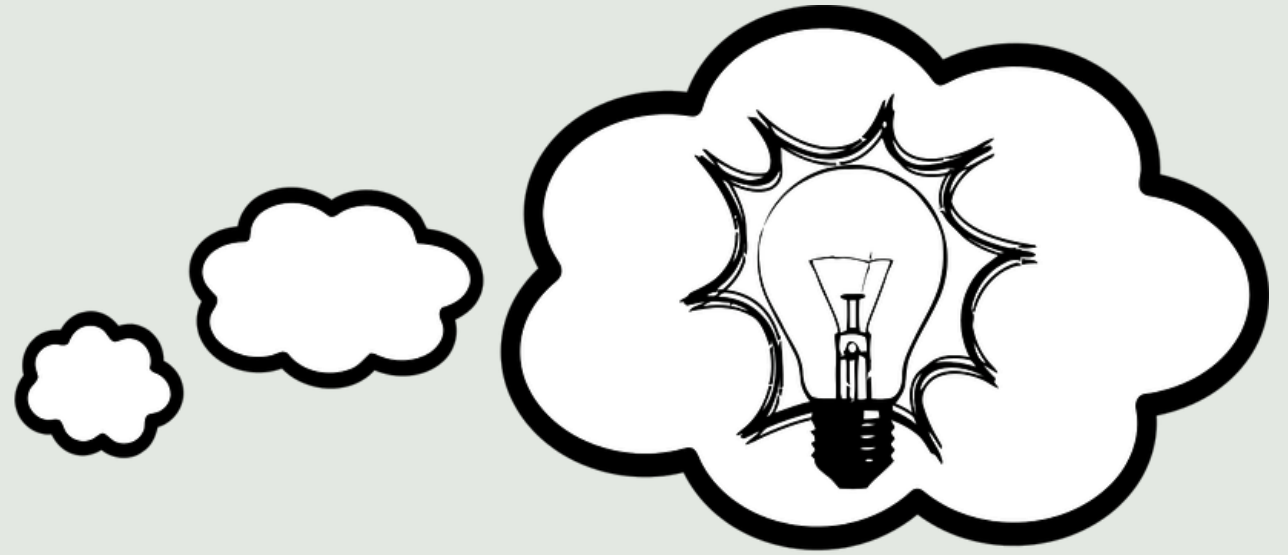


Joshua Ramirez, PMP, MSM, NPPQ





Joshua Ramirez, PMP, MSM, NPPQ



Shari De Baets, PhD, NPPQ



Course with Accreditation  
(NPPQ)

Manual:

Behavior in PM

Science-based



# Want to know more?

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<https://www.nbpmi.com/>



<https://www.linkedin.com/in/sharidebaets/>

<https://www.linkedin.com/in/joshramirezpmp/>



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