

# **Sustainability** as a **competence** of **Project Managers**

# GilbertSilvius

Authentic thinker, Experienced lecturer, Innovative author

*Educator, Researcher,  
Consultant, Trainer*

## Experience

- >20 years Training, Education and Research
- >25 years Projects and Project Management
- >35 years Management and Consultancy

## Education

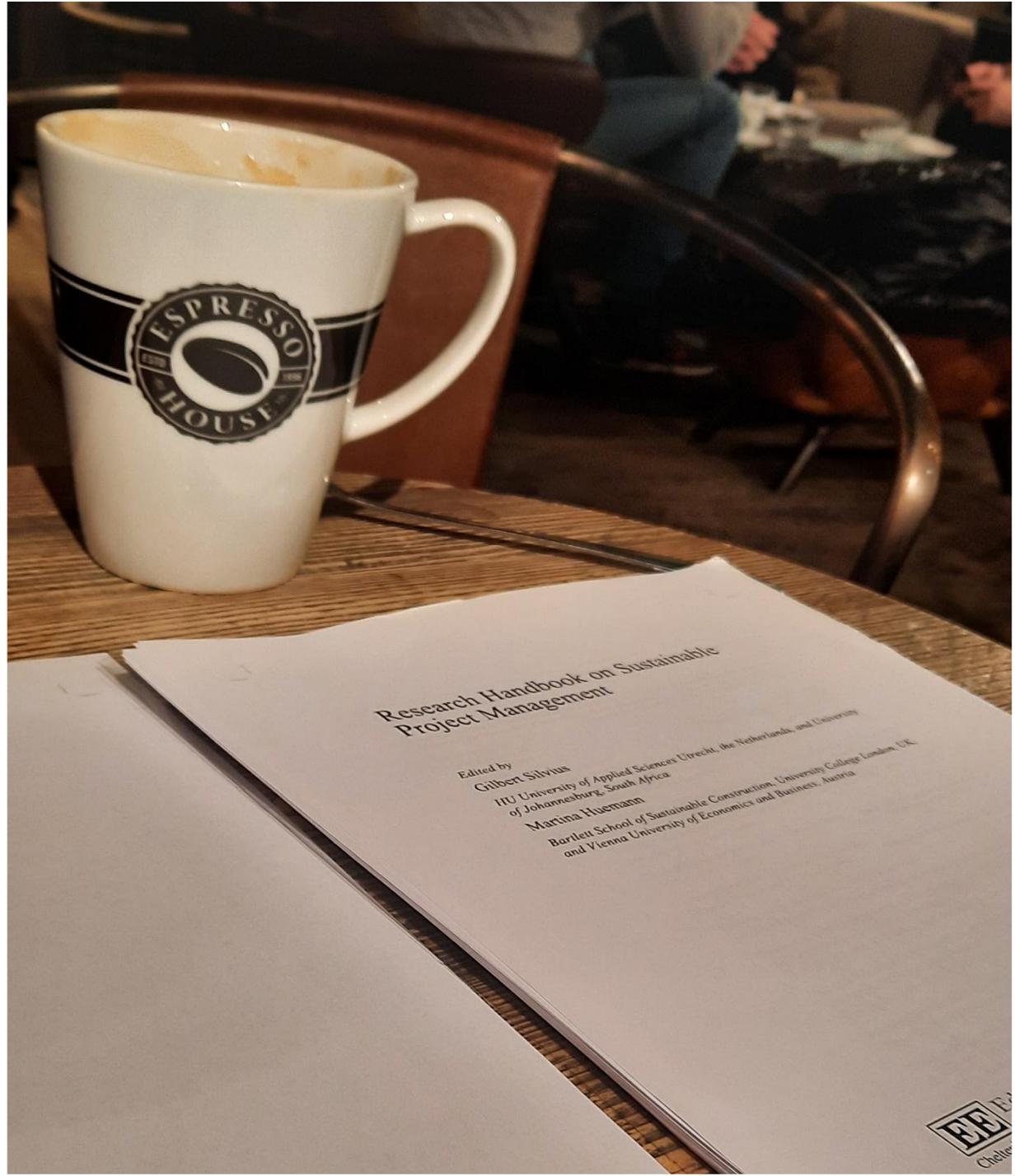
PhD (Utrecht University)  
MBA (Catholic University Leuven)  
MSc Economics (Erasmus University)  
Royal Military Academy

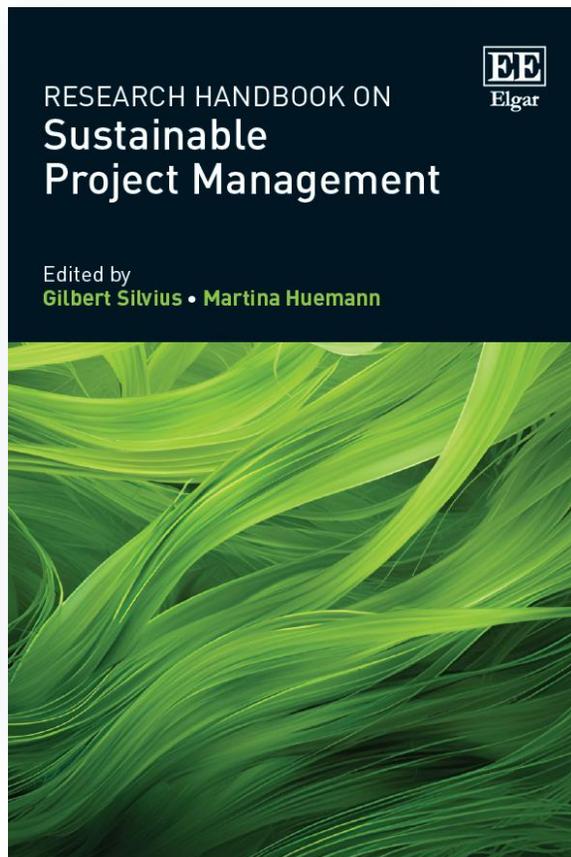
## Specializations

Project Management  
Information Management



# HOW SMALL THINGS GET DONE





*Hardback*

# Research Handbook on Sustainable Project Management

Edited by Gilbert Silvius, HU University of Applied Sciences Utrecht, the Netherlands, and University of Johannesburg, South Africa and Martina Huemann, Bartlett School of Sustainable Construction, University College London, UK, and Vienna University of Economics and Business, Austria

Publication Date: July 2024 | ISBN: 978 1 80088 544 8 | Extent: c 464 pp

This Research Handbook provides a comprehensive overview of the role of project management in sustainable development. Examining how to successfully integrate sustainability into the processes and practices involved, it highlights the significant development in sustainable project management whilst exploring potential future directions for the field.

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sustainability

# An emerging topic

- In project management **research**



1. Why we think projects create the future

natural resources  
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l forestry. How-  
growth era that  
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k “The Limits to  
the exponential  
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.6 times earth’s

projects is being discussed in academia and practice (Gareis et al., 2013; Maltzman and Shirley, 2011; Silvius et al., 2012; Keeyes and Huemann, 2017a). Several studies (for example Aarseth et al., 2017-in this issue; Marcelino-Sádaba et al., 2015; Silvius and Schipper, 2014) report a significant growth in relevant publications in the last 10 years. It may therefore be observed that an academic conversation debate on the relation between project management and sustainability or sustainable development is emerging.

With this special IJPM theme on ‘Managing Projects & Sustainability’, the editors aim to continue, stimulate and enrich this conversation.

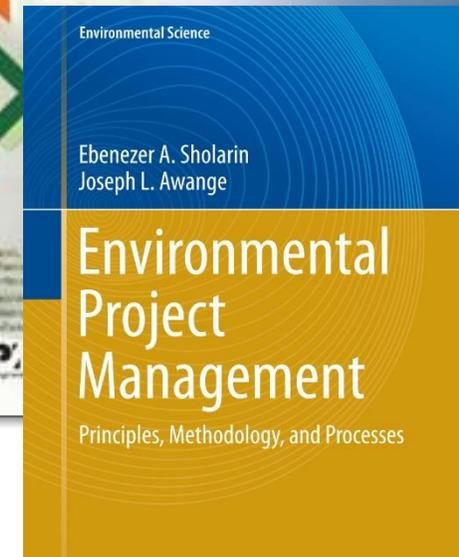
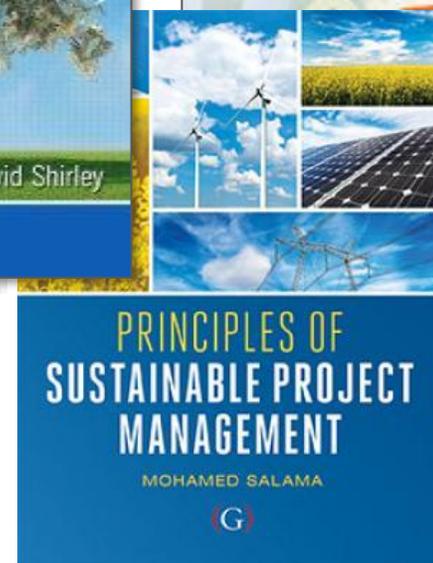
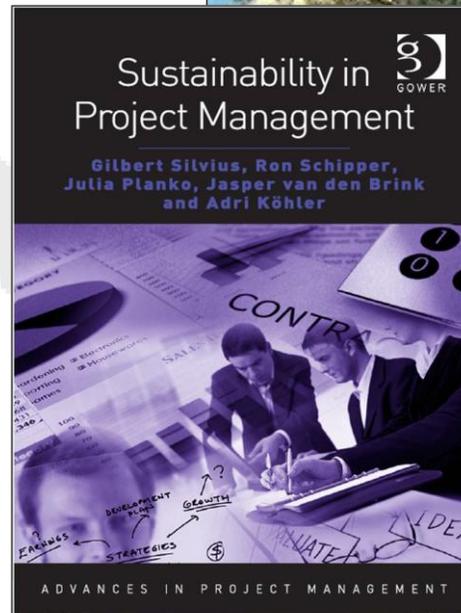
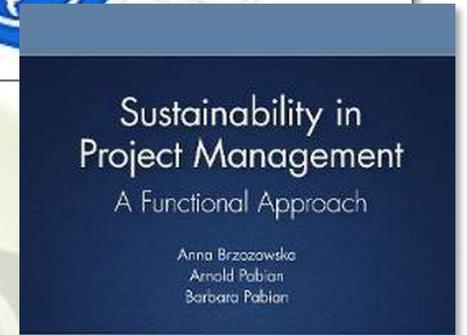
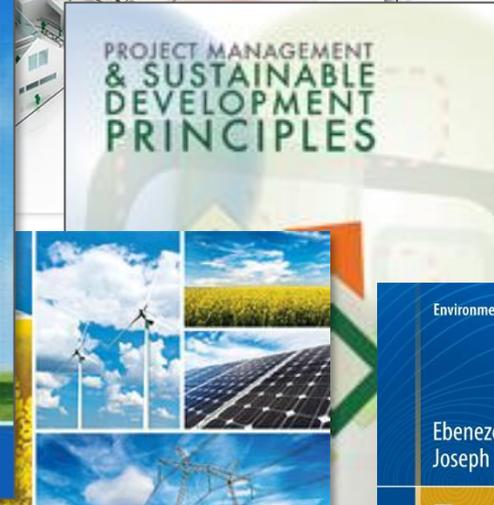
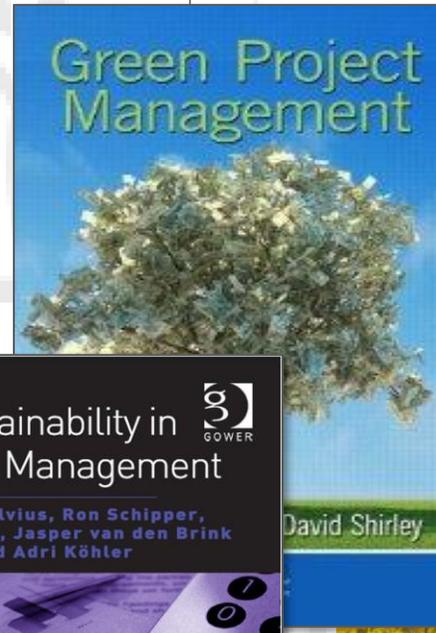
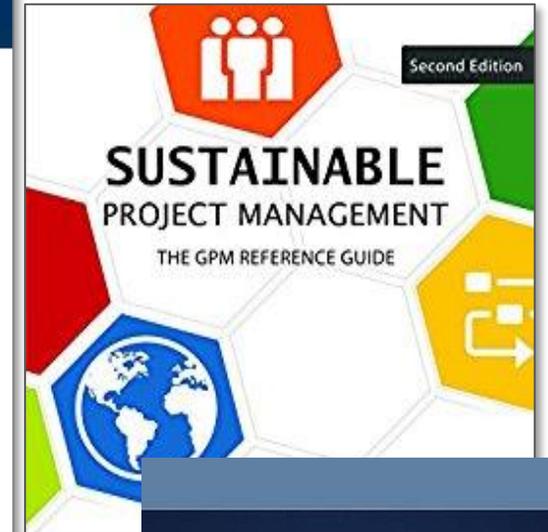
## 2. The thrive for sustainable development as an opportunity in project management

The temporary nature of projects is not logically compatible with the concepts of sustainable development, with its focus on long term horizons (Silvius et al., 2012: 30). The relation is made by the notion that projects initiate investments and deliver products or services (Weninger and Huemann, 2013).

In fact, the relation between sustainability development and projects is often considered on the content side, related to the definition of the *product or deliverable* of the project. In addition there is the *process or delivery* of the project (Gareis et al., 2013). This dichotomy of sustainability by the project and sustainability of the project is a recurring theme in studies on project

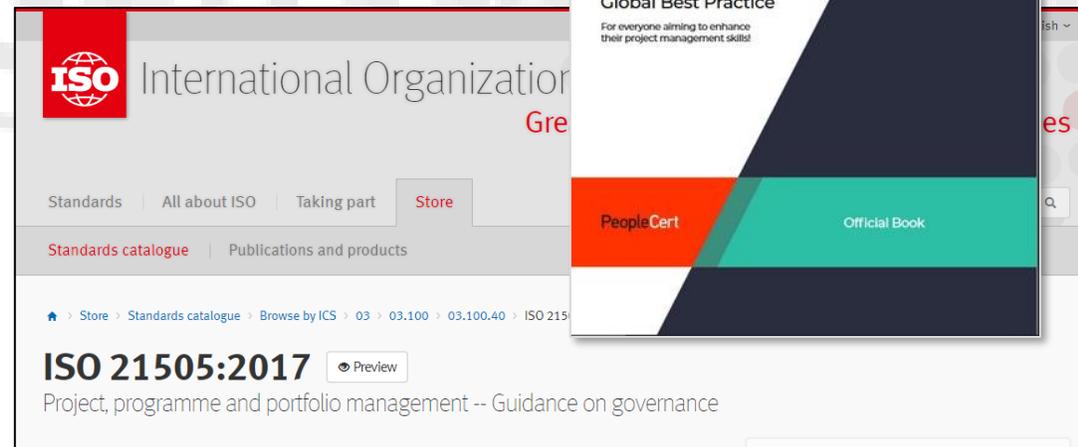
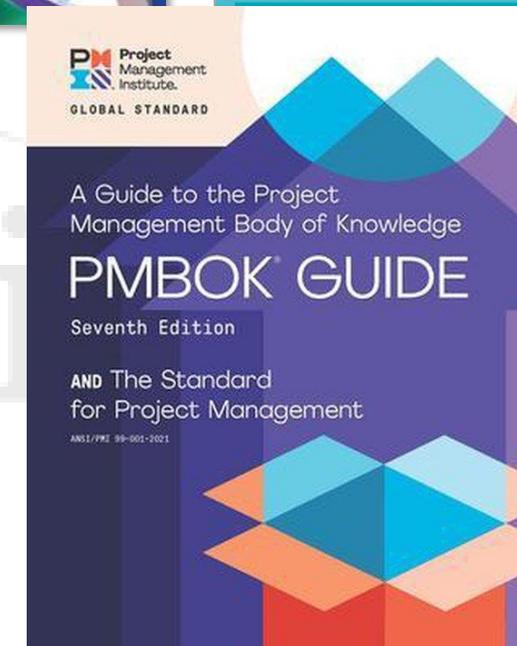
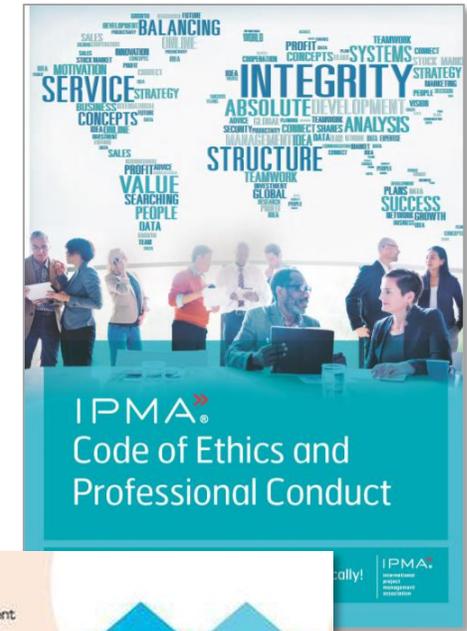
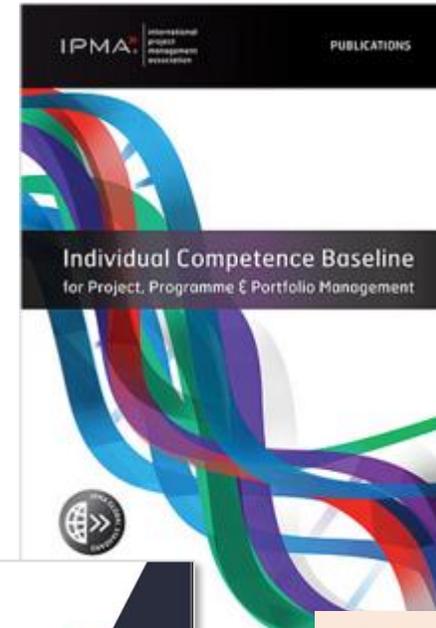
# An emerging topic

- In project management **research**
- In project management **books**



# An emerging topic

- In project management **research**
- In project management **books**
- In project management **standards**



# An emerging topic

- In project management **research**
- In project management **books**
- In project management **standards**
- In project management **practice**



**Sustainability**

needs

**Change**

is organized in

**Projects**

# Sustainability

needs

# Projects



# Sustainability *by* the project



Management of *sustainable* projects



Learning » Thought Leadership » Global Megatrends 2022 » Global Megatrends 2022

Tweet Share

# Climate Crisis

Foreword

Introduction

Digital Disruption

Climate Crisis

Demographic Shifts

Economic Shifts

Labor Shortages

Civil, Civic and Equality Movements

Conclusion



World leaders attending the [2021 United Nations Climate Change Conference \(COP26\)](#) proclaimed the need for urgent action. However, progress to address climate change has been elusive. Moving forward, sustainability practices will need to be built into every project and process if the world is to arrest the most damaging effects of global warming.

## Global Megatrends 2022

PDF version available in Arabic, Chinese, English, French, German, Japanese, Portuguese and Spanish.

English

DOWNLOAD

# Sustainability



# Projects

# Sustainability



?

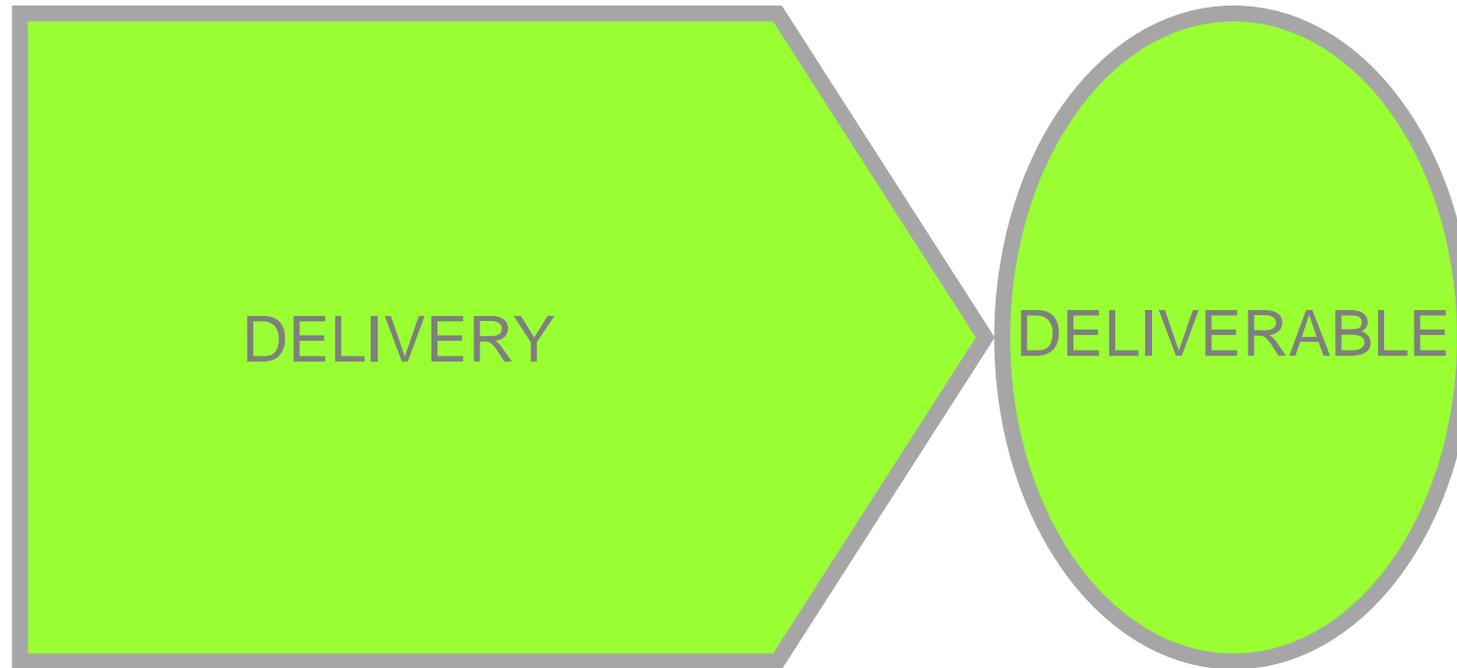
the planning, organizing,  
executing, controlling, and governing of

# Projects

**Sustainable**

**Project Management**

# Sustainability of the project



*Sustainable* management of *all* projects

# Sustainable Project Management

*Sustainable Project Management is the planning, monitoring and controlling of project delivery and support processes, with consideration of the environmental, economical and social aspects of the life-cycle of the project's resources, processes, deliverables and effects, aimed at realizing benefits for stakeholders, and performed in a transparent, fair and ethical way that includes proactive stakeholder participation.*

# Sustainable Project Management

*Sustainable Project Management is*

*the planning, monitoring and controlling of project delivery and support processes,*

*with consideration of the environmental, economical and social aspects*

Triple  
Bottom Line

*of the life-cycle of the project's resources, processes, deliverables and effects,*

Life-cycle  
orientation

*aimed at realizing benefits for stakeholders,*

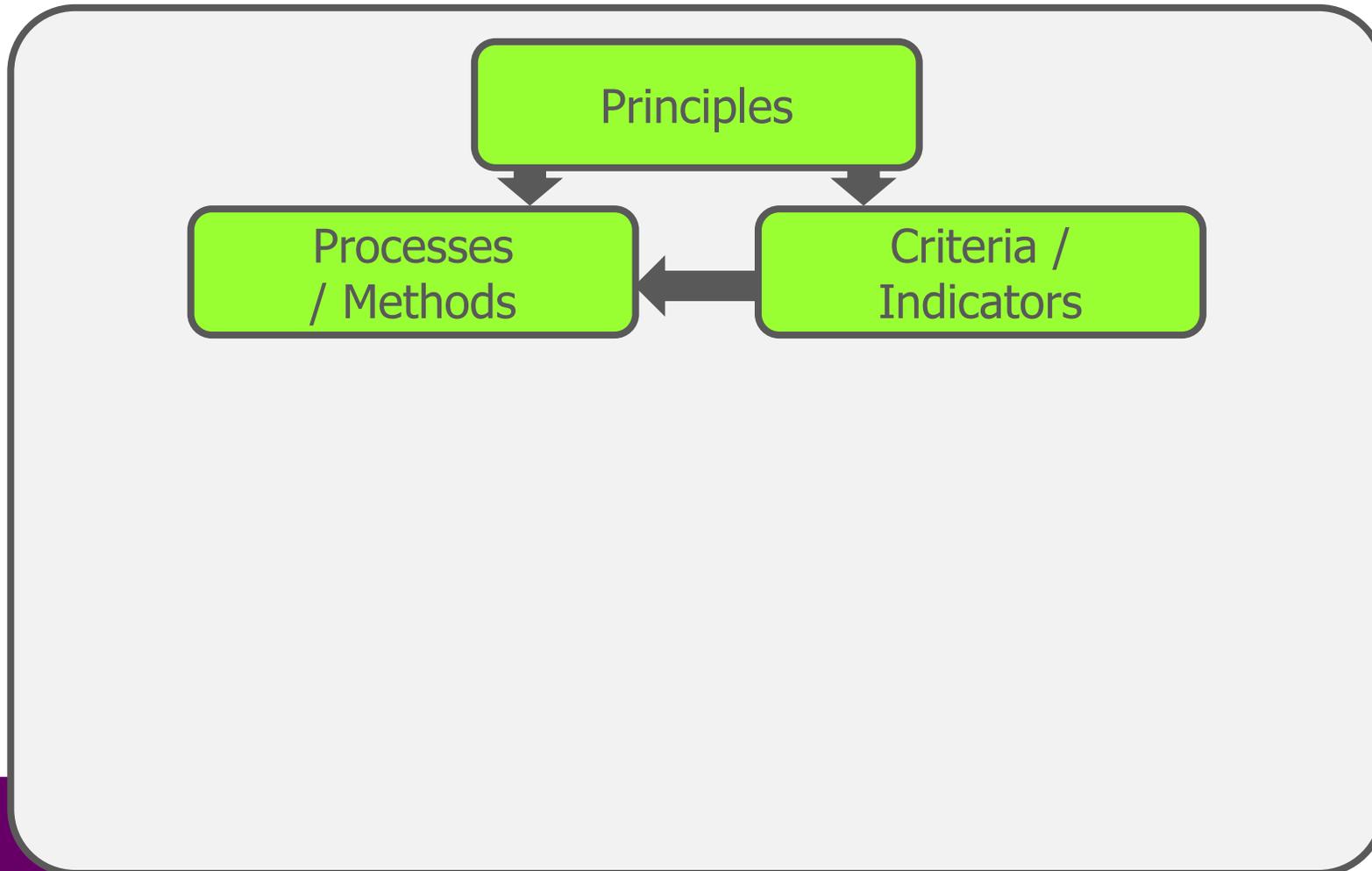
*and performed in a transparent, fair and ethical way*

Responsibility  
Accountability  
Transparency

Stakeholder  
orientation

*that includes proactive stakeholder participation.*

# Making sense of Sustainable Project Management





Engaging with a broad group of stakeholders



Selection of recyclable materials

Design for Re-use

13:30

VK.tv



Consider economic,  
environmental and social impacts





A holistic business case



Considering diversity and inclusion of the team



# PROCUREMENT

Rethinking procurement



Rethinking transport

# Rethinking packaging





Preventing waste



**Risk**

**Safe**

Rethinking risks

# Rethinking communication





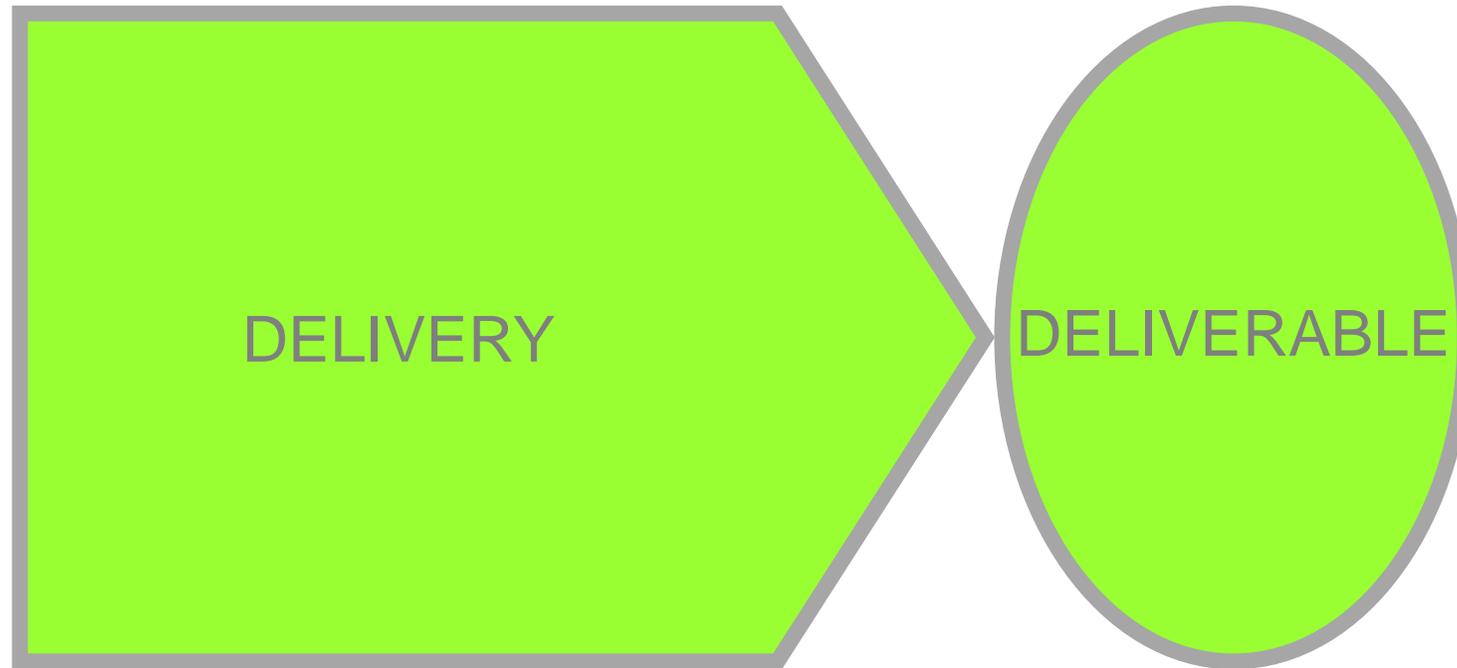
Optimizing on-site / off-site construction

Wednesday  
1 2  
8 9 10  
15 16 17 18  
22 23 24 25  
30

Flexible  
Schedule

Flexible planning & scheduling

# Sustainable Project Management

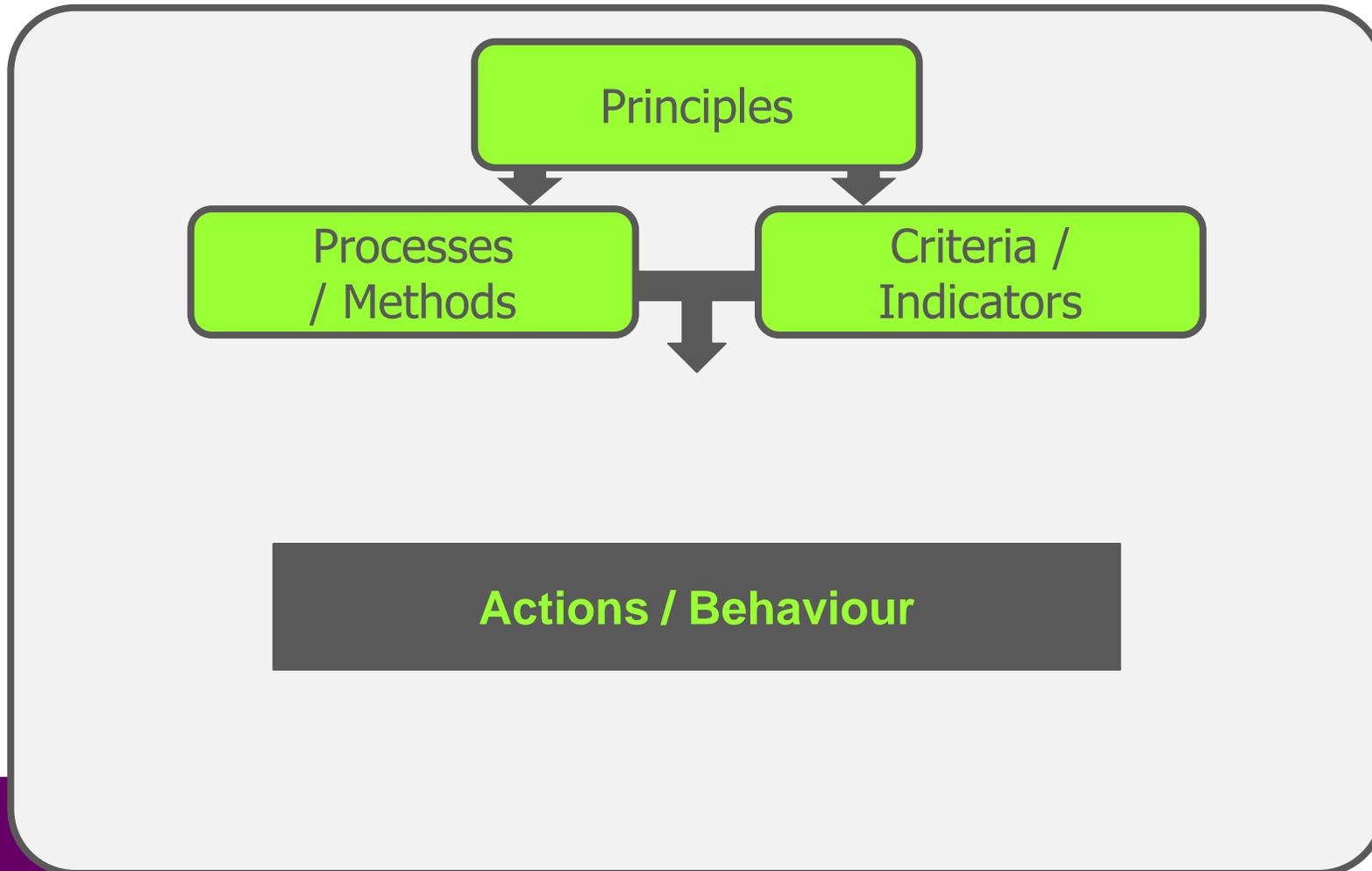


*Sustainable* management of *all* projects

**Sustainable**

**Project Management**

# Making sense of Sustainable Project Management



# The role of the Project Manager?

*“Project and Programme Managers are **significantly placed** to make contributions to Sustainable Management practices”*  
(Association for Project Management, 2006: 7)

The Project Manager plays a *“**pivotal role**”* in the sustainability of the project  
(Maltzman and Shirley, 2013)

*“Today's project manager fulfils not only traditional roles of project management but also **must manage** the project in the most efficient and effective manner with respect to **sustainability.**”*  
(Hwang and Ng, 2013:273)



# The role of the Project Manager?

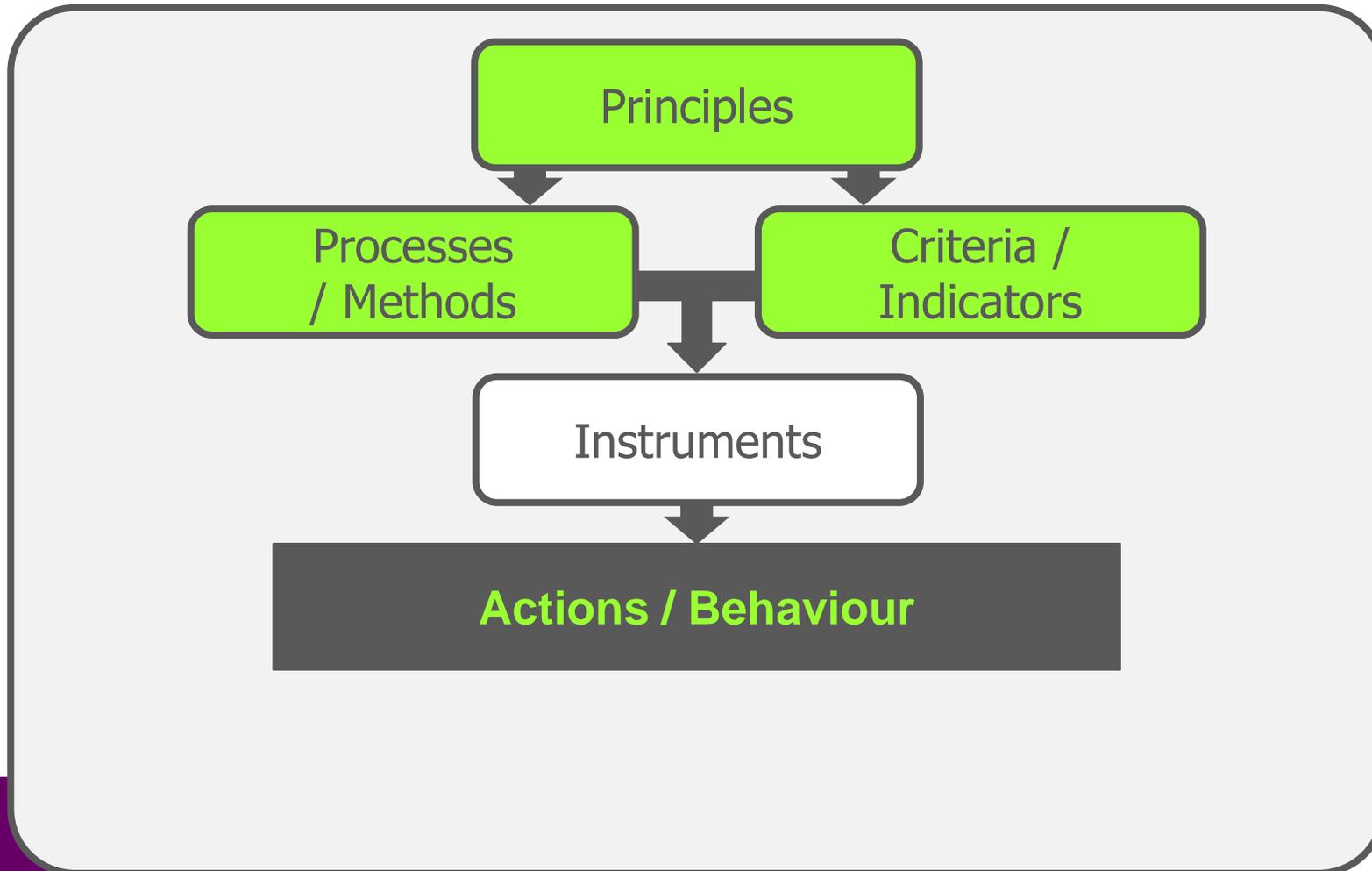
However, having **the opportunity to act** may **not** be **enough**

(Silvius and De Graaf, 2019)

Many other factors or circumstances influence the actual behavior of the project manager with regards to addressing sustainability



# Making sense of Sustainable Project Management



## INTEGRATIVE APPROACH

**KEYWORDS** ■ Project management maturity ■ Sustainability ■ Green Project Management ■ Sustainable Project Management

# DEVELOPING A MATURITY MODEL FOR ASSESSING SUSTAINABLE PROJECT MANAGEMENT

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Van Aetsveld – Netherlands

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### ■ A B S T R A C T

Sustainability is one of the most important challenges of our time. Companies are integrating ideas of sustainability in their marketing, corporate communication, annual reports and in their actions. Projects play a pivotal role in the realization of more sustainable business practices, and a growing number of studies link the concept of sustainability to project management. However, sustainability is understood by instinct, but difficult to express in concrete, operational terms. The evolving concept of sustainable project management is also hard to operationalize. A condition for this operationalization is the availability of an instrument that can be used for the assessment and development of

# SPM3 reporting

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)  
**ScienceDirect**  
 Procedia  
 Computer Science

Conference on ENTERprise Information Systems / International Conference on Project Management / Conference on Health and Social Care Information Systems and Technologies, CENTERIS / ProjMAN / HCist 2016, October 5-7, 2016

**Assessing Sustainability of Railway Modernization Projects: A Case Study from Romania**  
 Violeta Simionescu<sup>a</sup>, Gilbert Silviu<sup>b\*</sup>

<sup>a</sup> Technical University of Civil Engineering, Bucharest, Romania  
<sup>b</sup> Eindhoven University of Applied Sciences, Eindhoven, the Netherlands

**Abstract**  
 Projects are important 'instruments of change' in realising a more sustainable society. Sustainability in project management aims to integrate the concepts of sustainability into project management. In order to facilitate the consideration of sustainability aspects of projects, the SPM3 model provides a 'template' on how the different variables of sustainability are considered in the management of a specific project.  
 This paper reports a case study into the consideration of sustainability in the project Modernisation of RM614-Curtici Romania Railway Network. The assessment showed that the project is primarily economically driven, but that environmental aspects are also proactively considered. The project focuses less on the social aspect.  
 The assessment also showed that the sustainability aspects of the project are mostly considered in relation to the project's deliverable. Less attention is given to the sustainability of the process. Regarding the level of consideration of sustainability, the participants of the study first of all indicate that a more proactive consideration of sustainability aspects is desired.  
 The participants also agreed that the assessment of the project with the SPM3 model provided a holistic analysis of the sustainability of the project that formed an essential step in the further development and improvement of the project.  
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 Peer-review under responsibility of the organizing committee of CENTERIS 2016

**Keywords:** Project management, Sustainability, Sustainable development, Railway projects

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1877-0509 © 2016 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).  
 Peer-review under responsibility of the organizing committee of CENTERIS 2016.  
 doi:10.1016/j.procs.2016.09.102

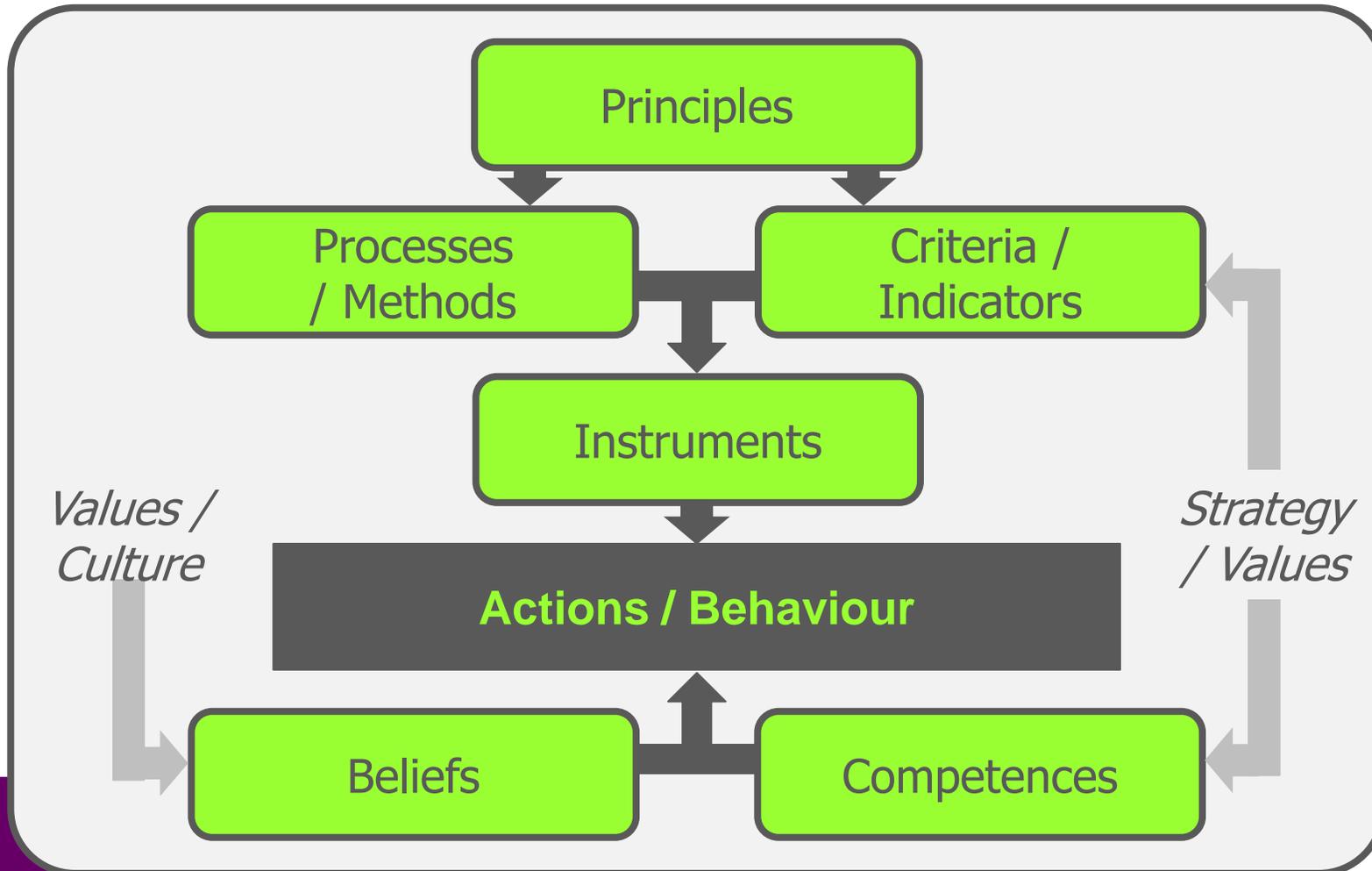
		Integration of sustainability in the project process 'do no harm' → 'positive contribution'				Integration of sustainability in the project product 'do no harm' → 'positive contribution'			
		Level 1 Compliant	Level 2 Reactive	Level 3 Proactive	Level 4 Purpose	Level 1 Compliant	Level 2 Reactive	Level 3 Proactive	Level 4 Purpose
Sustainability indicators	Economic sustainability	Return on Investment	██████████	██████████	██████████	██████████	██████████	██████████	██████████
		Business agility	██████████	██████████	██████████	██████████	██████████	██████████	██████████
		Competitive potential	██████████	██████████	██████████	██████████	██████████	██████████	██████████
		(Business) Continuity	██████████	██████████	██████████	██████████	██████████	██████████	██████████
		Motivation and incentives	██████████	██████████	██████████	██████████	██████████	██████████	██████████
	Risk reduction	██████████	██████████	██████████	██████████	██████████	██████████	██████████	
	Environmental sustainability	Transport	██████████	██████████	██████████	██████████	██████████	██████████	██████████
		Energy	██████████	██████████	██████████	██████████	██████████	██████████	██████████
		Water	██████████	██████████	██████████	██████████	██████████	██████████	██████████
Eco system		██████████	██████████	██████████	██████████	██████████	██████████	██████████	
Waste and Packaging		██████████	██████████	██████████	██████████	██████████	██████████	██████████	
Materials and resources		██████████	██████████	██████████	██████████	██████████	██████████	██████████	
Emissions		██████████	██████████	██████████	██████████	██████████	██████████	██████████	
Spatial planning	██████████	██████████	██████████	██████████	██████████	██████████	██████████		
Nuisance	██████████	██████████	██████████	██████████	██████████	██████████	██████████		
Social sustainability	Labor practices and decent work	██████████	██████████	██████████	██████████	██████████	██████████	██████████	
	Human rights	██████████	██████████	██████████	██████████	██████████	██████████	██████████	
	Ethical behaviour	██████████	██████████	██████████	██████████	██████████	██████████	██████████	
	Soc, cust and prod responsibility	██████████	██████████	██████████	██████████	██████████	██████████	██████████	
	Participation	██████████	██████████	██████████	██████████	██████████	██████████	██████████	
	Human capital development	██████████	██████████	██████████	██████████	██████████	██████████	██████████	
Corporate governance	██████████	██████████	██████████	██████████	██████████	██████████	██████████		

**Legenda**

- ██████████ Integration of this aspect is indicated as actual situation
- ██████████ Integration of this aspect is indicated as desired situation
- ██████████ Integration of this aspect is not indicated



# Making sense of Sustainable Project Management



# Research project

What *patterns of factors* stimulate project managers to address the sustainability issues of their projects?

Journal of Management and Sustainability, Vol. 9, No. 2; 2019  
ISSN 1925-4725 E-ISSN 1925-4733  
Published by Canadian Center of Science and Education

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Factors That Stimulate Project Managers to Consider Sustainability;  
Exploring the Stimulus Patterns of Canadian Project Managers

Candy Poon<sup>1</sup> & Gilbert Silvius<sup>2,3</sup>

<sup>1</sup> University of Liverpool, Liverpool, United Kingdom  
<sup>2</sup> LOI University of Applied Sciences, Leiderdorp, the Netherlands

 *sustainability* 

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Article

**Exploring Characteristics of Sustainability Stimulus Patterns of Project Managers**

José Magano <sup>1,2,\*</sup>, Gilbert Silvius <sup>3,4</sup>, Cláudia Sousa Silva <sup>5</sup> and Ângela Leite <sup>6</sup>

International Journal of Project Management 38 (2020) 353–367

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 **International Journal of Project Management** 

journal homepage: [www.elsevier.com/locate/ijproman](http://www.elsevier.com/locate/ijproman)

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Exploring variety in factors that stimulate project managers to address sustainability issues

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<sup>a</sup> LOI University of Applied Sciences, the Netherlands  
<sup>b</sup> University of Johannesburg, South Africa  
<sup>c</sup> Municipality of Waddinxveen, the Netherlands

 *sustainability* 

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Article

**Exploring Patterns of Sustainability Stimuli of Project Managers**

Carl Marnewick <sup>1,\*</sup>, Gilbert Silvius <sup>1,2</sup> and Ron Schipper <sup>3</sup>

<sup>1</sup> Department of Applied Information Systems, College of Business and Economics, University of Johannesburg, Johannesburg 2006, South Africa  
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<sup>3</sup> P2 Management Consultants, Slotselaan 6–8, 5328 ER Rossum, The Netherlands; [rj.schipper@gmail.com](mailto:rj.schipper@gmail.com)  
\* Correspondence: [cmarnewick@ui.ac.za](mailto:cmarnewick@ui.ac.za)

## ARTICLE INFO

**Keywords:**  
Project management  
Sustainability  
Sustainable development  
Behavior

## ABSTRACT

As it is increasingly being recognized that projects play a key-role in creating a more sustainable society, the integration of the concepts of sustainability into project management should be considered as one of the most important global project management trends today. This integration refers both to the sustainability of the project's deliverable and to the sustainable management of projects. In this last perspective, sustainable project management, with regards to

herlands. E-mail:

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have moved from  
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consideration of  
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the project, which  
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al-demographic

# *What patterns of factors stimulate project managers to address the sustainability issues of their projects?*

## *Intrinsically motivated*

- Behavioral beliefs are dominating the top-ranked statements
- Are stimulated to address sustainability because they care about nature, the planet and the future and because they feel that caring for sustainability is something they should do
- The characteristics of the project, or the opinion of others, do not play a large role
- Will do what they consider the 'right thing'

# *What patterns of factors stimulate project managers to address the sustainability issues of their projects?*

## *Task driven*

- Will consider sustainability when it is part of the project's requirements or objectives, when the client asks for it or when they are rewarded for it
- In the top-ranked statements, the normative and control beliefs are represented strongest
- Behavioral beliefs are underrepresented
- This group can be stimulated to by external pressure or rewards.

# *What patterns of factors stimulate project managers to address the sustainability issues of their projects?*

## *Pragmatic*

- Take a pragmatic approach to the consideration of sustainability in project management
- Not strongly self-motivated for sustainability
- But will consider it when they see a good application
- In the top-ranked statements in this pattern, the control beliefs statements are overrepresented
- Stimulated by practical knowledge, tools and results.

# Interpretation phase

*What is the dominating stimulus pattern that project managers exhibit?  
How can the different groups of project managers be characterized?*

## 2 Quantitative survey-based studies

- (1) 101 participants, Netherlands / South Africa based
- (2) 433 participants, Portugal based



# Interpretation phase

*What is the dominating stimulus pattern that project managers exhibit?*

Stimulus pattern	Study of Marnewick et al. (2019) *	Study of Magano et al. (2021)
Intrinsically motivated	72.3 %	61.9 %
Pragmatic	12.9 %	21.0 %
Task-driven	10.9 %	17.1%

*Note: \** In this study, 3.9% of participants could not be allocated to one of the patterns.

# Reflection

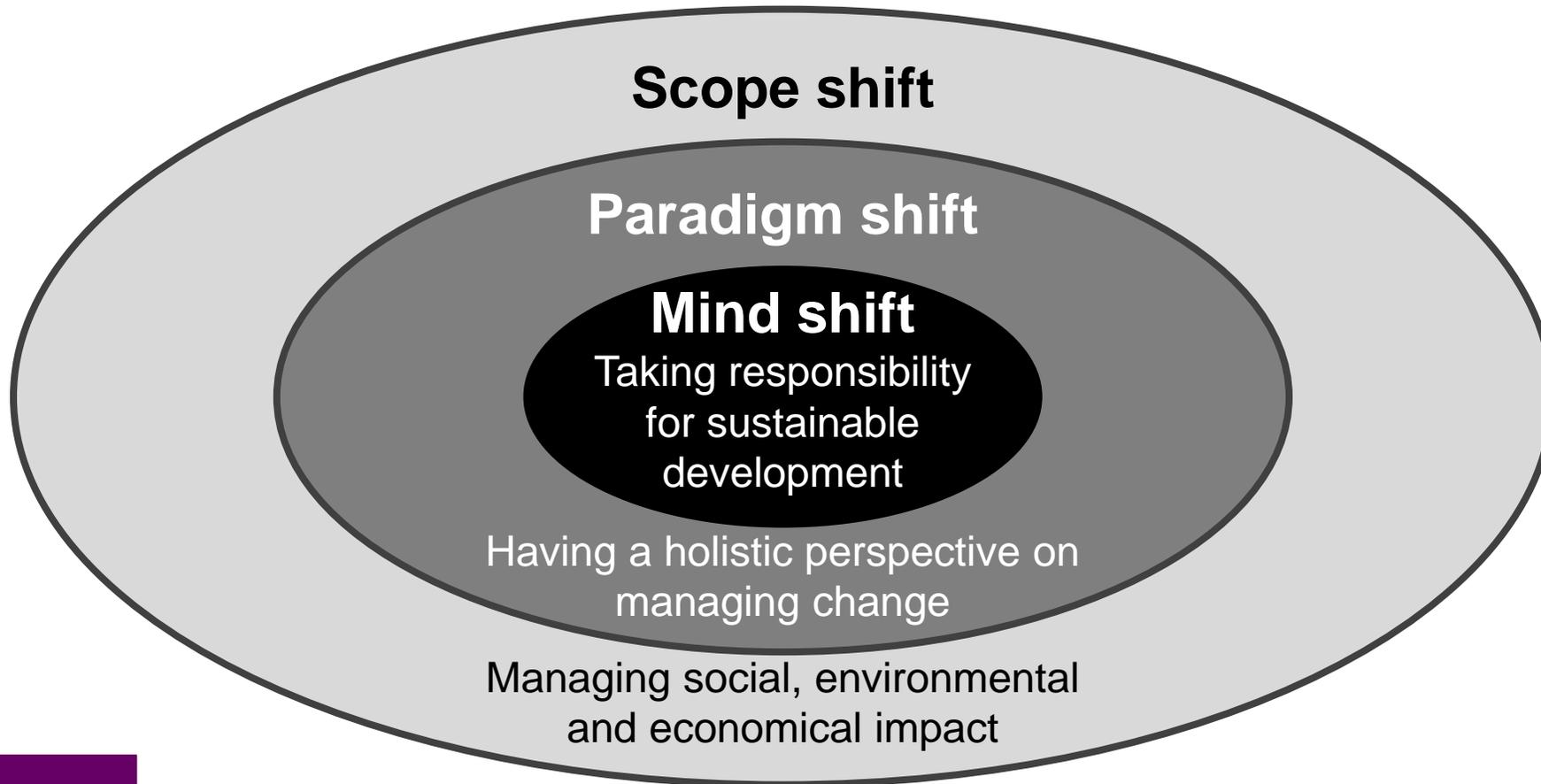
Three distinct stimulus patterns of project managers: *Intrinsically motivated*, *Task driven* and *Pragmatic*.

*Intrinsically motivated* is the most frequent stimulus pattern found amongst Project Managers.

This finding is irrespective of a Project Managers' age, gender or the type of project he/she is involved with.

*Considering sustainability is a personal trait.*

# Sustainable Project Management as Scope, Paradigm and Mind shift





*We need to change the  
way we **view** things  
In order to change the  
way we **do** things*

Nelmara Arbex

# Dig deeper...

- *What factors influence the **attitude** of project managers towards sustainability?*
- Attitude: The value we assign to something or someone
- Are born out
  - What we feel (affect)
  - What we do (behavior)
  - What we know (cognitive)

- **Affective component**

*The emotional or feeling segment of attitude*

- The affective component is about the emotional response (liking/disliking) towards an object

- **Behavioral component**

*An intention to behave in a certain way toward someone or something*

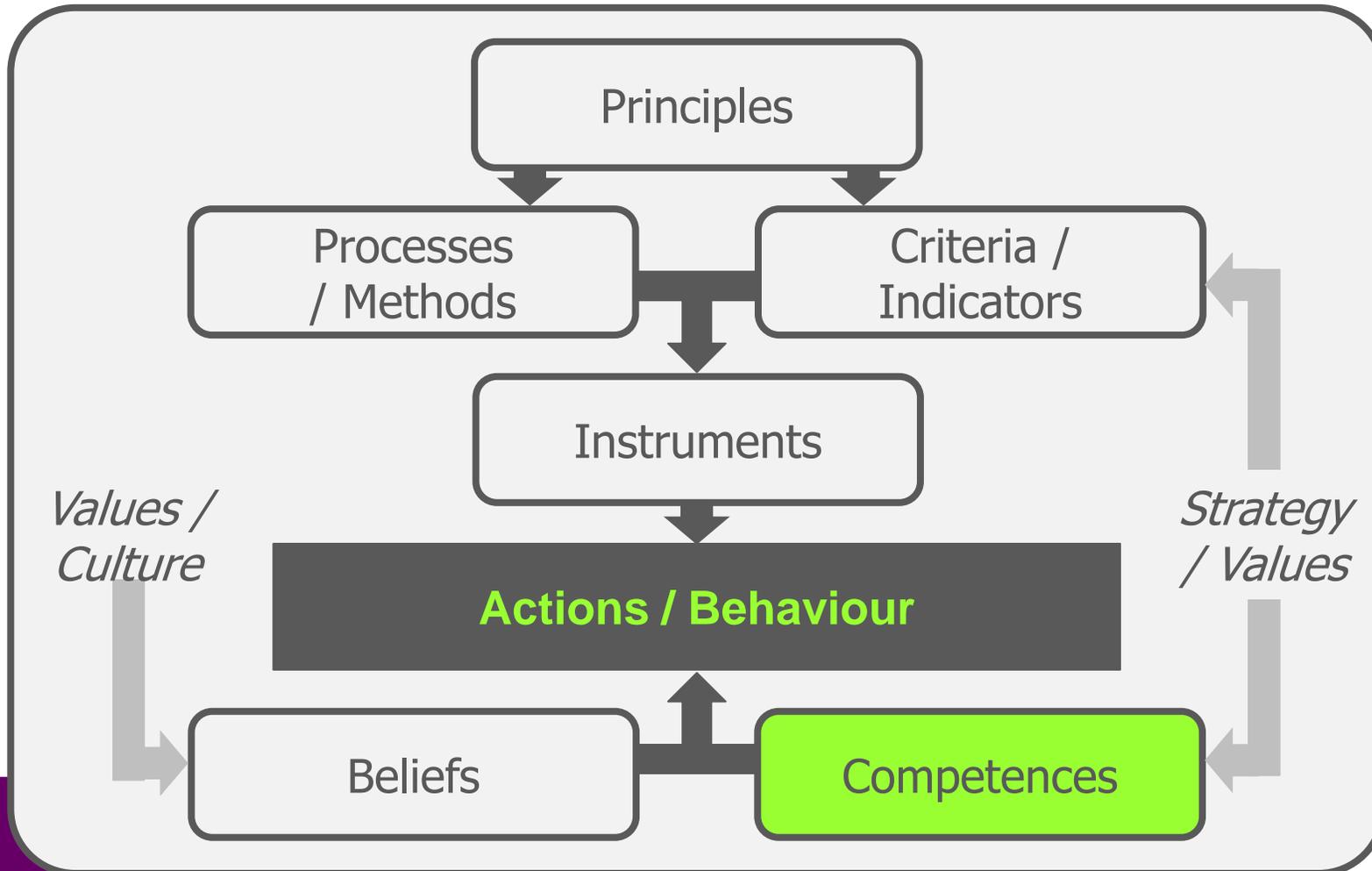
- The behavioral component of an attitude is about the past experiences regarding the object

- **Cognitive component**

*The opinion or belief segment of an attitude*

- The cognitive component is about an individual's opinion (belief/disbelief) about an object

# Making sense of Sustainable Project Management



# Sustainability competencies



# GreenComp Sustainability competencies



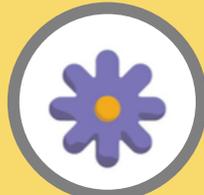
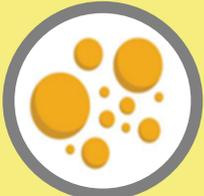
JRC SCIENCE FOR POLICY REPORT

## GreenComp

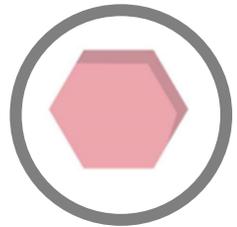
The European sustainability  
competence framework



# GreenComp: Sustainability competencies

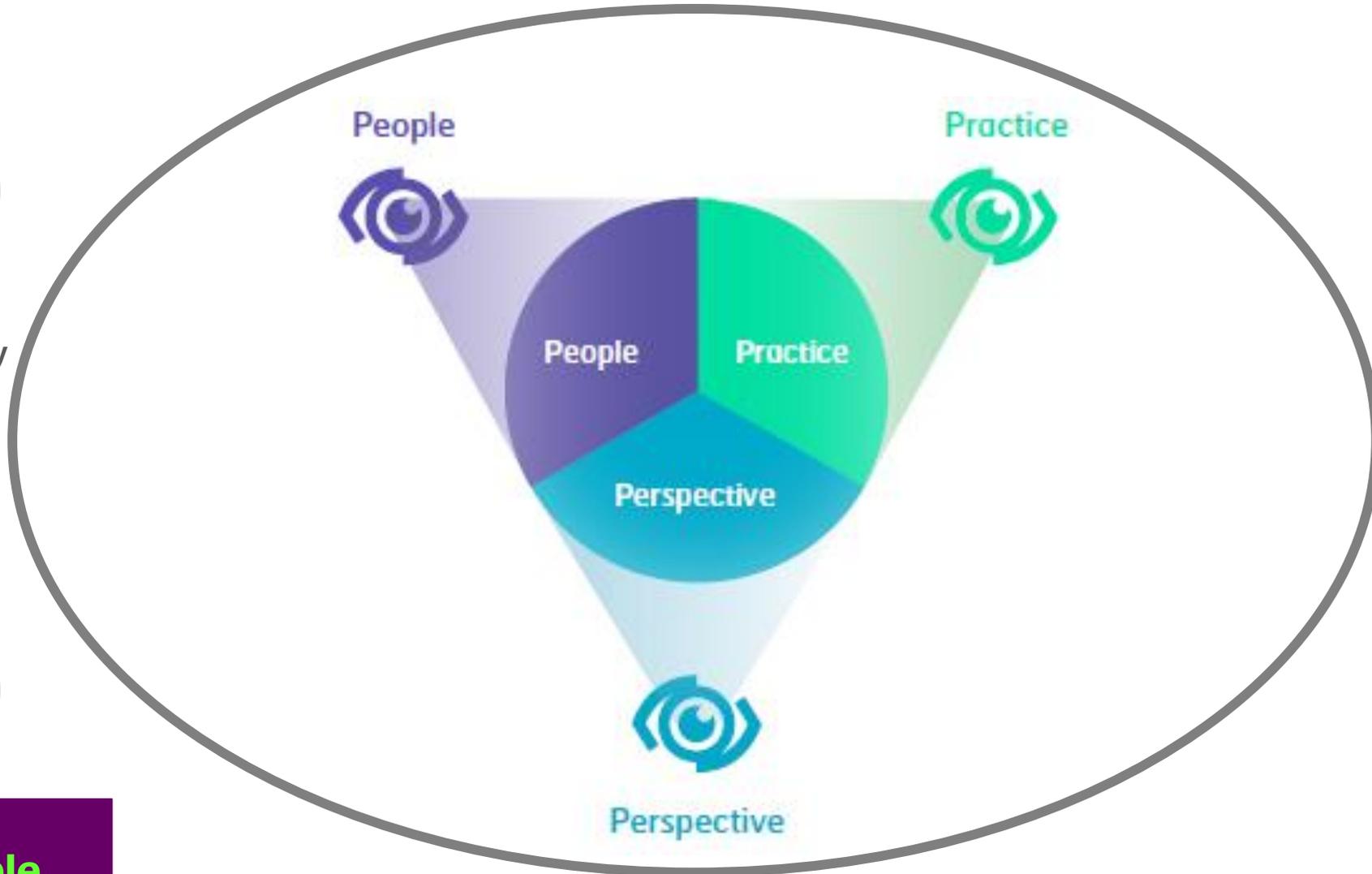
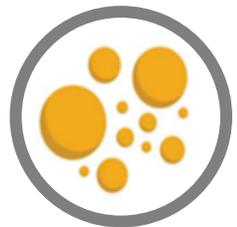
AREA	COMPETENCE	DESCRIPTOR	AREA	COMPETENCE	DESCRIPTOR
1. <i>Embodying sustainability values</i> 	1.1 <b>Valuing sustainability</b>	To reflect on personal values; identify and explain how values vary among people and over time, while critically evaluating how they align with sustainability values.	3. <i>Envisioning sustainable futures</i> 	3.1 <b>Futures literacy</b>	To envision alternative sustainable futures by imagining and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable future.
	1.2 <b>Supporting fairness</b>	To support equity and justice for current and future generations and learn from previous generations for sustainability.		3.2 <b>Adaptability</b>	To manage transitions and challenges in complex sustainability situations and make decisions related to the future in the face of uncertainty, ambiguity and risk.
	1.3 <b>Promoting nature</b>	To acknowledge that humans are part of nature; and to respect the needs and rights of other species and of nature itself in order to restore and regenerate healthy and resilient ecosystems.		3.3 <b>Exploratory thinking</b>	To adopt a relational way of thinking by exploring and linking different disciplines, using creativity and experimentation with novel ideas or methods.
2. <i>Embracing complexity in sustainability</i> 	2.1 <b>Systems thinking</b>	To approach a sustainability problem from all sides; to consider time, space and context in order to understand how elements interact within and between systems.		4.1 <b>Political agency</b>	To navigate the political system, identify political responsibility and accountability for unsustainable behaviour, and demand effective policies for sustainability.
	2.2 <b>Critical thinking</b>	To assess information and arguments, identify assumptions, challenge the status quo, and reflect on how personal, social and cultural backgrounds influence thinking and conclusions.		4.2 <b>Collective action</b>	To act for change in collaboration with others.
	2.3 <b>Problem framing</b>	To formulate current or potential challenges as a sustainability problem in terms of difficulty, people involved, time and geographical scope, in order to identify suitable approaches to anticipating and preventing problems, and to mitigating and adapting to already existing problems.		4.3 <b>Individual initiative</b>	To identify own potential for sustainability and to actively contribute to improving prospects for the community and the planet.
			4. <i>Acting for sustainability</i> 		

# IPMA Competence Baseline 4



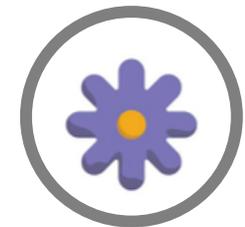
Embodying  
Sustainability  
Values

Embracing  
Complexity



Envisioning  
Sustainable  
Futures

Acting for  
Sustainability



# Embracing complexity

Simplifying complexity	Embracing complexity
PROJECT PLANNING	
Focus on planning	<> Focus on sense making
Plan a single best estimate scenario	<> Anticipate multiple potential scenarios
Rely on expertise of few	<> Co-production of knowledge by many
Implicit assumptions	<> Explicit assumptions
Considering parts	<> Considering the whole
Deliverable oriented	<> Goal oriented
PROJECT MONITORING AND CONTROL	
Oriented on control	<> Oriented on interaction
Plan is the basis	<> Reality is the basis
Manage the output	<> Manage the process
Focused on output criteria	<> Focused on input factors

*Planning*

*Learning*

# An emerging topic

- In project management **research**
- In project management **books**
- In project management **standards**
- In project management **practice**
- In project management **competencies**





**Sustainable**  
Project Management

**INIAAR**



**Sustainability**  
as a **competence**  
of **Project Managers**

