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How do Project Managers assess their Sustainability Competencies?

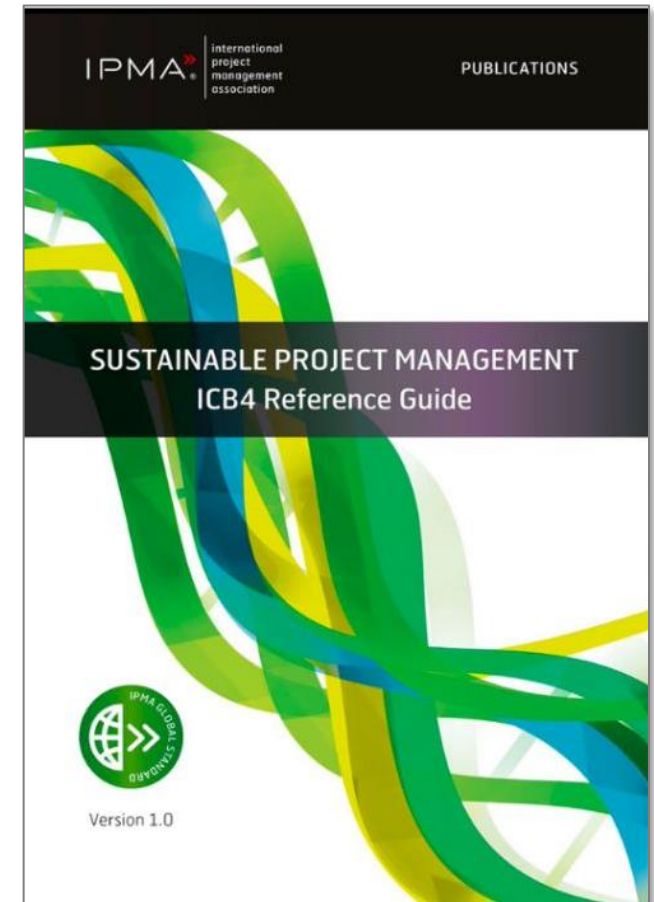
Lana LOVRENČIĆ BUTKOVIĆ Gilbert SILVIUS
28-29 November 2024

A new standard

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Sustainability competencies

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 - Education for Sustainable Development
 - PRinciples for Responsible Management Education

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Human behaviour is ultimately the foundation of sustainable development

(Silvius & Huemann, 2024)

Making sense of Sustainable Project Management

Annals of Social Sciences Management studies

Opinion
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Making Sense of Sustainable Project Management

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Introduction

Sustainability is one of the most important challenges of our time. How can we develop prosperity, without compromising the life of future generations? The pressure on companies to consider sustainability in their business practices is increasing, and the integration of sustainability into core business functions is considered one of the most important leadership challenge facing business today [1]. Integration of the principles of sustainability requires rethinking and redevelopment of business strategies, products/services, processes and resources [2].

In the implementation of strategies, projects play an essential role, and this also applies to sustainability strategies [3]. Marcelino-Sádaba et al. [4] therefore conclude that "Organizations nowadays are increasingly keen on to include sustainability in their business. Project management can help make this process a success". The relationship between sustainability and project management is being addressed in a growing number of studies and publications [5,6] and 'green' or 'sustainable' project management is considered one of the most important global project management trends today [7,8]. This short article aims to provide guidance on the understanding of this emerging theme of sustainable project management, by discussing the main aspects and topics discussed in literature. In the conclusion of the article, the author will develop an overview model that links the different topics and aspects to each other.

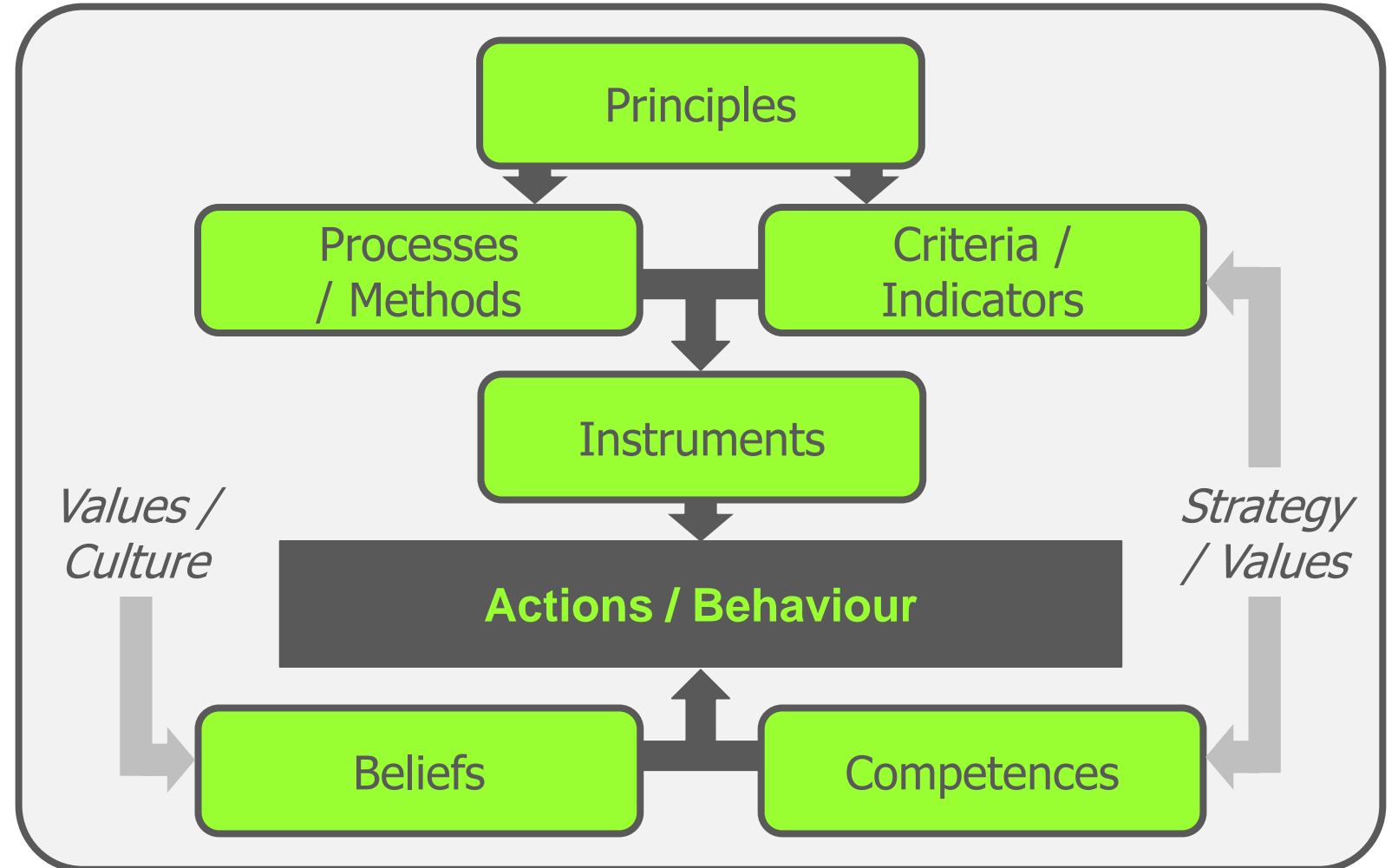
Sustainability in Project Management

As project management is often described in a life-cycle of project management processes or process groups, for example initiating - planning - implementing - controlling - closing [9], it is not surprising that several authors apply this perspective in their analysis of the impact of sustainability on project management. An early study that took this perspective was done by Eid [10]. In this study a forum of project management practitioners was asked about the impact of sustainable development on project management processes. The respondents saw opportunities for the integration of sustainability in all process groups, however the area of integration of sustainability aspects, differed. In their view, the initiating and planning processes of the project provided opportunities for integrating sustainability into the content of the

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Sustainability competencies



Sustainability competencies

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De Haan (2010)	Wiek et al. (2011)	Roorda (2016)	Bianchi et al. (2022)	
Normative competence; Value reflection	Values-thinking competencies	Personal involvement; Responsibility	Valuing sustainability Supporting fairness Promoting nature	Embodying sustainability values
Systems thinking Critical thinking and analytical competence Decision-making competence	Systems-thinking competencies Strategic-thinking competencies	System orientation	System thinking Critical thinking Problem framing	Embracing complexity in sustainability
Anticipatory thinking	Futures-thinking competencies	Future orientation Action skills	Futures literacy Adaptability	Envisioning sustainability futures
Creative problem-solving competence	Strategic-thinking competencies	Future orientation	Exploratory thinking	
Communication and cooperation competence Networking competence; Transformative competence Self-competence; Learning competence	Interpersonal competencies	Action skills; Emotional intelligence Personal involvement; Responsibility	Political agency Collective action Individual initiative	Acting for sustainability

GreenComp

Sustainability
competence
framework



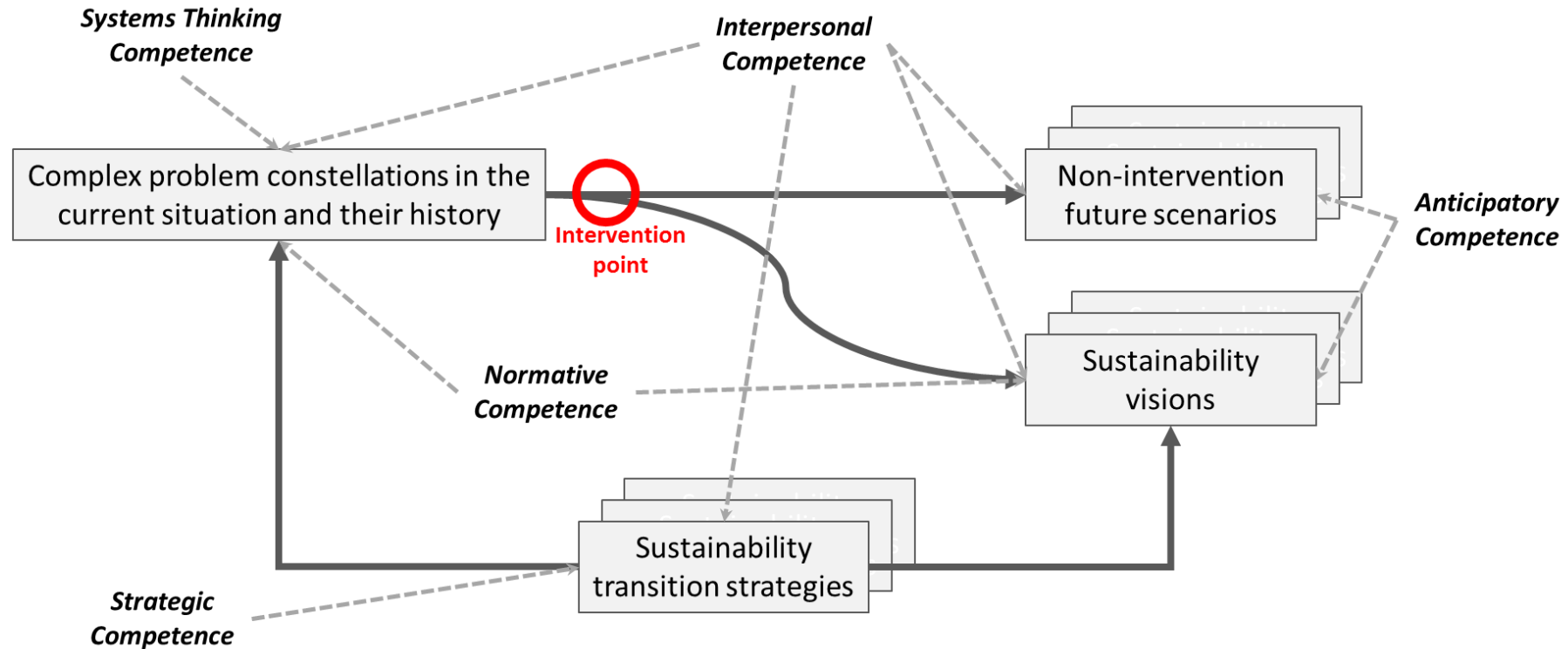
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AREA	COMPETENCE	DESCRIPTOR
3. <i>Envisioning sustainable futures</i>	3.1 Futures literacy	To envision alternative sustainable futures by imagining and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable future.
	3.2 Adaptability	To manage transitions and challenges in complex sustainability situations and make decisions related to the future in the face of uncertainty, ambiguity and risk.
	3.3 Exploratory thinking	To adopt a relational way of thinking by exploring and linking different disciplines, using creativity and experimentation with novel ideas or methods.

Reference framework for sustainability competences



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AREA	COMPETENCE	DESCRIPTOR
4. Acting for sustainability	4.1 Political agency	To navigate the political system, identify political responsibility and accountability for unsustainable behaviour, and demand effective policies for sustainability.
	4.2 Collective action	To act for change in collaboration with others.
	4.3 Individual initiative	To identify own potential for sustainability and to actively contribute to improving prospects for the community and the planet.

GreenComp Sustainability competencies

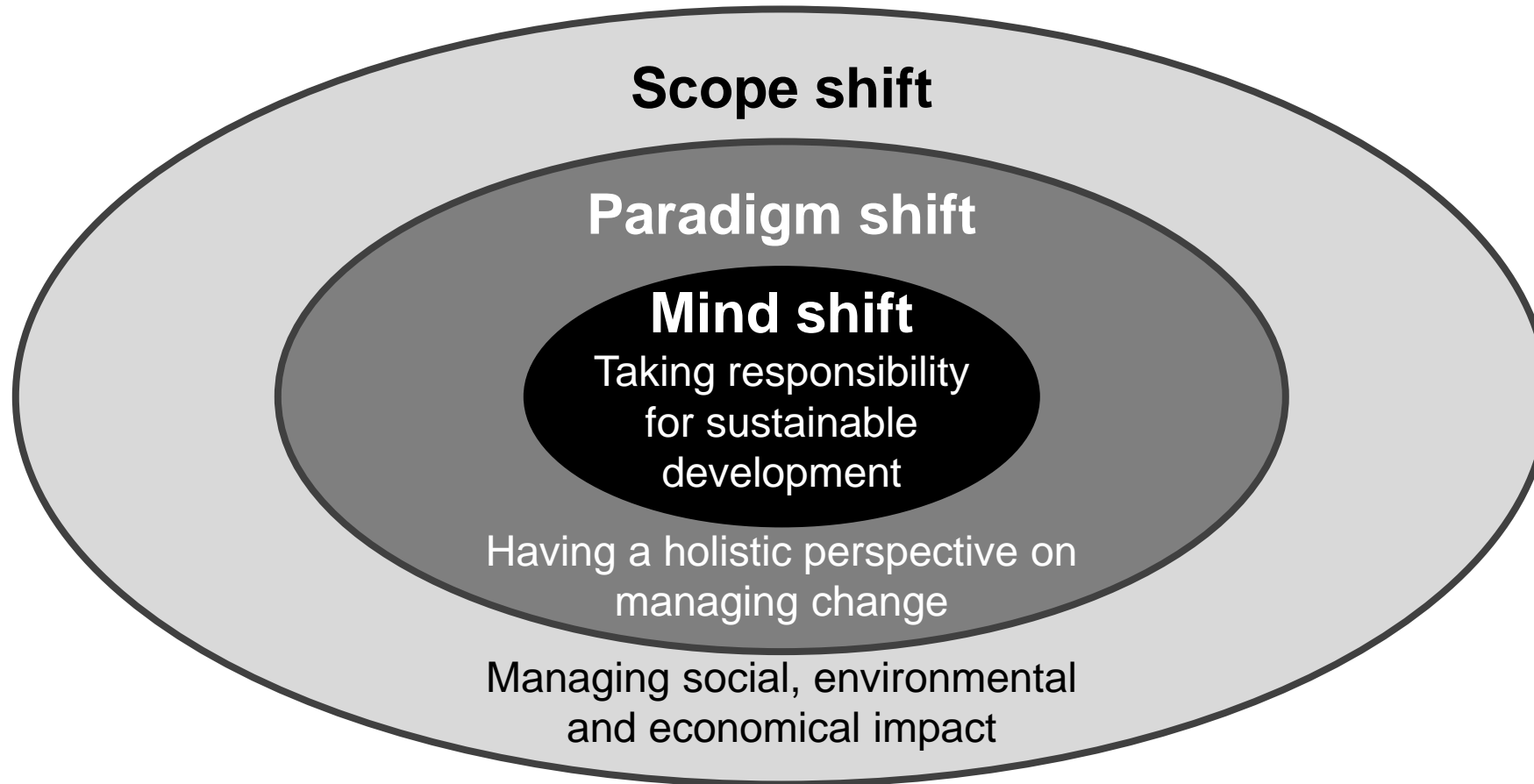
AREA	COMPETENCE	DESCRIPTOR
1. <i>Embodying sustainability values</i>	1.1 Valuing sustainability	To reflect on personal values; identify and explain how values vary among people and over time, while critically evaluating how they align with sustainability values.
	1.2 Supporting fairness	To support equity and justice for current and future generations and learn from previous generations for sustainability.
	1.3 Promoting nature	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.

GreenComp Sustainability competencies

AREA	COMPETENCE	DESCRIPTOR
2. Embracing complexity in sustainability	2.1 Systems thinking	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.
	2.2 Critical thinking	To assess information and arguments, identify assumptions, challenge the status quo, and reflect on how personal, social and cultural backgrounds influence thinking and conclusions.
	2.3 Problem framing	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.

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

Sustainable Project Management as Scope, Paradigm and Mind shift



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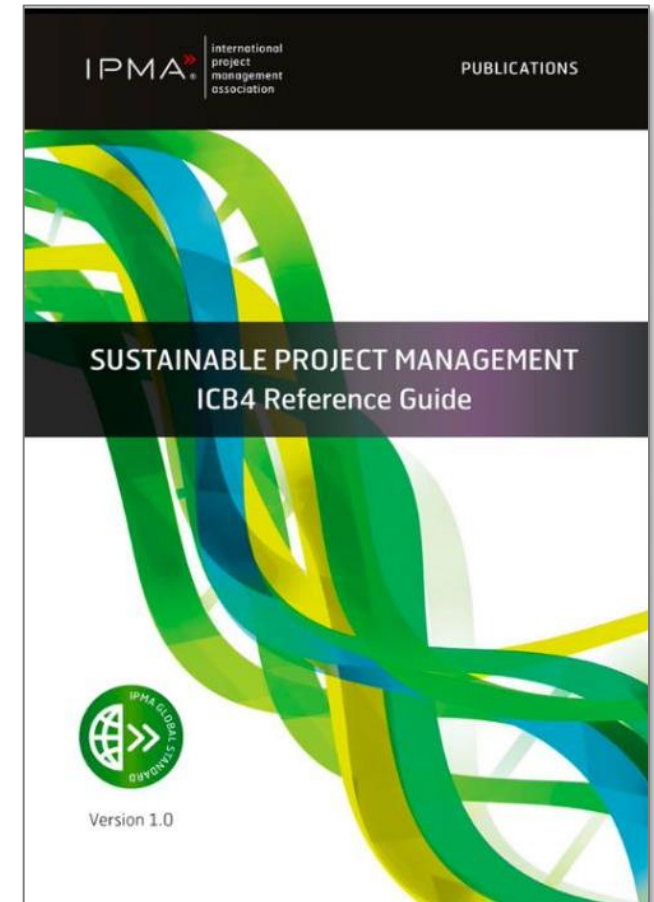
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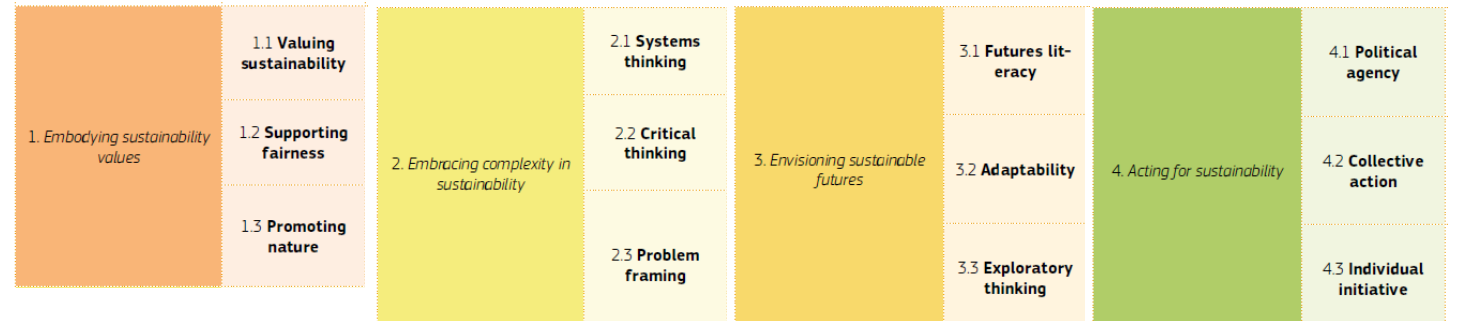
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How do project managers self-assess their sustainability competencies?

Research design

- Survey
 - 12 GreenComp competencies
 - Per competence 3 items: knowledge, skills and attitude
 - 4-point Likert scale
- Self-assessment
- Convenience and snowball sampling
- Sample of 173, 38 incomplete



Sample

Topic	Answers	N	%
Gender	Male	91	67.4
	Female	42	31.1
	Prefer not to reveal	2	1.5
Age	< 25 years	2	1.5
	25 – 30 years	7	5.2
	31 – 40 years	20	14.8
	41 – 50 years	46	34.1
	51 – 60 years	42	31.1
	60+ years	18	13.3
Sustainability as a priority for the organization	Not at all	3	2.2
	Slightly	19	14.1
	Partially	35	25.9
	Considerably	45	33.3
	Very much	33	24.4
Sustainability included in the objectives	Not at all	7	5.2
	Slightly	20	14.8
	Partially	42	31.1
	Considerably	37	27.4
	Very much	29	21.5
Type of projects (multiple answers allowed)	Building & Construction: Public Infrastructure	50	37.0
	Building & Construction: Real Estate	14	10.4
	Building & Construction: Development	23	17.0
	Engineering	41	30.4
	Mechanical New Product Development	8	5.9
	Business Development	44	32.6
	Organizational Change	42	31.1
	Research & development	35	25.9
	Information technology	25	18.5
	Sustainable development	22	16.3
	Quality assurance & certifications	16	11.9
	Mergers & acquisition	2	1.5
	Marketing	8	5.9
	Charity	4	3.0
Culture	9	6.7	
Entertainment	2	1.5	
Other	15	11.1	

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Findings

Competence		N	Minimum	Maximum	Mean	Standard Deviation	95,0% Lower CI for Mean	95,0% Upper CI for Mean
Valuing sustainability	K	135	1	4	2.98	0.71	2.86	3.10
	S	135	1	4	2.82	0.68	2.71	2.94
	A	135	1	4	3.09	0.72	2.97	3.21
Supporting fairness	K	134	1	4	3.15	0.84	3.01	3.29
	S	135	1	4	3.22	0.69	3.11	3.34
	A	135	1	4	3.40	0.61	3.30	3.50
Promoting nature	K	135	1	4	3.56	0.62	3.45	3.66
	S	134	1	4	2.96	0.74	2.84	3.09
	A	135	1	4	3.36	0.63	3.25	3.46
System thinking	K	135	1	4	3.38	0.72	3.25	3.50
	S	135	1	4	2.91	0.77	2.78	3.04
	A	133	1	4	2.33	0.87	2.18	2.48
Critical thinking	K	134	1	4	2.83	0.75	2.70	2.96
	S	132	1	4	3.14	0.66	3.02	3.25
	A	134	1	4	2.90	0.73	2.78	3.03
Problem framing	K	133	1	4	3.12	0.69	3.00	3.24
	S	134	1	4	2.75	0.77	2.62	2.89
	A	133	1	4	3.17	0.71	3.04	3.29
Future literacy	K	134	1	4	3.33	0.69	3.21	3.45
	S	134	1	4	2.72	0.76	2.59	2.85
	A	133	1	4	3.12	0.64	3.01	3.23
Adaptability	K	131	1	4	3.04	0.70	2.92	3.16
	S	134	1	4	3.06	0.70	2.94	3.18
	A	134	1	4	3.18	0.67	3.06	3.29
Exploratory thinking	K	134	1	4	2.91	0.73	2.79	3.04
	S	134	1	4	2.93	0.83	2.78	3.07
	A	133	1	4	3.27	0.70	3.15	3.39
Political agency	K	133	1	4	3.03	0.71	2.91	3.15
	S	132	1	4	2.96	0.77	2.83	3.09
	A	131	1	4	2.97	0.71	2.85	3.09
Collective action	K	133	1	4	2.91	0.86	2.76	3.06
	S	133	1	4	3.08	0.67	2.97	3.20
	A	133	1	4	3.24	0.70	3.12	3.36
Individual initiative	K	133	1	4	3.20	0.62	3.10	3.31
	S	133	1	4	3.47	0.69	3.35	3.58
	A	133	1	4	3.17	0.73	3.04	3.29

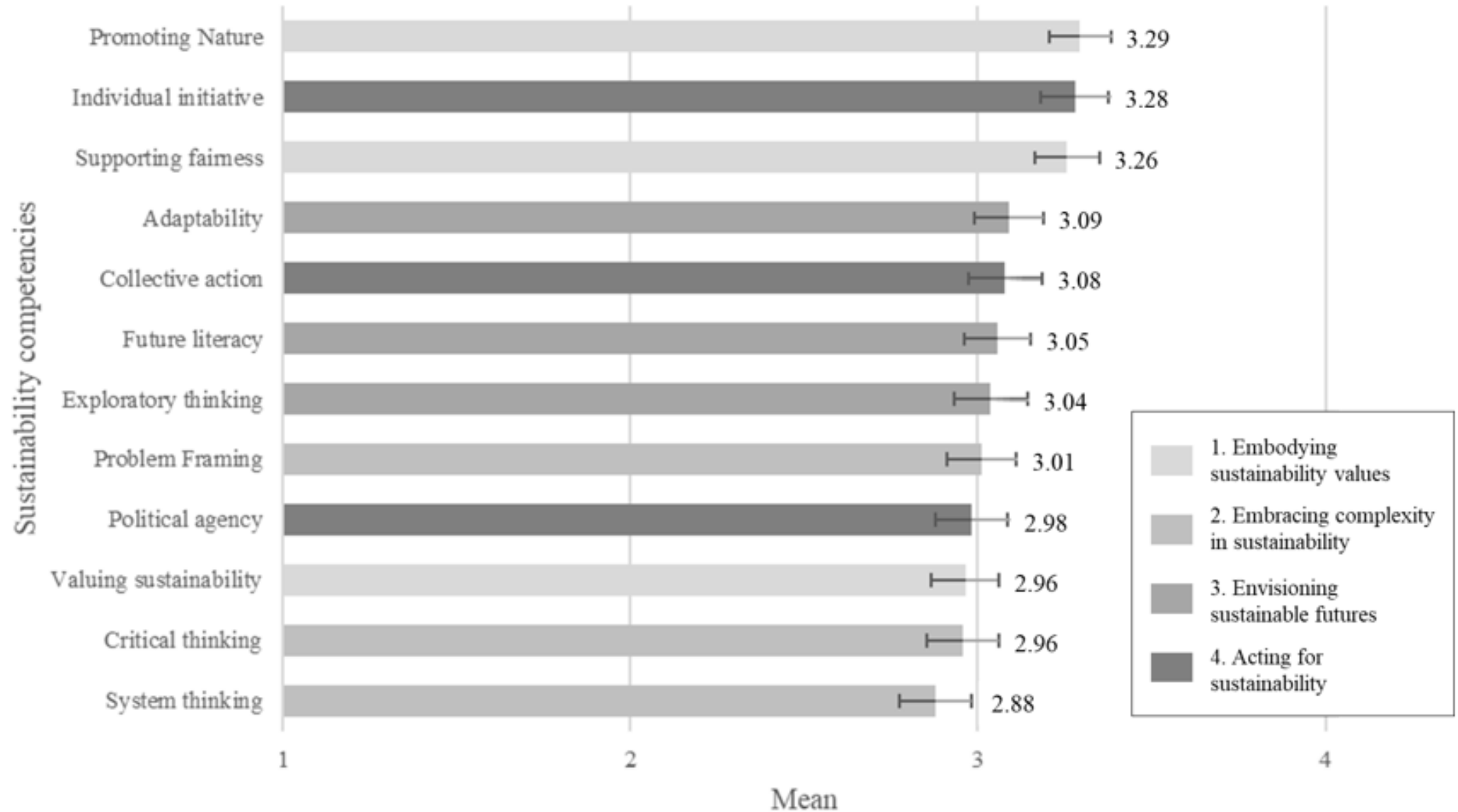
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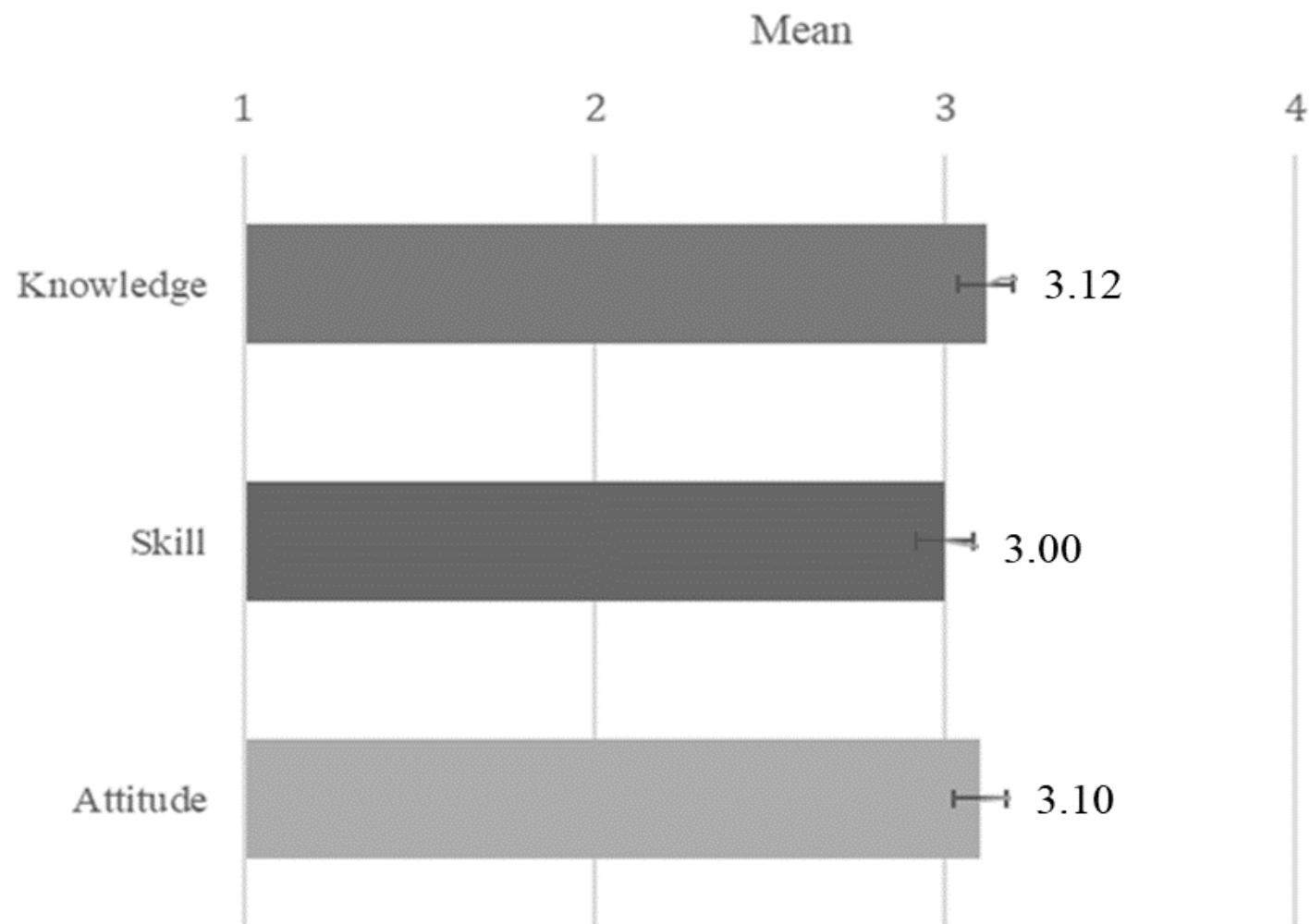
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Discussion & Conclusion

- *“Human behaviour is ultimately the foundation of sustainable development”* (Silvius & Huemann, 2024)
- Project managers **do not feel fully prepared** for the complexity that comes with the role of projects in sustainable development and indicate a need for further development of sustainability competencies.
- Especially the competencies related to **‘Embracing complexity in sustainability’** are in need of further development (‘Systems thinking’ and ‘Critical thinking’)
- Correlations with demographic variables:
 - Personal demographics (gender, age, experience): No significant correlation
“Sustainability is most of all a personal trait of the project manager” (Marnewick et al., 2019).
 - Work environment demographics (sustainability in the strategy): Significant weak positive correlation

Further work

- A second study was performed recently, thereby increasing the sample to 293. First indications show results that are in line.
- An Erasmus+ project 'STEPS4EU' started with the goal to develop education and training units aimed at developing project manager's transversal competences, including systems thinking and critical thinking.



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