

Disruptive impacts of sustainability in project management and Emerging sustainable practices in PMBOK 7th edition

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Subject Categories: Innovation Zone theme (best practices), Integration and/or interface with wider project functions.

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1 – Abstract

Following concerns about climate change sustainable development has become an urgent need that requires institutional and governmental action. It is obvious that our unsustainable present has been built through projects by neglecting wider issues and Grand Challenges. Sustainability in project management has always been easy to understand but hard to implement in practice due to potential difficulties and lack of implicative solutions in PM standards. A structured review of 164 publications by (Silvius and Schipper 2014) indicates that the PM standards fail to seriously address the sustainability agenda. However, previous studies had a brief review on standards, and they were not updated as the PM standards are evolving during the time to adapt with new business needs. This research is the first study to investigate footprints of sustainability in PMBOK 7th edition with a more holistic and a purely theoretical perspective. The study considers sustainability as a crucial but disruptive aspect to be incorporated into the traditional project management functions. It proposes sustainability requires paradigm shifts which evolves current project management practices in a shift from process-based to a principle-based while creating value instead of focusing on deliverables and outputs.

Keywords: Sustainable project practices, Project management standards, Paradigm shifts

2 – Introduction

Sustainability is one of the most important challenges of our time. “How can we develop prosperity, without compromising the life of future generations?” (Silvius and Schipper 2014). Sustainable development, as defined by the Brundtland Commission’s Report (Borowy 2013), is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs (United Nations, 1987). Sustainable development has 3 pillars known as ‘Triple-P (People, Planet, and Profit) or (social, environment and economic) (Elkington 1997).

Sustainable development is not only a concern for governments, but also in businesses and projects. The public is becoming more conscious of the problem due to alarming signs such as significant oil spills, natural disasters, climate change, and health issues related to the environment. While governmental regulations are crucial for achieving a change in the status quo, the impetus for change can and should come from businesses and projects (Silvius, Schipper et al. 2012). However, integrating sustainable practices to projects is not a straightforward process. According to (Sánchez 2015), this problem is true for both portfolio selection and the project tracking phase and performance analysis. An investigation of sustainability principals by (Silvius, Kampinga et al. 2017) summarizes sustainability principals in the context of the projects.

Table 1: Summary of principals of sustainability according to (Silvius, Kampinga et al. 2017)

Number	Principal/ dimension of sustainability
1	Sustainability is about balancing or harmonizing social, environmental, and economic interests
2	Sustainability is about both short-term and long-term orientation
3	Sustainability is about local and global orientation
4	Sustainability is about values and ethics
5	Sustainability is about transparency and accountability
6	Sustainability is about stakeholder participation
7	Sustainability is about risk reduction
8	Sustainability is about eliminating waste
9	Sustainability is about consuming income, not capital

According to APM body of knowledge Sustainability in the project profession is an approach to business that balances the environmental, social, economic aspects of project-based working to meet the current needs of stakeholders without compromising or overburdening future generations. Considering sustainability in projects requires paradigm shifts in the project management knowledge and practice. Several studies emphasize paradigm shifts due to integrating sustainability in project management. First, a shift of scope in the management of projects: from managing time, budget, and quality, to managing social, environmental, and economic impact. Second, it implies a shift of paradigm of project management: from an approach that can be characterized by predictability and controllability, to an approach that is characterized by flexibility, complexity, and opportunity. And third, considering sustainability implies a mind shift for the project manager: from delivering requested results, to taking responsibility for sustainable development in organizations and society (Silvius and Schipper 2014). Embedding sustainable objectives in project management (social, environment and economic) needs paradigm shifts in PM practices and explore its undefined long-term effect, to include a much larger audience of stakeholders which results in increased complexity and conflicting interests in project management (Sabini and Silvius 2023).

Another shift is about project lifecycle. In order to address sustainable issues into Project Management a clear understanding of the various life cycles involved in a project and their interactions is required. (Labuschagne and Brent 2005) propose to consider the project life cycle, the asset/process lifecycle, and the product life cycle while assessing sustainability issues in the manufacturing sector. According to (Silvius and Schipper 2014) to effectively integrate sustainability into project management, it's important to consider not only the project's life cycle, but also the life cycle of the project's outcomes, which have the potential to impact the organization's systems, assets, and behaviour. Additionally, the life cycle of resources utilized during the project must be considered. The authors highlight the need to understand all three life cycles and their interrelationships to successfully integrate sustainability into project management processes. It means that sustainability requires a shift from project lifecycle to extended lifecycle for benefit realization. However, the big challenge about Sustainability is lack of adequate explicit practical solutions in PM standards.

3 – Findings

Emerging sustainable practices in *PMBOK® Guide by PMI– Seventh Edition*

The evolving dynamics, frameworks, and trends of project management necessitate the PMBOK to remain relevant to the profession's changing landscape. The following changes are extracted from “summery of changes” in 7th edition and discuss how they are connected to sustainability principals.

- **Shifts to creating value and going beyond iron triangle**

Since its inception in 1987, The Standard for Project Management has been a process-based standard. However, with the rapidly evolving nature of project management, the prescriptive nature of process-based standards may no longer effectively support good practice. With the rapidly evolving nature of project management the PMBOK® Guide – Seventh Edition has shifted from Process-based to a principles-based standard that prioritizes intended outcomes over deliverables. Rather than focusing on processes, inputs, outputs, tools, and techniques, project delivery is now centered on principles and outcomes and creating values. Principle statements outline generally accepted objectives for the practice of project management and its core functions. Ultimately, the value of a project is the ultimate indicator of its success. This perspective aligns with the first principal of sustainability which goes beyond iron triangle and manages social, environmental, and economic values.

- **Shifts to system thinking and extended Project lifecycle**

Earlier versions of the PMBOK® Guide centred around knowledge areas, whereas the Seventh Edition has shifted to performance domains. Additionally, this edition adopts a systems view of project management, starting with a focus on value delivery as part of The Standard for Project Management and permeating the PMBOK® Guide content. The systems view emphasizes the value chain instead of solely producing outputs. Projects aim to enable those outputs to drive outcomes that ultimately deliver value to the organization and its stakeholders. The PMBOK® Guide no longer includes knowledge areas but is based on eight project performance domains. These performance domains are interdependent and work together to achieve desired project outcomes. As project teams continuously adapt and respond to changes within the system, they evaluate performance through outcomes-focused measures rather than adherence to processes or artifact production. This approach aligns with both the first and

second principal of sustainability which enlarges the lifecycle of the project to go beyond boundaries and ensures a whole value chain of outcomes.

- **Shifts to flexibility in project management**

The PMBOK 7th edition introduces significant changes by incorporating Tailoring, Models, Methods, and Artifacts. This new framework recognizes that a single methodology may impede a project's success based on its deliverables, organizational demands, and unique needs. Thus, project managers must select an appropriate development approach initially and then tailor it as necessary to meet all requirements. The significance of tailoring the project management approach to the unique characteristics of each project and its context is highlighted by this change. Additionally, a new section on Models, Methods, and Artifacts provides a high-level grouping of these resources that support project management without prescribing when, how, or which tools teams should use. This change can be aligned with the shift from an approach that is prescriptive to an approach that is characterized by flexibility, complexity, and opportunity (Silvius and Schipper 2014).

- **Shifts to ethical concerns and projects managers' responsibility**

One of the PM principles emphasized in the seventh edition is the role of a diligent, respectful, and caring steward. Stewards are responsible actors who perform their activities with integrity, care, and trustworthiness while adhering to internal and external guidelines. Adopting a holistic perspective of stewardship involves considering financial, social, technical, and sustainable environmental factors. This new paradigm is compatible with value and ethics, also transparency and accountability principals of sustainability.

- **Shifts to adaptability and agility to cope with complexity and uncertainty**

Sustainable project management is facing an increasing challenge of creating value and adapting to changing environments to be profitable. This challenge requires project managers to be agile, according to (Obradović, Todorović et al. 2019) sustainability and agility are complementary concepts that help managers deal with the complexity and uncertainty which is the characteristics of sustainable project management (Sabini and Silvius 2023). The agile concept can increase the flexibility, velocity, learning, and response to change (Campanelli and Parreiras 2015). Agile Project Management is used where a project goal is clear, but the way to reach that goal is not. Agility support dealing with complexity and uncertainty (Little 2005).

- **Shifts to proactive Stakeholder engagement**

The previous versions of PMBOK had a reactive approach for Stakeholders and communication management by focusing on information and communication needs of the stakeholders and emphasizing that the project manager should provide “only the information that is needed” (Project Management Institute, 2013: 287). In PMBOK 6th edition for the first-time managing stakeholders was accompanied with the term of engagement in this knowledge area. PMI 7th edition, despite eliminating knowledge areas in the content, has maintained stakeholder engagement as either a principal and performance domain with a more proactive approach to ensure creating value and productive relationship with all stakeholders (PMBOK 7th edition) This approach is aligned with the principal of sustainability encouraging stakeholder participation.

- **Shifts to proactive risk management**

In PMBOK 7th edition while there are no footprints of majority of knowledge areas, risk management is still maintained as a an important principal and has a precautionary approach as recommended by (Silvius, Kampinga et al. 2017). For the first time risk is seen as a more forward-looking and proactive approach. Proactive risk management improves an organization's ability to avoid or manage both existing and emerging risks and helps adapt quickly to unwanted events or crisis. It offers methods for identifying drivers (causes) of risks so we can manage root causes rather than the symptoms of risks (Smith and Merritt 2020). So, this approach can better manage the risk and lead to risk reduction as proposed by (Silvius, Kampinga et al. 2017). This precautionary approach is compatible with the 7th principal of sustainability about risk reduction.

- **Shifts from management to leadership style**

PMBOK 7th edition has a shift from managing teams to leading teams to promote vision, creativity, motivation, enthusiasm, encouragement, and empathy in project environment. This stylish shift in managing people has seen as a principal to support better outcomes. Because the mentioned traits are often associated with leader rather than an authority role like management. According to (Tripathi, Priyadarshi et al. 2019) leadership impacts an organization's long-term goals and attitude toward sustainability by crafting policies, practices and supporting systems (Wang, Van Wart et al. 2014), managing projects and employees (Tabassi, Roufehaei et al. 2016) connecting and coordinating diverse stakeholders (Stephan, Patterson et al. 2016) orienting employees toward change and to be mindful toward environment and society (Slankis 2006).

4- Benefits

The outcomes of the study are quite applicable for project, program and portfolio managers and organizations to embed sustainability in day-to-day PM Practices which will lead to a more sustainable society and planet. To summarise, it will contribute to the knowledge and practice in the following aspects:

- Providing Practical solutions for project, program and portfolio managers and organizations to embed sustainability in their practices.
- Contributing to generate new ideas to improve knowledge about sustainable project management.
- Contributing to sustainable society and planet through project management practices in wider perspective.

5- Conclusion and Recommendations for Future

Sustainability issues are not prescriptive in nature to embed in project practices, and they can be varied in different industries (Sabini, Muzio et al. 2019). That's why standards of PM are struggling to address this issue in their content and sustainability can be perceived as a vital but disruptive issue in project management practices. The practices and standards of project management can be developed further to address the role projects play in creating sustainable development. As standards have mostly general approaches to project practices, it is recommended to embed practical sustainable solutions in separate industry Extensions to PM

Standards. In addition, empirical research is recommended to explore more where we need a shift and how we should do it in practice to meet sustainable development goals through projects.

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