Sustainability in Project Management: A Responsibility of Project Managers?

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1.1 Abstract

Sustainability is one of the most important challenges of our time. How can we develop prosperity, without compromising the life of future generations? Companies are integrating ideas of sustainability in their marketing, corporate communications, annual reports and in their actions.

The concept of sustainability has more recently also been linked to project management . Association for Project Management (past-) chairman Tom Taylor recognizes that "Project and Program Managers are significantly placed to make contributions to Sustainable Management practices". And at the 2008 IPMA World Congress, Vice-President Mary McKinlay stated in her keynote speech that "the further development of the project management profession requires project managers to take responsibility for sustainability". It is for that reason inevitable that 'sustainability' will find its way to project management methodologies and practices in the very near future. But how is this responsibility put to practice?

This paper explores the concept of sustainability and its application to project management. It aims to identify the questions that surround the integration of sustainability in project management and to provide practical insights to this challenge.

After a review of the relevant literature on sustainability, its leading elements are identified. Based on an analysis of the scarce literature on the application of these elements in project management we will raise questions on the scope and definition on sustainability in projects and project management. The last section of the paper presents a checklist for assessing sustainability aspects in an organization's projects and project management processes.

1.2 Keywords

Project Management, Sustainable Development, Project Management Competencies, Project Management Processes, Maturity Model.

1.3 Introduction

In the last 10 to 15 years, the concept of sustainability has grown in recognition and importance. The pressure on companies to broaden its reporting and accountability from economic performance for shareholders, to sustainability performance for all stakeholders has increased (Visser, 2002). The recent world crises may even imply, that a strategy focused solely on shareholder value, is not longer viable (Kennedy, 2000). Following the success of Al Gore's 'inconvenient truth', awareness seems to be growing that a change of mindset is needed, both in consumer behavior as in corporate policies. How can we develop prosperity without compromising the life of future generations? Proactively or reactively, companies are looking for ways to integrate ideas of sustainability in their marketing, corporate communications, annual reports and in their actions (Hedstrom et al., 1998; Holliday, 2001).

Sustainability, in this context, being defined as "Adopting business strategies and activities that meet the needs of the enterprise and its stakeholders today while protecting, sustaining and enhancing the human and natural resources that will be needed in the future." (Deloitte & Touche, 1992). The concept of sustainability has more recently also been linked to project management (Gareis et al., 2009; Silvius et al., 2009). Association for Project Management (past-) chairman Tom Taylor

recognizes that “the planet earth is in a perilous position with a range of fundamental sustainability threats” and “Project and Programme Managers are significantly placed to make contributions to Sustainable Management practices” (Association for Project Management, 2006). And at the 22nd World Congress of the International Project Management Association (IPMA) in 2008, IPMA Vice-President Mary McKinlay stated in the opening keynote speech that “the further development of the project management profession requires project managers to take responsibility for sustainability” (McKinlay, 2008). Her plea summarized the development of project management as a profession as she foresees it. In this vision, project managers need to take a broad view of their role and to evolve from ‘doing things right’ to ‘doing the right things right’. This implies taking responsibility for the results of the project, including the sustainability aspects of that result. Also in academic research, the relationship between project management and sustainability is explored (e.g. by Gareis et al., 2009; Labuschagne and Brent, 2006; Silvius et al., 2009) as one of the (future) developments in project management.

But how does this attention for sustainability find its way to the shop floor? How is sustainability taken into account in project management processes, methodologies, competencies, etc.? Is it a point of concern there? If organizations ‘put their money where their mouth is’ on sustainability, it is inevitable that sustainability criteria and indicators will find its way to project management methodologies and practices in the very near future (Silvius et al., 2009).

This paper explores the concept of sustainability and its application to project management. It aims to identify the responsibilities surrounding the integration of sustainability in project management.

1.4 The Concepts of Sustainability

The balance between economic growth and social wellbeing has been around as a political and managerial challenge for over 150 years (Dyllick and Hockerts, 2002). Also the concern for the wise use of natural resources and our planet emerged already many decades ago, with Carson’s book “Silent Spring” (Carson, 1962) as a launching hallmark. Propelled by the World Commission on Environment and Development (1987) and the 1992 Rio Earth Summit, the opinion that none of these three goals, economic growth, social wellbeing and a wise use of natural resources, can be reached, without considering and effecting the other two, got widely accepted (Keating, 1993). With this widespread acceptance, sustainable development became one of the most important challenges of our time.

Whether this increased attention for sustainability is in itself sustainable can be debated, but some developments indicate that it is. For example, the ‘sustainability monitor’ of PriceWaterhouseCoopers (PriceWaterhouseCoopers, 2009) concludes that investments in projects that are considered sustainable, are less prone to the financial crises as non-sustainable projects. Secondly, companies that have a strong sustainability image, like certain banks that include sustainability criteria in their investment policies, show less loss of value than other banks. Thirdly, public organizations are integrating criteria on sustainability in their procurement policies, thereby stimulating companies to be more active in this area.

By stating that “In its broadest sense, sustainable development strategy aims at promoting harmony among human beings and between humanity and nature”, the World Commission on Environment and Development (1987) implies that sustainability requires also a social and an environmental perspective, next to the economical perspective, on development and performance.

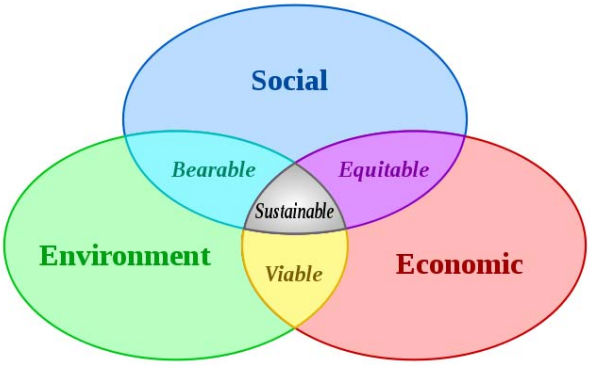


Figure 1. The Triple-P concept of sustainability

In his book ”Cannibals with Forks: the Triple Bottom Line of 21st Century Business”, identifies John Elkington, this as the ‘triple bottom line’ or ‘Triple-P (People, Planet, Profit)’ concept: Sustainability is about the balance or harmony between economic sustainability, social sustainability and environmental sustainability (Elkington, 1997).

Elaborating on this, Dyllick and Hockerts (2002), identify three key elements of sustainability..

Sustainability is about integrating economical, environmental and social aspects.

This element refers to the triple bottom line or three-P concept as stated by Elkington (1997), and acknowledged by Adams (2006) as the ‘three pillars’ of sustainability: Social, Environmental and Economic (illustrated in Figure 1). The concept suggests that three dimensions are interrelated and therefore may influence each other in multiple ways.

Sustainability is about integrating short-term and long-term aspects.

This element focuses the attention to the full lifespan of the matter at hand. An important notion in this aspect is that the economical perspective, because of discount rates, tends to value short term effects more than long term effects, whereas social impacts or environmental degradation may not occur before the long-term.

Sustainability is about consuming the income and not the capital.

This aspect is a common realm in business from the economic perspective. From a social or environmental perspective, however, the impact may not be visible in the short-term, causing degradation of resources in the long run. Sustainability implies that “the natural capital remains intact. This means that the source and sink functions of the environment should not be degraded. Therefore, the extraction of renewable resources should not exceed the rate at which they are renewed, and the absorptive capacity of the environment to assimilate waste, should not be exceeded.” (Gilbert et al., 1996)

1.5 Responsibility for sustainability

The concerns about sustainability indicate that the current way of producing, organizing, consuming, living, etc. may have negative effects on the future. In short,

our current way of doing 'things' is not sustainable. Therefore, some 'things' have to change. We consider projects as temporary organizations (Lundin and Söderholm, 1995; Turner and Müller, 2003) that deliver (any kind of) change to organizations, products, services, policies or assets. Therefore it can be concluded that a (more) sustainable society requires projects. In fact, this connection between sustainability and projects was already established by the World Commission on Environment and Development (1987). However, Eid concludes two decades later that the standards for project management "fail to seriously address the sustainability agenda" (Eid, 2009).

At this year's PMI Research Conference in Washington DC, the question was raised, why the standards for project management, and specifically the PMBOK Guide 4th edition (Project Management Institute, 2008), fail to address sustainability as a consideration for planning or managing projects[1]. The answer that was given to this question was "because the PMBOK follows the Project Management practices, and does not lead these.". This question highlights the responsibility question. *Do project managers carry responsibility for sustainability in their projects? Or should we look at the project sponsor for this?*

This very relevant question cannot be answered without discussing the scope or 'system boundaries' of projects and project management. These system boundaries will be illustrated with Figure 2.

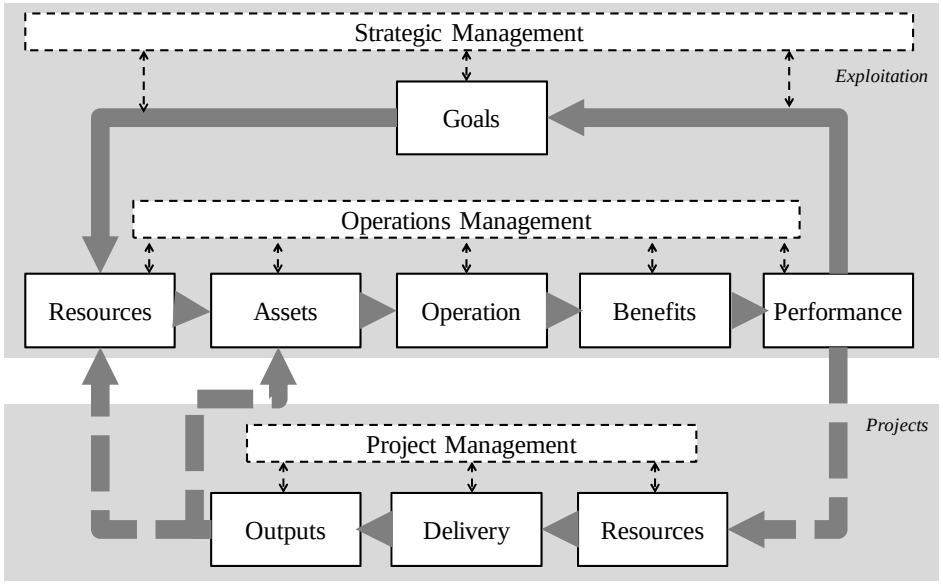


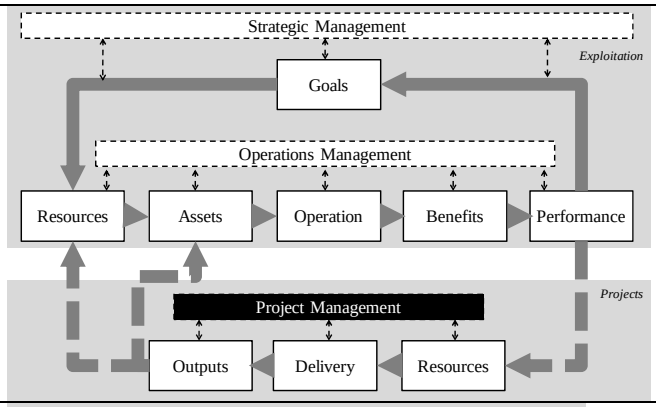
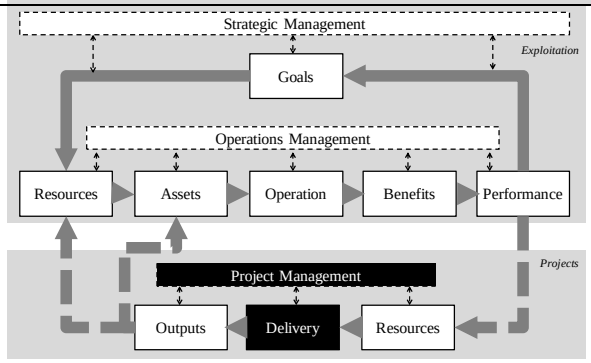
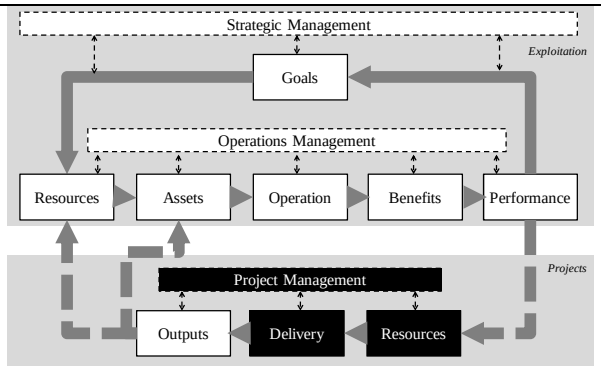
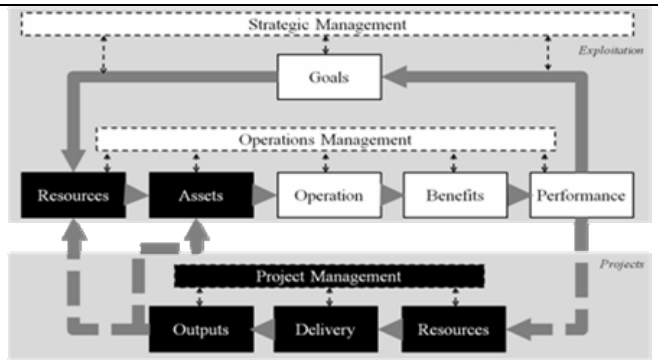
Figure 2. Project and project management in the context of operations management and strategic management (Based on Turner, 2010).

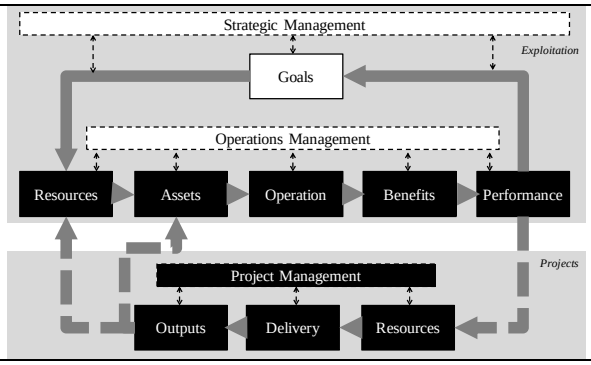
Regarding sustainability in projects and project management, different approaches can be identified. Table 1 illustrates these approaches.

Table 1. Different scopes of considering sustainability in project management.

Approach	*System boundaries*	*As found in*

[1] The question was raised by the lead author of this paper in a panel discussion on sustainability and projects.

Sustainability in project management processes		Gareis et al. (2009)
Sustainability in project delivery		Russell (2008)
Sustainability in project management		Association for Project Management (2006)
Sustainability in projects		Taylor (2008); Eid (2009); Turner (2010)

Sustainability in the project life cycle		Labuschagne and Brent (2006), Silvius et al. (2009)

From table 1 it becomes clear that different interpretations exist for the scope or system boundaries of considering sustainability in projects and project management.

1.6 Sustainability in projects and project management

The relationship between sustainability and project management is still an emerging field of study (Gareis et al., 2009). Literature is scarce, but some first studies and ideas were published in recent years (Labuschagne and Brent, 2006; Association for Project Management, 2006; Russell, 2008; Taylor, 2008; Eid, 2009; Gareis et al., 2009; Silvius et al., 2009; Turner, 2010, Silvius et al., 2010). Based on these studies, the following insights on sustainability in projects and project management can be derived.

Sustainability in projects and project management is about integrating economical, environmental and social aspects in the management and delivery of projects.

This insight corresponds with the triple bottom line element of sustainability. Integrating sustainability in project management requires the inclusion of 'People' and 'Planet' performance indicators in the management systems, formats and governance of projects (Silvius et al., 2009). In the current project management methodologies, the management of projects is dominated by the 'triple-constraint' variables time, cost and quality (Project Management Institute, 2008). And although the success of projects is most often defined in a more holistic perspective (Thomas and Fernandéz, 2007), this broader set of criteria doesn't reflect on the way projects are managed.

The triple-constraint variables clearly put emphasis on the profit 'P'. The social and environmental aspects may be included as aspects of the quality of the result, but they are bound to get less attention.

Sustainability in project management stretches the system boundaries of the project and of project management.

Given the future-orientation of sustainability, a logical implication is to consider the full life-cycle of a project, from its conception to its disposal. This view is further developed by Labuschagne and Brent (2006). In their work they argue, that when considering sustainability in project management, the total life cycle of the project (e.g. initiation-development-execution-testing-launch) should be taken into account. But not just the life-cycle of the project is relevant. The project will 'produce' a result, being a change in assets, systems, behavior, etc. This result, in their words: the asset, should also be considered over its full life cycle. And even another level further, also the life cycle of

the product or service that the asset produces should be considered. Including sustainability considerations in projects suggests that these three life cycles, the 'project life cycle', the 'asset life cycle' and the 'product life cycle', are taken into account.

Because Labuschagne and Brent include the result of the project in their framework, it is sensitive to the context of the project. Their studies regarded the manufacturing sector in which projects generally realize assets that produce products. In other contexts, the result of a project may be not an asset, but an organizational change or a new policy. The general insight however is that sustainability in projects suggests that also the 'supply chain' of the project is considered. In other words, we should also consider the life cycle of whatever result the project realizes and also the life cycle of the resources used in realizing the result. Integrating the concept of sustainability in project management therefore stretches the 'systems boundaries' of project management.

Considering these elements of sustainability in projects and in project management, we can conclude that

Sustainability in projects and project management is about the development, delivery and management of project-organized change in policies, assets or organizations, with consideration of the economical, social and environmental impact of the project, its result and its effect.

As stated earlier, the integration of the concepts of sustainability in project management has only just begun (Gareis et al., 2009). The current state of research on sustainability in projects and project management is therefore mostly interpretive, giving meaning to how the concepts of sustainability could be interpreted in the context of projects, rather than prescriptive, prescribing how sustainability should be integrated into projects. The studies provide ingredients, but no clear recipe. At the 2010 IPMA Expert Seminar 'Survival and Sustainability as Challenges for Project" (publication forthcoming), one of the goals was to 'translate' the concepts of sustainability to practically applicable tools for project management professionals (Silvius, 2010). One of the tools developed in this workshop was a 'Sustainability Checklist' for projects and project managers. Table 2 provides this Sustainability Checklist.

Table 2. A checklist for integrating sustainability in projects and project management.

Economic Sustainability	Return on Investment	- Direct financial benefits - Net Present Value
	Business Agility	- Flexibility / Optionality in the project - Increased business flexibility
Environmental Sustainability	Transport	- Local procurement - Digital communication - Traveling - Transport
	Energy	- Energy used - Emission / CO2 from energy used
	Waste	- Recycling - Disposal
	Materials and resources	- Reusability - Incorporated energy

		- Waste
Social Sustainability	Labor Practices and Decent Work	- Employment - Labor / Management relations - Health and Safety - Training and Education - Organisational learning - Diversity and Equal opportunity
	Human Rights	- Non-discrimination - Freedom of association - Child labour - Forced and compulsory labor
	Society and Customers	- Community support - Public policy / Compliance - Customer health and safety - Products and services labeling - Market communication and Advertising - Customer privacy
	Ethical behavior	- Investment and Procurement practices - Bribery and corruption - Anti-competition behavior

1.7 Implications

The checklist above provides a first step in integrating the concepts of sustainability into projects and project management. A logical question, however, is:

Who in the project is responsible for handling and monitoring these sustainability aspects?

At the 2010 IPMA Expert Seminar mentioned earlier, the responsibilities of the different roles in a project, as project sponsor, project manager, supplier, user, designer, etc., were assessed on the criteria of the Sustainability Checklist. The assessment concluded whether the role was “responsible for”, “can influence” or had no responsibility on the different items of the checklist. Table 3 presents the result of this assessment (Silvius, 2010).

Table 3. A Mapping the responsibility for sustainability.

		Project context				Project team			Operations
		project sponsor	portfolio manager	program manager	senior user or senior supplier	project manager	designer	construc-tion manager	exploita-tion manager
Economic Sustainability	Return on Investment	is responsible for	can influence	can influence	can influence	can influence	can influence	can influence	can influence
	Business Agility	can influence	can influence	can influence	can influence	is responsible for	is responsible for	can influence	
Environmental Sustainability	Transport	responsible or can influence	can influence	can influence	can influence	responsible or can influence	can influence		
	Energy	responsible or can influence	can influence	can influence	can influence	responsible or can influence	responsible or can influence	can influence	can influence
	Waste	can influence			can influence	responsible or can influence	is responsible for	is responsible for	can influence
	Materials and resources	responsible or can influence			can influence	responsible or can influence	is responsible for	is responsible for	can influence
Social Sustainability	Labor Practices and Decent Work	responsible or can influence	can influence	can influence	can influence	is responsible for	can influence	is responsible for	is responsible for
	Human Rights	responsible or can influence	can influence	can influence	can influence	is responsible for	can influence	is responsible for	is responsible for
	Society and Customers	responsible or can influence	can influence	can influence	can influence	is responsible for	can influence	can influence	can influence
	Ethical behaviour	responsible or can influence	can influence	can influence	can influence	is responsible for	can influence	is responsible for	is responsible for

From this table it shows that the responsibility for sustainability in projects is most of all between the project sponsor and the project manager. How this responsibility is exactly managed between these two roles may differ between projects, but there will always be a mutual influence, also if the responsibility is at the other role.

1.8 Conclusion

Projects can make a contribution to the sustainable development of organizations. It should therefore be expected that the concepts of sustainability are reflected in projects and project management. And although some aspects of sustainability are found in the various standards of project management, it has to be concluded that the integration of sustainability in projects and project management is not fully recognized yet. In exploring what sustainability means for projects and project management, this paper raised the question of *Who in the project is responsible for handling and monitoring these sustainability aspects?*

This question was explored, and suggestions for integrating the concepts of sustainability were made in the form of a 'sustainability checklist' that can be used by both project sponsors and project managers. From the mapping of the checklist on project roles, it can be concluded that the actual responsibility for sustainability may differ by project. However, the project manager will always have a decisive or influencing role. The project management profession should therefore also take responsibility for a more sustainable future.

Elaborating on this professional responsibility, it should, however, also be noted that still a lot of work has to be done on the implications of Sustainable Project Management and that there is a growing need of expertise, criteria and concepts to practically implement the concept in the management of projects.

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