Sustainability in Project Management:
Vision, Mission, Ambition

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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 communication, annual reports and in their actions.
The concept of sustainability has more recently also been linked to project management. Studies show that considering sustainability should not be regarded a responsibility of just the project sponsor or executive, also the project manager has a strong influence on the sustainability aspects of a project.
This paper explores the concept of sustainability and its impact on the competences of the project manager. The paper also reports an analysis of 56 case studies on the integration of the concepts of sustainability in the way organizations initiate, develop and manage projects. This study showed that the average level of sustainability consideration in the actual situation of 25.9%. For the desired situation, this score is almost 10 percent higher, showing an ambition to take sustainability more into consideration. The study also showed that the way sustainability currently is considered in projects, should be categorized as the traditional 'less bad' approach to sustainability integration and not a more modern social responsibility approach.

Keywords: Project, Project management, Sustainability, Sustainable development, Maturity.

1. Introduction

Sustainability is recognized as one of the most important challenges of our time. Following the success of Al Gore's 'inconvenient truth', awareness seems to be growing that a change of mindset is needed, both in behavior and in policies. How can we develop prosperity without compromising the future?
The concept of sustainability has more recently also been linked to project management (Labuschagne and Brent, 2006; Gareis et al., 2009 and 2011; Silvius et al., 2009 and 2012). 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). 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?
Based on *the vision* that projects play a key role in the change organizations need in order to contribute to a sustainable society, this paper explores the concept of sustainability and its application to project management. With the application of these principles to project management, we will build *the mission* for the project management profession to take responsibility for the sustainability of projects, and thereby the sustainability of organizations. We will also show *the ambition* of organizations on sustainability, by presenting the results of 56 case studies on how organizations integrate the concepts of sustainability into the way they initiate, execute and manage projects.

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2. The concepts of Sustainability

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). 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).

And although this increased attention for sustainability seems a recent development, 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. In 1972 the 'Club of Rome', an independent think tank, published its book "The Limits to Growth". In the book, the authors concluded that if the world's population and economy would continue to grow at their current speeds, our planet's natural resources would approach depletion. The Limits to Growth fuelled a public debate, leading to installation of the UN 'World Commission on Development and Environment', named the Brundtland Commission after its chair. In their report "Our Common Future", the Brundtland commission defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (1987). By stating that "In its broadest sense, sustainable development strategy aims at promoting harmony among human beings and between humanity and nature", the report implies that sustainability requires also a social and an environmental perspective, next to the economical perspective, on development and performance.

The visions that none of the development goals of 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). 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).
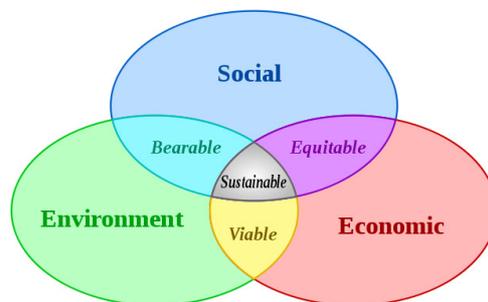

Figure 1. The Triple-P concept of sustainability.

Based on the concepts and standards described above, a number of key elements, or principles, of sustainability can be derived. For example Dyllick and Hockerts identify three "key elements of corporate sustainability": Integrating the economic, ecological and social aspects into the firm's strategy, Integrating short-term and long-term aspects and Consuming the income and not the capital. Gareis et al. define sustainability with the following principles (Gareis et al. 2011): economic, social and ecologic orientation; short-, mid- and long-term orientation; local, regional and global orientation; value orientation. The recent ISO 26000 guideline on social responsibility mentions accountability, transparency, ethical behaviour, respect for stakeholders' interests, respect for rule of law, respect for international norms of behaviour and respect for human rights as 'principles' of sustainability. After considering these sets of elements or principles, Silvius et al. (2012) concluded six 'principles of sustainability':

Sustainability is about balancing or harmonising social, environmental and economical interests
> In order to contribute to sustainable development, a company should satisfy all 'three pillars' of sustainability: Social, Environmental and Economic (illustrated in Figure 1). The dimensions are interrelated, i.e. they influence each other in various ways. One way of considering sustainability is to 'balance' social, economic and environmental aspects by trading off the negative effects of doing business

for a somewhat lower profit. For example compensating CO2 emission by planting new trees or compensating unhealthy work pressure by higher salaries. A more proactive approach to sustainability looks at how organisations create a 'harmony' of social, environmental and economic aspects in their activities. This approach is not about compensating bad effects, but about creating good effects (Silvius and Schipper, 2010).

Sustainability is about both short term and long term orientation

A sustainable company should consider long-term consequences of their actions, and not only focus on short-term gains. Especially firms listed on the stock market have overemphasised the importance of short-term gains, trying to increase performance from quarterly report to quarterly report, and thereby losing long term vision. This element focuses the attention on the full life cycle 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 local and global orientation

The increasing globalisation of economies effect the geographical area that organisations influence. Whether intentionally or not, many organisations are influenced by international stakeholders whether these are competitors, suppliers or (potential) customers. The behaviour and actions of organisations therefore have an effect on economical, social and environmental aspects, both locally and globally. "In order to efficiently address these nested and interlinked processes sustainable development has to be a coordinated effort playing out across several levels, ranging from the global to the regional and the local" (Gareis et al., 2011).

Sustainability is about consuming income, not capital

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). This principle is common knowledge in business from the economic perspective. Finance managers know that a company which does not use its income to pay for its costs, but instead uses its capital, will soon be insolvent. 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. In order to be sustainable, companies have to manage not only their economic capital, but also their social and environmental capital.

Sustainability is about transparency and accountability

The principle of transparency implies that an organisation is open about its policies, decisions and actions, including the environmental and social effects of those actions and policies. This implies that organisations provide timely, clear and relevant information to their stakeholders so that these stakeholders can evaluate the organisation's actions and can address potential issues with these actions. The principle of accountability is logically connected to this. This principle implies that an organisation is responsible for its policies, decisions and actions and the effect of these on environment and society. The principle also implies that an organisation accepts this responsibility and is willing to be held accountable for these policies, decisions and actions.

Sustainability is about personal values and ethics

As discussed earlier, a key element of sustainability is change. Change towards more sustainable (business) practices. As argued by Robinson (2004) and Martens (2006), sustainable development is inevitably a normative concept, reflecting values and ethical considerations of the society. Part of change needed for more a sustainable development will therefore also be the implicit or explicit set of values that we as professionals, business leaders or consumers have and that influence or lead our behaviour. GRI Deputy Director Nelmara Arbex puts it simple and clear: "In order to change the way we DO things, we need to change the way we VIEW things" (Silvius et al., 2012).

These sustainability principles provide guidance for the analysis of the impact of the concepts of sustainability in projects and project management.

3. From less bad to do good

As mentioned in the introduction of this paper, many companies have already accepted some level of responsibility for sustainable development as part of being in business. Stimulated by government regulations, the voice of pressure groups or perhaps by their own beliefs and values, they are implementing more sustainable business practices in their organizations. The examples are numerous, from more 'fair' production of raw materials, to more efficient use of energy, to tighter travel policies, to recycling of end-of-life products, etc. However, the level to which organizations integrate sustainable practices into their operations varies widely.

In his book "The Next Sustainability Wave", Bob Willard (2005) describes five 'sustainability stages' a company can be in (Figure 2). The stages move from reactive to proactive and describe to what extent a company is committed to sustainability principles. The first stage is when companies fail even to comply with prevailing regulations. They are opportunistic and not engaged with the concept of sustainability . When a company complies with all environmental and social regulations it moves up to stage 2, 'compliance'. In stage 3 'beyond compliance' a company starts to not only react on regulations, but it starts introducing sustainability activities. Yet, these activities are not concerted but are carried out in different departments. Companies who understand the importance of sustainability and the value-added they can gain from sustainable activities e.g. energy-efficient production or eco-friendly products and integrate sustainability into their corporate strategy are in stage 4 'integrated strategy'. The highest stage 5 'purpose and passion' is attained when companies are not just driven by profits but also by a sense of responsibility to improve society and environment and contribute to a better world.

Figure 3. The stages of Sustainability.
(Adapted from Willard, "The Next Sustainability Wave", 2005)

The stages of sustainability model illustrates how companies can move from a reactive approach to a proactive one. The difference between the stages 3 and 4 is especially important here. This step distinguishes companies that merely try to be 'less bad', by trying to minimize the negative effects of their business, from companies that try to 'do good', by integrating sustainability considerations in their core business itself. This last approach, seeing sustainability as an integrated part of the business, is rapidly gaining momentum. It is the mind-shift from considering sustainability as a 'threat' and a 'cost' to considering it as a (business) opportunity.

4. Sustainability and Project Management

Projects can be considered as temporary organisations (Lundin and Söderholm, 1995; Turner and Müller, 2003) that deliver (any kind of) change to organisations, products, services, business processes, policies or assets. These project-organised changes, or simply projects, are characterised by:

-   A temporary nature or temporary organisation;
-   Most often across organisational structures and boundaries;
-   A defined deliverable or result, logically or preferably linked to the organisation's strategy or goals;
-   Specified resources and budget.

In this definition, projects are, as temporary organisations, related to a non-temporary 'permanent' organisation, and realise changes that benefit the strategy or goals of this organisation. The permanent organisation utilises resources and assets in its operational business processes to deliver benefits or value to its customers and ultimately deliver business performance (e.g. profit, market share, return in capital, etc.) to the organisation and its stakeholders. Its activities are based on goals that are developed or set in a strategic management process.

The strategic management of the organisation, however, not just includes setting goals. It also includes evaluating the business performance of the organisation against these goals. If the performance is satisfactory, the operations may continue. But if the performance is unsatisfactory, because of lack of performance or because of changing goals, there may be reason to change something in the organisation. In that case, a temporary organisation, in the form of a project, is commonly used to create this change. The change may concern the resources, assets or business processes of the permanent organisation, but also the products/services rendered or the internal policies and procedures. The selection of the 'right' changes for the organisation is usually part of a process called 'portfolio management'. Figure 3 illustrates this relationship between projects as temporary organisations and the permanent organisation.
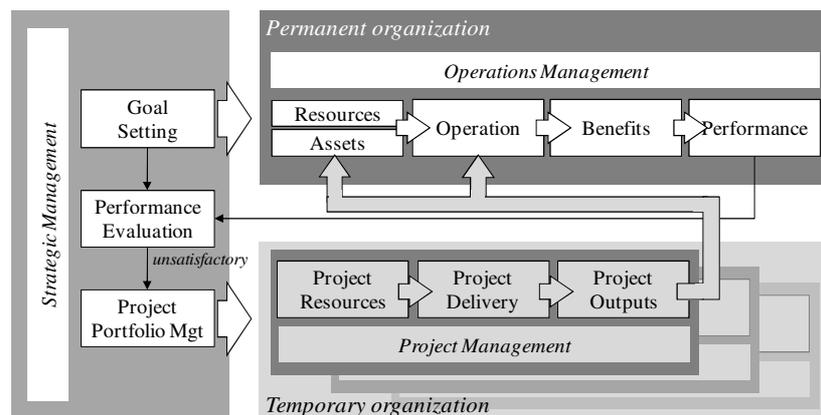

Figure 3. Project as temporary organisations that deliver changes to the permanent organisation.

Elaborating on the view of projects as instruments of change, it is evident that a (more) sustainable society requires projects to realise change. 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). Given the temporary nature of projects this may not be surprising. Projects and sustainable development are probably not 'natural friends'. Table 1 illustrates some of the 'natural' differences in the characteristics of the two concepts.

Sustainable Development		Project Management
Long term + short term oriented	←——→	Short term oriented
In the interest of this generation and future generations	←—→	In the interest of Sponsor / Stakeholders
Life-cycle oriented	←———→	Deliverable/result oriented
People, Planet, Profit	←———→	Scope, Time, Budget
Increasing complexity	←———→	Reduced complexity

Table 1. The contrast between the concepts of Sustainable Development and Projects.

The relationship between sustainability and project management is an emerging field of study (Gareis et al., 2009), that is rapidly gaining interest from both practitioners and academics. Silvius (2012) reports over 75 publications (books, book chapters, journal articles and conference papers) on the topic, of which 70% was published in the years 2009 - 2012. Groundbreaking authors include Labuschagne and Brent, who elaborated on the implications of the concept of life cycle thinking in projects and project management. Another 'early adopters' are Eid, who studied the "connection points" between sustainable development and project management (Eid, 2009) and Taylor (2008; 2010) who takes on a very practical approach to integrating the concepts of sustainability into project management. Without suggesting to be 'complete', Silvius et al. (2012) present a few conclusions from the emerging literature..

Conclusion 1: *Sustainability is relevant to projects and project management.*

As stated in the introduction of this paper, APM's (past-)chairman Tom Taylor was one of the first to suggest the project management community to familiarise themselves with the issues of sustainability, recognising that more should be done to contribute to a more sustainable society (Association for Project Management, 2006). This appeal was the output of a small working party in APM that recognised that project managers were not well equipped to make a contribution to sustainable development and decided to investigate this issue.

On the 2008 European conference of the Project Management Institute (PMI), Jennifer Russell elaborated on what Corporate Social Responsibility means for project managers (Russell, 2008). She pointed out that a project manager, being in the frontline of new or changed activities within an organisation, is perfectly positioned to influence the organisation's operations towards greater sustainability. Russell also argued that this position is not without responsibility, both for the organisation as for the project manager. She concludes that "Corporate social responsibility is too big an issue to leave to someone else to address."

Conclusion 2: *Integrating sustainability stretches the system boundaries of project management.*

In some of the first publications on sustainability and project management, Carin Labuschagne and Alan Brent of the University of Pretoria link the principles of sustainable development to project life cycle management in the manufacturing industry (Labuschagne and Brent, 2006). They suggest that the future-orientation of sustainability implies that the full life cycle of a project, from its conception to its disposal, should be considered. Elaborating on this life cycle view, they argue that when considering sustainability in project management, not just the total life cycle of the project (e.g. initiation-development-execution-testing-launch) should be taken into account, but also of the 'result' the project produces, being a change in assets, systems, behaviour, etc. This result, in their words: the 'asset', should also be considered over its full life cycle, being something like design-develop-manufacture-operate-decommission-disposal. And taking the life cycle view even further, also the life cycle of the product or service that the asset produces should be considered. Figure 4 visualises how these three life cycles, 'project life cycle', 'asset life cycle' and 'product life cycle', interact and relate to each other. Including sustainability considerations in projects therefore suggests that all three life cycles are considered.
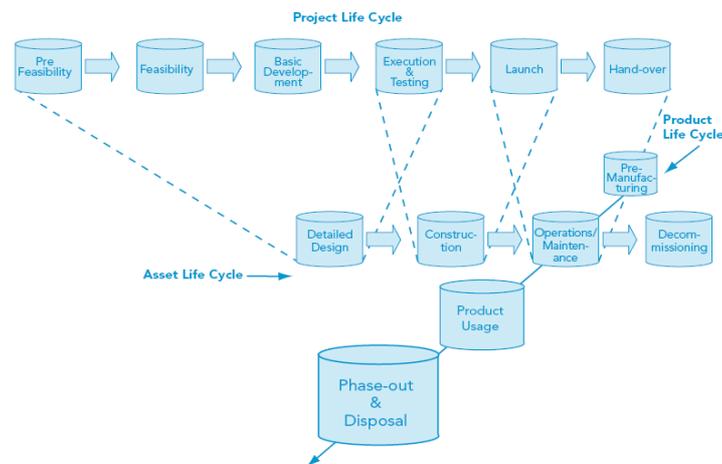
Figure 4. Interrelating life-cycles (Silvius et al., 2009, based on Labuschagne and Brent, 2006).

Because Labuschagne and Brent include the result of the project, the asset, in their framework, it is sensitive to the context of the project. The general insight gained from their work, however, may be that integrating sustainability in projects should not be limited to just the project management processes. It suggests that also the 'supply chain' of the project is to be considered, including the life cycle of whatever result the project realises and also the life cycle of the resources used in realising the result.

Conclusion 3: *Project management standards fail to address sustainability*

This conclusion was most clearly drawn by Mohamed Eid in the 2009 book "Sustainable Development & Project Management" (Eid, 2009). Eid studied the integration of sustainable development in construction project management. Some conclusions from his study:
- Project management is an efficient vehicle to introduce a more profound change, not only to the construction industry's practice, but more importantly to the industry's culture.
- Project management processes and knowledge fall short of committing to a sustainable approach.
- Mapping sustainable development onto project management processes and knowledge areas, identifies opportunities for introducing sustainability guidelines in to all project management processes.

It should be mentioned, that 'help may be on its way' with regards to the integration of the concepts of sustainability into project management standards. For example, Taylor elaborated on his earlier appeal to the project management profession (Association for Project Management, 2006), by publishing 'A Sustainability Checklist for Managers of Projects' (Taylor, 2008). This checklist contains a list of suggested consideration for project managers, with which they can incorporate sustainability aspects in their projects. And although the checklist lacks a systematic approach to the concepts of sustainability, it is a meaningful attempt to translate the 'abstract' concepts of sustainability to the daily work of the project manager.

Conclusion 4: *The integration of sustainability may change the project management profession.*

The 2010 IPMA Expert Seminar 'Survival and Sustainability as challenges for projects', featured several papers and discussions on the integration of sustainability in projects and project management (Knoepfel, 2010). The conclusion of this seminar was that the influence of the project manager on the sustainability aspects of his or hers project at hand is substantial, regardless whether he/she actually bears responsibility for these aspects. This conclusion may actually change the nature of the project management profession. From a managerial role aimed at realising delegated tasks, it may need to develop into a more advisory role with autonomous professional responsibilities and aimed at the right organisational changes.

The studies summarised in this section illustrate the current state of knowledge on sustainability in projects and project management. The current state of research on sustainability in projects and project management is 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. However, the studies also include a vision. A vision on the development of project management as a profession. 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 not just for the process of delivering a project, but also for the content and the results of the project itself. Including the sustainability aspects of that result.

It should also be concluded that integrating sustainability is not a yes/no question. The concepts of sustainability, as presented earlier, provide a holistic perspective on projects. Project management logically will include probably many considerations connected to the concepts of sustainability, but probably not all. In order to provide a practical analysis framework, Silvius and Schipper (2010) developed a maturity model for the analysis of the consideration of sustainability aspects in projects and project management. This maturity model is discussed in the next section.

5. The Sustainability in Project Management Maturity Model

Maturity models are a practical way to 'translate' complex concepts into organizational capabilities and to raise awareness for potential development. They provide guidance for action plans and allow organizations to monitor their progress (Dinsmore, 1998). Silvius and Schipper (2010) developed a maturity model that assesses the consideration of sustainability aspects in projects and project management. The model is based on two dimensions. The first dimension is that of the aspects, or criteria, of sustainability, the second that of the level or depth of considering sustainability.

Dimension 1: Criteria of Sustainability

Elaborating on the three perspectives of the Triple-P concept (as illustrated in Figure 1), several organizations developed frameworks of indicators that would allow organizations to evaluate the sustainability aspects of different policies and projects, as well as to monitor progress. In fact, the literature on these models is a veritable jungle of different approaches and numerous case studies (Olsson et al, 2004). A widely used framework in (external) sustainability reporting is the Sustainability Reporting Guidelines by the Global Reporting Initiative (GRI). The GRI is a non-profit organization that pioneered the Sustainability Reporting Guidelines (SRG). Companies can use the SRG to indicate to shareholders and consumers their economic, social and environmental performance. GRI's objective is to facilitate sustainability reporting for companies and thereby stimulate them to operate more sustainably. The SRG framework consists of an extensive set of indicators, from which companies can select a set that is relevant to their operations or industry.

At the 2010 IPMA Expert Seminar 'Survival and Sustainability as Challenges for Project" (Knoepfel, 2010), one of the goals was to 'translate' the concepts of sustainability to practically applicable tools for project management professionals. Based on the SRG, the participants of the seminar developed a 'Sustainability Checklist' for projects and project managers. Table 2 provides this Sustainability Checklist. The maturity model by Silvius and Schipper adopted this checklist as operationalization of the criteria of sustainability.

Economic Sustainability	Return on Investment	- Direct financial benefits / Net Present Value - Strategic value
	Business Agility	- Flexibility / Optionality in the project - Increased business flexibility
Environmental Sustainability	Transport	- Local procurement / supplier selection - Digital communication - Travelling - Transport
	Energy	- Energy used - Emission / CO_2 from energy used

	Water	- Water usage - Recycling
	Waste	- Recycling - Disposal
	Materials and resources	- Reusability - Incorporated energy - Supplier selection
Social Sustainability	Labour Practices and Decent Work	- Employment - Labour / Management relations - Health and Safety - Training and Education - Organizational learning
	Human Rights	- Non-discrimination - Diversity and Equal opportunity - Freedom of association - Child labour - Forced and compulsory labour
	Society and Customers	- Community support - Public policy / Compliance - Customer health and safety - Products and services labelling - Market communication and Advertising - Customer privacy
	Ethical behavior	- Investment and Procurement practices - Bribery and corruption - Anti-competition behaviour

Table 2. A checklist for integrating sustainability in projects and project management (Knoepfel, 2010).

Dimension 2: Level of Consideration

The second dimension of the maturity model is that of level, or depth, of consideration of sustainability. This dimension is based on the 'from less bad to do good' development of sustainability thinking, discussed earlier, and recognizes that sustainability can be considered on different levels. A first logical level is the level of resources. For example using resources that provide the same functionality, but are less harmful for the environment, like using hybrid cars instead of normal fueled cars. These actions can reduce the less sustainable effects of operating the organization, but do not take away the cause of non-sustainability. A second level of consideration is therefore the business process in which the resources are used. A more sustainable business process takes away the cause of non-sustainable effects instead of just limiting or compensating them. For example optimizing a service management process in such a way that less travel is required.
A third level of consideration is looking at the way the products or services are delivered: the business model. For example changing from a strictly off-line business model to a combined on-line and off-line business model, may have favorable effects on sustainability because of the fact that on-line shoppers travel less than off-line shoppers. A fourth and final level of consideration takes into account not only the business process or model to deliver products and services, but also the products and services themselves. How can products and services be innovated to contribute to a more sustainable society. For example a product that learns children to respect nature.

Figure 5 illustrates the four levels of consideration of the maturity model.

Figure 5. The levels of consideration.

Assessing maturity

The maturity assessment uses a questionnaire consisting of four sections and in total 31 questions (included as Annex). The first three sections cover descriptive questions regarding the respondent, the project that is assessed and the organizational context of the project. The fourth section consist of the actual assessment questions. The model assesses the level (business resources, business process, business model, products/services) on which the different aspects of sustainability are considered in the project. The sustainability aspects are derived from the sustainability checklist and are grouped in economical aspects, environmental aspects and social aspects. Presenting the project's maturity separately on these three pillars of sustainability is a deliberate choice in order to address the regional differences mentioned earlier and the ambitions or values an organization may have. Figure 6 shows the conceptual model of the assessment.
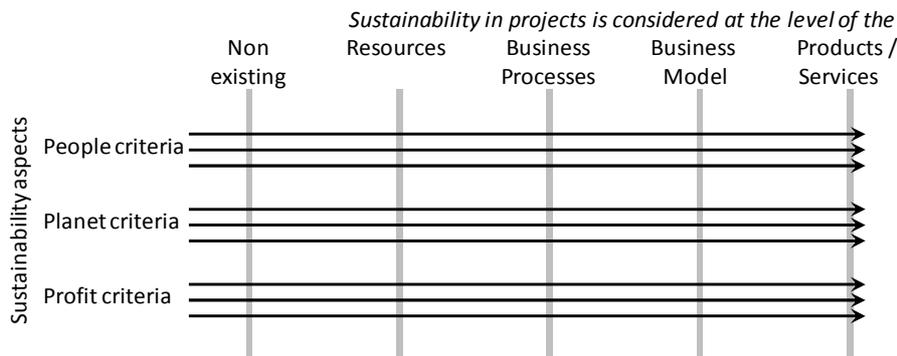

Figure 6. Conceptual model of the assessment (Silvius and Schipper, 2010).

For each sustainability aspect an assessment of the current situation and the desired situation is asked. This provides guidance for improvement. An example question from the assessment:

In which way does the project try to minimize its waste?

	Actual situation	Desired situation	
A.	[ ]	[ ]	No specific policies on this point.
B.	[ ]	[ ]	Waste in the project is separated in recyclable and non-recyclable and collected by the local waste handling companies.
C.	[ ]	[ ]	The project has policies (e.g. double sided printing) to minimize waste and waste in the project is separated.
D.	[ ]	[ ]	The project is designed to minimize waste and necessary waste is as much as possible recycled in the project itself.
E.	[ ]	[ ]	The project and the result it delivers are designed to minimize waste and necessary waste is as much as possible recycled in the project or result itself.

In the questionnaire, answers B to E correspond to the earlier mentioned levels of consideration (B: business resources, C: business process, D: business model, E: products/services). Answers A correspond to 'non existing', meaning that this aspects of sustainability is not specifically taken into account. Answers B to E were formulated non cumulative, meaning that the respondents could 'tick' multiple answers. Answer A, the non existing answer, logically does not combine with any of the answers B to E.

The assessment is reported in a graphical way, showing both the actual levels and the desired levels of integration of the sustainability aspects. Based on the report, organizations can discuss their ambition levels (the desired situation) on the different perspectives, develop an action plan to bridge the gap between actual levels of maturity and desired levels and to monitor their progress.

6. A first exploration

Based on the maturity model discussed in the previous section, the consideration of 56 cases in 46 organizations was assessed. The maturity assessments were performed over the period October 2010 to December 2011. Data was collected using structured interviews based on the questionnaire of the maturity model. Respondents were typically project managers, project sponsors and other key stakeholders. An important condition was that the respondent was in a position to give an informed answer to the questions of the assessment.

The participating organizations in the study covered a broad range of industries and company sizes. The majority of the participating organizations was located in Europe (40). The non-European organizations were located in Asia (5) and the United States (1). 59% of the organizations operated internationally.

78% of the projects assessed in the study were characterized as building and/or construction projects, and 22% of the projects as organizational change and/or information technology (IT) projects. Approximately 73% of the projects were international projects.

Consideration of sustainability

Table 3 presents the results found in the study, and shows the Actual and Desired levels of sustainability consideration by perspective and in total.

		Level of consideration					
		Non Existing	Business Resources	Business Processes	Business Model	Products / Services	Total
People perspective	Actual	71%	33%	22%	16%	18%	22%
	Desired	49%	35%	30%	27%	25%	29%
Planet perspective	Actual	58%	35%	26%	25%	16%	25%
	Desired	33%	36%	42%	41%	31%	38%
Profit perspective	Actual	29%	52%	35%	25%	22%	34%
	Desired	12%	44%	42%	39%	40%	41%
Overall	Actual	57%	38%	26%	21%	18%	26%
	Desired	36%	37%	37%	35%	31%	35%

Table 3. Actual and Desired levels of sustainability consideration.

A first observation should be that the highest scores recorded in the study are for the 'non existing' category, indicating that sustainability is not completely considered in the projects in the sample. On average, non existing scored 57% for the actual situation and 36% for the desired situation.

When considering the different levels of consideration, the B to E answer categories, an overall average level of sustainability consideration, regardless of what consideration level or perspective, in the actual situation of 25.9% was found. For the desired situation, this score is almost 10 percent higher: 34.9%. These scores do not seem to be quite high and are in line with the scores found for the non existing option.

The scores of the Desired situation are consistently higher than the Actual situation, on the four levels of consideration for all three perspectives, with the exception of the business resources level of the Profit perspective. Overall, the Desired situation scores 9 percent points higher than the Actual situation (35% versus 26%). This indicates a clear ambition of the participating organizations to consider sustainability more in their projects. From this table it shows that the largest 'gap' between Desired and Actual situation is for the planet perspective (13%). This result may indicate that in the Western world, sustainability, is very much associated with the environmental 'green' concerns.

The results show that the consideration of sustainability aspects appears to be highest on the resources level and lowest on the products/services level. This pattern corresponds with the traditional 'less bad' view of considering sustainability. The gaps on the business processes, business model and products/services levels, are more or less equal (11%, 12% and 13%), whereas the gap on the business resources is neglectable, indicating that in the current situation, most focus on considering sustainability aspects is on the resources level.

Regarding the different perspectives (people, planet, profit) perspectives of sustainability, the results show that the profit perspective scores the highest level of consideration. The planet perspective and the people perspective follow. This dominant position of the profit perspective is not unexpected. Also the lowest scores for the people perspective is not entirely unexpected, given the fact the majority of the firms in the sample was European.

7. Conclusions

This paper presented a vision, mission and ambition for the consideration of sustainability in projects and project management.

The *vision* is that projects can make a contribution to the sustainable development of organisations. 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 recognised yet.

The emerging studies on the integration of the concepts of sustainability in projects and project management point out that although the actual responsibility for sustainability may differ by project, the project manager always will have a decisive or influencing role. The project management profession should therefore take up the *mission* to 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.

Based upon the analysis of 56 case studies on the integration of the concepts of sustainability in the way organizations initiate, develop and manage projects, this paper also revealed the *ambition* of the participating organizations to take sustainability more into consideration in projects and project management. Given this ambition, it should be expected that the consideration of sustainability in projects will develop further in the future.

From the previous conclusion we can also conclude that the attention for sustainability in projects will grow. Sustainability is an emerging trend, now moving from reputational strategy towards business orientation. The personal values of individual project managers and sponsor and the formal attention from company strategy will drive this ambition.

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