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Balancing projects with society and the environment: A project, programme and portfolio approach

Alex John Hope[a*], Robert Moehler[a]

[a*]Northumbria University, United Kingdom

Abstract

Issues such as global climate change, poverty & inequity, and the unsustainable use of resources are driving organisations to incorporate the principles of sustainable development into strategy and operations. Recently project management has drawn criticism of lacking sufficient governance to respond to such issues and the local interpretation and lessons learned have had little success in addressing this. Whilst sustainability principles can be actively influenced, encouraged and monitored through project portfolio programme and project management, there are often problems with translating vision and strategy into project practice. Here we suggest that portfolio and programme management presents an opportunity to integrate visionary and strategic sustainability with operational sustainability. Moreover a programme and portfolio approach can lead to enhanced opportunity to share sustainability practice between projects Therefore sustainability has to be an integrated part of Portfolio, Programme and Project processes to support and achieve the objectives of an organisation. Here the governance of organisational practice and the triple bottom line interlinks the processes to support the operational strategy of an organisation.

1. Introduction

The discipline of project management is evolving. This is partly due to ongoing improvements in organisational learning and the state of the art in project management, but also as a response to a changing world. The latter includes the challenge and responding to global environmental issues such as climate change, energy security,

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[*] Corresponding author. Tel.: +0-000-000-0000 ; fax: +0-000-000-0000 .
E-mail address: alex.hope@northumbria.ac.uk

issues of social justice and resource depletion. It has been suggested that the discipline of project management is ideally placed to deal with these challenges (Association for Project Management, 2006; Lock, 2007; Taylor, 2010). However there is an emerging body of knowledge that suggests that current standards for project management fail to seriously address the sustainability issues (Eid, 2011; Silvius and Schipper, 2011). Project management practitioners and scholars are beginning to respond to these challenges by suggesting the incorporation of sustainability principles into project management strategy and operations, however there is a need to translate this good will into practice. Thus, there is a need for sustainability to be an integrated part of business as usual.

Today, much of organisational activity is undertaken in the form of projects, and projects are the means of delivering corporate strategy. The term project management is increasingly encompassing management of corporate project portfolios. Many of the key drivers and enablers of strategy, tactics and operations within project management that have a direct bearing on project successes are focused at the governance level. It is here that key strategic objectives are developed, integrated into project plans and communicated through to the project team. It also provides a structure through which the objectives of the project are set, the means of attaining those objectives are determined and the means of monitoring performance are decided (Turner, 2006). Project governance also determines the relationship between a project's management, its client, its sponsor, its owner and other stakeholders (Turner, 2006). If project management is to incorporate the principles of sustainable development into daily operations, this process must begin at the level of governance.

Within project management the key tools of governance relate to programme, portfolio and project management (PPP). Whilst a project may be described as a temporary undertaking to produce a unique product, service or result, a portfolio brings together all the projects created by an organisation as a means to meet their strategic business goals, and a programme may be seen as a group of related projects where doing them together provides some sort of benefit or efficiency (Heising, 2012). It is this bi-directional relationship between projects and organisational strategy which effective portfolio management should build upon (Killen et al, 2012; Artto and Dietrich, 2007). The role of corporate governance in enhancing sustainability throughout business endeavors is becoming increasingly understood (see for example: Aras and Crowther, 2008; Elkington, 2006; Snierson, 2009). As such the level of PPP represents an excellent starting point for enhancing sustainability within projects, however little attention has been paid to the relationship between sustainability in project delivery, and sustainability at the key governance stages of programme and portfolio management.

2. Sustainability in project management

Sustainable development may be defined as *"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs"* (WCED, 1987). This definition incorporates the concept of needs, in particular the essential needs of the world's poor to which priority should be given, and the idea of limitations, imposed by the state of technology and social organisation on the environments ability to meet present and future needs (WCED, 1987). Whilst useful, this definition is primarily theoretical or conceptual and does not seek to present solutions to the problem of how to reconcile the principle of sustainable development with the fundamental aim of business (and to some degree projects) to create profit (Ebbesen & Hope, 2013).

When placing sustainable development in an organizational or business context, the concept of the *"triple bottom line"* becomes relevant. The term, coined by Elkington (1999), suggests that sustainability is about integrating economic, environmental, and social aspects in a 'triple bottom line'. Increasingly organizations are seeking to align their business and project activities with the principles of sustainable development (Keeble et al., 2003). Perhaps the main driver for such an initiative is one of economic value creation for the business in terms of both product performance and production costs. In addition value may be created by improvements to the company's reputation and image, which is not only externally important but also internally as the motivation of

personnel is influenced. Value can also be created through increasing coherence within the company, whilst increasing effectiveness and flexibility (Mulder, 2006). Another driver may be willingness to address global environmental issues such as climate change and resource depletion. Here it has been suggested that the discipline of project management is ideally placed to deal with these challenges (Lock, 2007).

The notion of sustainability in project management has gained significant ground over the last few years however it has been suggested that many of the current project management frameworks do not effectively address the three goals of sustainable development, i.e., social equity, economic efficiency and environmental performance (Silvius and Schipper, 2011; Maltzman & Shirley, 2011; Ebbesen & Hope, 2013). More recently the professional bodies that govern the project management industry have sought to incorporate sustainability issues into their bodies of knowledge. Here, *"sustainability describes an environmental, social and economically integrated approach to development that meets present needs without compromising the environment for future generations"* (Association for Project Management, 2012, p. 230). However, like the WECD definition of sustainability, these definitions do little to provide project managers with the tools and processes needed to incorporate sustainability principles not only into the products and services that they produce, but also in the processes and practices they use to produce them.

Project managers are increasingly finding themselves involved in projects as part of a programme or portfolio of projects as organisations' seek to integrate projects within the permanent organisational structure (Jugdev and Moller, 2006). It is often suggested that a sustainable project improves its chances for financial success if a cross-discipline team is involved at the earliest stages and throughout the project (Robichaud and Anantatmula, 2011; Heisinger, 2012; Schulze and Hoegl, 2008). It follows then that the level of the programme or portfolio offers an ideal opportunity to introduce the principles of sustainable development in order for them to flow down towards the level of the project (Poskela, 2009) and back up to manifest benefiting features (Cooper, 2008).

3. Programme, portfolio and project management.

Increasingly project programme and portfolio management is becoming the dominant model for strategy implementation, business transformation, continuous improvement and new product development (Winter *et al,* 2006). The terms project, portfolio and programme are often confused, thus it is perhaps useful to summarise the main attributes of each. A project is often defined as a temporary undertaking to produce a unique product, service or result (PMI, 2009, pp.442; APM 2006, pp. 150). From the corporate level strategy can be deployed by project portfolio management using programmes and projects as powerful organisational tools. The application of numerous projects managed concurrently creates a multiple project or multi-project environment within organisations. Patanakul and Milosevic (2009) illustrate a possible organisational setting in Figure 1. The framework comprises of single project management (SPM), management of a group of multiple projects (MGMP) and program management all embedded in a portfolio.
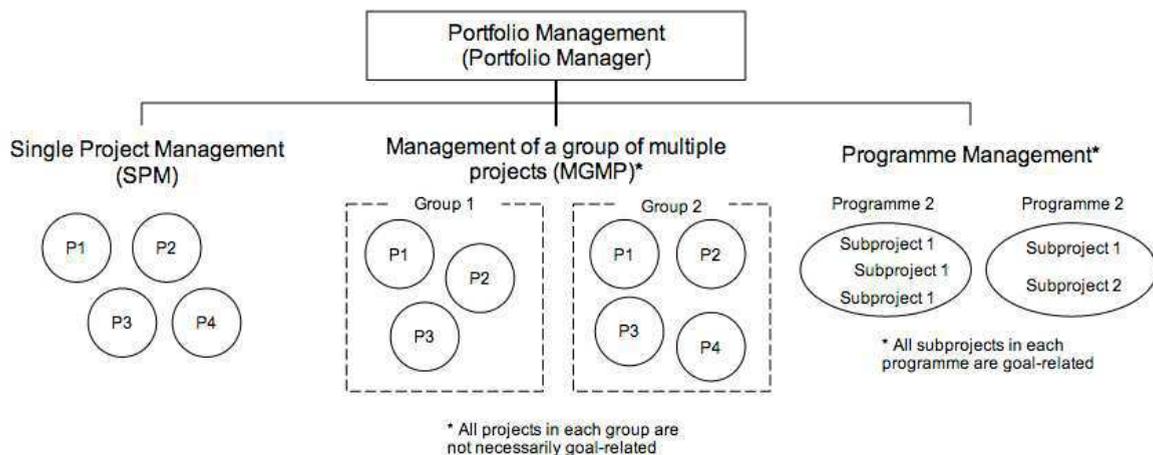
Fig. 1. Multiple project management setting (Adapted from Patanakul and Milosevic, 2009).

The term SPM describes the management of a number of large projects, mostly strategic in nature to achieve competitive advantage. Due to their scope and size a full time project manager is assigned. Several smaller projects of tactical nature are managed in MGMP. The degree of mutual dependency is rather low as projects have different goals and objectives. In a programme, projects are mutually dependent and share a common goal. Within this setting the authors postulate that portfolio management is not an additional tool or method used for steering projects; moreover it provides structures and provisions to integrate projects and to create synergies. To achieve this, Blichfeldt and Eskerod (2008, p. 358) suggest *'... managerial activity relates to the initial screening, selection and prioritization of [project] proposals, the concurrent reprioritization of projects in the portfolio, and the allocation and reallocation of resources to the projects according to priority.'* The process is dynamic and involves a continuous scanning of active and new entry projects. In doing so, a framework for decision-making might be established to select the right projects and to commit resources to them (Cooper et al, 1999). The objectives of project portfolios suggested by work of Cooper, Edgett, and Kleinschmidt (2001) are:

- Value maximization according to business objectives
- Strategic direction
- Portfolio balancing in alignment with strategy

Elonen and Artto (2003, p. 395) assume portfolio management to be about: *'doing the right projects, creating a link from the projects to organization's strategy, and simultaneously adopting the long-term view.'* A portfolio is all the projects for an organization created to meet their strategic business objectives (Cooper et al., 1999; Artto and Dietrich, 2004; Patanakul and Milosevic, 2009). This could be all the projects for an entire company or all the projects for a division or business in a large corporation (e.g. see Figure 1). The portfolio level will handle, among other things, governance around portfolio structuring (i.e. the project life cycle, standards, a document repository, and a project portfolio tool), resource management (i.e. in the setting in Figure 1 applied at different levels), portfolio steering (Müller et al. 2008), and organisational learning and portfolio exploitation (Jonas, 2010).

The programme is a framework for grouping existing projects or defining new projects into coherent sets to focus all the activities required to achieve a set of major benefits (Pellegrinelli, 1997; Turner, 1999). Programmes are initiated and projects selected according to criteria that allow the highest strategic fit (APM, 2006). The specific deliverables of each project would be defined when each project starts and should align with the strategic goals of the programme. The programme is usually a long-term concern (often years) and the level of integration can differ greatly between projects and companies. Such project programmes are managed in a coordinated way, either to achieve a common goal, or to extract benefits that would otherwise not be realised if they were managed independently (Poskela et al., 2001). It is also useful to recognise that the programme paradigm may be seen as 'performance' paradigm (Thiry, 2002). It is about clear objectives and deliverables and robust control techniques embedded in the process of plan-execute-control associated with projects.

The programme and portfolio approach is closely linked with the strategy, values, vision and governance of the organization that is running the project. In most cases it is the Chief Executive Officer of an organisation who is tasked with providing the vision, which will result in the Board or Senior Management setting the organisational strategy (Maylor, 2010, p. 51). Alternatively this role may sit with customers, representing consultants or the client. For the former, the organisation strategy should determine the selection criteria for portfolios, which in turn will focus the programmes so as to select the appropriate projects and set priorities aligned with the organisational strategy, as can be seen in Figure 2 (Maylor, 2010, p. 51).

The APM clearly considers that the governance of portfolios programmes and projects as a subset of corporate governance (Governance Specific Interest Group of the Association for Project Management, 2012, p. 8). It sets out 13 principles of governance of project management. Principle 5 interconnects governance of project

management with sustainability: *"There is a demonstrable coherent and supporting relationship between the project portfolio and the business strategy and policies, for example ethics and sustainability"* (Governance Specific Interest Group of the Association for Project Management, 2012, p. 9). At corporate governance level sustainability is accepted as a source of success, therefore the project portfolio must demonstrate how this sustainability is effectively addressed.
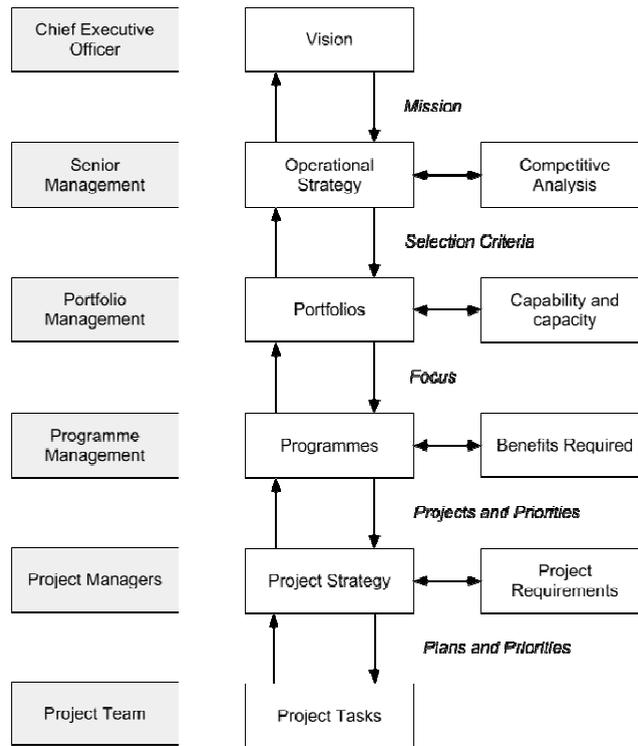
Figure 2: Organisational strategy process (Maylor, 2010).

4. Sustainability in project, programme and portfolio management

It has been noted that integrating sustainability into an organisation requires critical reflection of the company's core values, policy principles and operational procedures (Mulder, 2006). Therefore Project Portfolio and Programme Management play an important and interconnected role in ensuring sustainability and governance compliance to the vision and organisational strategy set by the Board or Senior Management of an organisation. As sustainability compliance is of interest to a range of stakeholders, the project manager must look at the products produced in the project beyond the completion date of the project. The project manager should take a long-term view of product development, from its initial creation and deployment to its final retirement, known as whole lifecycle thinking. It is possible for companies to include sustainability compliance in their strategic objectives by investigating where the environmental issues intersect with operational efficiencies or innovation opportunities thus reducing waste and affecting positively the financial bottom-line.

Sustainability in project, portfolio and programme management can interconnect its three parts, as sustainability policies coming from the Board, such as procurement from sustainable sources, can run throughout programmes and projects being executed. Even in project areas where sustainability compliance is not immediately obvious

such as in software development, sustainability compliance could entail reducing power consumption, which for software would mean writing more efficient and compact code to achieve the same result. The issue is at what level should certain sustainability principles be addressed and by whom. The authors suggest that at present much of the responsibility and accountability for sustainability sits at the level of the project manager, and indeed in many respects this is the ideal place to deal with operational sustainability issues. It is the at the level of the project that many specific day to day decisions that impact on sustainability need to be made. Placing responsibility and accountability for sustainability with the project manager also enables the integration of sustainability within a project even if there is an absence of vision or strategy from the project sponsor. However as more organisations develop a clear strategic vision for sustainability, this approach relies on the individual project manager's interpretation of this vision. As organisations increasingly manage portfolios or programmes of projects, a more holistic, integrated approach is desirable.

The extent of effort required for sustainability compliance depends on the type of projects under consideration and so it is worthwhile to classify projects based on their sustainability content. Maltzman and Shirley (2011, p.55) provide a scale for categorising projects based on their "green" or sustainability composition: (i) Sustainable (green) by Definition, (ii) Sustainable (green) by Project Impact, (iii) Sustainable (green) by Product Impact and (iv) Sustainable (green) in General. As a project is categorised further along the scale from (i) to (iv) the project manager must spend more time and effort on sustainability compliance during project execution as can be seen in Figure 3 below (Maltzman & Shirley, 2011, p. 66). However it should be remembered that responsibility for sustainability within projects rest not only with the project sponsors, but also the project manager, the project team and other stakeholders (Silvius and Schipper, 2011).
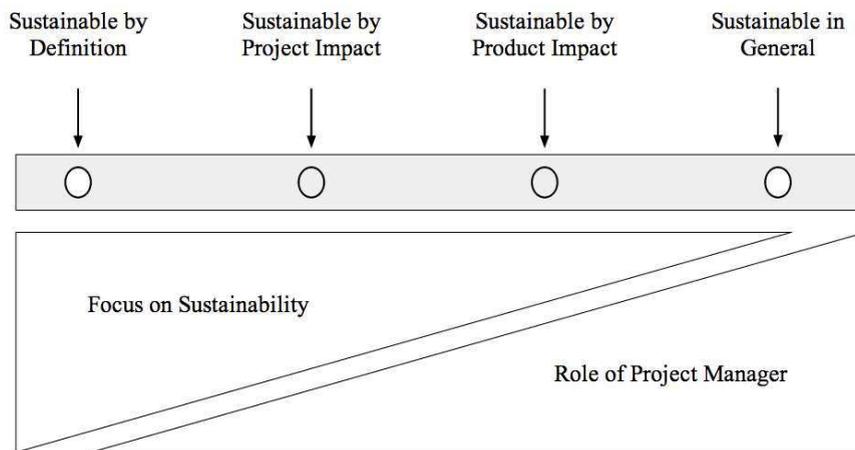
Figure 3: Types of sustainable projects (Maltaman & Shirley, 2011).

So sustainability can be visionary, strategic and operational. Responsibility and accountability can potentially sit at many levels from the client or project sponsor, through to the project manager and project team. The question is then, where should responsibility and accountability for sustainability sit within a project, programme of projects or project portfolio? We again consider Maylor's (2010) organisational strategy process, but also consider where to place sustainability principles. As shown in Figure 4 the responsibility for visionary and strategic sustainability sits naturally at the level of CEO and Senior Management. Indeed this is increasingly the case with development of the Chief Sustainability Officer (CSO) within the corporate structure of many organisations (Lubin & Esty, 2010). As suggested the responsibility and accountability for operational sustainability sits at the project manager level. Depending on the project setting, responsibility may be based at different levels with very different focus and

implications for accountability. This results in a gap at the level of portfolio and programme management. The authors suggest that at this level sits the role of integrated sustainability.

As previously suggested, portfolio and programme management is not an additional tool or method used for steering projects; rather it provides structures and provisions to integrate projects and to create synergies. Therefore the programme and portfolio manager should be responsible for ensuring that the choice of project adheres to the sustainability values of the organisation, and that projects selected integrate the strategic principles of sustainability. Moreover the programme and portfolio manager is ideally placed to draw upon lessons learnt during the implementation of sustainability into individual project operations and transfer knowledge across the project portfolio.
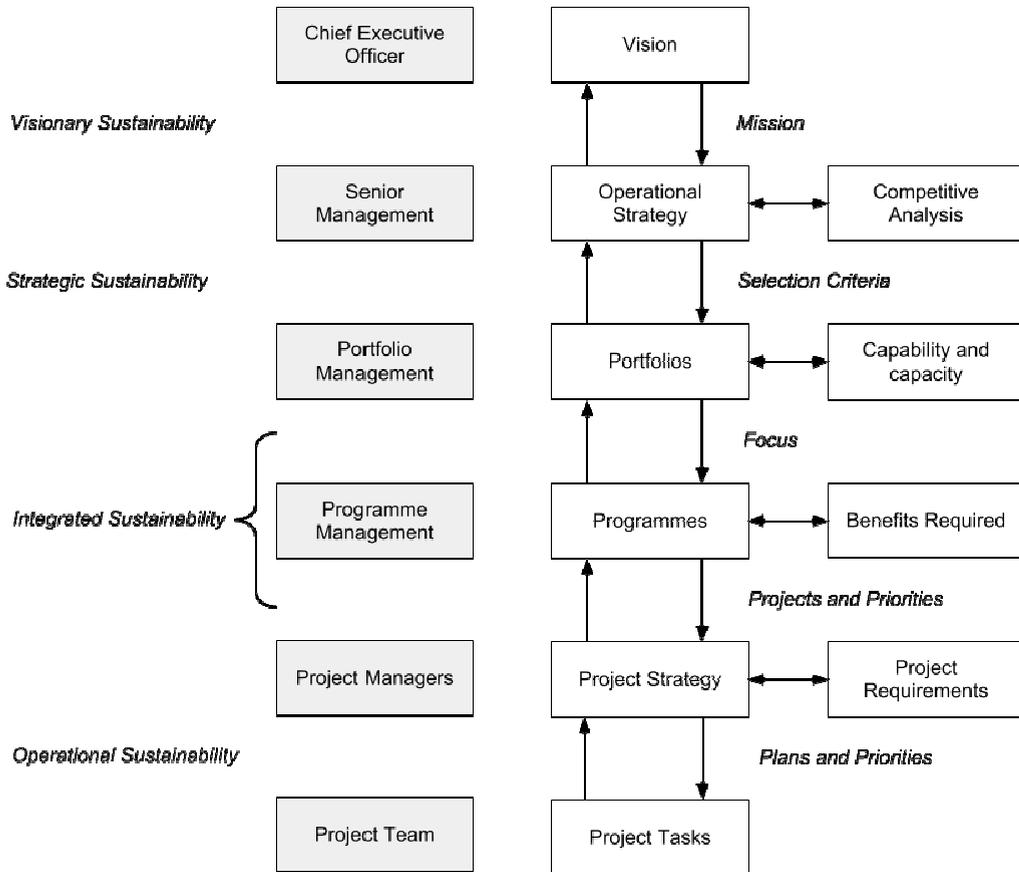
Figure 4: Organisational strategy process indicating sustainability responsibility (adapted from Maylor, 2010)

5. Strategies for Incorporating sustainability into PPP

The issue of where to embed and address sustainability issues leads to the question of how to facilitate this integration. One possible suggestion is through the development of the Project Management Office (PMO). The PMO or Portfolio, Programme and Project Office (P3O) as termed by the Office of Government Commerce (2008), can be a positive influence in establishing and maintaining the interconnections between portfolio, programmes and projects. A PMO addresses governance guidance for running a *"single all encompassing physical office"* to a more complex environment with permanent and temporary structures (OGC, 2008). While it

is understood that there is no universal model of PMO, there are integrated components that can be vital such as a Centre of Excellence (CoE) that will assume responsibility for consistency in methods and processes (OGC, 2008) for implementing sustainability compliance. A long-serving PMO spanning a number of years can help the organisation to remain focused on sustainability compliance to regulations in the locale of the projects it is running or to the directives of the organisation's board of directors.

Hurt and Thomas (2009) believe PMOs do not have to be short-lived, but instead sustainable and effective PMOs can add value *"by changing and reinventing themselves – as long as they stay focused on the principle of improving project management in the organisation"*. PMOs that are formed to address specific problems can identify new goals and objectives (Hurt & Thomas, 2009) these can certainly be objectives of sustainability and governance compliance, with the PMO acting as a champion to these aims, as well as an oversight and monitoring function. The PMOs most common definition can be summarised as a central office serving as an intermediary between the project delivery team and the wider organisation (Maylor, 2010). The characteristics and functions of a PMO vary, as each organisation adopting a PMO will tailor its function to suit the intended benefit (Aubry, Hobbs and Thuillier, 2007; Aubry, Hobbs and Thuillier, 2008).

There is much debate surrounding the roles of a PMO, however an underlying theme of all proposed roles is that of an integrated governance mechanism (Aubry, Hobbs and Thuillier, 2007; Aubry et al, 2011; Aubry, Hobbs and Thuillier, 2008). The relatively sparse discussion of governance via the PMO (Unger et al, 2012) recognises the importance of authentic interpreter with different competency and responsibility. Turner and Keegan (2001) divide the two roles of the broker and the steward. Unger et al (2012) advances this in the light of the project portfolio management office: to coordinator, which ensures that the organisation is delivering the 'right projects' (Rajegopal, McGuin and Waller, 2007); whilst the controller is informing between the transition points of the project teams and senior management; and the supporter updating continuous improvement and raising standards. Jonas (2010) refines the managerial tasks to: Portfolio structuring, resource management, portfolio steering and organisational learning. In the same light Teller et al. (2012) demonstrates the value and impact of standardised routines and processes for both project and portfolio delivery respectively as being independently associated with better information production and higher levels of portfolio success. This in turn improves transparency and comparability in the portfolio environment, and with a defined process comes defined information requirements, leading to improved availability and comprehensiveness of data.

6. Conclusion

In order to enhance sustainability within projects and project management, sustainability issues need to be addressed at a number of levels. This paper suggests that programme and portfolio management can offer an opportunity to integrate visionary and strategic sustainability driven from above, with operational sustainability practiced at the level of the individual project. Structural features as a PMO can serve as a hub for governance of the temporary transition points of envisioned corporate social responsibility (CSR). Project, Programme and Portfolio managers should plan and build a sustainable policy and approach, attempting to maximise resources in the most efficient way thus providing the benefits required to meet the expectations of stakeholders. The portfolio allows a systematic standardisation that can be adjusted in line with the strategic objectives. Comparability and transparency from organisational values such as sustainability allow an organisational learning mechanism into the projects that would otherwise be difficult to achieve. Everyone needs to understand the philosophy, know their role and the structure around them. There should be a common goal and clear communication throughout the organisation to help achieve objectives. Contributions can be made from all levels to help solve problems and inform policy. It is important that people are properly trained and understand issues around sustainability so that they can look for improvements. Internal and external stakeholders need to know what rules and regulations they must comply with so there are no breaches in compliance.

It is the long-term nature of programme and portfolio management that that enables the temporary nature of project management to align with the long-term goals of sustainable development. This does not mean that sustainability within projects cannot occur outside of a programme or portfolio model, rather that the PPP and PMO approach can offer opportunities to enhance the integration of sustainability within organisations which run multiple projects. The authors offer this contribution as a means to stimulate debate as to the role of the project manager, programme and portfolio management and governance in general in ensuring the business and commercial benefits of a project are balanced with those of society and the environment.

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