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Procedia Computer Science 196 (2022) 938–947

Procedia
Computer Science

www.elsevier.com/locate/procedia

CENTERIS - International Conference on ENTERprise Information Systems / ProjMAN - International Conference on Project MANAGEMENT / HCist - International Conference on Health and Social Care Information Systems and Technologies 2021

Interlinking Sustainability in Organizational Strategy, Project Portfolio Management and Project Management; A Conceptual Framework

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Abstract

The transition towards more sustainable business practices requires the changing of products, services, processes, policies and resources of organizations. Acknowledging the role projects play in these changes, the concept of sustainability should be integrated in the way projects are selected, prioritized, performed, managed, governed and evaluated. This requires the integration of sustainability in the organizational strategy, project portfolio management and project management. However, studies on sustainability in business describes the application of the concepts of sustainability mostly on the above-mentioned level in isolation, with little or no attention to the linkages between the strategy, portfolio and project levels. A conceptual framework is presented indicating the interlinking practices of integrating sustainability into the organizational strategy, project portfolio management and project management. From this framework, empirical studies can be developed, and guidance is provided for organizations that aim to improve this integration and thereby embedding the deeper implementation of sustainability into their policies and practices.

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Peer-review under responsibility of the scientific committee of the CENTERIS –International Conference on ENTERprise Information Systems / ProjMAN - International Conference on Project MANAGEMENT / HCist - International Conference on Health and Social Care Information Systems and Technologies 2021

Keywords: Sustainability; Project Portfolio Management; Project Management; Organizational Strategy

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10.1016/j.procs.2021.12.095

1. Introduction

The 2019 ‘State of Sustainable Business report’ shows that sustainability is widely integrated into companies’ corporate purpose and strategy [11]. Sustainability is a top-level theme, with more than half of the participating companies stating that sustainability is among the top five priorities for their CEO. An (pro)active strategy towards sustainability requires the changing of products, services, business model, processes, policies and resources of companies [68]. Projects therefore play an instrumental role in implementing these organizational changes and thereby the sustainable development of organizations and society [41]. This relationship between sustainability and projects led to an emerging body of literature on ‘sustainable’ project management, as reported by Silvius and Schipper [65] and Sabini et al. [54]. In sustainable project management (SPM), a project and its management are considered from an extended set of perspectives, for an extended timeline and in the interests of an extended set of stakeholders. SPM positions projects in the context of organizational change and its societal effects. The current research on SPM recognizes this organizational and societal context of projects. However, it is limited in its coverage of the practices that link projects to the strategy and goals of their organizational context.

A managerial practice that links projects to organizational strategy is project portfolio management [52]. Project portfolio management would therefore also be a logical practice that connects the sustainability impacts of a project and the sustainability strategy of the organization. However, this role of project portfolio management with regards to the implementation of sustainability strategies is still largely uncharted in the literature on sustainability and projects. The literature on SPM is centered around the integration of sustainability principles and concepts, with little attention for the impact of considering sustainability on the level of project portfolio management and the interlinking practices between these different levels and organizational strategy. This gap in the literature is not just academic in nature, as the earlier referenced ‘State of Sustainable Business’ report shows that companies find the deeper integration of sustainability “*challenging*” [11]. The percentage of companies saying that sustainability is at least fairly well integrated into the business has not increased in the last three years of this annual study.

The study reported in this paper therefore aims to establish this connection by developing a conceptual framework for the interlinking practices that link the integration of sustainability in organizational strategy, project portfolio management and project management. The remainder of the paper is organized as follows. In the following paragraph, the literature on the integration of sustainability in organizations, project management and project portfolio management will be discussed. The research approach of the study is revealed in paragraph 3, after which the following paragraph will develop the conceptual framework which is the aim of this study. The paper will be concluded with suggestions for further research.

2. Background literature

2.1. Sustainability in organizations

Concerns about the balance between economic growth, social wellbeing and the use of natural resources emerged as early as the 18th century (For example [12; 40]). However, it took until the second half of the 20th century before the concerns about sustainability and sustainable development became broadly recognized as a political, societal and managerial challenge [16]. The 1972 book “*The Limits to Growth*” [45] predicted that the exponential growth of world population and world economy will result in overshooting our planet’s capacity of natural resources. As humanity today uses the equivalent of 1.75 earths to provide for the resources it uses and the waste it produces [26], the concerns about humanity’s ecological overshoot may have never been more prominent.

In the 1990s, the concept of sustainable development got also applied to business and organizations, thereby creating a link between sustainable development and (Corporate) Social Responsibility (CSR) [17]. And when the International Organization for Standardization defined (C)SR as the “*responsibility of an organization for the impacts of its decisions and activities on society and the environment, through transparent and ethical behavior that: contributes to sustainable development, including health and the welfare of society; takes into account the expectations of stakeholders; is in compliance with applicable law and consistent with international norms of behavior; is integrated throughout the organization and practiced in its relationships.*” [29], it supported the notion that sustainability is a responsibility of companies and organizations, just as it is for societies and governments.

The consideration of sustainability in businesses, often referred to as ‘corporate sustainability’, is defined by the Dow Jones Sustainability Indexes as “*a business approach that creates long-term shareholder value by embracing opportunities and managing risks derived from economic, environmental and social developments*” [15]. This definition refers to the ‘Triple Bottom Line’ (TBL) concept of Elkington [19], that incorporates three perspectives on performance and development: social, environmental and economic. The TBL provides the conceptual foundation for several frameworks of sustainable development indicators [2]. These frameworks help in operationalizing the concept of sustainability. However, they also introduce the risks that the interrelations between the three perspectives are overseen and that the social, environmental and economic perspectives are each considered in isolation. The holistic understanding of sustainability requires an integration of economic, environmental and social perspectives [19; 35].

As already indicated in the introduction, the responsibility that organizations assume for their societal impacts and sustainability, inevitably leads to changes in their products, services, processes, policies and resources [68]. Several authors (such as [32; 68]) therefore describe the sustainable development of an organization as a transition or change process. At the core of this transition process, lies the fundamental attitude that the organization adopts towards its impact on society and social responsibility. Tulder et al. [68] identify this basic attitude as either “*liability*” or “*responsibility*”. When *liability* is the basic attitude of the organization, legal frameworks guide business behavior and efforts with regards to sustainability or CSR are mainly directed towards avoiding legal claims arising from societal impact. When *responsibility* is the basic attitude, the corporate leadership understands its own responsibility for the effects of its corporate strategies and takes initiatives in fulfilling it. When an organization adopts a responsibility attitude towards sustainability, it will actively integrate sustainability considerations in its policies and actions. Tulder et al. [68] describe how an active or proactive approach towards sustainability influences a wide range of functional areas in the organization, such as strategy, research and development, human resources management, supply chain management and finance.

2.2. Sustainability in projects and project management

From the developing literature on the relationship between projects and sustainability, a dual relationship appears [28]. Following the reasoning that projects are instruments to realize this organizational change [38], a growing number of publications highlight the role of projects in the sustainable development of organizations and society [41; 54; 65]. This relationship between projects and sustainability is referred to as *Sustainability by the project* [28]. In this relationship, the role that projects play in the organizational transition towards sustainability is central. For *sustainability by the project*, the TBL provides a framework for integrating sustainability requirements into the content related aspects of the project [65], such as the specifications and design of the project’s deliverable [1; 9], materials used [3], benefits to be achieved [70; 66], quality and success criteria [44]. Studies on the integration of sustainability into project management that take this content related perspective, often focus on operationalizing the TBL perspectives by developing sets of indicators on the different perspectives (For example [7; 18; 22; 33; 34; 44]).

The role of projects in the development towards sustainability has also led several authors to suggest a second relationship between projects and sustainability: that of an impact of sustainability on the way projects are designed, planned, executed, managed and governed [62]. This impact of sustainability on project management is referred to as *Sustainability of the project* [28], and has developed into the concept of Sustainable Project Management (SPM), which Silvius and Schipper [65] defined as “*the planning, monitoring and controlling of project delivery and support processes, with consideration of the environmental, economic and social aspects of the life-cycle of the project’s resources, processes, deliverables and effects, aimed at realizing benefits for stakeholders, and performed in a transparent, fair and ethical way that includes proactive stakeholder participation*”. In SPM, the sustainability perspective is applied to the processes of project management and delivery, such as the identification and engagement of stakeholders [20; 55], the process of procurement in the project [47], the development of the business case [60; 64; 70], the monitoring of the project [55], the identification and management of project risks [61], the communication in and by the project [50], and the selection and organization of the project team [65].

For *Sustainability of the project* the TBL-based sets of indicators and criteria may be adequate to assess the sustainability of the content of projects (outputs and outcomes), but they may not be adequate to cover the integration of sustainability into the management perspective on projects [25]. It is therefore suggested that considering sustainability in the management of projects requires a more process related view, based on a set of guiding principles

[21; 27]. The above quoted definition of SPM also refers to some of these principles, such as the orientation on stakeholder's interests. This principle is based on Freeman's 'stakeholder theory' [24] that states that an organization should create value to all stakeholders, and not just the shareholders/financiers, as suggested by the shareholder primacy view. Stakeholder orientation means that all stakeholders have the right and legitimacy to have their interests taken into account [31] and that the organization should develop win-win solutions with regards to these interests [20].

Silvius and Schipper [65] referred in their definition of SPM also to the principles of transparency and ethics. These principles are derived from the earlier discussed concept of (Corporate) Social Responsibility [29]. With the mentioning of ethics, a normative aspect is introduced. Sustainability is a value-based concept, reflecting values and ethical considerations of society [43; 53]. And its integration into business decisions and actions should go beyond being compliant with legal obligations. Dahlsrud [13] therefore points out the voluntariness dimension of CSR. The organization's commitment to ethics and sustainability values should therefore also reflect in the management of projects and portfolio.

2.3. Sustainability in project portfolio management

A project portfolio can be defined as a group of projects that are carried out under the sponsorship and/or management of a particular organization [52; 57]. As "*there are usually not enough resources to carry out every proposed project which meets the organization's minimum requirements on certain criteria*" [5], the projects within the portfolio compete for these scarce resources. Project portfolio management is the managerial activity which 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 [8]. Project portfolio management is the link between organizational strategy and goals, and actions that lead and ensure the organizational focus, in the form of programs and projects [52].

As projects are instrumental in implementing strategies [59], they are also instrumental in implementing an organization's sustainability ambitions and strategies. Project portfolio management aligns the portfolio components and organizational values such as sustainable practices and ethical principles [52]. Shenhar et al. [58] emphasize that projects, and especially project portfolios, are "*powerful strategic weapons*" as they can be considered as a central building block in implementing the intended strategy [46].

Despite this relationship between strategy and project portfolio management, literature fails to deliver frameworks that integrate sustainability strategies [10; 67] in the decision-making process on projects [4; 69]. Project portfolio management should play an important role in realizing the sustainability strategy of organizations. However, Schipper and Silvius [57] conclude that current methods and practices fail to do so. They developed a framework for sustainability in project portfolio management that identified three categories of impact of sustainability in project portfolio management: "*positional*", "*process*" and "*technical*". The *positional impacts* added the sustainability perspective, operationalized in economic, social and environmental criteria, to the project portfolio management processes of planning, justification, evaluation, prioritization and governance of projects. The *process impacts* reflect the way project portfolio management processes are influenced by the sustainability perspective. On the process of project portfolio management, the framework indicates the necessity to identify and reach out to potential stakeholders early in the project portfolio management process, and the involvement of stakeholders in the project portfolio management decision making on projects. The *technical impacts* reflect modifications in methods and techniques of project portfolio management, as a result of looking at these from a sustainability perspective.

2.4. Practices linking Organizational Strategy, Project Portfolio Management and Project Management

The deeper integration of sustainability strategy into the processes and practices of organizations is still a challenge [11]. Also in academic literature, the transition towards sustainability is mainly described on a single level, being society, organizations or projects. Loorbach and Wijsman [37] challenge this approach as they view sustainable development as a process of systemic change, where societal changes will fundamentally change markets and ultimately also individual business. The system moves from one, the current unsustainable "*dynamic equilibrium*" to a new sustainable equilibrium of multi-level changes and in multi-phase S-shaped waves [36]. Loorbach and Wijsman recognize three levels of changes (macro, meso and micro) that are connected through interlinking practices [37].

However, these practices for the focus of our study, strategy → project portfolio management → project management, are still unexplored.

It should be noted that project portfolio management is already an interlinking practice between organizational strategy and projects [52]. However, with regards to the deeper implementation of sustainability strategies in organizations, the current standards and practices of project portfolio management fall short [57]. Project portfolio management is generally still based on a linear approach implying that a portfolio can be identified, tracked and managed in the context of a known, set goal [67]. Sustainability issues are complex and can be categorized as wicked problems [51]. Solving them is not a matter of deductive reasoning but more a ‘messy’ consultation among various stakeholders for a significant time frame [23]. Interlinking the sustainability strategy of an organization with project portfolio management and project management therefore not just impact the content and criteria for project portfolio selection and prioritization, but also the process of doing so. This process aspect is also visible in the following frameworks that cover the deeper implementation of sustainability in business practices.

Based on a structured literature review on how sustainability performance can be integrated into business, Morioka and De Carvalho [48] developed a conceptual framework for this integration. In this framework, the TBL concept and the earlier discussed principle of stakeholder orientation are included as ‘collective drivers for decision making’. The object of this decision making is the “*Sustainable business practices*”, broken down in four groups: *Capabilities, Processes and practices, Offerings and Contributions*. Maas et al. [39] developed a more process-oriented model for the integration of corporate sustainability assessment, management accounting, control, and reporting. In this framework, Maas et al. depict an ‘inside-out’ performance driver for the linkage between sustainability strategy, accounting, assessment, control and reporting, plus an ‘outside-in’ driver which refers to the earlier identified perspective of transparency.

Concluding our review of the literature on organizational strategy, project portfolio management and project management, we observe that linking these three levels with regards to the consideration of sustainability implies more than just a content dimension. Sustainability related principles such as stakeholder orientation, ethics and transparency also imply a process dimension.

3. Research approach

The study reported in this paper aims to develop a conceptual framework of the interlinking practices that link sustainability integration with the organizational strategy, project portfolio management and project management, as a foundation for empirical research. In the development of the framework, the authors applied a pragmatic interpretive approach. In the pragmatic research paradigm, acceptable knowledge can be derived from either or both observable phenomena and subjective meanings [56]. In the pragmatic paradigm, the output of the study should be judged on its “*fit*” with its purpose, providing a conceptual framework for empirically studying reality and not on the “*truth*” or “*true explanation*” of the studied phenomenon, as is common in studies using a positivist paradigm [6].

As a first step in the development of the intended framework, the study developed a concept map that synthesized the concepts of sustainability and the frameworks for the deeper implementation of sustainability in organizations. A concept map is “*a schematic device for representing a set of concept meanings embedded in a framework of propositions*” [49: p.15] that support qualitative inquiry, by showing meaning [14]. As the framework is intended to provide a conceptual starting point for further empirical studies, this provides a sensible approach. The second step in the development of the framework consisted of deriving a set of practices for interlinking sustainability in strategy, project portfolio management and project management, based on the perspectives provided by the concept map.

4. A framework for the interlinking practices

This paragraph presents the result of the two steps in the development of the framework, as described above.

4.1. A concept map of interlinking dimensions

The linkage between organizational strategy, project portfolio management and project management is often sought for from a content perspective [63]. Project outputs and impacts should be aligned with, and evaluated by, a set of

criteria that reflect the strategic goals of the organization. And as the TBL provides the most frequently used framework for assessing sustainability impacts and performance of organizations, a first interlinking practice should be to align, prioritize, govern and evaluate projects through their combined economic, social and environmental impacts, as is also found in the model of Morioka and De Carvalho [48]. These TBL perspectives should therefore be included in all the project portfolio management processes. And as the project portfolio management process links with the project management process through the business cases for, and progress reports of projects, the TBL perspectives should also be reflected in the business cases, performance management and progress reports of individual projects.

As concluded from the literature on the integration of sustainability in strategy, project portfolio management and project management, sustainability not only refers to the impacts of projects, but also to the process of planning, selecting, governing, evaluating, performing and managing projects. For example, in the way stakeholders are recognized and engaged with. Next to the indicated content related impacts, the linkage between organizational strategy, project portfolio management and project management of projects therefore also have consequences for the processes at these three levels. From the discussed concepts of sustainability, it can be concluded that the processes of strategy development, project development, selection, prioritization, governance and management should adopt a proactive and open engagement with stakeholders and transparent communication. The decision making on strategy, projects and within projects should also reflect ethical consideration and values.

Both the content and the process dimensions indicated above, require organizational capabilities or competences with regards to sustainability, as evident from the integration framework by Morioka and De Carvalho [48]. To link the sustainability strategies of the organization to projects and portfolios, the organization needs to develop adequate knowledge and technologies on sustainability. However, as the studies on the ‘human factor’ on sustainability in project management found that sustainability is “*a personal trait*” [42], the integration of sustainability also requires a ‘caring’ attitude with regards to environmental and social challenges.

The three dimensions described above – impact, process and competence – together form the proposed concept map for the identification of interlinking practices that link organizational strategy to project portfolio management and project management. Figure 1 visualizes this concept map.

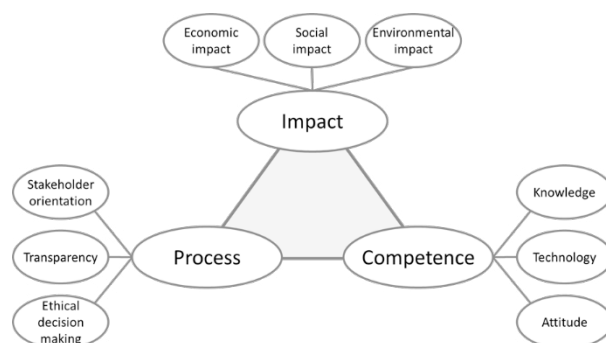


Figure 1. Concept map of dimensions for the integration of sustainability in organizational strategy, project portfolio management and project management

4.2. Framework of interlinking practices

The linkage between sustainability in organizational strategy, project portfolio management and project management requires various practices on the impact, process and competence dimensions. Table 1 presents an overview of the interlinking practices that aim to integrate the consideration of sustainability on the three levels.

Table 1. Framework of interlinking practices for the integration of sustainability in organizational strategy, project portfolio management and project management

Interlinking dimensions		On the level of organizational strategy	Interlinking practices On the level of project portfolio management	On the level of project management
Impact	Economic impact	Recognition of material economic impacts, with specified goals for improving positive impacts while reducing negative impacts.	Alignment, prioritization, governance and evaluation of projects based on economic strategic goals.	Consideration of economic impacts in project business cases, plans and progress reports.
	Social impact	Recognition of material social impacts, with specified goals for improving positive impacts while reducing negative impacts.	Alignment, prioritization, governance and evaluation of projects based on social strategic goals.	Consideration of social impacts in project business cases, plans and progress reports.
	Environmental impact	Recognition of material environmental impacts, with specified goals for improving positive impacts while reducing negative impacts.	Alignment, prioritization, governance and evaluation of projects based on environmental strategic goals.	Consideration of environmental impacts in project business cases, plans and progress reports.
Process	Stakeholder orientation	Participation of key stakeholders in the development and governance of the organization's strategy	Participation of key stakeholders in prioritization, governance and evaluation of projects	Proactive and open engagement of all stakeholders and consideration of their interest.
	Transparency	Periodic reporting of the organization's societal impacts, improvement strategies and performance progress.	Periodic reporting on the project portfolio's impacts, progress and performance.	Periodic reporting on projects' impacts, progress and performance.
	Ethical decision making	Consideration of ethical principles in decisions on organizational offerings, policies and practices.	Consideration of ethical principles in decisions on prioritization and selection of projects.	Consideration of ethical principles in decisions on planning, organization and execution of projects.
Competence	Knowledge	Inclusion of expertise about social and environmental impacts of the organization in strategy development and governance.	Inclusion of expertise about social and environmental impacts of projects in the project portfolio management process.	Inclusion of expertise about social and environmental impacts of projects in the project management process.
	Technology	Organizational strategy includes actions and goals on the development of sustainable technologies.	Selection and prioritization of projects that develop sustainable technologies.	Consideration and application of sustainable technologies in and by projects.
	Attitude	Strategy is based on a precautionary approach to environmental and social challenges.	Reflection of a precautionary approach to environmental and social challenges in the evaluation and governance of projects.	Reflection of a precautionary approach to environmental and social challenges in the management and execution of projects.

The practices presented in table 1 provide a foundation for empirical studies on the integration of sustainability in organizational strategy, project portfolio management and project management. Next to this academic contribution, the framework also provides guidance to organizations that are striving to improve this integration.

5. Conclusion

The study reported in this paper aimed to develop a conceptual framework for the interlinking practices that link the integration of sustainability in organizational strategy, project portfolio management and project management. This framework, based on three dimensions of interlinkages: impact – process – competence, is presented in Table 1. In further empirical studies, this framework will be used to assess the interlinkage of strategy, project portfolio management and project management, thereby providing guidance for organizations on how to deeper implement sustainability into their organizational change practices.

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