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## **Sustainable Project Management: A multidimensional value-based approach<sup>1</sup>**

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### **ABSTRACT**

A sustainable project focuses on creating and implementing strategies that consider economic, social, and environmental dimensions in a balanced manner. The economic dimension concerns costs, investments, and budgetary sustainability, while the social dimension refers to the relational aspects of an organization with the social context, from the concept of respect and equity to the creation of a common vision, and, ultimately, the environmental dimension aims to respect and protect the ecosystem by implementing projects with efficient use of resources and low environmental impact. Since sustainable projects target diverse types of value, an innovative value-based project management approach is suggested to manage effectively, via appropriate and specific Key Performance Indicators (KPIs), the creation of value for the stakeholders in terms of economic viability, social equity, and environmental stewardship.

### **THE SUSTAINABILITY IN PROJECTS**

The concept of sustainable development is complex and subject to numerous interpretations. Still, the universally recognized definition dates to 1987 and is found in the so-called Brundtland Report - entitled *Our common future* - which focuses on intergenerational and intragenerational equity principles. For the first time, the report identifies sustainability as the condition of development capable of "*ensuring the satisfaction of the needs of the present generation without compromising the possibility of future generations to fulfill their own.*"

Over time, the concept of sustainability, compared to its first versions, has undergone a profound evolution which, starting from a vision centered primarily on ecological aspects, has led to a more global meaning which considers not only the environmental dimension but also other dimensions such as economic, social, administrative and value creation.

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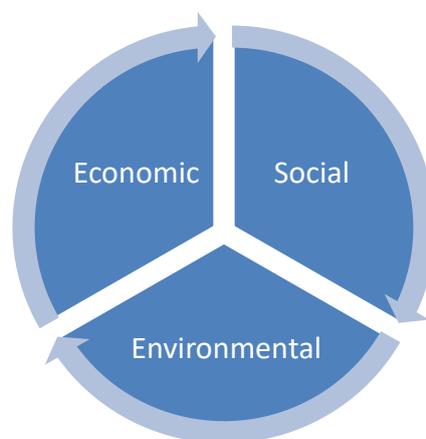
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However, these dimensions have been considered in a synergistic and systemic relationship and combined to different extents, have been used to define progress and well-being that somehow overcomes the traditional measures of wealth and economic growth based on the GDP.

Ultimately, sustainability implies “*a constant and preferably growing well-being, based on the dimensions mentioned above and the prospect of leaving future generations with a quality of life no lower than the current one.*” However, it should be kept in mind that sustainability is a dynamic concept, such as the relationship between the ecological system and the anthropic system can be influenced by the technological scenario, which, by changing, could loosen some constraints relating, for example, to the use of energy sources.

A sustainable project is a project that contemplates the various dimensions of sustainability, considered essential values in a project, which affect the validity of the same or a mission. This is especially true for large-scale projects involving large economic-financial commitments that have a significant impact. Therefore, a sustainable project considers not only the traditional constraints of a project but also new drivers and implicit objectives, such as sustainability which has often remained outside the scope until today.

Projects play a pivotal role in realizing more sustainable business practices, and sustainability has recently been linked to project management. The project management discipline can be used to ensure that sustainable projects are economically, environmentally, and socially responsible while also creating value for stakeholders. In order to achieve this purpose, it may help the Triple Bottom Line (TBL) approach (John Elkington, 1994).



*Fig. 1 - Dimensions of Sustainability*

TBL is a framework for assessing the performance of an organization that goes beyond the traditional framework based solely on profits and costs. The emerging literature on this topic indicates that sustainability impacts project management processes and practices (Silvius & Schipper, 2014). In particular, three main sustainability dimensions have been identified: economic, social, and environmental.

The economic dimension of sustainability focuses on a project's financial feasibility and profitability. The social one deals with the impact of a project on society. There may be ensured that projects promote social well-being, inclusivity, and equity. Finally, the environmental dimension focuses on the impact of a project on the natural environment. A sustainable project should minimize environmental harm and promote ecological sustainability.

### **THE ECONOMIC DIMENSION OF SUSTAINABILITY**

The project's economic and financial sustainability are key components of the feasibility analysis before its kick-start. In particular, the economic feasibility compares the required investments (costs) for its realization with its foreseeable benefits. Meanwhile, the financial feasibility verifies the availability of the necessary funding sources based on the forecasted cash flow.

These analyses are used throughout the project's life cycle as the expected hypotheses may not be met during the execution phase. Some techniques used to evaluate sustainable projects are the Net Present Value (NPV), the sum of the actualized cash flows minus the initial investment, which deems a project profitable when the NPV is positive, the benefit-cost analysis, which is based on the measurement of benefits and costs which are directly or indirectly linked to the project. These two analyses encapsulate different aspects of a project, and a project that has a negative NPV may, on the other hand, have a favorable cost-benefit analysis. This happens because the first is a financial analysis, which only considers the monetary value generated, whereas the latter also includes aspects such as the externalities generated and qualitative benefits which are transposed in monetary form. Therefore, the most viable project should be selected after considering more than one analysis.

The budget is one economic component of project management. This can be introduced in a sustainable meaning into two different concepts: one refers to the sustainability of the budget for project success, and the other to the definition of budget sustainability related to allocating a purpose. In this case, we refer to the sustainability budget as sustainable development goals. Before describing the two concepts, it is essential to define a project budget: a forecast plan that details the expenses that will be incurred,

and the costs associated with a project. In fact, the budget is divided into three components:

1. Cost of work
2. Purchase of raw materials
3. Contingency for risks and operating reserves

The first two components define the baseline of costs, which refers to the adjustment of costs over time and helps to understand the deviation of actual costs from planned costs. Once the budget has been defined in a general way, the next step is to determine a budget that is considered sustainable: a sustainable budget for a given project can sustain the project over the long term in an economically viable manner. This approach might make it possible to carry out the activities defined in monetary terms by the budget and achieve the set goals.

The best way to succeed in forming a project budget is to focus on the cost structure that characterizes a project and is, therefore, in line with the project's purpose. Indeed, it is necessary to focus on their trend over time during the project life cycle and optimize the actions so that the budget is compatible with the initial availability to put the project in place. Finally, this cost structure analysis should be presented to the client or commitment to avoid misalignments and missed commitments that could cause financial overlaps.

The second budgeting concept also represents a budget that companies allocate to contribute to high-impact environmental issues to make different choices about how to carry out a project related to a product or service. The European Union Green Book defines the sustainability budget as: "*The voluntary integration of the social and ecological concerns of companies in their business operations and their relations with their stakeholders.*" Later, the Ministry of the Interior in Italy also gave a national definition for this corporate commitment: "*The Social Report is the outcome of a process by which the administration accounts for the choices, activities, results, and use of resources in a given period so that citizens and various stakeholders can know and make their judgments about how the administration interprets and realizes its institutional mission and mandate.*" (Il Sole 24 Ore, 2021). In addition, this type of budget, or better, sustainability report, helps understand a company's or organization's sustainability performance. For example, in the economic environment, those are:

- Economic performance
- Market Presence
- Anticorruption

- Anticorruption behavior
- Tax



*Fig. 2 - The 17 Sustainable Development Goals (SDGs)  
(Source: United Nations Publications, n.d.)*

## **THE SOCIAL DIMENSION OF SUSTAINABILITY**

Social sustainability is a fundamental pillar of sustainable development, closely linked to economic and environmental influences. It concerns an organization's relationship with the social context, at the local and global levels, for respecting human rights and realizing equality and equity conditions. It is a process that creates a vision of a community that cannot disregard democratic principles and popular participation; therefore, it involves the empowerment of local communities, which can have control and a say over their living environment, and the realization of the personal capacities of individuals. Hence, the relationship with stakeholders should be reconsidered in a quantity and quality manner: the context of activities becomes broader and more complex, and groups, associations, and NGOs for environmental protection, respect for human rights, minority rights, local communities, etc., become relevant.

Sustainable development inevitably implies an ethical issue in the sense of a normative obligation to redirect the behavior of organizations and individuals. Regarding sustainable projects, there should be a focus on ensuring that project activities are carried out in a socially responsible manner while maximizing efficiency and minimizing waste.

An example is the concept of Corporate Social Responsibility (CSR), which was defined by The World Business Council for Sustainable Development in 2006 as "*the continuing*

*commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large.”* Furthermore, the European Commission in 2001 considered it as the voluntary integration by companies of social and environmental aspects into their business model and relationship with stakeholders. CSR practices thus promote a company's reputation and, at the same time, contribute to improving democratic processes and the quality of life in its community.

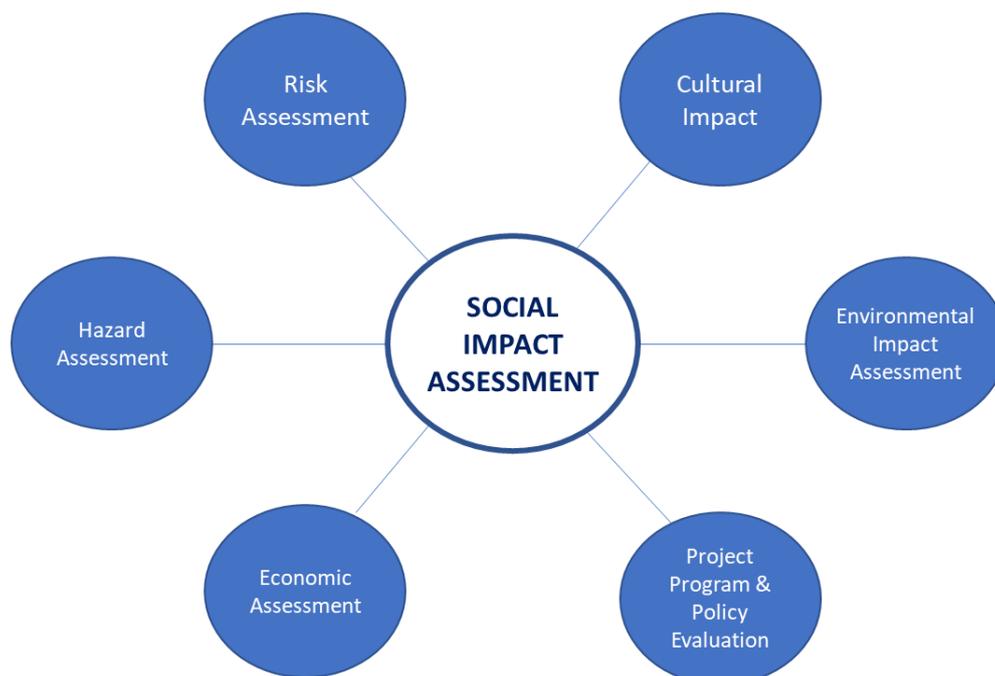
To understand how the concept of sustainability can be applied to project management processes, we can start with the definition of sustainability as the Triple Bottom Line (TBL) (John Elkington, 1994). TBL is a framework for assessing the performance of an organization that goes beyond the traditional framework based solely on profits and costs; in fact, the TBL framework encompasses the three pillars of sustainability with a view to economic prosperity, environmental quality, and social justice. The people-centered social dimension assumes a predominant position because it completes the framework through a holistic and comprehensive view of responsibilities. At the same time, it is the one most ignored by companies, as it is often economically costly in the short term, and actions on this level may conflict with established relationships of power and privilege. For instance, a socially sustainable project in a third-world country should guarantee minimum wage and health levels and may therefore conflict with pre-existing unsustainable practices of exploitation; or projects that allow a large group of women to enter the labor market may conflict with cultural models that attribute a different social function to women (often only related to the family sphere). A socially sustainable project should consider the social consequences on the end-users, the impact of the project on the community, and the safety, health, and education of the people affected. The integration of all these aspects impacts the long-term performance of the projects and the quality of life of the people affected by these projects. Additionally, stakeholders often view organizations that adopt sustainable practices more favorably including customers, investors, and employees.

The critical aspects of social sustainability within a project are the following:

- Stakeholder Engagement, i.e., including communities in decision-making so that projects meet their needs.
- Community Development, i.e., the project should contribute to developing opportunities for residents.
- Diversity and Inclusion, which means ensuring that everyone has equal access to the project's benefits, regardless of their race, gender, or socio-economic status, ethical practices for the respect of human rights, labor rights, and anti-corruption.

- Monitoring and Evaluation, i.e., identifying areas where the project may fail and needs corrections to ensure sustainability.

According to Italian ministerial guidelines (Gazzetta Ufficiale, 2016), the evaluation aims to measure: the social added value generated, the social changes produced, and the sustainability of social action. It is based on the following principles: intentionality, relevance, reliability, measurability, comparability, transparency, and communication.



*Fig.3 – Social Impact Assessment*

Assessing the social sustainability of a project is a complex operation that leads to widening the range of stakeholders involved to consider the project's effects in a longer time perspective and therefore requires new skills from project managers on ethical and social issues.

## **THE ENVIRONMENTAL DIMENSION OF SUSTAINABILITY**

Sustainable projects could be critical to manage, and one of the key dimensions of sustainability is the environmental dimension. This dimension concerns the project's impact on the natural environment and how it can be managed to ensure that the resources are used efficiently and that the environmental impact is minimized.

Environmental sustainability can be defined as the responsibility to conserve natural resources and protect global ecosystems by supporting health and well-being over time

with a forward-looking nature. The U.S. Environmental Protection Agency defines environmental sustainability as “*meeting today’s needs without compromising the ability of future generations to meet them.*” It means using sustainable resources, preventing pollution, and reducing the effects of climate change. In addition, it requires evaluating equipment, resources used for a project, industry standards, and purchasing practices. More and more companies are increasing their attention on environmental sustainability as an essential constraint when approaching a new project. The challenge is considering the environmental dimension in the project planning, starting with the first phase – initiation. For instance, in the beginning, assessing the potential environmental impact is essential, such as identifying this environmental effect and setting targets for reducing or mitigating that impact. These targets should be specific, measurable, achievable, relevant, and time-bound (SMART).

This assessment should examine the potential effects on air and water quality, soil, wildlife, and other natural resources. Therefore, we should look for opportunities to use sustainable materials and practices throughout the project, such as using renewable energy sources, recycling materials, and implementing green building practices. In addition, it should ensure sustainable projects can develop solutions that are as green as possible by relying on renewable or clean energy forms.

In the end, the engagement of stakeholders, including local communities and environmental groups, in the planning and implementation of the project might help to guarantee that the project is sustainable and that the concerns of all stakeholders are considered.

Managing environmental policies and standards is an increasingly stringent constraint, such as working on the consumption of project resources, especially water, and energy, focusing on eco-efficiency but also the environmental impact of the projects (Martens & Carvalho, 2017). Dealing with sustainable projects means higher project costs as hard work on environmental sustainability is required in all life cycle stages, especially in initializing environmental licenses and approvals.

## **THE ROLE OF THE RESOURCES IN SUSTAINABLE PROJECTS**

How our future will look depends significantly on how we manage projects since the challenges relating to sustainability are quite concrete and rely on the adequate planning and implementation of projects, which can guarantee the protection of world resources and, at the same time, create welfare for people.

Sustainable projects minimize the resources used to work from its initiation through its closing phase (Deland, 2009). Sustainability implies that nature can produce or generate resources or energy that remain intact. The environment's source and sink functions should not be degraded. This means that the extraction of renewable resources should be at most the rate at which they are renewed, and the absorptive capacity of the environment to assimilate waste should be maintained (Gilbert, Stevenson, Girardet, & Stern, 1996). The principle may also be applied to social perspectives (Silvius, 2013). Organizations should also not deplete people's ability to produce or generate labor or knowledge by physical or mental exhaustion. Companies might manage their economic and social and environmental capital to be sustainable.

There are several opportunities for considering sustainability in project planning, scheduling, and sequencing (Taylor, 2010). First, think beyond how things are typically done and provide examples, including offsite fabrication rather than onsite. This approach provides possible sustainability advantages of less waste, reduced delivery costs, better use of resources, opportunities to increase labor skills, job creation in poorer locations, economies of mass production, etc. Sustainable projects also imply performing the project as efficiently as possible, minimizing waste. Waste can occur in materials, idle resources, or waiting times (Maltzman & Shirley, 2010).

Nowadays, the most competitive companies best utilize their resources (Porter & Linde, 1995): they do not utilize lower-cost resources but employ the most advanced technologies and the best methods for controlling their resources. In addition, frameworks have been developed to help organizations allocate resources to suitable projects to attain their business strategy and meet stakeholders' demands (Sánchez, 2015).

Finally, when managing sustainable projects, we should consider some essential resources:

- **Natural Resources:** raw materials, water, land, and other natural resources required for a project. Effective management of these resources is essential to ensure that the project does not negatively impact the environment and that resources are used efficiently.
- **Human Resources:** a team of skilled professionals who can work together to achieve project goals. Effective management of human resources is essential for sustainability because it can help to ensure that the project team is diverse, inclusive, and engaged.

- **Financial Resources:** Financial resources are essential to implement sustainability projects successfully. Effective financial management can help ensure that the project is cost-effective, that funds are allocated efficiently, and that the project positively impacts the economy.
- **Time Resources:** Time is a critical resource in project management, and sustainability projects are no exception. Effective time management can help ensure that the project is completed on time and that resources are used efficiently.
- **Information Resources:** Information is critical for project management, and sustainability projects require access to reliable data on environmental impact, resource use, and other factors. Effective management of information resources can help to ensure that the project is well-informed and that decisions are based on reliable data.

Overall, effective management of these resources is essential to ensure that sustainable projects are successful and positively impact the environment, society, and the economy.

## **THE SUSTAINABLE PROJECT MANAGEMENT**

At an aggregated level, the impact that expected results may generate on the environment will depend on various factors, such as the nature of the results, the scale of the project or activity, and the sensitivity of the surrounding ecosystem. Every project has the primary purpose of creating value for the stakeholders to meet the needs of the surrounding communities and create the most excellent possible value without adverse effects on the environment (Hamdan et al., 2021). Sustainable development should be considered the organizing principle of value generation that allows managing the necessary elements to achieve social, economic, and environmental results (Ansah & Sorooshian, 2017).

The purpose is to create value for all stakeholders while ensuring the project's long-term sustainability. This means identifying and managing the project's impact on the environment, society, and the economy while delivering the project within the specified time, budget, and scope.

Project management, referred to sustainable projects, can help create value by reducing waste, conserving resources, and minimizing the project's negative environmental impact, and it can be achieved through improved quality, increased efficiency, and enhanced customer satisfaction. This approach allows long-term value creation for all stakeholders involved in the project. Therefore, achieving efficiency in the results is

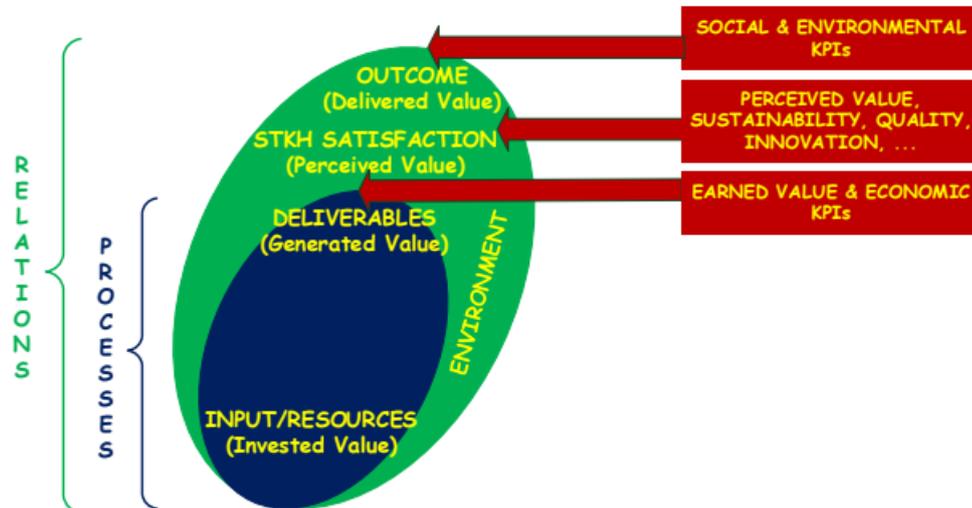
essential, but more is needed if we also consider the quality of life and the preservation of humanity (Zhuang et al., 2017).

Efficiency is typically concerned with maximizing output while minimizing inputs, and this goal can be worthwhile, but it needs to consider the broader impacts on society and the environment. For instance, a company might be highly efficient in producing goods, but if it is causing pollution or exploiting its workers, its overall impact on society may be harmful. Achieving efficient and quality results for humanity requires a holistic approach that considers the needs of individuals, culture, and the environment while maximizing the use of resources and technology to produce results that benefit everyone.

Project management discipline can be used to ensure that sustainable projects are environmentally and socially responsible while also creating value for stakeholders. Value creation is an essential aspect of project management, as it involves identifying and delivering benefits to stakeholders that justify the resources invested in the project. Some ways that PM refers to a sustainable project to create value include:

- **Stakeholder engagement:** Understanding stakeholders' perspectives and priorities can help ensure the project delivers relevant value. It can also help identify potential risks and opportunities related to social and environmental sustainability. For instance, 62% of global consumers want companies to take a stand on important issues, such as sustainability (Accenture, 2018).
- **Lifecycle thinking:** Taking a life-cycle approach to project management involves considering the full range of impacts associated with the project, from the extraction of raw materials to the disposal of waste. This can help identify opportunities to reduce the environmental effects and create value through more efficient resource use.
- **Sustainability metrics:** Defining and tracking sustainability metrics, such as carbon emissions or social impact, can help ensure the project meets its sustainability goals and creates value for stakeholders.
- **Risk management:** Identifying and managing sustainability-related risks, such as reputational risks or regulatory non-compliance, can help protect the project's value and ensure its long-term viability. In particular, the significant threats to global business operations can include climate change and natural disasters (WEF, 2020).

The concept of value in project management and sustainability can be broken down into three categories: value generated, perceived, and delivered.



*Fig. 4: Value-based project management in the stakeholder perspective  
(Elaboration from Pirozzi M., 2019, The Stakeholder Perspective, CRC Press)*

Project deliverables represent the generated value and can be measured, monitored, and controlled by KPIs such as Earned Value and the following economic KPIs:

- ROI: Return on Investment
- NPV: Net Present Value
- Cost-benefit analysis
- Budget variance is the difference between budgeted and actual figures for a specific accounting category.
- CPI: Cost Performance Index, an index of efficiency/performance
- ROE: Return on Equity, as the capacity of a business to use shareholder's investments efficiently, generating high profits.

Project deliverables represent the generated value and can be measured, monitored, and controlled by KPIs such as Earned Value and the following economic KPIs:

Social KPIs:

- Unemployment rate
- Female labor force participation rate

- Median household income
- Relative poverty
- Percentage of the population with a post-secondary degree or certificate
- Average commute time
- Violent crimes per capita
- Health-adjusted life expectancy
- (Slaper and Hall, 2011)

#### Environmental KPIs:

- Reduction in Carbon Footprint: the amount of CO2 emissions reduction achieved through implementing sustainable practices in the project.
- Waste Reduction: the amount of waste generated and disposed of in an environmentally responsible way, which can help to reduce the carbon footprint and improve project sustainability.
- Use of Sustainable Materials: percentage of sustainable materials used in the project, which can help to reduce negative environmental impacts.
- Water consumption: the amount of water consumed and reduced water consumption through sustainable practices like rainwater harvesting systems.
- Biodiversity Preservation: the project's impact on the environmental habitat, the positive impact on wildlife, and the implemented practices to preserve the natural biodiversity and ecosystem.
- Energy consumption: the amount of energy consumed in the project and the reduction in energy usage through measures like renewable energy sources.

Value-based project management can ensure that a project meets its objectives and provides tangible benefits to all stakeholders, building trust and credibility with stakeholders and leading to future business opportunities and partnerships. The four central stakeholder communities – project team, investors, customers/users, and influencers – contribute to the value creation and development by its expectations: every value that is anyway generated and which flows through the project, just like the project results from themselves, is nothing but the results of relations among stakeholders, who integrate available material and immaterial resources to release consistent deliverables (Pirozzi, 2017 and Stretton, 2018). The process of value generation is not linear but complex, and it involves, directly or indirectly, all project stakeholders, who influence value creation and exchange by interacting via their relations.

Overall, value-based project management for sustainable projects can be multifaceted, encompassing economic, social, and environmental considerations. Therefore, the potential generated, perceived, and delivered value during the decision-making process may be considered to ensure long-term success and positive impacts on society and the environment. This approach may help create value for stakeholders while minimizing negative social and environmental impacts, ensure that projects are economically viable, and contribute to a more sustainable future by prioritizing sustainability.

## REFERENCES

Accenture Strategy. (2018). The Accenture Strategy 2018 Consumer Survey on Corporate Activism. *Accenture Strategy*. <https://www.accenture.com/us-en/insight-2018-consumer-survey-corporate-activism>

Ansah, R. H., & Sorooshian, S. (2017). Effect of lean tools to control external environment risks of construction projects. *International Journal of Construction Management*, 17(2), 139–150. doi: 10.1080/15623599.2016.1240322

Bettelli, P. (2021). What the world learned setting development goals. International Institute for Sustainable Development. <https://www.iisd.org/articles/what-world-learned-setting-development-goals>

Deland, D. (2009). Sustainability through project management and net impact. Paper presented at PMI® Global Congress 2009—North America, Orlando, FL. Newtown Square, PA: Project Management Institute.

Elkington, J. (2013). Enter the triple bottom line. In *The triple bottom line: Does it all add up?* (pp. 1–16). *Routledge*.

getcompass.ai. (n.d.). Sales KPIs: Definition, Metrics & How to Set Them Efficiently. <https://www.getcompass.ai/blog/sales-kpis>

Gilbert, R., Stevenson, D., Girardet, H., & Stren, R. (2013). Making cities work: Role of local authorities in the urban environment. *Routledge*.

Hamdan, H. A., Andersen, P. H., & De Boer, L. (2021). Stakeholder collaboration in sustainable neighborhood projects—A review and research agenda. *Sustainable Cities and Society*, 74, 103150. <https://doi.org/10.1016/j.scs.2021.103150>

Il Sole 24 Ore. (2021). Bilancio di sostenibilità: che cos'è, quali sono gli obiettivi e le caratteristiche. *Il Sole 24 Ore*. <https://www.ilsole24ore.com/art/bilancio-sostenibilita-che-cosa-e-quali-sono-obiettivi-e-caratteristiche-AD1yOWJ>

LEGGE 6 giugno 2016, n. 106, Riforma del Terzo settore, dell'impresa sociale e per la disciplina del servizio civile universale. (2016, June 6). *Gazzetta Ufficiale*. Retrieved from <https://www.gazzettaufficiale.it/>

MacLeod, S. (2005). Corporate social responsibility within the European Union framework. *Wisconsin International Law Journal*, 23(3), 541–564.

Maltzman, R., & Shirley, D. (2010). *Green project management*. CRC Press.

Martens, M. L., & Carvalho, M. M. (2017). Key factors of sustainability in project management context: A survey exploring the project managers' perspective. *International journal of project management*, 35(6), 1084-1102.

Pirozzi M., (2017). The Stakeholder Perspective, Featured Paper, *PM World Journal*, Vol. VI, Issue VI – June. <https://pmworldlibrary.net/wp-content/uploads/2017/06/pmwj59-Jun2017-Pirozzi-The-Stakeholder-Perspective-featured-paper.pdf>

Pirozzi, M. (2019). The stakeholder perspective: relationship management to increase value and success rates of projects. *Taylor & Francis*.

Porter, M., & Van der Linde, C. (1995). Green and competitive: ending the stalemate. *The Dynamics of the eco-efficient economy: environmental regulation and competitive advantage*, 33, 120-134.

Sánchez, M. A. (2015). Integrating sustainability issues into project management. *Journal of Cleaner Production*, 96, 319-330.

Silda Wall Spitzer and John Mandyck, 2019. What Boards Need to Know About Sustainability Ratings. *Harvard Business Review*

Silvius, G. (Ed.). (2013). *Sustainability integration for effective project management*. IGI Global.

Silvius, A. G., & Schipper, R. P. (2014). Sustainability in project management competencies: analyzing the competence gap of project managers. *Journal of Human Resource and Sustainability Studies*.

Slaper, T. F., & Hall, T. J. (2011). The triple bottom line: What is it and how does it work. *Indiana business review*, 86(1), 4-8.

Stretton A., (2018). A Commentary on Program/Project Stakeholders, Commentary, *PM World Journal*, Vol. VII, Issue X – October 2018.

Taylor, T. (2010). *Sustainability Interventions-for managers of projects and programmes*. Centre for Education in the Built Environment.

United Nations Publications. (n.d.). Sustainable Development Goals: THE 17 GOALS. <https://sdgs.un.org/goals>

Yang, J., & Yang, Z. (2015). Critical factors affecting the implementation of sustainable housing in Australia. *Journal of Housing and the Built Environment*, 30, 275-292.

Zhuang, T., Qian, Q. K., Visscher, H. J., & Elsinga, M. G. (2017). Stakeholders' expectations in urban renewal projects in China: A key step towards sustainability. *Sustainability*, 9(9), 1640.

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Massimo Pirozzi has a wide experience in managing large and complex projects, programs, and portfolios in national and international contexts, and in managing business relations with public and private organizations, including multinational companies, small and medium-sized enterprises, research institutes, and non-profit organizations. He worked successfully in several sectors, including Defense, Security, Health, Education, Engineering, Logistics, Cultural Heritage, Transport, Gaming, Services to Citizens, Consulting, and Web. He was also, for many years, a Top Manager in ICT Industry, and an Adjunct Professor in Organizational Psychology. He is registered as an Expert both of the European Commission, and of Italian Public Administrations.

Massimo Pirozzi is an Accomplished Author and an International Editorial Advisor of *PM World Journal*. He received three 2020 *PM World Journal* Editor’s Choice Awards for his featured paper "[\*Project Management for Evidence Based Medicine\*](#)" (co-authored with Dr. Lidia Strigari), for his Article "[\*Project communications 1.0 and 2.0: from information to interactivity\*](#)" and for his report from Italy titled "[\*The fight against Coronavirus disease \(COVID-19\) from the perspectives of projects and of project management\*](#)". He received also two 2019 *PM World Journal* Editor’s Choice Awards for his featured paper "[\*Stakeholders, Who Are They?\*](#)", and for his report from Italy titled "[\*PM Expo® and PM Maturity Model ISIPM-Prado®\*](#)", and a 2018 *PM World Journal*

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Alessandro is currently engaged in the "Digital Transformation" engineering and industrialization programs of the new Italian "Open Fiber" telecommunications network, with particular focus on the engineering of delivery and assurance processes for the provision of retail, business and industries customers, on the operational management and procurement support for the definition of specifications and contracts, on the definition of operating rules/ instructions for maintenance and of requirements for systems development, on the support to the commercial and regulatory lines for the definition of services and processes for customers (Other Licensed Operators and Industries), and on the definition and management of operations compliance with ISO Standards and International Best Practices.

As a Member of the ISIPM Board, he focuses his volunteer activities mainly on the cultural diffusion of the project management to young people – specifically to high school students and also staff, including teachers. As an ISIPM accredited teacher, he has taught project management in public and private institutions, in schools and in universities. He has experience in the organization of events and as a speaker in conferences, and also in proposing and managing EU-funded projects.

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Rome, Italy



**Francesca Apponi**, Ph.D. student in Enterprise Engineering, Engineer, got a master's degree in Management Engineering at the University of Rome "Tor Vergata." Her research areas are Marketing Intelligence through Machine Learning and Text Mining approaches. She has a background in statistical analysis and scientometrics. Now, she deals with Data mining and analytics through statistical techniques, artificial intelligence, and machine learning. She is a Ph.D. student representative. She has the Certification in Project Management resealed by the Institution Italiano di Project Management (ISIPM). She is a speaker in seminars on Project Management and Digital Marketing. Her interests are Project Management, Marketing, and Innovation.



## Francesca Brusciotti

Rome, Italy



**Francesca Brusciotti**, training manager at Trenitalia SPA, got a master's degree in Architectural Engineering at University of Roma "Tor Vergata", with a thesis on tensostructure. She has the Certifications in Project Management ISIPM Base® and Advanced® resealed by the Istituto Italiano di Project Management (ISIPM). During university she was president of BEST (Board of European Students of Technology), a major student association, leading the organization of many events, such as engineering competitions and international events.

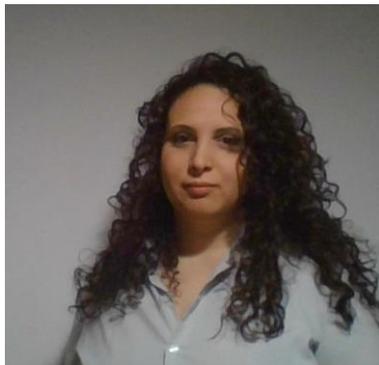


## **Cecilia Buzzi**

Rome, Italy



**Cecilia Buzzi**, Junior Project Manager and PMO. After earning her bachelor's degree in economics and management from the University of Rome Tor Vergata, she is also finishing her master's degree in economics and management. As a junior project manager, she is working in international and national contexts with projects covering the world: aerospace, artificial intelligence, and digital transformation for digital sales improvement. She obtained certification in Project Management by "Istituto Italiano di Project Management" (ISIPM) in 2020, her main interests are project management and continuous innovation.



## **Claudia Milani**

Rome, Italy



**Claudia Milani**, Tender & Contracts Office at Johnson & Johnson spa, got a degree in Economics and management. She is now finishing her master's degree in economics and management at the University of Roma "Tor Vergata". Her interests are Project Management, Public Procurement, and Public Administration in the healthcare sector.



## Antonio Mendicino

Rome, Italy



**Antonio Mendicino**, Ph.D. student, got a Master's Degree in Philosophy recognized at the University of Rome Tor Vergata and at the University of Halle-Wittenberg (Germany). He has the Certification in Project Management released by the Italian Institute of Project Management (ISIPM). His research area is Kantian Philosophy and Theoretical Philosophy (especially the theory of perception). During university, he was a student representative, leading the organization of many events. His interests are in project management, social and cultural planning.



## Davide Raguso

Rome, Italy



**Davide Raguso**, Junior Project Manager at Ri.Cre.S. Srl, got a master's degree in "Philosophy and ethics of relationships" at University of Perugia. He has the Certification in Project Management ISIPM Base® by the Istituto Italiano di Project Management (ISIPM). His main focus area is EU funding programs. He has experience in the coordination of two European-funded projects (one Erasmus+ and one Life). He also has experience in writing grant proposals.