

# Sustainable Project Management under the Light of ESG Criteria: A Theoretical Approach

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## Abstract

The recent pandemic of the SARS-CoV-2 virus highlighted the urgent need for social cohesion among Governments, companies, and organizations. The pandemic also raised the demand for companies to act as good corporate citizens. However, frequently applying ESG considerations may be proven challenging in practice. The objective of this study is to provide a theoretical framework that will allow companies and organizations to incorporate sustainability criteria into the project management process following a conceptual approach, using the guidelines of the Project Management Institute and qualitative methods such as “text analysis” and “content analysis”. Particular attention was placed on the benefits that businesses receive from implementing sustainability methods in their decision-making in order to act responsibly and have a beneficial impact on the environment in which they operate as well as on the people who are affected directly or indirectly.

## Keywords

Sustainability, Sustainable Development, ESG Criteria, Project Management, Business

## 1. Introduction

Sustainability is related to the environment, the economy, society, and the world we belong to. What we need is not only about preserving the projects, but also about preserving the environment and meeting the expectations of society. This involves not only minimizing the use of resources and energy but also pertains to issues of social stability, justice, well-being, and equality of opportunities

(Garefalakis et al., 2020). Sustainable development is part of sustainability, and it consists of 17 objectives (United Nations Population Fund, 2015) relating to well-being (end of poverty, zero hunger, good health), equality (of education, gender, among countries, peace, and justice), environment (preservation of natural resources, climate action), development (decent work and economic growth, making cities inclusive, safe, resilient, and sustainable). However, environmental, economic, and social issues we face display attributes of high uncertainty, urgency, complexity, and connectivity (Shields et al., 2002). The complexity can be escalated even further considering that these objectives may be conflicted.

Quality and sustainability are synonymous concepts (Giampietro & Ramos-Martin, 2005). If a project is of high quality, then we do not need to replace or repair it, and therefore do not need to waste additional materials and resources. Value creation is also associated with sustainability (Porter & Kramer, 2011). The project manager's goal is to maximize value while using the fewest resources so that each project is completed on time and under budget (Shenhar, 2011). Another factor that the project manager must take advantage of is sustainability marketing, as the product's ability to be recycled or environmentally friendly fosters a pleasant sense in the consumer's mind. Undoubtedly, businesses would rather prefer to maintain an environmentally friendly profile, rather than damage their reputation. In this way, competitive advantage can be created in the target market (Porter, 1985).

Projects that are implemented with a sustainability focus demonstrate effective governance and allow project managers to demonstrate accountability to stakeholders. Project managers who use sustainability in their projects minimize resource consumption, reduce costs, maximize efficiency, and attract investors and customers (Schieg, 2009). The greatest contribution of the project manager to the organization is his ability to influence a change in philosophy and culture and turn the organization into a sustainable one (Fiksel et al., 1999). Consequently, it becomes the project manager's personal duty to implement sustainability in every aspect of the project as well as a professional obligation to satisfy the requirements of management and other involved parties. Finally, the implementation of sustainability stems from the social responsibility of companies to influence society and ensure that it runs sustainably as a whole (Brent et al., 2005).

The topic of sustainability in project management is based on qualitative research methods (Adams et al., 2007) based on the "text analysis" method (Bryman & Bell, 2015). The study of these materials is expected to contribute to a better evaluation of sustainability and sustainable development concepts, the perspective of their practical implementation, and the tools of project management applications. Additionally, the use of the "content analysis" method (Ghauri & Grønhaug, 2010) is considered important, by studying the statements of personalities who are active in international organizations and shape opinions and attitudes.

However, some project managers struggle to understand the importance of sustainability and frequently provide as an excuse the fact sustainability issues were not included in the original project design (Munns & Bjeirmi, 1996). As a result, this paper aims to provide guidance on how ESG objectives can be incorporated to project management.

The overall structure of the paper takes the form of four sections, including the introductory section. The second section outlines basic theoretical concepts of sustainability and sustainable development. The third section analyzes sustainability in business while the fourth section presents the concept of sustainable project management. Finally, concluding remarks are drawn.

## 2. Sustainability: Theoretical Concepts and a Brief Timeline

Sustainability and sustainable development have become important concepts and goals across science and society, especially in the post-COVID-19 era when “most vulnerable people and countries had the hardest hit” (UN, 2020). Grum & Grum (2020) emphasised the need for providing clear definitions in respect of sustainability since lack of clarity is an obstacle to academic research. Other researchers (Norton, 1992; Asheim et al., 2001) argued that sustainability represents moral decisions. Something that adds to the inherent complexity of sustainability since the managers who control the strategic decisions of the companies may be at different levels of moral development.

According to the UN Brundtland Commission Report entitled “Our Common Future“, sustainable development was defined as “development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs” (UN, 1987) or “the capacity to maintain or improve the state and availability of desirable materials or conditions over the long term” (Harrington, 2016). It is a development that satisfies current requirements without jeopardizing the potential of future generations to meet their needs. The notion is that while we need resources to survive today (oil, food, building materials), we also need to use them in a way that will enable our children to live as comfortably as we did. All definitions related to sustainability state or imply a long-term orientation.

Sustainability is characterized by three basic dimensions, environmental, economic, and social. The environmental dimension refers to natural resources and the preservation of the environment. The economic dimension refers to profit generation, cost reduction, research and development and overall economic development and finally, the social dimension refers to living standards, education, and equal opportunities (Brown et al., 1987; UNFP, 2015). The interdependence between the dimensions of sustainability can be realized if we consider that society creates the economy, while at the same time there is no economy when there is no society. At the same time, society cannot exist outside the environment because human needs natural resources for their survival (Fibuch & Van Way, 2012).

In any case, the concept of sustainability includes development, since the improvement of the processes with which human deals. However, it shall be determined whether the desired development can be sustained over time and to the same extent. It is certain that the more he grows, the more resources he requires, and therefore what initially causes the problem may end up being the solution. The solution is not to stop using resources, because this leads our society to impoverishment, which in turn, leads to social uprisings (Holling, 2001). Since there can be no development using only limited resources, certain ways must be sought in which society can be developed sustainably (Hanssen, 1999).

Sustainability has always been an issue of concern to society. For instance, in Persia in 200 BC, problems with resource management arose as a result of the expansion of urban areas. The water, salt, food, and nutrients of the soil were constantly dwindling, while at the same time, waste increased. As a result, part of the population immigrated and established new cities. The same thing happened in the American continent in 200-300 BC (Garefalakis & Dimitras, 2020).

“Silent Spring”, the influential work of the biologist Rachel Carson (1962) which was published in 1962 and the 1968 book “The population Bomb” by Paul Ehrlich show that sustainability depends on the humans. In 1969, the organization “Friends of the Earth” was founded with the aim of ensuring diversity, focusing more on social than environmental issues. At the same time, the “National Environmental Policy Act” was enacted by the USA, being the first to implement environmental laws, and the following year “Earth Day” was adopted in the USA, where students are informed and express concerns about the planet.

In 1971, the “International Institute for Environment and Development” (IIED) was founded, which tried to link the environment with development, and thus the concept of “sustainable development” was developed. After the Conference on the Environment in Stockholm in 1972, “Limits of Growth” is published by the “Club of Rome”. It was a Report that emphasised the limited resources and proposed that technology could provide solutions.

Furthermore, in 1976, the United Nations was interested in issues of sustainable development and founded the “UN Conference of Human Settlements”. The Conference focused on the acid rain problem and other environmental issues facing the Scandinavian Peninsula. It also tried to point out that the environment is being destroyed by human actions, the construction of cities and buildings. At the same time, in 1978, the OECD linked the environment with the development. In 1980, the International Union for Conservation of Nature (IUCN) in the “World Conservation Strategy” mentioned and linked poverty with environmental degradation. In 1982, rules for the protection of the exploitation of the seas were defined by the “UN Convention of the Sea”.

In 1987, reference is made to air pollution and the Ozone hole in the “Montreal Protocol on Substances that deplete the Ozone Layer”, while the Brundtland Report “Our common future” was published and was emphasized the coexistence of human well-being and protection. In 1988, the “Intergovernmental

Panel on Climate Change (IPCC)” was established to address climate change. In the 1990s, the issue of sustainability came closer to the business world. Specifically, in 1992, the “World Business Council for Sustainable Development”, with the participation of top managers of the largest companies in the world, published the “Changing Course”, where companies are encouraged to move towards green entrepreneurship and sustainable capital management.

Moreover, in 1992, the “Rio Earth Summit” was organized in Rio de Janeiro, Brazil, and resulted in the adoption of the “Rio Declaration” and “Agenda 21”. The realization of the need for immediate action both locally and internationally was important. Since 1996, many companies have been using ISO 14001—Environmental management to improve their management processes through environmental tools, in the late 1990s, they began to take the issue of sustainable development more seriously. In 1999, the “Dow Jones Sustainability Index” is developed, which measures the sustainability of a company: the more sustainable a company is, the more capital it attracts from finance providers that ask to invest in sustainable companies.

In 2000, the United Nations, with the “UN Millennium Development Goals”, defined what must be done to save the planet. Thus, 8 objectives are developed which are also applicable in project management. In 2005, according to the “Kyoto Protocol” (1997), the permitted emissions of carbon dioxide for each country began to be regulated. In 2006, the “Stern Review” reported that if we don’t act now on climate change, it will cost us three times more in the future to restore the damage. Thus, the financial footprint associated with climate change stating the need for funds to be in place, in order to avoid significantly higher costs in the future. In 2008, however, the global financial crisis slowed down this effort.

The 2010 report entitled “The economics of ecosystems and biodiversity final report” calculates exactly how much it will cost to preserve biodiversity, while in 2011 China becomes the first country in the world to turn to a green economy (Mercator Institute for China Studies-meric.org). In 2012, “Rio plus 20” convenes, 20 years after the first conference, where it is stated that climate change is caused by the human factor. However, the conference ended without an agreement being reached. In 2014, the IPCC releases the 5th Assessment Report (AR5 Synthesis Report: Climate Change 2014, IPCC) on mitigating the effects of climate change. In 2015, the “17 Sustainable Development Goals” of the United Nations are adopted, while, at the same time, the “Paris Agreement” is signed by 174 countries, in a ceremony held at the United Nations Headquarters on “Earth Day”. In 2020, at the initiative of the European Commission, the “European Green Deal” is created, with the aim of European neutrality of carbon dioxide emissions by 2050.

Therefore, the idea of sustainable development is not an idea developed in the last decade, but one continuous research over fifty years. The first definition of sustainable development (Jarvie, 2016) mentions the need to preserve resources

that are useful for future generations, but nowhere does it state how this will be achieved. In the next section, we will discuss the role that businesses play in maintaining the sustainability.

### 3. Sustainability in Business

Sustainable entrepreneurship focuses on long-term success while contributing, at the same time, to social development and the creation of a safe environment (Planko & Silvius, 2012). Many companies incorporate the sustainability into their processes and demonstrate social responsibility, using corporate social responsibility standards, ecological products, and processes, such as FSC-certified materials (Passas et al., 2022). Furthermore, in most countries there are legal commitments to state and international regulations, with which companies are required to comply. Also, companies, by implementing sustainability, become more competitive (Singh et al., 2012) linking profitability with their ecological and social performance (Spangenberg & Bonniot, 1998). In fact, Governments demand and expect companies to achieve sustainable development and, for this reason, large companies promote their social and ecological performance at every opportunity (Gilbert et al., 1996).

Answering the question of how sustainability creates more economic value we must consider the fact that, for a company to be efficient, it must generate profits. This can be achieved when it reduces the resources used (water, fuel), through improving production process, incorporating waste management, introducing better quality into all processes, as well as eliminating redundant methods and procedures (Corder et al., 2010). Also, total costs are reduced when growth and new opportunities are created, such as when new products and new customers appear, market share is increased and corporate image is improved, or products are manufactured in an ecological way (Cooke-Davies, 2002).

Business sustainability is an engine of growth with multiple outcomes in terms of gaining competitive advantage, increasing green investments, boosting innovation, strengthening consumers' confidence, creating sustainable jobs, and adopting environmental standards. Business competitive advantage consists in reducing risks and increasing opportunities. Businesses are trying to improve their image, but also to hire loyal employees. The improvement of the corporate image acts as a motivation for improving their sustainability:

✓ *Competitive advantage.* The sustainability of a firm's competitive advantage depends on its ability to use resources with higher productivity than competitors and to ensure superior efficiency by implementing good practices and creating a "value chain", and finally to provide differentiated products fulfilling consumers' needs (Ness et al., 2007). Firms compete with each other to stand out in their industry in terms of earning more profits and achieving a sustainable competitive advantage (Stead & Garner, 1994). In addition, stakeholders are interested in their profits, and therefore declining efforts for sustainability reduces, correspondingly, their competitiveness. The construction industry is a typical example:

if a business operates in a visionary way and realizes that the world is changing, then it procures more ecological and sustainable materials to build “green houses”, for which there is an increased demand (Herazo et al., 2012).

✓ *Green investments:* Investments in corporate responsibility help to increase productivity of resources, improve staff training, as well as adequate insurance and work-life balance (International Project Management Association Code of Ethics and Professional Conduct). These investments contribute to the introduction of production technologies with a minimal environmental footprint, such as the use of recycled materials. At the same time, they contribute to the inclusion of social and environmental characteristics to products or services, which offers an increase in their quality and strengthens the consumers’ desire of to pay more in order to have products that are produced by responsible companies (Ning et al., 2009). Also, there is an increased competition between states in the field of production of new methods and technologies on renewable energy sources (Ika et al., 2012). For example, China is leading the way in solar systems, but European powers are also pushing competitively.

✓ *Innovation:* The need to reduce carbon dioxide emissions has led to the creation of technologies that produce products that are more durable, more ecological, lighter and, sometimes, cheaper (Økland, 2015). At the same time, many innovations were observed in the shipping industry. The need to save fuel has led to the creation of new engines and new fuels that operate more efficiently. In this way, carbon dioxide emissions were also reduced at the same time.

✓ *Consumers’ confidence:* Consumers seek to buy products from environmental-friendly firms. According to the consulting company McKinsey, 85% of consumers prefer ecological products, without worrying about the costs required for their purchase (Bonini & Swartz, 2014).

✓ *Sustainable jobs:* Employees want to work for companies that use sustainable methods and have a pleasant human-centred environment. 87% of employees report that business sustainability increases their loyalty and commitment to it. In many cases, employees would be willing to be paid less, but work for a more sustainable company (Pope et al., 2004).

✓ *Environmental standards:* Many managers believe that although it is more expensive to comply with environmental regulations, the long-term benefits, from a financial point of view, are certainly much greater (Kerzner, 2001). The savings from the reduction of tax expenditure (environmental fees) is an important incentive. Also, countries with strict environmental legal standards retain companies, which become more competitive. For example, Finland and Sweden have more competitive companies than Ukraine, Bulgaria, or the Philippines. Another important factor in business drivers is the compliance with international and national regulations, the risk management that includes supply chain security and reputational risk, as well as the fact that companies wish to combine their profile with charitable and voluntary actions (Porter & Kramer, 2006).

### ***Environmental-Social-Governance (ESG) criteria***



Businesses use Environmental, Social and Corporate Governance (ESG) criteria to adopt sustainability:

1) *Environmental criteria*

Undoubtedly, business practices are influenced by environmental factors and conditions with a significant impact on how they operate. A typical example is the effect of weather conditions on UK businesses. During the difficult winter of 2010, €1.2 billion was lost due to reduced productivity from employees who could not go to their work and the reduced firms' turnover since the consumer did not leave his house. Another example is the effect of climate change (extreme weather conditions) on product transportation. Also, the scarcity of resources in raw materials (oil) strongly affects the operation of businesses. Thus, companies look for ways to limit the environmental problems that affect them and consider alternative ways of carrying out transportation or even changing the headquarters of the company to a place with favorable climatic conditions (Sánchez & Vanclay, 2012).

A key responsibility of project managers is to save funds through proper resource management. Various companies, applying "Lean thinking" methods and have reduced the consumption of water, electricity and gas. Specifically, in the UK, 2% of corporate profits are lost each year due to inefficient use of resources. Although initially 2% does not seem to be worth calculating, this translates into 223 billion euros (Jones, 2006). Equally important is the investigation of the relationship between the industrial ecosystem and the natural ecosystem. In the natural ecosystem a cycle is created where a plant grows, produces seeds, the seeds fall to the ground, the old plant dies and a new one is created in its place (Thomson, El-Haram, & Emmanuel, 2011). This cycle is also applied proportionally to the production process. That is, goods are produced, consumed by users, the product is thrown away or recycled after its use, creating a cycle (Azapagic, 2004). So, the industry works like a living organism (Welsch, 2005).

Environmental prevention and employee training for more sustainable action is ultimately considered profitable, as it is a business opportunity (positive risk) (Gasparatos, El-Haram, & Horner, 2009). Also, stakeholders "demand" companies to act proactively. For example, in the 1990s, the multinational corporation Nike had acquired a bad reputation for offering poor sanitary conditions and low wages to employees working in its factories in Asia. Consumers demanded greater responsibility by exposing the company's practices. Thus, Nike took advantage of the opportunity by acting proactively, changing its philosophy, and restoring its reputation (Hart, 2015). Finally, companies may increase their environmental awareness due to the ecological philosophy and vision of their Board of Directors (Mishra et al., 2011).

2) *Social criteria*

Social sustainability has a significant impact on stakeholders and creates business value (Vifell & Soneryd, 2012). Social sustainability concerns the good remuneration of the staff, the tolerable working hours, the good working con-



ditions, and the harmonization of the company with the labor laws. Non-compliance may bring pressure on the business (reduction in sales, boycott of products, etc.). Also, companies use the principles of corporate social sustainability in order to meet the needs of stakeholders and retain their customers. In fact, not only is a legal license required to operate a business, but at the same time it is necessary to ensure social acceptance (Hemmati, 2002).

In the context of social sustainability, corporate ethics is included, through which ethical dilemmas and problems are examined. It applies to all aspects of the company's connection with stakeholders, as trust is considered a key pillar of corporate ethics. Ethical issues include the rights and duties of the company towards its employees, suppliers, customers, etc. (Achterkamp & Vos, 2006). Also related to corporate ethics are issues of industrial espionage and deception of investors or consumers (Mitchell, Brandley, & Wood, 1997).

Also, a crucial element of social sustainability is corporate social responsibility, that is, the idea that a business has a responsibility towards society. It therefore consists of the way in which the company evaluates itself and ensures that it operates ethically and responsibly. Corporate social responsibility can be measured by ISO 26000 and useful conclusions can be drawn through quality control (Hemphill, 2013). The social responsibility capital is divided into four categories: environmental, moral, philanthropic, and financial responsibility.

— *Environmental responsibility* refers to the belief that organizations should behave in as environmentally friendly a manner as possible. It is one of the most common forms of corporate social responsibility. Some companies use the term “environmental management” to refer to such initiatives.

— *Ethical responsibility* is about ensuring that an organization operates in a fair and ethical manner. Organizations that embrace ethical responsibility aim to achieve fair treatment of all stakeholders, including management, investors, employees, suppliers and customers.

— *Philanthropic responsibility* refers to the goal of a business to take practical action in order to improve society. Organizations dedicate a portion of their profits by donating to charities and non-profits, while others create their own charity. Undoubtedly, the company's good actions create long-term benefits, both for itself and for society, creating an overall positive impact.

— Finally, *financial responsibility* is the financial commitment of the company to implement actions with a positive impact on the environment, people and society.

### 3) *Corporate Governance criteria*

Assessing how a company is run is important to understanding potential risks and opportunities. Corporate governance relates to how it makes its decisions, how it is constituted, how the board of directors operates and is remunerated, how it manages its risks and how it deals with shareholder rights. Issues related to corporate culture and decision-making processes and influenced by social factors, such as gender representation on the board.

A company is considered well-governed when it operates with transparent processes and applies fair policies and regulations. Implementing good governance reduces the risks of mismanagement, potential scandals, and possible sanctions. Shareholders' rights are a key criterion for evaluating corporate governance. Rights that include the fair remuneration of executives, the avoidance of corruption and the preservation of shareholder value in relation to the company's board of directors. Also, elements of good governance are the avoidance of conflicts of interest within the company (Tomasic, 2018) and the transparent tax strategy it applies. Good governance also extends to the personal data security policy. Inadequate security measures can lead to data loss, inconvenience and financial damage to customers and employees.

However, translating intentions and theoretical concepts in practice adds complexity in the projects and requires commitment and persistency.

#### **4. Sustainable Project Management**

The Project Management Institute (PMI, 2013) defined project as "a temporary effort to produce a unique product, service or result". (Moehler et al., 2018) defined sustainable project as "a project aims to achieve a desired outcome while protecting, conserving and improving the people and natural resources needed to meet the needs of future generations" while in accordance with the Project Management Institute (PMI, 2013), project management is "the application of knowledge, skills, tools, and techniques to project tasks in order to meet project requirements". In other words, sustainable project management is an evolution of the traditional project management that it can be defined as "a disciplined application of methodologies aiming to protect natural resources along with the other legitimate objectives of the project". Sustainable project management involves the following stages.

##### **4.1. Project Feasibility—Initiation Phase**

The first phase of the project follows the identification of a need or opportunity for a product, facility, or service. The initiation of the project is formalized by the drafting of the project charter, which gives it an identity so that budgets and responsibilities can proceed (Bryde, 2003). At this stage, new ideas and options are considered and tested (feasibility study and methodology) to ensure the product will be executed in the most efficient way (Gareis, 2013). Usually, the planning stage requires a project charter, a feasibility study, and a stakeholder analysis. Thorough planning is necessary for the success of the project. In most cases completeness (considering all relevant factors) is the most challenging task.

The initiation phase usually involves, defining the scope of the project, identifying opportunities for continuous improvement, and risk management. Defining the scope of the project is usually based on the product's life cycle. Evolving a project in to a sustainable one will require considering not only consider the materials in the production phase but also the termination of the project that

may include removal and restoration of the environment (Sánchez, 2015). Continuous improvement refers to the alertness of identifying opportunities to reduce the consumption of resources and all related costs for example costs to collect, analyze and interpret data (Xing et al., 2009), discontinue unnecessary operations and reduce failure costs. Research shows that even though failure costs are difficult to be estimated usually they exceed the costs to prevent them (Eid, 2002). The risk management process involves the identification, assessment, and management of risks. Evolving project management into a sustainable one requires consideration of current or emerging risks and their impact to the environment or the society. Techniques that may be used to incorporate ESG objectives and legal restrictions (De Brucker et al., 2013) in decision making and the risk management may involve cost-benefit analysis of social and environmental aspects (Yu et al., 2005), decision trees, back casting, and multicriteria analysis (De Brucker et al., 2013).

Most frequently, the development of a sustainable project requires an ongoing dialogue with the key stakeholders. This may result in more transparent decision making, undertaking new opportunities, effective risk management and avoidance of conflicts (Veleva & Ellenbecker, 2001). The identification and prioritization of stakeholders (Mitchell et al., 1997) may also contribute significantly to manage the relations with the stakeholders.

It is also relevant to note that sustainability considerations shall be embedded in setting the initial requirements, expectations and the evaluation of goals, objectives (Deland, 2009) and the whole project. Research shows that ESG criteria are harder to be implemented in vertical and dispersed corporate structures compared to the matrix structures due to ineffective communication and sharing of resources (Tufinio et al., 2013). However, even with the matrix organizational structures there are problems of taking over or assigning responsibility for the sustainability objectives and the project manager must negotiate with the operational managers for the release of resources (White, 2013).

#### **4.2. Planning Phase—Sustainable Project Design**

The planning process includes the actions required to determine the scope of the project and develop a detailed project management plan, which describes how the objectives of the project will be achieved (Gimenez et al., 2012). This includes consideration of the following:

- Project scope;
- Time;
- Cost;
- Quality;
- Supplies;
- Resources;
- Human resources;
- Communications;

- Risk.

In the planning phase, the Work Breakdown Structure of the project is essential. WBS is a tool to identify the components of the project and breaking down them into smaller easily manageable components. This provides the ability to the project manager to understand each functional component and the associated risks which in turn contributes in achieving the objectives of the project with the most efficient way (Shenhar et al., 2001).

The timely completion of the project usually is monitored with the Gant chart. Gant charts deal with the interdependencies of the components and the time attributed to each one of them ensuring the appropriate resource and cost management (Turlea et al., 2010).

Project managers still need to understand what risk is, a combination of constraints and uncertainty. Overall risk management is an ongoing process (Silvius et al., 2013). This involves the identification of inherent risks, assessment of the risks based on their impact and the likelihood to be realized, existing controls and if necessary, remediate actions. Critical elements that if not considered may have a significant adverse impact are the thorough understanding of the stakeholders' needs, prudence in assessing the risks and their impact, feedback in regular intervals, and unrealistic budgets, commitment to the project and effective communication.

The planning stage also includes the resource planning in people, equipment, and the costs to recruit them (Sedlacek & Gaube, 2010). In the context of sustainability, the personnel shall be aware and familiar in applying sustainable practices. Employees with less competency in sustainable projects, they will need to receive training and create a common culture, which takes time (Cole, 2005). On the other hand, continuous improvement requires continuous training even if it comes with a cost.

The project manager is responsible for the culture his team builds. Culture has aspects, which are sometimes visible and sometimes hidden. Frequently, values and feelings are hidden, while various contact policies and norms or behaviors and symbols are visible (Onion Model). Therefore, it is not enough for the project manager to be only a manager, but also a leader, because projects are about people, not about technical features. In conclusion, for the team to follow the decisions of the project manager, he must inspire them (Eden, 1994).

### 4.3. Project Execution—Delivery Phase

Project's designed is followed by the execution and the delivery phase. This is the stage that requires the greatest effort, in order to ensure successful results, with a sustainable orientation (Bizan, 2003). In the execution stage the project team must coordinate internal and external resources to deliver the project. In the context of sustainability, a possible challenge is the adherence to the sustainability, especially when the difficulties arise. In such cases sustainability considerations may be abandoned in favor of financial benefits.

At this stage, communication is a critical element. It takes place within the team, between project manager and board or between project manager and stakeholders (Tam et al., 2007). Many times, communication becomes more difficult when the project team is dispersed. It is important for the project manager to be able to distribute information effectively to the right people in the right format (Silvius, 2012). Using social media where documents and messages can be shared instantly at little, or no cost may be proven a valuable tool. In addition, project management software reduces the need for physical presence in meetings or paperwork (Bebbington et al., 2007), specialized personnel located in remote areas can work effectively, without having to move in the company's headquarters and the project manager may have real time information to control the project effectively.

Achieving the above requires a holistic approach to the project, changing the perspective of management from the improvement of separate technological resources and the verticalization of departments to an optimized flow of products and services through horizontal structures (Barnard & Elliott, 2015). The result is to reduce the possibility of capital leakages, reduce resources, reduce storage spaces, reduce waste, optimize durability of produced materials, reduce overproduction, reduce energy consumption of equipment, and optimize our logistics chain.

#### **4.4. Completion Phase (Project Closure—Completion Process)**

The completion process includes the procedures required to confirm that the project is following the predetermined objectives as outlined in the project management plan (Labuschagne, Brent, & Van Erck, 2005). At the end of the project, a completion report is drawn up and a certificate of completion is issued in accordance with the acceptance criteria (which must also include sustainability indicators). Lessons learned are formulated which will be used as a guide for future projects. Those lessons are included in the sustainability report that must accompany the project completion report.

The organization should maintain a file of all sustainability reports from all projects and refer to them whenever necessary. Stakeholders, consumers, investors, and even the staff themselves are interested in sustainability reporting. Financial reports are usually read alongside sustainability reports in order to draw useful conclusions. The data included should always be reliable, transparent and certainly include both the positive and negative aspects of sustainability (Global reporting initiative) (Global Reporting Initiative, 2013).

The sustainability report measures and compares the performance of the company with the performance of the industry. The general elements of the sustainability report are transparency, robustness, comprehensiveness, and the ability to read even by non-experts in the field. Specifically, it should cover the areas of strategy, risks and opportunities, the most significant issues related to the operation of the business, the impact on the environment and society, targets, in-

dicators (performance and progress), suppliers and value chain (impact on consumers), stakeholder engagement and governance.

The most well-known standard setter of corporate responsibility disclosure standards are:

- **CDP (Carbon Disclosure Project):** They provide qualitative and quantitative information focusing on climate change, forests, and water. They are used on an annual basis to inform and attract investors, inform, attract suppliers and strengthen competitive advantage.

- **GRI (Global Reporting Initiative):** The revised standards were published in October 2016, do not provide for grading, but focus on transparency and stakeholder involvement. There are standards for financial (GRI 200), environmental (GRI 300) and social (GRI 400) elements which are thematic standards. The global standards include information on the Organization (GRI 101), general information (GRI 102) and the management approach (GRI 103). The GRI standards offer scope and analysis, standardization, stability and are the most widely recognized and used.

- **SASB (Sustainability Accounting Standards Board):** SASB has 77 industry standards that include accounting ratios, technical protocols, accountability metrics and industry-specific topics that affect value creation. They focus on investors by identifying and evaluating ESG elements.

- **UN Sustainable Development Goals (SDGs):** The 17 SDGs provide a broad scope, use a common language, and are aimed at companies that want to reach a wider audience through their sustainability reports.

- **TCFD (Task force on climate related Financial Disclosures):** The Financial Stability Board (FSB) established the Task Force to review how the financial sector could take climate-related issues into account. The Task Force issued 11 recommendations that address governance, strategy, risk management and metrics against the goals. These recommendations allow companies to consider risks from the natural environment that affect the company operationally and financially (Thabrew et al., 2009).

The benefits of sustainability reports are the overall development of a vision and strategy for sustainability, the improvement of management systems of processes and objectives, the identification of opportunities and threats, the attraction, motivation and retention of employees, the improvement of reputation, the achievement of trust and respect, access to finance, transparency and dialogue with stakeholders and finally achieving competitive advantage and leadership (Silvius, 2013).

#### **4.5. Monitoring—Evaluation Phase**

Approximately 15% of the overall project effort is related to monitoring and evaluation. There are cases where the initial planning and execution is successful, but it is neglected to consider whether the processes are being done in the most efficient way. Project managers are often focus in meeting deadlines and

finishing their project on time, but do not evaluate the project during its implementation phase. This is another reason projects fail (de Wit, 1988).

Project monitoring maintains contact with the execution of processes, control of progress against goals and deliverables, and periodic control of targets through the incremental progress of the project. Sustainable monitoring differs from evaluation in the indicators adopted. Monitoring starts from the first day of the project and some results are obtained in the interim stages or during the development of the project (Bell & Morse, 2008). The steps of monitoring are ascertaining the different units involved in planning and execution, issues require feedback, determining the communication methods, deciding when to report on progress, establishing reporting accountability at various levels, driving, and analyzing reports, ascertaining critical and difficult areas of execution, and providing feedback to improve metrics (Berman, 2007).

Evaluation differs from monitoring since the criteria used aims to determine whether project activities conform to standards, whether progress has been made, whether the desired results have been achieved, whether the results are satisfactory, and finally whether the individual activities can be refined and bring better results (Fernández-Sánchez & Rodríguez-López, 2010). Frequently the positive aspects of the project are omitted, and the focus is on the negative ones. When the assessment is implemented, the manager focuses on the most important and clearly defines what success means and how it occurs (Adnan et al., 2013).

The tools of project evaluation are standardized action lists, feedback forms, statistical reports, and project-specific planning tools. The best evaluation method is external evaluation (external consultant), but it can also be carried out internally, either by self-evaluation or by internal mechanisms Garefalakis et al. (2020). To implement the project evaluation, indicators are used, such as the water supply in cubic meters needed for the project. But beyond the material resources that can be measured, there are also intangible benefits from a project, which are not immediately obvious and difficult to evaluate, such as sustainability (Fellows & Liu, 2008).

Evaluation tools are the “green compass”, which is the graphic representation of processes and product design, the amount of water used overall in the project (National Research Council, 2011), energy consumption and the durability and functionality of the products. Indicative, some tools are “LEED”, “Code for Sustainable Homes”, “BREEAM” and “Greenstar Casbee” (Anning, 2009).

## 5. Conclusion

As it is increasingly recognized that projects play a key role in creating a sustainable society, the integration of sustainability concepts into project management is seen as one of the most important global trends. The integrated concept of project management refers to both the viability of the project deliverable and its sustainable management. The project delivery phase and the final deliverable produce results that could be highly beneficial to the present, but also to future



generations. The project manager has a central position, changing the philosophy of the organization, gradually turning it into a sustainable organization.

Sustainability defines criteria for the proper use of resources and the assessment of outputs in terms of economic, social and environmental impacts. The traditional project management approach allocates and exploits resources, seeking the optimal combination of time, cost, and quality performance to maximize stakeholder benefits. This approach does not take into account wider social and environmental issues, which are the challenges of sustainability. In addition, there is often an assessment mismatch between project success and project management success that limits the actual integration of sustainability issues.

Sustainability, as a field of study, can offer project management new perspectives, supporting project managers in making decisions about the planning, management and control of resources allocated to the project, taking into account economic, social and environmental impacts not only during the life cycle of the project but also during the life cycle of the products produced as a result of the project. The aim would be to ensure that the decisions taken are in the best interest of the customers, but without harming society and the environment.

Projects are a means of effecting change, delivering new products and services, and thus shaping our society. Projects and project management help our society achieve the Sustainable Development Goals. Sustainability in projects should not just be an afterthought but should be one of the goals of the project. Thus, project management must consider sustainability as one, if not the most important success factor.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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