

Review

Get Construction Project Performance Parameters Right to Attain Sustainable Development Goals

George Ofori

School of the Built Environment and Architecture, London South Bank University, London SE1 0AA, UK; oforig3@lsbu.ac.uk

Abstract: The Sustainable Development Goals (SDGs) were agreed upon by the world's leaders as the framework for a global agenda for development. The construction industry is key to the delivery of the SDGs because construction provides the physical basis for the economic activities necessary for attaining short-term economic growth and long-term development. Moreover, the construction process generates income and contributes to other sectors of the economy, and the completed items contribute to enhancing quality of life. Each constructed item should be completed to the highest level of achievement if the industry is to deliver what is required of it under the global agenda. Thus, it is necessary to have a way of assessing the extent to which this is achieved in projects. This study seeks answers to the following questions: What are the SDGs? What are their merits, challenges and drawbacks? What is the progress in the efforts to attain them? What role can construction play in the effort to attain the SDGs? How should the performance parameters of construction projects be defined to enable the industry to best play this role? The study is based on a review of the relevant literature. It is found that all the 17 SDGs are relevant to the construction industry as they concern what the industry must do, how it must do it, what it should use, and the impact of what it does on quality of life. It is suggested that appropriate performance parameters of projects are needed in order to develop policy initiatives, practices, mindsets and attitudes to enable the construction industry to undertake the tasks required of it in attaining the SDGs. As a guide, a framework comprising 15 parameters is proposed.

Keywords: sustainable development goals; merits; challenges; construction's contribution; project performance criteria; the future



Citation: Ofori, G. Get Construction Project Performance Parameters Right to Attain Sustainable Development Goals. *Sustainability* **2023**, *15*, 13360. <https://doi.org/10.3390/su151813360>

Academic Editors: Chunlu Liu and Jorge Lopes

Received: 22 March 2023

Revised: 29 August 2023

Accepted: 30 August 2023

Published: 6 September 2023



Copyright: © 2023 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

The Sustainable Development Goals (SDGs) form the framework of the current global development agenda. The SDGs address the economic and social issues (nutrition, access to water, health, education, energy, work, income, social justice, gender justice, participation, and resilience), and environmental areas where planetary boundaries have been overstepped or were at risk of being overstepped [1]. As the literature confirms that construction plays a major role in economic growth and development [2], the construction process is a determinant of the success of the path towards attaining the SDGs.

The aim of the study is to explore the role construction plays in the efforts to attain the SDGs and how this contribution can be made more effective. The focus is on the evaluation of project performance to assist goal and target setting, benchmarking, feedback and continuous improvement. The objectives of the study are to explore the following:

- * What are the SDGs?
- * What are the merits, challenges and drawbacks of the SDGs? What are the results of the efforts to attain the SDGs?
- * What role can construction, considering its projects, play in the effort to attain the SDGs?

- * How should the performance on construction projects be defined to enable the industry to play this role most effectively?

This study is based on a review of the literature on the SDGs, the determinants of development and the role of construction, the nature and challenges of the construction industry, and the concept of project performance.

After discussing the history behind the SDGs, considering their merits and criticisms, and assessing the progress in attaining them, the role construction plays in attaining the SDGs is considered. The concept of project performance in construction is next discussed. The need for a new conceptualisation of construction project performance with respect to the SDGs is next considered. Finally, some concluding remarks and ideas for action in future are presented.

2. The Sustainable Development Goals

The United Nations (UN) resolution “Transforming Our World: The 2030 Agenda for Sustainable Development”, agreed upon by the leaders of all 193 member countries in September 2015, embodied the Sustainable Development Goals (SDGs) [3]. The 17 SDGs and 169 targets (shown in the 1st table in Section 3.2) came into effect on 1 January 2016. They replaced the Millennium Development Goals (MDGs) which formed the basis of the first universally accepted global development agenda in 2000 to 2015. A framework to review countries’ progress towards the SDGs led by the High-Level Political Forum on Sustainable Development (HPFSD) was instituted.

It is pertinent to highlight some main points of the resolution to provide a background to the discussion in this paper [3]. The preamble states that it is “a plan of action for people, planet and prosperity” and for strengthening universal peace and freedom, which all countries and stakeholders will implement. There would be bold and transformative action and no one will be left behind (clause 1). The vision (clauses 7 to 9) is ambitious, with desirable objectives and situations. The resolution demonstrates realism, highlighting the complex challenges (clause 14) but also the opportunity (clause 15). It outlines the means of implementation and stresses the integrated approach to be adopted. It then introduces the SDGs as “a new agenda” (clause 18). It is stated that the goals are “integrated and indivisible” (clause 18). It stresses mutually beneficial win–win co-operation while stating that national needs, levels of development, capacities and resources, and challenges differ, and expressing respect for the sovereignty of each nation in pursuing sustainable development (clauses 18 and 22). The resolution states that monitoring, follow-up and review are to be undertaken by governments, and they are also to hold primary responsibility. It also highlights “accountability to our citizens” (clause 47). The paragraphs on urban development (clause 34) are most pertinent to this study; they recognise that sustainable urban development and management are crucial to the quality of life of people. Efforts will be made to foster community cohesion and personal security in cities and human settlements, reduce the negative impacts of urban activities including those on the global climate system, and stimulate innovation and employment. Actions will include a reduction in and the recycling of waste and more efficient uses of water and energy.

Many assessment tools have been developed, such as the official 232 SDG indicators and voluntary country-led review processes. The Sustainable Development Solutions Network and the Bertelsmann Stiftung foundation annually publishes the SDG Index and Dashboard Report (and has done so since 2016). The major research initiative The World in 2050 supports the successful implementation of the 2030 agenda [4]. It aims to address the challenges in achieving the SDGs in an integrated manner to minimise potential conflicts among them and realise the synergies of achieving them together.

While the SDGs have entered current official, commercial and research parlance, they have been met with both praise and criticism. These are considered in the next two subsections.

2.1. Support and Defence of the SDGs

There has been strong support for, and an expression of hope in the success of, the SDGs. For example, *Nature* [5] considers the summit where the SDGs were launched to be a landmark conference which was different from others because the leaders pledged to take concrete action on an integrated set of economic, environmental and social issues. Kamau et al. [6] noted that many paradigm shifts occurred in the negotiations on the SDGs, and the process marked a sea change in how the UN conducts multi-lateral diplomacy, and how it conducts its business. Malaysia's Economic Planning Unit [7] noted that the 2030 agenda serves as "our collective blueprint to achieve a better and more sustainable future for all" and refers to the goals as unique. The SDGs were put together in an inclusive, consultative, from-the-ground-up process involving inputs from millions of people around the world [6]. They were lauded for being ambitious and universal and for extending beyond the previous sole focus on economic aspirations and modalities in development plans and programmes [8]. *Nature* [5] considers the SDGs as being "extremely valuable". The overall framing of the battle to eliminate poverty and parallel actions including reducing inequality within, and among, countries; combating climate change and environment degradation; strengthening the rights of workers; eliminating trade protections; and fostering effective international co-operation is also praised ([9], p. x). Kumar [10] notes that the SDGs form a roadmap; the biggest global challenges are clearly laid out, have targets and metrics, and can only be solved through partnership between all people working together. Some highlight the merits of particular goals. For example, SDG16 is considered to be an innovation by those who advocate for justice and accountability.

The resolution [3] and many authors point out the need for exploring and exploiting the interconnections among the SDGs to realise synergies and make their implementation more effective. Allen et al. [11] noted that progress towards one target is linked to that towards other targets. Thus, there is the opportunity to realise progress in several areas with a carefully devised initiative in one appropriately prioritised area [12,13].

2.2. Criticism of SDGs

The SDGs have been criticised. Some consider the goals and targets to be too numerous and unwieldy [14]. The goals are viewed as being too complex and ambitious, and as making too many promises [15]. Authors doubt whether or not the 232 SDG indicators are fit-for-purpose [16]. Some highlighted a lack of fit between the proposals in the goals and conditions on the ground. Some noted the absence of mechanisms for holding governments accountable for the attainment of the targets. Many considered the SDGs unachievable under the present world economic governance system [1].

Some critics dismissed the SDGs in their entirety. *The Economist* [17] predicted that the SDGs would be useless. Alston [18] criticised the reliance of the SDGs on the World Bank's international poverty line of USD 1.90 a day to measure poverty, a figure he considered too low to support a life of dignity. The International Council for Science and International Social Science Council [19] noted that the SDG targets were vague, qualitative and time-bound; only 29% of them are well defined and based on the latest scientific evidence. Whereas the resolution states that the goals are integrated, some authors assert that they are not, and they address challenges such as climate, food security and health in isolation from one another. Alston [18] argued that the SDGs fail to frame their targets in the context of human rights. He considers the means of evaluation through the annual HPFSD as a weak monitoring instrument, decrying the voluntary nature of the goals.

Various authors suggest that the SDGs adhere to the same traditional pro-growth model of development that lies at the base of most of the problems the SDGs are trying to address, including climate change. For example, Kumi et al. [20] noted that the development agenda of many developing countries has a neoliberal orientation driven by market reforms, social inequality, and a move towards enhancing competitiveness in the economy. They suggest a policy approach which places equity and addressing unfavourable power relations at the centre of the interventions. Hickel [8] noted that the SDGs are dangerous;

they would lock in the global development agenda for 15 years around a failing economic model that requires deep structural changes. Eisenmenger et al. [21] observed that the SDGs fail to monitor trends in resource use and, thus, prioritise economic growth over ecological integrity. Van Norren [22] found that the SDGs are underpinned by Western ‘modernism’, and do not address the philosophies of many African, Asian and Latin American societies such as the human–nature–well-being inter-relationship, being biocentric, and fostering cyclical thinking, collective agency and sharing.

In the next three subsections, what is required to realise the SDGs, what has been carried out, and what has been realised are discussed.

2.3. What Is Needed to Attain the Goals

As to whether or not the SDGs will be attained by 2030, some authors suggest that sustainable development should be seen as a process and not an end-state [12]. Sachs et al. [23] suggest six collectively exhaustive, systems-based transformations in society which would be building blocks for the achievement of the SDGs: education and skills; health and well-being; clean energy and industry; sustainable land use; sustainable cities; and digital technologies. The transformations are guided by two key principles of “leaving no one behind” and “ensuring circularity and decoupling”. Each transformation identifies priority investments, regulatory challenges and actions.

The perceived high cost of implementing the SDGs was a key criticism of the development agenda. UNCTAD [9] estimates that USD 5 trillion to USD 7 trillion per year is needed in 2015–2030 to achieve the SDGs globally, with USD 3.3 trillion to USD 4.5 trillion per year being needed in developing countries, mainly for basic infrastructure, food security, climate change mitigation and adaptation, health and education. The International Monetary Fund estimates that an additional spending of about USD 1.3 trillion (in 2016 US dollars) per year would be required for infrastructure in low-income developing economies and emerging market economies combined in the period to make meaningful progress towards the SDGs [24].

2.4. What Has Been Done in the Effort to Attain the SDGs

The SDGs provide a guide for action in development in all countries with governments taking responsibility, being accountable and leading, and the private sector making a significant contribution. International co-operation (covered in SDG17) is another important facilitator. Robinson [12] reiterates the sentiments in the declaration by suggesting that countries must interpret the SDGs according to their national circumstances because differences in geography, governance and technology make it dangerous to rely on generalised knowledge. Similarly, *Nature Sustainability* [25] notes that challenges and opportunities to meet the SDGs vary across different geographical, political and economic contexts.

Countries have integrated the goals into their policies, procedures and processes. Malaysia integrated the SDGs, their targets and indicators into the plans, initiatives and outcomes of its three national development plans since the agenda was launched (the Eleventh Malaysia Plan, 2016–2020; Twelfth Malaysia Plan, 2021–2025; and Thirteenth Malaysia Plan, 2026–2030) [7]. Malaysia also established a multi-stakeholder governance structure led by the National SDG Council chaired by the Prime Minister, and formulated a National SDG Roadmap to guide their implementation.

Countries report on the implementation of their sustainable development programmes. Examples include the following: Nigeria [26]; Sweden [27]; and US [28]. There is also a large volume of global, regional, national and subnational reports and plans. The UN-affiliated Sustainable Development Solutions Network produces an annual report that shows how countries are performing in terms of the SDGs (Sustainable Development Solutions Network (2022) Sustainable Development Report, <https://www.sdgindex.org/reports/> accessed on 21 March 2023). Action for Sustainable Development, IISD and other institutes undertake an assessment of the Voluntary National Review reports submitted to the UN HPFSD for a global association of civil society organisations [29].

A SDG index (based on the work of Sachs et al. [30]) measures progress in countries [31]. The score represents the percentage of SDG achievement (100 indicates that all SDGs have been achieved). Countries are ranked by overall score. Ranked highest in 2023 were the following: Finland, at 86.51; Denmark, at 85.63; Sweden, at 85.19; Norway, at 82.35; and Austria, at 82.32. The six lowest ranked countries had scores below 50 points. They were the following: Liberia, at 49.89; Sudan, at 49.63; Somalia, at 45.57; Chad, at 41.29; Central African Republic, at 39.28; and South Sudan, at 39.05 (there were no data for 30 other UN member countries). No country has attained all of the SDGs. Even the consistently highest-ranked countries acknowledge that they must do more. For example, the Swedish government recognises that economic and social inequalities are growing; many environmental quality objectives will not be attained in time; and many people are suffering from mental ill-health ([27], p. 7). The index is criticised. Hickel [32] considers it a poor measure of sustainability, especially from the ecological perspective. Moreover, there are gaps in critical SDG-related targets because most of the data used in the index and reports are from existing databases that were not set up from a sustainable development perspective [25].

2.5. Results of the SDGs, So Far

2.5.1. Summary of Progress

The latest report on the SDGs features these highlights [33]:

1. More than 4 years of progress against poverty has been erased by the impact of the COVID-19 pandemic. The working poverty rate rose for the first time in two decades (from 6.7% in 2019 to 7.2% in 2020), pushing an additional 8 million workers into poverty. Rising inflation and impacts of war in Ukraine increased the pre-pandemic projection of the number of people living in extreme poverty in 2022 of 581 million to the current 657 to 676 million.
2. About 1 in 10 people worldwide are suffering from hunger, and nearly 1 in 3 people lack regular access to adequate food).
3. Globally, in 2019–2020, 25% of primary schools lacked electricity, drinking water and basic sanitation; 50% lack computers and internet access.
4. The world's water-related ecosystems are being degraded. Meeting drinking water, sanitation and hygiene targets by 2030 requires a four-fold increase in the pace of progress. At current rates, in 2030, 1.6 billion people will lack safely managed water, 2.8 billion will lack safely managed sanitation, and 1.9 billion will lack basic hand hygiene facilities.
5. Progress in electrification has slowed as the remaining people are hardest to reach. Estimates of the number of people without electricity are the following: 1.2 billion in 2010; 733 million in 2020; and 679 million people in 2030.
6. Leaving no one behind will require an intensified focus on 1 billion slum dwellers. Globally, 82% of municipal solid waste is collected, and 55% is managed in controlled facilities.
7. Rising global temperatures continue, leading to more extreme weather. Energy-related carbon emissions increased 6% in 2021, reaching the highest level ever.
8. Corruption is found in every region; almost one in six businesses have received bribe requests from public officials.
9. Rising debt burdens threaten the recovery of developing countries from the pandemic.

2.5.2. Looking Forward

The COVID-19 pandemic altered economic and social realities and some authors believed that actions different from the SDGs were needed. *Nature* [34] noted that the pandemic set back efforts to achieve the original 2015 targets, and “the need for change to make them more attainable is stronger than ever” (p. 331). Naidoo and Fisher [35] noted that the pandemic exposed the fragility of the SDGs, and their lack of resilience to global stressors. They suggested that two-thirds of the SDGs are now unlikely to be met.

They urged the UN's HPFSD to reconsider each SDG, test its resilience to disruptions and establish an order of priority among them. However, other authors urge persistence with the SDGs. For example, Bhattacharya et al. [36] suggested that the pandemic reinforces why the goals were established in the first place to address common economic, social and environmental ambitions to ensure humanity's long-term future. The UN [33] stressed that the SDGs were even more needed as their realisation would address the gaps and weaknesses in economies, institutions and societies which the pandemic revealed. Sachs et al. [30] also argued strongly against suggestions that the objectives of the SDGs be scaled back.

Nature [5] believed the SDGs have had a considerable positive impact. The cross-cutting nature of the goals has fuelled research, for example, providing scientists with opportunities in development economics, the environment, engineering, health policy, and beyond. However, the overall trend is bleak. *Nature* [5] notes that of the SDGs' estimated funding requirement of USD 5 trillion to USD 7 trillion per year, there is an estimated shortfall of USD 2.5 trillion. It suggested that, to be achieved, the SDGs should sit at the apex of a national effort and become mandatory; policy efforts should be redoubled. "Time is short, and there's a lot to do when a decade is all we have" ([5], p. 8).

Finally, the *Global Sustainable Development Report* is commissioned by the UN secretary-general and published every four years. The 2019 report recommends that nations redistribute the SDGs into six 'entry points': human well-being (including eliminating poverty and improving health and education); sustainable economies (including reducing inequality); access to food and nutrition; access to, and decarbonising, energy; urban development; and the global commons (combining biodiversity and climate change) [37].

In the next section, the contribution construction can make in the efforts to realise the SDGs is discussed. The importance of construction in development is outlined, followed by the role of construction in attaining the SDGs, and then the need to improve the construction industry.

3. Construction and the SDGs

3.1. The Need

Before considering the role of construction in attaining the SDGs, it is pertinent to determine what and where the needs are. What should a country do to develop? In Global Competitiveness Index 4.0, the World Economic Forum ([38], p. vii) presented the factors which drive productivity, growth, human development and improvements in living standards during the Fourth Industrial Revolution. The index comprises 12 pillars: institutions; **infrastructure**; ICT adoption; macroeconomic stability; health; skills; product market; a labour market; financial system; market size; business dynamism; and innovation capability. The forum in the *World Competitiveness Report 2014* [39] outlined these "most problematic factors for doing business", which hinder economic activity, including the following: access to financing; corruption; crime and theft; foreign currency regulations; government instability and coups; inadequately educated workforce; **inadequate supply of infrastructure**; inefficient government bureaucracy; inflation; insufficient capacity to innovate; policy instability; poor public health; poor work ethic in national labour force; restrictive labour regulations; tax rates; and tax regulations. Thus, infrastructure is one of the main foundations of national economic growth and development. This underlines the role of the construction industry in the realisation of the SDGs.

The UN [33] noted that cities, where over half the world's population live (by 2050, this is estimated to rise to 7 out of 10 people), are drivers of economic growth and contribute over 80% of the global GDP. However, they account for over 70% of global greenhouse gas emissions. Rapid and poorly planned urbanisation leads to challenges including a shortage of affordable housing, insufficient infrastructure, unsafe levels of air pollution, and increased climate and disaster risks. In 2020, about one in four urban dwellers (a total of over 1 billion people, mainly in Asia and sub-Saharan Africa) lived in informal settlements ('slums'). The UN concluded with the following: "To achieve the SDGs, the

world's 1 billion slum dwellers must be given the support they need to lift themselves out of poverty and live free from exclusion and inequality" (p. 46). Here, too, the indispensable role of construction is evident.

3.2. Role of Construction in Attaining the SDGs

Table 1 shows the role the construction industry can play in the efforts to attain the SDGs. It makes it evident that construction is relevant to every one of the SDGs. Researchers, such as Opoku [40] and Ofori [41], noted that not much work has been carried out on the role of construction in achieving the SDGs. Ofori [42] presented this categorisation of the SDGs, from the perspective of construction:

1. Basic human and national needs—SDGs 1, 2, 3, 4, 5 and 8;
2. What construction must do—SDGs 9 and 11;
3. The results of construction activity—SDGs 6 and 7;
4. The inputs and methods of the construction industry—SDGs 12, 13, 14 and 15.

Table 1. The SDGs and the role of construction.

SDG	Contribution of Construction: New Perspectives
Goal 1: End poverty in all its forms everywhere	<ul style="list-style-type: none"> * Minimise costs to enable budgets to cover higher volumes of output. Enhance quality and increase durability to raise value [42]. * Stimulate activity in other sectors to generate more income; maximise the multiplier effects of construction activity and its products [43]. * Generate employment (decent, clean, well-paying jobs) in construction and through its supply chain [44]. * Foster the establishment of allied enterprises and develop small- and medium-sized companies through procurement approaches.
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture	<ul style="list-style-type: none"> * Undertake effective and efficient management of planning, design, construction and operation to provide infrastructure for agriculture (such as dams, canals; and food distribution, processing and storage facilities). * Facilitate urban agriculture by providing the physical infrastructure [45].
Goal 3: Ensure healthy lives and promote well-being for all at all ages	<ul style="list-style-type: none"> * Undertake the effective and efficient management of planning, design, construction and operation to provide health facilities with appropriate technology, facilitating holistic care [46]. * Plan, design and build settlements to foster healthy lifestyle choices and opportunities, and aid healing [47]. * Attend to inclusive design to enable universal access to all facilities [48].
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	<ul style="list-style-type: none"> * Undertake effective and efficient management of planning, design, construction and operation to increase volume of educational facilities. * Plan and design facilities to provide best in context holistic learning, playing, exploration, creativity and enterprise. * Use construction projects as learning, technology orientation and entrepreneurship opportunities for students and citizens in general [49].
Goal 5: Achieve gender equality and empower all women and girls	<ul style="list-style-type: none"> * Address the masculine orientation and culture of the construction industry; provide decent job opportunities and work environments for women [50]. * Seek to recruit female students to construction education and training programmes by addressing stereotypes and myths [51].
Goal 6: Ensure availability and sustainable management of water and sanitation for all	<ul style="list-style-type: none"> * Undertake the effective and efficient management of the planning, design, construction and operation of the infrastructure for extracting, treating and supplying water to widen its provision to the population. * Explore, develop and apply context-specific, appropriate, and affordable technology in water and sanitation, such as for water harvesting. * Instal context-specific water-saving equipment and installations in all buildings; monitor usages in operation.

Table 1. Cont.

SDG	Contribution of Construction: New Perspectives
Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all	<ul style="list-style-type: none"> * Undertake the effective and efficient planning, design, construction and continuous operation of power generation and distribution systems using appropriate technology. * Explore and take advantage of renewable energy generation possibilities in each project; check the possibility of a net positive in each building [52]. * Ensure effective energy management during the construction and operation of facilities, educating users.
Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	<ul style="list-style-type: none"> * Provide the necessary buildings and infrastructure for economic activity in the most appropriate manner [53,54]. * Plan and design buildings and settlements for effective integration to derive benefits from agglomeration and complementarity effects. * Stimulate activities in other sectors of the economy through construction activity to generate decent work in the economy.
Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	<ul style="list-style-type: none"> * Use construction to enable the development of clusters of allied industries in the locality and the country [55]. * Factor in resilience as a key consideration in the planning, design and construction of every building and infrastructure item. * Promote technology development and adoption in all phases of a construction project. * Establish and apply appropriate project performance parameters to foster continuous improvement [42].
Goal 10: Reduce inequality within and among countries	<ul style="list-style-type: none"> * Within countries—ensure equal opportunities to decent work; reduce the gender pay gap; enhance access to built facilities such as the basic need for housing. * Among countries—engender knowledge flow and exchange; capacity building in developing countries; decolonisation to enable the exploration and use of appropriate skills, material inputs, and technologies.
Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable	<ul style="list-style-type: none"> * Ensure the effective and efficient management of the planning, design, construction and operation of cities and settlements; factoring in resilience; promoting the circular economy [56,57]. * Apply the principles of inclusive planning and design of constructed items to reduce inequality in cities and human settlements [58].
Goal 12: Ensure sustainable consumption and production patterns	<ul style="list-style-type: none"> * Ensure the effective application of sustainable building and construction from appropriate, context-specific frameworks [59]. * Take the life-cycle and circular approach to the consumption of resources and waste management in construction [60]. * Influence positive changes in owners' and users' consumption patterns, the former in "reuse or redevelop" situations, and the latter in the use of the built item [61].
Goal 13: Take urgent action to combat climate change and its impacts	<ul style="list-style-type: none"> * Ensure that construction is doing its part to address climate change through appropriate design (making the most use of passive design and choosing equipment and forms of installation); during construction; and in operation (through comprehensive energy management) [52]. * Contribute to resilience and adaptation in buildings through appropriate design and upkeep.
Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development	<ul style="list-style-type: none"> * Avoid water pollution during construction. * Ensure effective planning, design and construction for providing maximum eco-system services.
Goal 15: Protect, restore and promote the sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss	<ul style="list-style-type: none"> * Minimise land use through judicious planning; assess the need for building before design. * Effective sustainability impact assessment of every proposed development project.

Table 1. Cont.

SDG	Contribution of Construction: New Perspectives
Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	<ul style="list-style-type: none"> * Institute more effective governance in project management and address the common incidence of corruption in construction [62]. * Enable and take appropriate advantage of the participation of users and beneficiaries at relevant stages of projects. * Institute a systematic post-occupancy evaluation of every project [42]. * Consider the development of the construction industry from a strategic perspective, including the establishment of an agency for the task.
Goal 17: Strengthen the means of implementation and revitalize global partnership for sustainable development	<ul style="list-style-type: none"> * Ensure effective partnership among industry, government, researchers and the community for action on matters such as industry development and performance monitoring. * Ensure stakeholder involvement in the project at relevant stages, including the management process [63]. * Ensure effective foreign–local joint ventures and strategic alliances among design and construction companies, and knowledge flows. * Make effective use of construction technology transfer and knowledge flows—from research to practice, and from industrialised to developing countries. * Institute international research partnerships to study matters of construction, including the SDGs.

Source: Further developed from Ofori [41].

Fei et al. [64] identified 10 SDGs for whose realisation the construction industry is most critical: SDGs 3, 5, 6, 7, 8, 9, 11, 12, 13, and 15. Fei et al. [64] suggested that construction could influence the realisation of the SDGs via the formulation of policies which drive the adoption of sustainable construction practices.

In considering the role construction can play in the attainment of the SDGs, works relating to sustainability and climate change are pertinent. Wen et al. [65] noted that efficient and productive buildings contribute to achieving SDGs; green building rating tools help create such buildings. They proposed a mapping tool using green building rating instruments that quantifies, and determines the nature of, the contribution of buildings to the SDGs. They found that SDGs 3, 7, 11 and 12 are highly supported by the rating tools, with SDG12 benefitting the most. However, Goubran et al. [66] assessed how green and sustainable building and real-estate standards help in the attainment of the SDGs by fostering appropriate practices. They assessed the overlap between the contents of the SDGs and three such standards and found that less than 20% of the attributes of the standards address targets of the 2030 agenda. They concluded that such standards are not as effective in advancing the SDGs as claimed, and they recommend that the standards be restructured to adopt indicators of the long-term impacts of projects. Serikawa et al. [67] addressed SDG3 and note that the indoor environment of residences affects the health of occupants, while the energy used in houses contributes to climate change (SDGs 7 and 13). They presented a method for quantifying the contribution of improving housing performance based on the results of heat load simulations, which can be adjusted for application in different locations, house designs, and lifestyles.

At the city level, Klopp and Petretta [68] explored the “urban SDGs” and noted that the SDGs fostered via the constructed items which attract most attention from researchers were SDGs 6, 7, 9, 11 and 13. They suggested that the urban SDG framework can guide needed reforms in cities but need to be anchored in local institutions and initiatives informed by context-specific data. The San Marino Declaration developed by the Economic Commission for Europe contains 11 principles for sustainable and inclusive urban design and architecture in support of sustainable, safe, healthy, socially inclusive, climate-neutral and circular homes, urban infrastructure and cities which reflect the SDGs [69]. The principles stress the need for [70] social responsibility, inclusivity, and participatory mechanisms to anchor work in the built environment; projects to respect local socio-cultural fabrics within which they are situated; the built environment to minimise its carbon, energy, and water footprints,

limit material extraction, and become an active player in urban food production; the promotion of multi-modal transport systems and mobility networks, increasing access to urban green areas, and enforcing the fundamental standards of health and safety in the built environment; limiting impacts on the local environment and biodiversity; promoting urban transparency, helping the vulnerable, and curbing corruption in the development process; strengthening the resilience of the building stock and urban infrastructure with regard to natural disasters; assuring the affordability and accessibility of the built environment to all citizenry; supporting cohabitation, community engagement and participation, and social cohesion; and promoting collaboration across stakeholder networks; and fostering and supporting long-term research on the built environment.

The challenges facing the construction industry, and the need to improve the industry are next considered.

3.3. Need to Improve the Construction Industry

In the literature on the performance of the construction industry and the problems and challenges it faces, the industry is generally viewed as performing below the levels attained in other industries, in studies at the national (see [71,72]) and global [73] levels. For example, McDermot et al. [74] noted that while improving the quality of infrastructure is crucial for sustainable development, they found many failure factors facing infrastructure delivery which had been outlined in the literature on their example, a flood control and irrigation project in Ecuador, which needed addressing in order to improve the delivery of infrastructure. These included insufficient planning, unrealistic estimates, poor stakeholder communication, bureaucracy, insufficient ground investigation and an inadequate project delivery system.

Some other recent works may be used to show the challenges faced in construction projects and in the industry. Sanni-Anibire et al. [75] noted that globally, the construction industry faces indicators of efficiency and productivity losses such as delays, which in turn, might cause cost overruns and litigation. They reviewed some influential studies and found 36 common causes of delay, the top five being the following: contractors' financial difficulties; delays in the approval of completed work; the slow delivery of materials; poor site organisation and co-ordination between parties; and the poor planning of resources and estimation of duration. Shrivastava and Singla [76] found that the lack of a proper construction method and sequencing form the root cause of project delays in India. The intermediate causes are the following: the lack of a project management plan; the lack of a proper contracting strategy; failure to consider inter-dependencies and the evaluation of the contractor in advance; and poor project monitoring. These causes then affect the levels of the following: neglect of design review timelines; shortage of materials; poor contract management; conflict between owners and other parties; rework due to non-compliance with quality standards or poor workmanship; and poor site management and supervision.

Hiyassat et al. [77] identified 62 risk factors that they grouped into 14 categories. The top-ranked ones were as follows: delays in payments from clients; poorly tailored contract forms; competition; delays in granting permits; defaults by subcontractors; unclear specifications; material price fluctuations; different construction standards; changes in design; and poor design. Rehman et al. [78] note that the complex and dynamic nature of construction projects, due to their intricate design and involvement of several stakeholders, exposes them to risks which may cause cost and time overruns. They developed a factor–feature matrix applying remedies via building information modelling (BIM) to identify schedule risks and enable effective schedule management. Dixit [79] noted that procurement risks may lead to project cost and schedule overruns. He proposed a project procurement framework comprising combinations of the type of item, type of buyer–supplier relationship, type of pricing regime; and main types of procurement risks. Mahamid [80] studied the relationship between material waste and rework in construction projects in Saudi Arabia. He found that the main causes of rework were errors and omissions, a lack of skilled workers, non-conformance to specifications, inadequate supervision, and scope changes.

The top causes of material waste were the following: the use of untrained labour, rework due to workers' mistakes, design changes, the selection of the lowest bidder, and design and construction errors. Sunindijo [81] noted that efforts to improve health and safety performance in construction should include paying greater attention to safety, particularly in reducing and eliminating physical injuries, but there is also a need to focus on improving the sector's health performance. Opportunities to use built environments to improve health and wellbeing should be further investigated to formulate strategies and interventions to capitalise on them.

Some studies which have considered new topics such as the circular economy, social value and modern methods of construction might be outlined. Andersson and Buser [60] noted that the European Union has issued action plans to reduce the production of waste and increase the reuse and recycling of materials to trigger a rapid transition towards a circular economy but construction has fallen behind other sectors. They analysed how different actors in the management of waste could contribute to the transformation of existing practices and support the circular economy. Maqsoom et al. [82] sought to identify the critical factors that encourage individuals working in construction organisations in Pakistan to adopt green behaviour. They found that knowledge and awareness significantly contributed to the adoption of green behaviour. Moreover, behavioural intention, motivation, and environmental consciousness positively mediated the impact of knowledge and awareness of adopting green behaviour. Ball et al. [83] reviewed responsible sourcing in the UK in the literature to identify opportunities and obstacles to adopting ethical and environmentally supportive practices. The most frequently reported opportunities in ranking order were the following: stakeholder value; improved supply chain performance; and competitive advantage. The most frequently reported obstacles relating to the uptake of responsible sourcing were the following: cost; industry constraints; a lack of frameworks/information; and a lack of awareness. They proposed that the perceptions of industry experts of these issues should be unravelled to clarify the possibilities of adopting responsible sourcing in construction more widely to achieve sustainability targets. Kedir et al. [84] noted that the use of industrialised construction can help meet the growing housing demand for developing economies in Africa. They undertook a scenario analysis of three countries with a high demand for housing: Ethiopia, Kenya, and South Africa. They found that the most important accelerators for the adoption of industrialised construction come from governments' commitment to investing in future construction and incentivising companies to adopt industrial construction methods and for these companies to produce competitive products. The policies to be adopted depend on the particular situation.

At the broader global level of analysis, from its annual global survey, Turner & Townsend [85] outlined these "acute construction challenges": escalations in the price of crucial building materials; skills shortages and increased labour costs; and supply delays extending construction programme durations. They concluded that while these are times of increasing complexity and risk for large organisations managing diverse capital programmes, proactive clients are tackling these challenges directly by forming closer supplier partnerships; sharing risk; and embracing innovation.

Finally, in view of SDG5, gender in construction needs addressing. Turner et al. [86] note that owing to the masculine-based work culture in construction, women have a precarious employment status and career pathway. Women working on construction sites face multiple work hazards. They found that women on sites had high levels of resilience, indicating their ability to adapt and succeed in the challenging work environment even though there was almost no support at the workplace. They suggested that resilience development be included in apprenticeships and efforts made to provide a safe working environment on site to retain tradeswomen. Hajikazemi and Locatelli [87] identified the following categories of interventions in addressing gender in construction: structural interventions; training interventions; mentorship and support programmes; work-life balance programmes; the signalling effect; and health and safety support programmes.

In the next section, the indicators of performance in construction projects which should guide efforts towards attaining them are discussed.

4. Project Performance Indicators

4.1. Framework for Project Performance Parameters

There is a large volume of literature on performance in construction projects. Project performance is under the broader topic of project success. Muller and Turner [88] used the term “project success criteria” which they consider “the measures by which we judge the successful outcome of a project”. Jugdev and Muller [89] assessed the evolving understanding of project success over the previous 40 years and discussed conditions for success, critical success factors and success frameworks. They observed that views on project success have changed over the years from definitions that were limited to the implementation phase to those that relate to the entire project and product life cycle. Ika [90] reviewed papers on project success published between 1986 and 2004 in two major project management journals, covering concepts such as project management success, project success, success criteria, and success factors. The results showed that research on project success is characterised by diversity except in epistemological and methodological perspectives. He criticised the traditional state of the research and its assumptions, and offered alternative metaphors.

The discussion in this paper focuses on “project performance parameters”. However, it is acknowledged that there is much discussion elsewhere of distinctions among “performance indicators”, “performance measures”, “performance measurement” and “success factors”. Takim and Akintoye [91] and Vahidi and Greenwood [92] provide useful reviews.

4.2. Importance of Performance Criteria

Project performance criteria are critical. Nassar [93] noted that project objectives guide the project management team in setting goals and priorities. They provide an analytical platform for decisions and corrective action; enable the communication of objectives; and serve as a basis for project performance evaluation. The international research consortium Ashvin [94] noted that construction companies use various performance indicators to assess the outcome of projects. These enable them to measure project outcomes, to better control construction works, to determine how the company’s strategic goals are being fulfilled and how clients’ and national objectives are being met, and to compare their projects. Ashvin [94] noted that the utilisation of performance indicators and digital twin technologies leads to better scheduling forecasts, the better allocation of resources, the optimisation of equipment usage, a reduced number of accidents, and a reduction in the costs of construction projects. Muller and Turner [88] sought to determine whether or not different success criteria are relevant for different types of projects or projects from different industries; different types of projects perform differently against the different success criteria; project managers focus on different success criteria depending on their traits; project managers perform differently against the different success criteria depending on their traits; and project success varies according to the importance attached to the success criteria.

Differences in Views on Success

Muller and Turner [88] noted that project success criteria vary from project to project; what is acceptable in one project could be a failure in another project. This determination could depend on the external context, such as the parent organisation’s strategic objectives for the project. Additionally, people judge the success of projects differently depending on their personal preferences (or even their demographic profile). Koops et al. [95] studied public project managers of large infrastructure projects in five North-Western European countries. They identified four viewpoints among the respondents: the conventional project manager, the product-driven manager, the parent-oriented manager, and the manager with

a stakeholder focus. Within each viewpoint, the managers have the same vision for the ranking of project success criteria.

In construction, it is well known that project participants and stakeholders have different views of success. Authors, including Collins and Baccarini [96], showed that contractors see minimising costs and durations as more important than clients, while clients emphasise the satisfaction of stakeholders more than they do that of contractors. Bryde and Robinson [97] also showed that clients and contractors place different emphases on success criteria. Recent research has presented the differences studied by nationality, whereas in their study of five North-Western European countries, Koops et al. [95] found no significant relationship between project success and national culture, while Wang and Huang [98] showed that Chinese project managers and stakeholders emphasise the building of relationships (*guanxi*) as the main criterion for overall success in construction projects.

Hussein et al. [99] found the following problems in the definition of project success: definitions tend to be based on a narrow set of criteria which are often ambiguous, and often competing or conflicting; criteria are inadequate or incomplete; criteria are unrealistic; and all criteria are considered to be equally important. They found a strong correlation between these definitional problems and these issues in the Norwegian industry: a lack of top management support; a lack of alignment in project organisations to project success criteria during execution; the subjectivity of measuring the achievement of targeted success criteria at the closeout and evaluation phase; and poor or inadequate stakeholder involvement during the initiation phase. Nassar [93] suggested that the measurement of project success is complex and challenging because project objectives are dynamic in nature; many project participants representing various interests are involved in defining and prioritising the objectives; and some of the desirable objectives are subjective. In a survey of nearly 1000 project managers around the world, Muller and Turner [88] used the following project success criteria: end-user satisfaction; supplier satisfaction; team satisfaction; other stakeholders' satisfaction; performance in terms of time, costs, and quality; meeting user requirements; that a project achieves its purpose; customer satisfaction; reoccurring business; and self-defined criteria. They found that the importance attached to project success criteria and success rates differ by industry, project complexity and the age and nationality of the project manager.

4.3. Development of Performance Parameters

4.3.1. Evolution of Project Performance Criteria

Martin Barnes is credited with devising the "Iron Triangle" (comprising costs, time and quality, which were considered as interdependent) in 1969 [100]. Focusing on these three parameters has long been found to be inadequate [101,102]. De Wit [103] noted that the criteria for the success of project management tend to be restricted to costs, time and quality/performance but that it was important to consider the objectives of stakeholders throughout the project lifecycle and at all levels in the management. Over time, the criteria have been expanded; criteria considering the satisfaction of stakeholder groups are increasingly more popular. However, the three criteria continue to dominate project evaluation. For example, Albert et al. [104] found that Barnes' ideas still form an integral part of all approaches they investigated; the criteria related to stakeholder satisfaction were also important. Similarly, Nassar [93] noted that in construction, much effort is usually spent on measuring the traditional performance indices such as costs and schedules whereas some objectives which, in some cases, are as important, are ignored. Kumaraswamy and Thorpe [105] identified the following criteria for assessing project performance: meeting budgets, schedules, the quality of work, stakeholder satisfaction, the transfer of technology, and health and safety. Chan and Tam [106] considered the following additional parameters: health and safety, environmental performance, user expectation/satisfaction, actors' satisfaction, and commercial value. Ingle and Mahesh [107] noted that construction project management teams aiming for successful project outcomes only acknowledge time, costs and quality as performance areas but they found the following ten important areas: cus-

tomers relations, safety, schedules, costs, quality, productivity, finance, communication and collaboration, environment and stakeholder satisfaction.

The traditional measures are losing ground. For example, in a study conducted in Malaysia, Ali and Rahmat [108] adopted the following parameters: costs, time, quality, clients' satisfaction, health and safety and the functionality of the completed item. They found that functionality and clients' satisfaction are the most important criteria whereas time and costs were the least important. Collins and Baccarini [96] found two views on project success criteria among Australian project managers: those perceiving project success solely in terms of the traditional project objectives of time, costs and quality; those considering success in terms of these objectives and the effectiveness of the project's product. Whereas the traditional success criteria still had a strong hold within the project management community in Australia, the most important success criterion was considered to be meeting the owner's needs.

Some authors advocate for the development and use of a single index for a project. Nassar [98] proposed a method that separately quantifies performance under eight project objectives, cost, schedule, billing or cash flow, profitability, safety, quality, project team satisfaction, and client satisfaction, to measure the overall performance via an overall index. However, some researchers doubt the merits of a single determinant of success. Takim and Akintoye [91] noted that construction projects involve various processes, different phases, and many parties and stakeholders with different perspectives and considerations of levels of success of the same project. They note that it is difficult to give an unequivocal verdict on the success or failure of a project, as some of the criteria are successfully met while others are not.

It is also suggested that it is inappropriate to apply one set of criteria for performance on projects. Westerveld [109] noted that the issue of project success is subtle; there are many, possibly competing, criteria, and the judgement is made by many potential stakeholders, over different time horizons. It is impossible to generate a universal checklist of project success criteria suitable for all projects; they will differ from project to project, depending on many issues, for example, size, uniqueness and complexity. He identified six groups of success criteria: project results (time, cost, and quality/scope); the appreciation of the client, project personnel, users, contracting partners and stakeholders. Vahidi and Greenwood [92] noted that projects are often considered unique entities with different objectives, constraints and success criteria; project stakeholders also might have different perspectives on each of these. A set of pre-defined criteria and methods might not be applicable for any type of project; the models and methods in use need a radical overhaul. De Wit [103] noted that it is an illusion to believe that one can objectively measure the success of a project. Albert et al. [104] urged project management professionals to choose the criteria suitable for their projects on a project-by-project basis.

4.3.2. Performance Criteria and Sustainable Development

Gareis et al. [110] described sustainable development as a new project management paradigm that requires the careful consideration of economic, ecologic, and social issues. They used case studies from Austria, Brazil and Romania to provide insights into how to initiate and manage projects following sustainable development principles. They suggested that project management methods should be further developed considering sustainable development principles. Silvius and Schipper [111] reviewed 164 papers published between 1993 and 2013 and found the following additional dimensions of sustainability (besides the social, environmental and economic dimensions) relevant to project management: a values dimension; a time dimension; a geographical dimension; a performance dimension; a participation dimension; a waste (reduction) dimension; a transparency dimension; an accountability dimension; a cultural dimension; a risk dimension; and a political dimension.

Kivilä et al. [112] examined the sustainability of the project management of a major infrastructure project in Finland in terms of economic, environmental and social sustainability to identify the mechanisms and practices for sustainability during the planning and

implementation of the project. The alliance contract adopted encouraged openness and its incentive model promoted efficiency, cost-effectiveness, innovation and risk sharing. The findings confirmed a need for sustainability to be integrated into key performance indicators and project control routines. Stanitsas and Kirytopoulos [113] sought to establish and rank sustainability indicators that affect the project management process, considering the views of all construction project stakeholders. Their survey included 82 indicators short-listed from the existing literature and interviews of experts. The environmental indicators were identified as the most important.

Some researchers developed construction project parameters directly relating to the SDGs. For example, Oke [114] noted that the SDGs, together with changing client demands and expectations, and the complexity of projects, have influenced the measures of project success. He proposed the following 17 indicators of project success: costs; participants' satisfaction; team satisfaction; customers' satisfaction; project value; effective communication; health and safety; effective collaboration; budget; risk management; profitability; environmental performance; operational performance; functionality; security requirement; and stakeholders' engagement.

Ofori [115] suggested a set of project performance parameters considering the contribution of the construction industries to efforts to attain the MDGs (which are referred to in Section 2). These are shown in Table 2. While these MDG project performance parameters remain valid, they should be modified and extended considering the SDGs, as is also shown in Table 2.

Table 2. Performance parameters of construction considering MDGs and SDGs.

Project Performance Parameters Considering MDGs	
1. Cost	The lowest cost capital and life-cycle costs, to attain value for money, and enable a greater volume of overall construction output to be realised from the usually limited total client budgets.
2. Time	Being on time, to reduce the time that enterprises and agencies have to wait for their productive facilities, and that of beneficiaries for the items they need to enhance the quality of their lives.
3. Quality	The highest level of quality, to enhance the durability and longevity of the completed items, minimise maintenance and repair costs, and optimise the utility of built items, and hence their contribution to the capital assets of the nation.
4. Health (on site)	A focus on the health and wellbeing of the workers and residents in the environs of the projects.
5. Safety (on site)	Attention to the safety of the workers and neighbouring residents, as well as to the eventual users in order to enhance the wellbeing of the workers and improve the image of the construction industry (taking (4) and (5) together, construction should seek to provide decent jobs).
6. Environment	Attention to environmental considerations, to conserve resources (including land, water and energy), a reduce pollution; minimum wastage levels and the effective circularity of the construction process; the husbandry of materials, much of which, in developing countries, are imported, in order to reduce the balance of payments burden, in addition to reducing consumption.
7. Economic/Social (local and national levels)	Due consideration of the employment generation, through the selection of appropriate procurement policies, and technologies of business creation and development, in the production of local materials, and the supply and packaging of contracts.
8. Economic (client's corporate level)	Ensuring the satisfaction of the client, and contributing to the efficiency of productive activities intended to be undertaken in the building (and the strategic competitiveness of the firm)
9. Social (users)	Ensuring the satisfaction of the beneficiaries, who should play a role in key decisions on the project, especially at the stages of initiation, planning and design.

Table 2. Cont.

Additional project performance parameters considering SDGs	
1. Further economic considerations	Attaining maximum contributions to the generation of economic activity at home in other sectors; fostering effective linkages among built items to facilitate business (agglomeration, complementarity, and integration); and maximising the productivity of activities undertaken in the built item, and the workers operating in it.
2. Environment considerations	Attaining the criteria of the most demanding and conceptually appropriate sustainable construction definition and of the building assessment systems; minimising resource use (effective circularity), pollution, and climate impacts (with net positive as a target).
3. Social considerations	Ensuring the health of the users; putting in features which will facilitate positive, sustainable lifestyle changes; safeguarding the community in the environs of the project; securing the safety of users of the infrastructure.
4. Institutional and governance	Compliance with effective regulations with sound project administration and governance, including transparency in all aspects, and stakeholder participation.
5. Cultural	Respect for heritage, appropriate designs and layouts considering local culture, and aims to attain an aesthetically attractive facility.
6. Technological	The use of appropriate technology to enhance productivity, minimise energy and resource usage, for example, by focusing on passive design; circular methods of construction; and contextually appropriate modern methods of construction.

5. Concluding Remarks

A new approach in construction is needed in order to meet the SDGs. The implications of the 2030 development agenda should be considered in construction at the project stage, in company policies and practices, and in government regulations and policy considerations. This paper focuses on the project stage and on the parameters for determining success. These parameters should fully reflect the SDGs. Some topics for a research agenda and considerations of new ways of practice are now considered.

In research, it is necessary to undertake intensive studies to find the real root causes of poor project performance, in the particular administrative, business and cultural contexts, by type of project, and so on, to enable optimum project success and facilitate the attainment of the SDGs. Secondly, studies are needed to determine the wider contribution of construction to socio-economic development, such as those on the norms of generating employment in construction to guide decision making in the planning stage. How construction projects stimulate activities in other sectors should also be better understood. Third, the environmental impact assessment of projects is mandatory in most countries. However, it is narrow in its considerations whereas construction projects have possible wide-ranging impacts and implications. The overall impact assessment of a project according to the SDGs could be determined. A framework for this could be the subject of research. Finally, stakeholder engagement and management is now recommended as part of the project process, but the practice is still weak. Studies on how to make multi-stakeholder considerations the norm in construction projects are required.

In practice, the attainment of the SDGs should pervade all that is carried out in construction projects. It could be made a requirement for the proposers of projects, say, for development and building control to indicate the SDGs they would meet. In procurement, bidders could be required to indicate the SDGs they will cover in the checklists. Secondly, the determination of the SDGs to be realised in each project, and the description of the approach to be taken should form part of project management. Thirdly, some of the aspects of the construction project which are now exceptional could become routine. For example, there could be an audit of each project at predetermined stages, to assess the performance of the project, project team and contractors. Professional institutions could offer prizes and awards for SDG attainment in projects.

Journal editors could encourage the submission of more papers on SDGs and construction, beyond Special Issues. Moreover, an indication of the contribution to the attainment of the SDGs could be a criterion in abstract frameworks and in reviews of papers as well as in PhD research design and examination frameworks. Finally, a task group of the International Council for Research and Innovation (CIB) could be formed to focus on construction and the SDGs.

The SDGs should change project management forever. It is appropriate to close with the “call for action to change our world” in the resolution [3, clause 53]:

“The future of humanity and of our planet lies in our hands. . . We have mapped the road to sustainable development; it will be for all of us to ensure that the journey is successful and its gains irreversible”.

Funding: This research received no external funding.

Acknowledgments: The author is grateful to the Guest Editor for his support, patience and encouragement during the preparation of this paper.

Conflicts of Interest: The author declares no conflict of interest.

References

1. Randers, J.; Rockström, J.; Stoknes, P.E.; Golüke, U.; Collste, D.; Cornell, S. *Transformation Is Feasible: How to Achieve the Sustainable Development Goals within Planetary Boundaries*; Stockholm Resilience Centre: Stockholm, Sweden, 2018. Available online: https://www.stockholmresilience.org/download/18.51d83659166367a9a16353/1539675518425/Report_Achieving%20the%20Sustainable%20Development%20Goals_WEB.pdf (accessed on 10 March 2023).
2. Hillebrandt, P.M. *Economic Theory and the Construction Industry*; Palgrave-Macmillan: Basingstoke, UK, 2000.
3. United Nations. *Transforming Our World: The 2030 Agenda for Sustainable Development*; United Nations: New York, NY, USA, 2015.
4. Sustainable Development Solutions Network. *The World in 2050* (Undated). Available online: <https://resources.unsdsn.org/the-world-in-2050> (accessed on 10 March 2023).
5. Get the Sustainable Development Goals back on track. *Nature* **2000**, 577, 7–8. [CrossRef]
6. Kamau, M.; Chasek, P.; O'Connor, D. *Transforming Multilateral Diplomacy. The Inside Story of the Sustainable Development Goals*; Routledge: Abingdon, UK, 2018. [CrossRef]
7. Economic Planning Unit. Sustainable Development Goals. 2021. Available online: <https://www.epu.gov.my/en/sustainable-development-goals> (accessed on 5 March 2023).
8. Hickel, J. *The Problem with Saving the World*; Jacobin: Brooklyn, NY, USA, 2015. Available online: <https://www.jacobinmag.com/2015/08/global-poverty-climate-change-sdgs/> (accessed on 10 March 2023).
9. World investment report: Investing in the SDGs—An action plan. In *United Nations Conference on Trade and Development (UNCTAD)*; United Nations: New York, NY, USA; Geneva, Switzerland, 2014.
10. Kumar, R. Critics of the Sustainable Development Goals Were Wrong. Here’s why. World Economic Forum, Sustainable Development. 30 January 2017. Available online: <https://www.weforum.org/agenda/2017/01/turns-out-sdg-critics-were-wrong/> (accessed on 10 March 2023).
11. Allen, C.; Metternicht, G.; Wiedmann, T. Prioritising SDG targets: Assessing baselines, gaps and interlinkages. *Sustain. Sci.* **2019**, 14, 421–438. [CrossRef]
12. Robinson, J. Squaring the circle? Some thoughts on the idea of sustainable development. *Ecol. Econ.* **2004**, 48, 369–384. [CrossRef]
13. Wu, X.; Fu, B.; Wang, S.; Song, S.; Li, Y.; Xu, Z.; Wei, Y.; Liu, J. Decoupling of SDGs followed by re-coupling as sustainable development progresses. *Nat. Sustain.* **2022**, 5, 452–459. [CrossRef]
14. Barbieri, C. Sustainable Development Goals Are Not Fit for Purpose, Experts Warn. EurActiv France. 2015. Available online: <http://www.euractiv.com/sections/towards-sustainable-development-goals/sustainable-development-goals-are-not-fit-purpose> (accessed on 10 March 2023).
15. The Hunger Project. MDGs to SDGs: Top 10 Differences. 2014. Available online: <https://advocacy.thp.org/2014/08/mdgs-to-sdgs/> (accessed on 5 March 2023).
16. Dickens, C.; McCartney, M.; Tickner, D.; Harrison, I.J.; Pacheco, P.; Ndhlovu, B. Evaluating the global state of ecosystems and natural resources: Within and beyond the SDGs. *Sustainability* **2020**, 12, 7381. [CrossRef]
17. The 169 Commandments. *The Economist*. 28 March 2015. Available online: <http://www.economist.com/news/leaders/21647286-proposed-sustainable-development-goals-would-be-worse-useless-169-commandments> (accessed on 5 March 2023).
18. Alston, P. *The Parlous State of Poverty Eradication: Report of the Special Rapporteur on Extreme Poverty and Human Rights*; Human Rights Council: New York, NY, USA, 2020. Available online: <https://chrgj.org/wp-content/uploads/2020/07/Alston-Poverty-Report-FINAL.pdf> (accessed on 10 March 2023).
19. *Review of Targets for the Sustainable Development Goals: The Science Perspective*; International Council for Science and International Social Science Council: Paris, France, 2015.

20. Kumi, E.; Arhin, A.A.; Yeboah, T. Can post-2015 sustainable development goals survive neoliberalism? A critical examination of the sustainable development–neoliberalism nexus in developing countries. *Environ. Dev. Sustain.* **2014**, *16*, 539–554. [CrossRef]
21. Eisenmenger, N.; Pichler, M.; Krenmayr, N.; Noll, D.; Plank, B.; Schalmann, E.; Wandl, M.T.; Gingrich, S. The Sustainable Development Goals prioritize economic growth over sustainable resource use: A critical reflection on the SDGs from a socio-ecological perspective. *Sustain. Sci.* **2020**, *15*, 1101–1110. [CrossRef]
22. van Norren, D. The Sustainable Development Goals viewed through Gross National Happiness, Ubuntu, and Buen Vivir. *Int. Environ. Agreem. Politics Law Econ.* **2020**, *20*, 431–458. [CrossRef]
23. Sachs, D.J.; Schmidt-Traub, G.; Mazzucato, M.; Messner, D.; Nakicenovic, N.; Rockström, J. Six transformations to achieve the Sustainable Development Goals. *Nat. Sustain.* **2019**, *2*, 805–814. [CrossRef]
24. Gaspar, V.; Amaglobeli, D.; Garcia-Escribano, M.; Prady, D.; Soto, M. *Fiscal Policy and Development: Human, Social, and Physical Investments for the SDGs. Staff Discussion Note 19/03*; International Monetary Fund: Washington, DC, USA, 2019.
25. Tracking progress on the SDGs—The latest United Nations review leaves no doubt, countries need to step up efforts and act fast if they want to achieve the Global Goals by 2030. *Nat. Sustain.* **2018**, *1*, 377. [CrossRef]
26. Office of the Senior Special Assistant to the President on SDGs. *Achieving the SDGs in Nigeria: Pathways and Policy Option*; The Presidency and UNDP: Abuja, Nigeria, 2020.
27. Government Offices of Sweden. *Sweden: Report on the Implementation of the 2030 Agenda for Sustainable Development*; Voluntary National Review 2021; Government Offices of Sweden: Stockholm, Sweden, 2021.
28. Lynch, A.; Sachs, J. *The United States Sustainable Development Goals Report 2021*; Sustainable Development Solutions Network: New York, NY, USA, 2021.
29. Sautejeau, N. Progressing National SDGS Implementation. In Proceedings of the United Nations High-Level Political Forum on Sustainable Development in 2022—The Seventh Edition in an Annual Series Commissioned by Civil Society Organizations, Action for Sustainable Development, New York, NY, USA, 5–12 July 2022; IISD and others: London, UK, 2023.
30. Sachs, J.; Schmidt-Traub, G.; Lafortune, G. Speaking truth to power about the SDGs. *Nature* **2020**, *584*, 344. [CrossRef] [PubMed]
31. Sustainable Development Report. Rankings: The Overall Performance of All 193 UN Member States. 2023. Available online: <https://dashboards.sdgindex.org/rankings> (accessed on 10 March 2023).
32. Hickel, J. The World’s Sustainable Development Goals Aren’t Sustainable. *Foreign Policy*, 30 September 2020. Available online: <https://foreignpolicy.com/2020/09/30/the-worlds-sustainable-development-goals-arent-sustainable/> (accessed on 10 March 2023).
33. United Nations. *The Sustainable Development Goals Report 2022*; UN: New York, NY, USA, 2022.
34. Time to revise the Sustainable Development Goals. *Nature* **2020**, *583*, 331–332. [CrossRef] [PubMed]
35. Naidoo, R.; Fisher, B. Reset Sustainable Development Goals for a pandemic world. *Nature* **2020**, *583*, 198–201. [CrossRef] [PubMed]
36. Bhattacharya, A.; Kharas, H.; McArthur, J.W. SDGs: Great feats are rarely a product of lowered ambition. *Nature* **2020**, *584*, 344. [CrossRef]
37. Independent Group of Scientists Appointed by the Secretary-General. *Global Sustainable Development Report 2019: The Future is Now—Science for Achieving Sustainable Development*; United Nations: New York, NY, USA, 2019.
38. Schwab, K. (Ed.) *The Global Competitiveness Report 2019*; World Economic Forum: Geneva, Switzerland, 2019.
39. World Economic Forum. *World Competitiveness Report 2014*; World Economic Forum: Cologny, Switzerland, 2014.
40. Opoku, A. Construction industry and the Sustainable Development Goals (SDGs). In *Research Companion to Construction Economics*; Ofori, G., Ed.; Edward Elgar: Cheltenham, UK, 2022; pp. 199–214.
41. Ofori, G. From the MDGs to the SDGs: The role of construction. In *Research Handbook on Construction and the Sustainable Development Goals*; Opoku, A., Ed.; Edward Elgar: Cheltenham, UK, 2023.
42. Ofori, G. Construction in developing countries: Current imperatives and potential. In Proceedings of the CIB World Building Congress 2016, Tampere, Finland, 30 May–3 June 2016; Kähkönen, K., Keinänen, M., Eds.; Tampere University of Technology: Tampere, Finland, 2016; Volume 1, pp. 39–52.
43. Zuhdi, U. Analyzing the roles of the construction sector by using multiplier analyses: The cases of Indonesia and Japan. In Proceedings of the 3rd International Conference on Combinatorics, Graph Theory, and Network Topology, East Java, Indonesia, 26–27 October 2019. [CrossRef]
44. Woolcott, G.; Loosemore, M.; Keast, R.; Chamberlain, D. Addressing youth un/underemployment through construction social procurement: An ecological systems theory perspective. *Constr. Manag. Econ.* **2023**. [CrossRef]
45. Evans, D.L.; Falagán, N.; Hardman, C.A.; Kourmpetli, S.; Liu, L.; Mead, B.R.; Davies, J.A.C. Ecosystem service delivery by urban agriculture and green infrastructure—A systematic review. *Ecosyst. Serv.* **2022**, *54*, 101405. [CrossRef]
46. Walsh, F. Designing for accessibility. *Archit. Technol. J.* **2003**, 16–17. Available online: <https://architecturaltechnology.com/at-journal.html> (accessed on 21 March 2023).
47. Xu, Y.; Liu, H.; Su, S.; Mao, P. Ageing suitability evaluation of residential districts based on Active Ageing Theory. *Buildings* **2023**, *13*, 1041. [CrossRef]
48. Dolph, E. The developing definition of universal design. *J. Access. Des. All* **2021**, *11*, 178–194. [CrossRef]
49. Barlow, J. Innovation and learning in complex offshore construction projects. *Res. Policy* **2000**, *29*, 973–989. [CrossRef]

50. Hanna, E.; Brendan Gough, B.; Markham, S. Masculinities in the construction industry: A double-edged sword for health and wellbeing? *Gend. Work. Organ.* **2020**, *27*, 632–646. [CrossRef]
51. CIOB. The Face of Construction. *Bracknell* 2023. Available online: <https://www.ciob.org/industry/research/Real-Face-Construction-2023> (accessed on 21 March 2023).
52. Bernhardt, R. What is Required of Buildings. Building Performance Assurance Council. 2023. Available online: <https://buildingperformanceassurance.org> (accessed on 10 June 2023).
53. Bakliwal, S.; Hrotkó, J.; Kashyap, J.; Chiah, R. Infrastructure’s Multiplier Effect on Well-Being: Insights from the Sustainable Economic Development Assessment. *Boston Consulting Group*, 11 December 2019. Available online: <https://www.bcg.com/publications/2019/infrastructure-multiplier-effect-well-being> (accessed on 10 June 2023).
54. Winch, G.M.; Brunet, M.; Cao, D. (Eds.) *Research Handbook on Complex Project Organizing*; Elgar Publishing Ltd.: Cheltenham, UK, 2023.
55. Ofori, G. Construction economics: Its origins, significance, current status and need for development. In *Research Companion to Construction Economics*; Ofori, G., Ed.; Elgar Publishing: Cheltenham, UK, 2022; pp. 18–40.
56. United Nations. The new urban agenda. In Proceedings of the United Nations Conference on Housing and Sustainable Urban Development (Habitat III), Quito, Ecuador, 20 October 2016; UN: New York, NY, USA, 2016.
57. Shen, L.; Ochoa, J.J.; Bao, H. Strategies for sustainable urban development—Exploring innovative approaches for a liveable future. *Buildings* **2023**, *13*, 764. [CrossRef]
58. Pineo, H. Towards healthy urbanism: Inclusive, equitable and sustainable (THRIVES)—An urban design and planning framework from theory to praxis. *Cities Health* **2022**, *6*, 974–992. [CrossRef]
59. Lima, L.; Trindade, E.; Alencar, L.; Alencar, M.; Silva, L. Sustainability in the construction industry: A systematic review of the literature. *J. Clean. Prod.* **2021**, *289*, 125730. [CrossRef]
60. Andersson, R.; Buser, M. From waste to resource management? Construction and demolition waste management through the lens of institutional work. *Constr. Manag. Econ.* **2022**, *40*, 477–496. [CrossRef]
61. Schiller, G.; Roscher, J. Impact of urbanization on construction material consumption: A global analysis. *J. Ind. Ecol.* **2023**. [CrossRef]
62. Lei, C. Collusion governance strategies under the construction supervision system in China. *Constr. Manag. Econ.* **2023**, *41*, 724–738. [CrossRef]
63. Innes, J.E.; Booher, D.E. Reframing public participation: Strategies for the 21st century. *Plan. Theory Pract.* **2004**, *5*, 419–436. [CrossRef]
64. Fei, W.; Opoku, A.; Agyekum, K.; Oppon, J.A.; Ahmed, V.; Chen, C.; Lok, K.L. The critical role of the construction industry in achieving the Sustainable Development Goals (SDGs): Delivering Projects for the Common Good. *Sustainability* **2021**, *13*, 9112. [CrossRef]
65. Wen, B.; Musa, S.N.; Onn, C.C.; Ramesh, S.; Liang, L.; Wang, W.; Ma, K. The role and contribution of green buildings on sustainable development goals. *Build. Environ.* **2020**, *185*, 107091. [CrossRef]
66. Goubran, S.; Walker, T.; Cucuzzella, C.; Schwartz, T. Green building standards and the United Nations’ Sustainable Development Goals. *J. Environ. Manag.* **2023**, *326*, 116552. [CrossRef] [PubMed]
67. Serikawa, M.; Satoh, M.; Umishio, W.; Kawakubo, S.; Nakano, J.; Akimoto, T.; Ikaga, T.; Murakami, S. Quantitative evaluation of the contributions of improved housing performances toward delivering Sustainable Development Goals by a building energy simulation tool. *Sustain. Cities Soc.* **2022**, *79*, 103701. [CrossRef]
68. Klopp, J.M.; Petretta, D.L. The urban sustainable development goal: Indicators, complexity and the politics of measuring cities. *Cities* **2017**, *63*, 92–97. [CrossRef]
69. Bureau of the Committee on Urban Development, Housing and Land Management. *San Marino Declaration—Note by the Bureau of the Committee on Urban Development, Housing and Land Management*; Economic Commission for Europe: Geneva, Switzerland, 2022. Available online: https://unece.org/sites/default/files/2022-12/ECE_HBP_2022_2_REV-E.pdf (accessed on 10 June 2023).
70. Kayatekin, C. Reflections on the San Marino Declaration. *Buildings & Cities*, 15 December 2022. Available online: www.buildingsandcities.org/insights/commentaries/san-marino-declaration.html (accessed on 10 June 2023).
71. HM Government. *Industrial Strategy: Construction Sector Deal*; HM Government: London, UK, 2018.
72. Development Bureau of Government of Hong Kong, SAR and KPMG. *Construction 2.0: Time to Change*; Development Bureau: Hong Kong, China, 2018. Available online: <https://www.psgo.gov.hk/assets/pdf/Construction-2-0-en.pdf> (accessed on 5 March 2023).
73. World Economic Forum and Boston Consulting Group. *Shaping the Future of Construction*; World Economic Forum: Geneva, Switzerland, 2015. Available online: <https://www.weforum.org/global-challenges/projects/future-of-construction> (accessed on 10 March 2023).
74. McDermot, E.; Agdas, D.; Rodríguez Díaz, C.R.; Rose, T.; Forcael, E. Improving performance of infrastructure projects in developing countries: An Ecuadorian case study. *Int. J. Constr. Manag.* **2022**, *22*, 2469–2483. [CrossRef]
75. Sanni-Anibire, M.O.; Zin, R.M.; Olatunji, S.O. Causes of delay in the global construction industry: A meta analytical review. *Int. J. Constr. Manag.* **2022**, *22*, 1395–1407. [CrossRef]
76. Shrivastava, A.; Singla, H.K. Analysis of interaction among the factors affecting delay in construction projects using interpretive structural modelling approach. *Int. J. Constr. Manag.* **2022**, *22*, 1455–1463. [CrossRef]

77. Hiyassat, M.A.; Alkasagi, F.; El-Mashaleh, M.; Sweis, G.J. Risk allocation in public construction projects: The case of Jordan. *Int. J. Constr. Manag.* **2022**, *22*, 1478–1488. [[CrossRef](#)]
78. Rehman, M.S.; Thaheem, M.J.; Nasir, A.R.; Khan, K.I.A. Project schedule risk management through building information modelling. *Int. J. Constr. Manag.* **2022**, *22*, 1489–1499. [[CrossRef](#)]
79. Dixit, V. Risk assessment of different sourcing contract scenarios in project procurement. *Int. J. Constr. Manag.* **2022**, *22*, 1537–1549. [[CrossRef](#)]
80. Mahamid, I. Impact of rework on material waste in building construction projects. *Int. J. Constr. Manag.* **2022**, *22*, 1500–1507. [[CrossRef](#)]
81. Sunindijo, R.Y. Occupational health and diseases in built environment. *Buildings* **2023**, *13*, 961. [[CrossRef](#)]
82. Maqsoom, A.; Umer, M.; Alaloul, W.S.; Salman, A.; Ullah, F.; Ashraf, H.; Musarat, M.A. Adopting green behaviors in the construction sector: The role of behavioral intention, motivation, and environmental consciousness. *Buildings* **2023**, *13*, 1036. [[CrossRef](#)]
83. Ball, S.; Booth, C.A.; Prabhakaran, A.; Mahamadu, A.-M.; Glass, J.A. Systematic review of responsible sourcing in the architecture, engineering, and construction sectors of the UK. *Buildings* **2023**, *13*, 889. [[CrossRef](#)]
84. Kedir, F.; Chen, Q.; Hall, D.M.; Adey, B.T.; Boyd, R. Formative scenario analysis of the factors influencing the adoption of industrialised construction in countries with high housing demand—The cases of Ethiopia, Kenya, and South Africa. *Constr. Manag. Econ.* **2022**, *40*, 690–710. [[CrossRef](#)]
85. Turner & Townsend. International Construction Market Survey 2022. 2023. Available online: <https://www.turnerandtowntsend.com/en/perspectives/international-construction-market-survey-2022/> (accessed on 10 March 2023).
86. Turner, M.; Holdsworth, S.; Scott-Young, C.M.; Sandri, K. Resilience in a hostile workplace: The experience of women onsite in construction. *Constr. Manag. Econ.* **2021**, *39*, 839–852. [[CrossRef](#)]
87. Hajikazemi, S.; Locatelli, G. Gender Equality Interventions in Project-Based Organisations—What Works and What Doesn't? Association for Project Management. 2023. Available online: <https://www.youtube.com/watch?v=aYShZSjHvc> (accessed on 5 June 2023).
88. Müller, M.; Turner, R. The influence of project managers on project success criteria and project success by type of project. *Eur. Manag. J.* **2007**, *25*, 298–309. [[CrossRef](#)]
89. Jugdev, K.; Müller, R. A retrospective look at our evolving understanding of project success. *Proj. Manag. J.* **2005**, *36*, 19–31. [[CrossRef](#)]
90. Ika, L.A. Project success as a topic in project management journals. *Proj. Manag. J.* **2009**, *40*, 6–19. [[CrossRef](#)]
91. Takim, R.; Akintoye, A. Performance indicators for successful construction project performance. In Proceedings of the 18th Annual ARCOM Conference, Northumbria, UK, 2–4 September 2002; Volume 2, pp. 545–555. Available online: https://www.arcom.ac.uk/-docs/proceedings/ar2002-545-555_Takim_and_Akintoye.pdf (accessed on 5 March 2023).
92. Vahidi, R.; Greenwood, D. Triangles, tradeoffs and success: A critical examination of some traditional project management paradigms. In Proceedings of the CIB Joint International Symposium 2009—Construction Facing Worldwide Challenges, Dubrovnik, Croatia, 29 September 2009. Available online: <https://www.irbnet.de/daten/iconda/CIB16214.pdf> (accessed on 5 March 2023).
93. Nassar, N.K. An integrated framework for evaluation of performance of construction projects. In Proceedings of the PMI@Global Congress 2009—North America, Orlando, FL, USA, 10–13 October 2009; Project Management Institute: Newtown Square, PA, USA, 2009.
94. Ashvin. Performance Indicators for Construction Projects: A Literature Review. 2021. Available online: <https://www.ashvin.eu/2021/10/07/performance-indicators-for-construction-projects-a-literature-review/> (accessed on 5 March 2023).
95. Koops, L.; Bosch-Rekveltdt, M.; Coman, L.; Hertogh, M.; Bakker, H. Identifying perspectives of public project managers on project success: Comparing viewpoints of managers from five countries in North-West Europe. *Int. J. Proj. Manag.* **2016**, *34*, 874–889. [[CrossRef](#)]
96. Collins, A.; Baccarini, D. Project success—A survey. *J. Constr. Res.* **2004**, *5*, 211–231. [[CrossRef](#)]
97. Bryde, D.J.; Robinson, L. Client versus contractor perspectives on project success criteria. *Int. J. Proj. Manag.* **2005**, *23*, 622–629. [[CrossRef](#)]
98. Wang, X.; Huang, J. The relationships between key stakeholders' project performance and project success: Perceptions of Chinese construction supervising engineers. *Int. J. Proj. Manag.* **2006**, *24*, 253–260. [[CrossRef](#)]
99. Hussein, B.A.; Ahmad, A.B.S.; Zidane, Y.J.-T. Problems associated with defining project success. *Procedia Comput. Sci.* **2015**, *64*, 940–947. [[CrossRef](#)]
100. Barnes, M. Construction project management. *Proj. Manag.* **1988**, *6*, 69–79. [[CrossRef](#)]
101. Atkinson, R. Project management: Cost, time and quality, two best guesses and a phenomenon, its time to accept other success criteria. *Int. J. Proj. Manag.* **1999**, *17*, 337–342. [[CrossRef](#)]
102. McLeod, L.; Doolin, B.; MacDonell, S.G. A perspective-based understanding of project success. *Proj. Manag. J.* **2012**, *43*, 68–86. [[CrossRef](#)]
103. de Wit, A. Measurement of project success. *Int. J. Proj. Manag.* **1988**, *6*, 164–170. [[CrossRef](#)]
104. Albert, M.; Balve, P.; Sprang, K. Evaluation of project success: A structured literature review. *Int. J. Manag. Proj. Bus.* **2017**, *10*, 796–821. [[CrossRef](#)]

105. Kumaraswamy, M.M.; Thorpe, A. Systematizing construction project evaluations. *J. Manag. Eng.* **1999**, *12*, 34–39. [[CrossRef](#)]
106. Chan, A.P.C.; Tam, C.M. Factors affecting the quality of building projects in Hong Kong. *Int. J. Qual. Reliab. Manag.* **2000**, *17*, 423–441. [[CrossRef](#)]
107. Ingle, P.V.; Mahesh, G. Construction project performance areas for Indian construction projects. *Int. J. Constr. Manag.* **2022**, *22*, 1443–1454. [[CrossRef](#)]
108. Ali, A.; Rahmat, I. The performance measurement of construction projects managed by ISO-certified contractors in Malaysia. *J. Retail. Leis. Prop.* **2010**, *9*, 25–35. [[CrossRef](#)]
109. Westerveld, E. The Project Excellence Model[®]: Linking success criteria and critical success factors. *Int. J. Proj. Manag.* **2003**, *21*, 411–418. [[CrossRef](#)]
110. Gareis, R.; Huemann, M.; Martinuzzi, A.; Weninger, C.; Sedlacko, M. *Project Management and Sustainable Development Principles*; Project Management Institute, Inc.: Newtown Square, PA, USA, 2013.
111. Silvius, A.J.G.; Schipper, R.P.J. Sustainability in project management: A literature review and impact analysis. *Soc. Bus.* **2014**, *4*, 63–96. [[CrossRef](#)]
112. Kivilä, J.; Martinsuo, M.; Vuorinen, L. Sustainable project management through project control in infrastructure projects. *Int. J. Proj. Manag.* **2017**, *35*, 1167–1183. [[CrossRef](#)]
113. Stanitsas, M.; Kirytopoulos, K. Investigating the significance of sustainability indicators for promoting sustainable construction project management. *Int. J. Constr. Manag.* **2023**, *23*, 434–448. [[CrossRef](#)]
114. Oke, A.E. *Measures of Sustainable Construction Projects Performance*; Emerald Publishing, Ltd.: Bingley, UK, 2022.
115. Ofori, G. Construction and Millennium Development Goals. In *New Perspectives on Construction in Developing Countries*; Ofori, G., Ed.; Spon Press: London, UK, 2012; pp. 72–105.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.