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Article

Stakeholder Engagement: Achieving Sustainability in the Construction Sector

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Abstract: Achieving sustainability-related targets in construction projects is increasingly becoming a key performance driver. Yet sustainability is a complex concept in projects and there are many diverse stakeholders. Some stakeholders are generally recognized as important, *i.e.*, the client and main contractor, yet there are others not always perceived as such and whose absence from the decision-making processes may result in a failure to address sustainability issues. Hence there is a need for a systematic approach to engage with stakeholders with high salience in relation to sustainability. This paper reports the results of an exploratory study involving interviews with construction project practitioners that are involved in sustainability in some way. Data were collected from the practitioners in terms of the processes for engaging with stakeholders to deliver sustainability. The data suggests six steps to a stakeholder engagement process: (i) identification; (ii) relating stakeholders to different sustainability-related targets; (iii) prioritization; (iv) managing; (v) measuring performance; and (vi) putting targets into action. The results suggest that understanding the different sustainability agendas of stakeholders and measuring their performance using key performance indicators are important stages to be emphasized in any stakeholder engagement process to achieve sustainability-related goals.

Keywords: sustainability; stakeholder engagement; stakeholder analysis; project management; sustainable construction

1. Introduction

The construction industry is one of the most dynamic, risky and challenging business sectors. There is much waste and it encounters problems caused by myopic control [1,2]. Previous research carried out in the field recommends that the construction sector must shift from being reactive to being more proactive and promote sustainable practices. The UK Construction Industry has an annual turnover of more than £100 billion and accounts for almost 10% of the country's GDP [3]. Construction Industry forms one of the most diverse and unstable sectors within the UK economy and it faces wide fluctuating demand cycles, project specific product demand, uncertain productions conditions and has to combine a diverse range of specialist skills within geographically dispersed short term project environments [4]. Considering the size and importance of the construction industry to the world economy and its contribution to environmental damage the suggestion has been made to use the emerging "sustainability" agenda as a lens through which construction performance can be measured [5].

In this new global economy, stakeholder engagement is increasingly becoming a part of construction project practice in order to deliver excellent project outcomes. For example stakeholder identification is a critical component of the initial scoping phase and should occur before an engagement plan is formulated and consultations begin. As each stakeholder usually has their own interest in the project which may cause different priorities, conflicts and dramatically increase the complexity of the situation [6]. A well-managed stakeholder engagement process helps the project stakeholder to work together to increase comfort and quality of life, while decreasing negative environmental impacts and increasing the economic sustainability of the project. Stakeholder engagement should therefore be taken as a core element of any "sustainable development" plan. Hence a project is more likely to be successful—especially in the long-term, if it takes into consideration the expectations of the stakeholders and endeavors to meet their needs.

Considering all these above issues in the construction industry the aim of this paper therefore is to examine the processes for engaging stakeholders in construction projects. The paper is structured as follows: after this introduction, the second section briefly reviews the concepts of sustainability in relation to construction. The next section puts the research into context by considering the theoretical framework for the research. The fourth section introduces the research method and the fifth presents and discusses the results. The contribution to knowledge of the paper is highlighted in Section 6 and conclusions are provided in the seventh, and last, section.

2. What Makes Construction Sustainable?

Construction is said to be sustainable when it meets environmental challenges, responds to social and cultural demands and delivers economic improvement. For example, a building could be considered environmentally sustainable if the energy usage throughout the building's life cycle is low

and it considers reusing of materials at the end of the building's life [7]. The fundamental concept of sustainable construction is to deliver long term affordability, quality and efficiency, value to clients and users, whilst decreasing negative environmental impacts and increasing the economic sustainability. It requires the development of enlightened institutions and infrastructures, appropriate management of risks and uncertainties and information and knowledge to assure intergenerational equity and conservation of the ability of earth's natural systems to serve humankind [8]. ISO TS 21929 defines a framework for sustainability indicators of buildings which is based on the premise that sustainable construction brings about the required performance with the least unfavorable environmental impact, while encouraging economic, social and cultural improvement at a local, regional and global level [9]. Sustainability is presented as an agenda that extends beyond economic viability and environmental regeneration, reaching deep into the structure of social organizations, by insisting on social equity and justice [10]. The social aspect is seen in reforms of housing and planning—a new approach to how to build, to achieve development that meets the economic, social and environmental needs of future generations. Sustainable construction supply chain delivers tangible benefits to the triple bottom line (TBL) that is (1) Economic Growth (2) Environmental Sustainability and (3) Ethical/Social Performance [10]. According to UNEP [11] sustainable building and construction should have the following characteristics

- Routinely designed and maintained to optimize the entire life span,
- Sustainability considerations and requirements should take in building legislation and standards,
- Environmental aspects should be considered in the project and should include short-term as well as long-term aspects,
- Policies and incentives provided by the government to support sustainable building and construction practices,
- Investors, insurance companies, property developers and buyer of buildings are aware of sustainability considerations and should take an active role to encourage sustainable building and construction practice.

3. Theoretical Framework

According to Freeman [12] "A stakeholder is any group or individual who can be affected or is affected by the achievement of the organization's objectives". According to the Project Management Institute (PMI) Standards Committee, project stakeholders are individuals and organizations who are actively involved in the project or whose interests may be affected by the execution of the project or by successful project completion [13]. Chinyio and Olomolaiye [14] stated that stakeholders can affect an organization's functioning, goals, development and even survival. They also mentioned that stakeholders are beneficial when they help to achieve its goals and they are antagonistic when they oppose to the mission. Stakeholders are vital to the successful completion of a project because their unwillingness to continuously support the vision or objectives of the project leads many projects to fail.

Successful engagement of stakeholders involves actively giving and getting their support and working together to devise, plan and develop new business solutions [15]. Ayuso *et al.* [16] combined

stakeholder engagement and knowledge management (KM) which are elements of organizational capability that deals with stakeholder-related innovation, in the context of sustainable development. They found that knowledge sourced from engagement with stakeholders affects firm's sustainable innovation orientation. Glass [10] proposed a mechanism of sustainability reporting (SR) to make a construction company's strategies, actions and achievements more transparent, to increase communication performance, develop a reputation for responsible behavior and gain competitive advantage. SR in construction contributes by identifying challenges around durability, stakeholder engagement and reputation management. Senior leaders in organizations can adopt stakeholder engagement as an opportunity to influence other organizations and create alignment to structures and processes to support the vision and mission of sustainability [17]. Jeffry [18] proposed a model of a "meaningful" stakeholder engagement process that builds a proactive two-way process between the organization and the stakeholder. Here communication, opinions and proposals flow in both directions and the organization can change its behavior as a result of engagement. This process is not actually linear; rather it is an iterative process in which an organization learns and improves its ability to perform meaningful stakeholder engagement through developing relationships of mutual respect, in place of one-off consultations. Holmes and Moir [19] developed a preliminary conceptual framework to explore the drivers of a firm's engagement with a nonprofit stakeholder and also to identify factors that impact on generating innovation through stakeholder engagement. Engaging stakeholders in construction is a formal process of relationship management through which clients, contractors and sub-contractors engage with a set of primary and secondary stakeholders, in an effort to align their mutual interest to reduce risk in projects [19, 20].

The example of Heathrow Terminal 5 (T5) illustrates the importance of proactive development of long-term contractual relationships with stakeholders and stakeholder engagement [21]. In the T5 project the stakeholder engagement and commitment process is supported by the project executives, to engage with project leadership and suppliers in order to introduce a right first time quality concept and to get their buy-in and commitment [22]. On the downside, British Airways' management failed to properly engage with its important stakeholders prior to going operational—staff and paid the price of a tarnished reputation [21]. Whether the focus was on the successful construction of T5 or the "unsuccessful" opening, the reason of both the success (of construction) and the failure (of going "live") was the "soft skills" of project management—stakeholder engagement and effective communication. Another example of problems caused by a lack of engagement is the Denver International Airport (DIA) project, when Boeing Airport Equipment and the airport project management made a major mistake of excluding key stakeholders (airlines) from key discussions [23]. Excluding important stakeholders from participating in key project decisions is always a losing strategy. In August 2010, the UK Fire control project suffered a series of delays and increased costs by reducing the number of dispatches available to handle emergencies and the slow pace of work resulted in IT systems being not fit for purpose. These problems happened, in part, due to mismanaged relationships with major stakeholders and contractors and an "adversarial" relationship between the government and the main IT contractor [24].

Figure 1 [25] shows five stages stakeholder engagement model which are: Identify key stakeholders and significant issues; Analyze and plans; Strengthen engagement capacities; Design the process and engage; Act, review and report. There are three broad accompanying processes, being "thinking and

planning", "preparing and engaging" and "responding and measuring". Through effective management, such involvement creates a positive relationship amongst them. Some of the following benefits result from general stakeholder engagement for sustainability: better understanding of the market condition, as stakeholders often possess a wealth of information; promoting of reputation; building relationships; better understanding of the priorities and needs of stakeholders; building trust and long-term collaborative relationships; sharing experience and skills; and understanding and mitigating the threats and uncertainties.

Figure 1. Five-stages stakeholder engagement model (adapted from the Stakeholder Engagement Practitioner Handbook, 2008) [25].

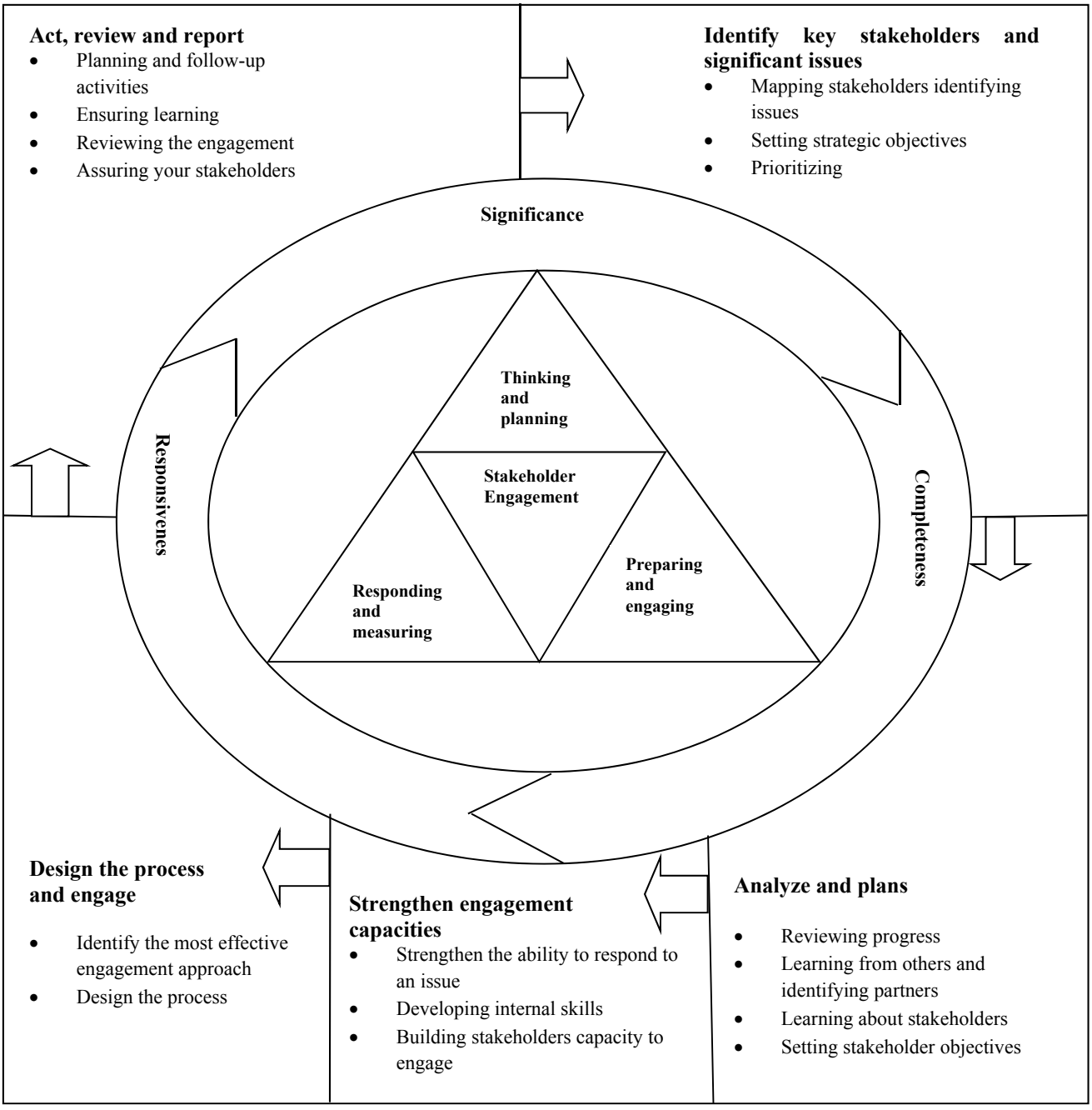


Table 1 (next page) provides a summary of the extant literatures on stakeholder engagement and its relationship with sustainability. As shown in the table, researchers have considered the importance of

both stakeholder engagement and sustainability and provided some suggestions and guidelines as to how the construction sector can achieve a strategic aim in respect of sustainability, with the aid of stakeholder's contributions. The literature is presented in chronological order.

Table 1. Extant literature on stakeholder engagement and its relationship with sustainability.

Study	Year	Data Collection Place	Main Findings	Methodology
Persson and Olander [15]	2004	Sweden	A Stakeholder-Urban Evaluation (STURE) model is proposed to systematize the input of sustainability factors, depended on the stakeholder's views and demands.	Conceptual paper: estimating methods and evaluating tools.
Clulow [26]	2005	Australia	Four themes emerged from the analysis, indicating stakeholders and their responsibility to achieve sustainability.	A systematic discourse analysis of the text
Bourne and Walker [19]	2006	Australia	One needs to adopt different strategies to achieve stakeholder engagement, leading to a stakeholder satisfaction and a successful project.	Case Study and action learning approach: Emerging project management and decision-making literature.
Gao and Zhang [27]	2006	UK	This paper identifies a "match" between corporate sustainability and social auditing, aiming to improve the social, environmental and economic performance of an organization; whilst considering the well-being of a wider range of stakeholders and requiring the engagement of stakeholders in the process.	Research Paper
Holmes and Moir [19]	2007	UK	The literature identifies firm motivations, engagement conditions and intra-firm factors that would appear to influence innovation.	Conceptual Paper, literature review
Mathur *et al.* [28]	2007	UK	The study reveals the value of identifying and mapping the stakeholders for stakeholder engagement to attain sustainability.	Conceptual Paper, literature review
Boesso and Kumar [29]	2008	Italy and USA	This paper prioritizes the stakeholders according to their power and legitimacy and through this prioritization focuses the effort to engage the stakeholders.	Conceptual Paper
Johansson [30]	2008	Sweden	A stakeholder system model is introduced by Simmons and Lovegrove (S&L model) to demonstrate how organizations can be managed in order to achieve organizational sustainability.	Case Study: A Swedish clothing design enterprise

Table 1. *Cont.*

Study	Year	Data Collection Place	Main Findings	Methodology
Lim and Yang [31]	2008	Australia	This research identified the different perceptions and priority needs of the stakeholders and issues that impact on achieving sustainability objectives.	Interviews: n = 20 senior and high-ranking infrastructure project stakeholders
Romenti [32]	2010	Italy	Corporate communication has been built on a network of stakeholder partnerships through which company continuously improves and develops new business solutions.	Case Study: Leading dairy company
Spitzeck and Hansen [33]	2010	UK	Stakeholders are granted a voice regarding operational, managerial as well as strategic issues.	Multiple comparative case analysis: 46 companies
Lam *et al.* [34]	2010	Hong Kong	Using sustainable materials on projects is achieved by drawing up suitable clauses and collaborating with the stakeholders to get up-to-date feedback.	Interview: n = 16
Ayuso *et al.* [16]	2011	World wide	Engaging with key stakeholders of the firm, both internal and external has a positive impact on a company's sustainable innovation orientation.	Questionnaire: n = 656

Typical stakeholders in construction projects are Sustainability Consultant, Contractor, Employee, Client, Engineers, Trade Subcontractor, Archaeologist, Development Manager, Local Government, Design Coordinator, Regulatory Agency, Managing Director, Technical Director, Conservationist, Environmentalist, Project Manager, Area Manager, Material Supplier, Subcontractor, Architect and Quantity Surveyor and other specialist consultants. Therefore, the potential stakeholders to a construction project are numerous and disparate, which introduces a level of complexity to the issue of stakeholder engagement. The sustainability agenda has introduced other stakeholders with high salience to the construction environment. For example, the need to meet the social aspects of sustainability that affect the local communities in which construction is undertaken, such as noise, traffic, dust and security of sites, has led to the prominence of schemes like "Considerate Constructors" [35]. In order to successfully engage these stakeholders in the construction project life cycle, general stakeholder engagement theory would suggest that it is vital to initially analyze their characteristics, that is, they need to be classified according to their level of interest, power and attitude towards the project. In other words, those with high interest, high power and a positive attitude are most useful and those with high interest, high power and a negative attitude are the most dangerous to the achievement of the project objectives—both of these groups are said to have high salience. Stakeholder analysis is a practice that can be used to identify and assess the salience of key people, groups of people, or institutions that may significantly influence the success of an activity or project. Identifying stakeholders relative to their interest, power and attitude helps to bring the most salient stakeholders into the decision-making process. Those with high salience will have interest and authority to deliver sustainability related performance and might have an interest in and knowledge of

different sustainability related issues and solutions as well. Those with a high salience but a negative attitude may need to be brought on board in some way through actions that lead to a change in attitude from negative to positive.

4. Method

What is not clear though and is worthy of further investigation is how can an effective stakeholder engagement process can be established to achieve sustainability is construction. To investigate this issue an exploratory study involving in-depth structured interviews with UK-based practitioners representing some of the key stakeholders to a construction project were undertaken. It has been highlighted in the previous section that there are a multiplicity of stakeholders interested in sustainability in construction environments, however for the purpose of this study it was decided to focus on a closely bounded group of stakeholders that were all representatives of the project team, where the term "team" reflects the view that it is made up of a temporary project coalition of organizations [36]. Whilst they all had different specific roles on projects, they all worked in some capacity on delivering sustainability on buildings. As this was an exploratory study a small-scale and purposive sampling frame was constructed and from this 10 people involved in construction projects were selected to be interviewed (as shown in Table 2). Initial discussions prior to the formal interview ensured that those selected had knowledge and experience in both the UK construction industry and of sustainability, to provide meaningful information. The most experienced had 40 years' experience in the industry and the least experienced 3 years (again, see Table 2).

Table 2. Profile of interviewees.

Organization (UK)	Role of interviewee	Experience in construction and interview duration
Construction Company	Contractor A	40 years; 1 h 30 min
Water and waste water services	Project Manager	30 years; 1 h 20 min
Social Housing Company	Client Project Manager	30 years; 1 h 8 min
House builder	Contractor B	38 years; 1 h
Engineering, construction and technical services organization	Sustainability Consultant	7 years 6 months; 1 h
Water and waste water services	Environmentalist	8 years; 1 h
Water and waste water services	Contractor C	3 years; 45 min
Construction Company	Civil Engineer	8 years; 55 min
House builders	Developer	15 years; 1 h
Engineering, construction and technical services organization	Design Engineer	37 years; 1 h 10 min

A pre-produced list of questions was used as a tool for face-to-face discussion. Participants were asked to express both their experiences and their attitudes relating to the importance and feasibility of stakeholder engagement to achieve sustainability on construction projects. Interviews typically lasted 1 hour; with the shortest interview lasting 45 minutes and the longest 1 hour 30 minutes (see Table 2). Interviews were recorded and then transcribed. The data analysis procedure involved converting raw

narrative data (interview notes, audiotapes) into partially processed data (transcripts) which were then coded (with the aid of NVIVO software). Key steps in the stakeholder engagement process were then developed from the coding process. The results are presented in the next section. As the purpose was to derive a stakeholder engagement process the focus of the analysis was on identifying the commonalities in the data between respondents, rather than on the differences.

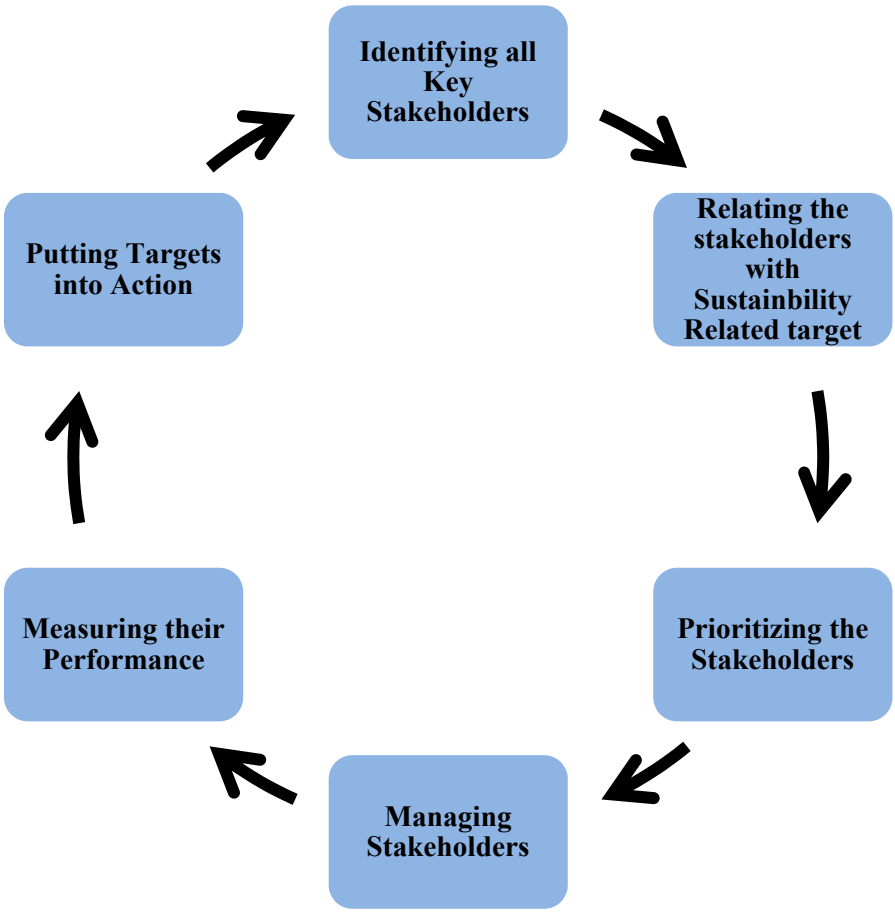
5. Findings and Discussion

This section presents a summary of the interview findings, with brief discussion, in relation to the interviewees' attitudes and experiences related to the processes for engaging with stakeholders.

Processes for engaging with stakeholders

In terms of engaging with stakeholders the interview findings suggests a systematic process involving six key steps—as shown in Figure 2.

Figure 2. Project Stakeholder Engagement Process for Sustainability.



The next section discusses each of the 6 steps in turn.

5.1 Identifying all Key Stakeholders

Interviewees suggested that depending on the size of the construction project there could be many stakeholders associated with it but there are typically only a small number of key stakeholders with high salience in relation to sustainability. According to the Design Engineer "(...) *stakeholders are sometimes entitled as recognizing all persons, organizations or community involved in a project, besides the target group and the implementing society and anticipates their responses to the target and gains and maintains their support or opponent to the project plan if it's controversial*". If the overall planning process and the purpose of the project are clear then it will be easier to find out who these stakeholders are. In such circumstances it is possible to identify those key people. It is worth noting that on a construction project, different kinds of stakeholders are involved in different steps such as pre-design, design, bidding and construction. A formal identification process can be considered as a key step in drawing a line between the parties to be involved and the parties not to be involved [27,37]. In terms of the sustainability mission of a project, as with other success criteria, stakeholders can be identified by their interest, power and attitude—which all relate to their potential impact on achieving the mission.

5.2 Relating the Stakeholders to Different Sustainability-Related Targets

Interviewees further suggested that after the stakeholder identification step it is important to relate the stakeholders to different sustainability-related targets. According to the Sustainability Consultant, "(...) *different stakeholders possess different working skills and different knowledge. Therefore their contribution to delivering sustainability related outcomes is also different. These different skills and knowledge means people's relationships with the project are also different*". It must be ensured that key stakeholders of the project understand the commitment to sustainable development and the objectives of the project. It is important that the project's objectives mesh with its "stakeholders" responsibility and skills and that they continue to fit stakeholders' interests as the project evolves, conditions change and the interdependencies of key systems, stakeholders and their objectives change [32,38]. Taking into account all the sustainability-related criteria, stakeholders have a role in developing a sustainability strategy that delivers the best project benefits.

5.3 Prioritizing the Stakeholders

The next step is to rank their importance based on the stakeholder's potential impact on project success—in terms of achieving sustainability-related targets. Contractor A articulated the importance of stakeholder prioritization as follows: "*After identifying the stakeholders sometimes there is struggle to pay attention to all of them and sometimes one needs to sacrifice the needs of one stakeholder for the needs of another. To stop these conflicts arising we prioritize each stakeholder according to the situation. And this prioritization can be done according to stakeholder's intensity of interest, power and impact*". Indeed all stakeholders are important, but they should be prioritized depending on the sustainability-related issues and their relevant characteristics, such as their ability to influence, impart knowledge, bring integrity and legitimacy. Stakeholders are prioritized through their power and legitimacy and the greater the priority accorded to a stakeholder group, the greater the efforts aimed at

engaging the stakeholder groups [31]. Stakeholders can be prioritized based on the following: those who have the highest decision-making power; those who contribute economically, socially and environmentally in terms of impact or are dependent on the organization; and those who are not linked directly to the project, but interested in seeing the project deliver a sustainable solution.

5.4 Managing Stakeholders

Interviewees highlighted that after prioritizing the stakeholder the next requisite step is to manage them; *i.e.* to manage their relationship. Contractor B stated that "(...) *we provide regular training and workshops for our clients, suppliers and customers to get the benefit from education and to raise the values, improve their behaviors and habits needed to assure a sustainable future and also [we hope] to transform society through superior structures without compromising the resources to which the future generations are entitled*". Managing the construction stakeholders is the practice of meeting the expectation of anyone that has an interest, impact or power on the project and will be affected by its deliverables or outputs. The Environmentalist described how "(...) *sometimes stakeholders may be satisfied for now or they may have more clarifications for us [to respond to]. We do listen to them and include [the messages] in our action plan*". Successful completion of construction projects is dependent on meeting the expectation of stakeholders [39]. Managing relationships with stakeholders helps raise the consciousness of the project and make it better prepared to deal with changing stakeholder needs; it also makes it more able to respond efficiently and effectively to the difficulties that may arise or issues that need to be resolved. In this sense, stakeholders are a major source of uncertainty; a generic project risk management process framework provides a structure for a review of approaches to analyzing stakeholders and risk management issues [40] and such a framework could be adapted to the sustainability context.

5.5 Measuring their Performance

Most of the interviewees agreed that performance targets that encourage continual improvement in terms of sustainability need to be set up and stakeholders need to be engaged with the measures. The main purpose of performance measurement is to measure and improve the efficiency and the quality of the performance, and identify opportunities for progressive improvements in performance [41]. All key stakeholders' individual performance needs to be measured to decide how well they are meeting their responsibilities to produce a better outcome for the project. Key Performance Indicators (KPIs) are used to measure the individual performance. The Developer described it as follows: "*We have KPIs, we practice KPIs from our parent company to measure the social impact we make in areas. After identifying all of our stakeholders we set up their goals and also use KPIs to measure progress toward those goals*". According to Contractor B that (...) *we also measure performance indicators in terms of things like tenancy's satisfaction [which relates to aspects of the TBL]—again we have that as a key driver*". For each measure, performance needs to be defined to identify the data to measure and to understand the important aspects that will effectively make up the action plan to ensure the right thing is measured in an appropriate way. One of the Project Managers described how they undertake "Customer Satisfaction Surveys" to measure their performance against their customers' demands. A study of relationships between the stakeholders'

performance and project success proved that the owner, supervisor and contractor's performances are significantly related to the criteria of project success [42,43]. Sometimes some stakeholder's expectations and perceptions may seem difficult to measure on a quantifiable basis. Performance measurement, though, needs to be two-way, providing stakeholders with the opportunity to provide their own feedback, express concerns, help to identify problems early, such two ways communication will keep motivation levels at a high level.

5.6 Putting Targets into Actions

Participants confirmed that after measuring performance, which will quantify the stakeholder's contribution in an individual area related to sustainability, plans can be developed and in some cases modified to ensure that sustainability-related targets continue to be met. A systematic plan of stakeholder engagement is a valid mechanism that focus's to the firms' innovation orientation within the context of sustainable development [16]. According to Contractors A "(…) a*fter effectively measuring the contribution of each member it will support us to identify the individual performance issues* (...) *and I have no doubt that we will also be able to continually monitor the progress of each stage of our sustainability plan against the target*". Evaluating that performance among all the project stakeholders provides the basis for judgments about how well the company is performing in meeting sustainability related targets. Adapting the above mentioned performance measurement plan assists the project in setting targets and adapt to changing needs, requirements and the external environment.

6. Contribution to Knowledge

Interest in the topic of sustainability in the construction industry has increased rapidly in recent years. Despite this interest, the concept of stakeholder engagement, including its practical implementation, in terms of delivering sustainability is still relatively unexplored [44]. Research has been carried out on broad aspects of construction stakeholder management *i.e.*, considering the management of risk, conflict, quality, value, communication, culture and leadership, change of stakeholder management [14,45–47], but few authors have focused their research on the stakeholder engagement process in construction project environments. Furthermore, there has been very little research that has focused on how stakeholder engagement processes are integrated together in a construction context [16,18,19]. Hence this paper makes a contribution to theoretical knowledge by deriving an iterative process for the engagement of stakeholders in construction, through an empirical study, in order to meet sustainability-related targets (Figure 2).

As is shown in Figure 2, which is introduced in Section 5 above, the importance of performance measurement in respect of delivering sustainability is integral to the process, yet it is an activity that has not received much prominence in existing models for stakeholder engagement in the literature. The pivotal role of performance measurement in the whole process is best articulated by the Design Engineer of an Engineering, Construction and Technical Services organization, who described how—"(...) *after finding out our key partners with their key responsibilities we always work closely with them and support them to help them deliver on those [sustainability] targets and all the way along of our project we put in place different measurement tools that will actually help us to monitor progress*".

Further, in comparison to the general project stakeholder management process introduced by Cleland [48] and the Construction Stakeholder Management by Chinyio and Olomolaiye [14], the Project Stakeholder Engagement Plan for Sustainability, represented in Figure 2, emphasises the importance of aligning the management of the relationship of stakeholders with the sustainability related targets—which is another activity that has not been stressed in prior theoretical work.

7. Conclusions

This paper has highlighted some of the processes which are being used by diverse project participants to ensure sustainability-relate issues are properly considered in construction projects. It is important to understand such processes as they show how stakeholders are engaged with in construction projects to integrate sustainability considerations into design and construction-related activities. Data collected from interviews with practitioners a systematic and cyclic stakeholder engagement process is proposed. This process suggests that participants are motivated by a mixture of control, management and organizing activities, in order to engage with their internal and external stakeholders in order to meet sustainability related target.

In terms of the individual steps to successful stakeholder engagement that could be adopted by a project team the process suggests 6 key steps. These steps are: identifying all key stakeholders, relating the stakeholders to different sustainability-related targets, prioritizing the stakeholders, managing stakeholders, measuring their performance and putting targets into actions. By undertaking this process a fully integrated stakeholder team can be engaged with throughout a project life cycle.

It needs to be noted that this paper reports the findings of an exploratory study and the next step will be to collect data from a larger sample of practitioners. This will allow for future research focused on developing further and validating the process for project stakeholder engagement in construction, which can include a more finally grained analysis of the potential influence of stakeholder types on the specific activities undertaken within the overall holistic process. It would also be useful to explore the relationships between adherence to the stakeholder engagement process presented in this paper and the achievement of sustainability goals to projects.

Conflict of Interest

The authors declare no conflict of interest.

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