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Understanding stakeholders' approaches to sustainability in building projects

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ABSTRACT

Project stakeholders in the building sector adopt different approaches to sustainability, based on diverse definitions and perceptions of what is to be considered "sustainable" and the means to achieve it. These differences create tensions, which in some cases lead to better interventions and, in other cases, to conflicts. It is therefore crucial to understand these differences and examine both their theoretical and practical implications. Nonetheless, while attempting to do so, two problems often arise. First, scholars tend to classify stakeholders in groups, labelling them and oversimplifying their differences in power and the dynamic character of their approaches. Second, insufficient knowledge still exists on whether and how differences between stakeholders' approaches to sustainability influence building projects. The longitudinal and detailed analysis of the evolution of stakeholder decisions and tensions in a building project in Canada overcomes these two limitations. The study includes a comprehensive stakeholder analysis during early project phases, and the mapping and examination of the evolution of sustainability approaches. Results illustrate how differences in sustainability approaches influence the project process and its final outcome. They show that sustainability approaches are dynamic and create tensions that significantly impact the initial project goals and the planning and design phases. From a theoretical perspective, these results suggest a method to map the dynamic character of sustainability approaches. From a practical perspective, these findings can help clients, project managers and design professionals anticipate possible tensions and make informed choices, ultimately creating projects that better respect the environment and society.

1. Introduction

Stakeholders in the building sector increasingly attempt to respond to environmental, social and economic objectives, and seek certifications to demonstrate the achievement of sustainability goals (Kibert, 2013). Yet these projects require a "Temporary Multi-Organization" or TMO (Cherns & Bryant, 1984), composed of stakeholders that adopt and defend different approaches to sustainability (Berardi, 2013a). From the client-owner to the specialized consultant, participants each have their own stance on how the paradigm of sustainable development can be better transferred to the building sector (Tan, Shen, & Yao, 2011) or their economic activity (Baumgartner & Ebner, 2010). For some, sustainability is a central part of their mission and encompasses an ethical approach; for others, it is a marketing tool that just generates business opportunities (Laufer, 2003). This diversity of approaches can generate tensions between participants, and therefore, positive and/or negative influences in the project process and outcome (Chandra & Loosemore, 2010).

Understanding stakeholder roles, interests and expectations in projects (whether they aim for sustainability objectives or not) has become a crucial subject of analysis and research (Bryson, 2004). Chinyio and Olomolaiye (2010) consider, for instance that this understanding must be a core competence in the construction sector. Scholars do not necessarily agree, however, on which criteria is to be used for stakeholder identification and categorization. Yang, Shen, Bourne, Ho, and Xue (2011) have found that there are about 30 approaches that have been used for stakeholder analysis in the building sector, and contend that most of them present several advantages but also inherent flaws. Olander and Landin (2005), for instance, group stakeholders in a power/interest matrix (Johnson, Scholes, & Sexty, 1989), producing a picture of how communication and relationships between them affect the project and decision making. Newcombe (2003) adds a power/predictability

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matrix to improve the power/interest matrix approach proposed by Mendelow (1991). It must be noted, however, that the salience model proposed by Mitchell, Agle, and Wood (1997) is still seen as a breakthrough contribution and is used as a basis for many of the most recent classification systems.

These systems are sometimes accompanied by tools and methods aimed at visualizing the relationships between stakeholders (Bourne, 2009; Winch & Carr, 2001). Stakeholder mapping is thus now a common tool used by construction organizations to understand their positions and manage the project in a more appropriate way (Sutrisna & Barrett, 2007), thus potentially optimizing organizational performance (Edkins, Kurul, Maytorena-Sanchez, & Rintala, 2007). Most of these systems attempt to highlight the differences between stakeholders (Chinyio & Olomolaiye, 2010); however, the causes and effects of these differences can be interpreted in a variety of ways, and attempts to understand them are often insufficient. In response, Chandra and Loosemore (2010) propose a comparative mapping method that visually represents the knowledge sharing between people and concepts is achieved.

The concept of sustainability is associated with different interpretations in both theory (Garvare & Johansson, 2010; Steurer, Langer, Konrad, & Martinuzzi, 2005), and practice (Mathur, Price, & Austin, 2008; Sharma & Henriques, 2005). Mapping stakeholders' approaches to sustainability allows for identifying the tensions potentially generated by these differences. A recent study conducted by Berardi (2013c) shows specifically the relationship between stakeholder theory and green buildings. The author reflects on the influence of different stakeholders in different stages of a green building project. Hopwood, Mellor, and O'Brien (2005) have already proposed a mapping technique to identify and examine different approaches to sustainability. However, this approach is considered by some authors as "too anthropocentric" (Dempsey, Bramley, Power, & Brown, 2009). Therefore, this framework *"is limited in its capacity to map other attributes that differentiate perspectives on sustainability"* (Davidson, 2011).

In response, this paper starts by examining the main stakeholder analysis systems proposed in the building sector, including methods and tools commonly used to classify them. In the first section, we also analyze the building project phases and stakeholders' motivations towards the adoption of sustainable development approaches (including sustainability itself). The following section describes the typologies and mapping tools used to understand different interpretations of sustainable development concepts. We then report the empirical results of the study based on interviews and mapping approaches conducted within a longitudinal case study conducted in Montreal, Canada. The final section draws concluding remarks and discusses practical and theoretical implications of these results.

1.1. Stakeholder management

The analysis of stakeholders' interactions has gained a prominent place in the building sector. As Edkins et al. (2007) stated, the size and the economic contribution of the construction industry in most countries remain large (between 5 to 10% of GDP), involving a wide range of stakeholders, including companies, civil society organizations and public institutions. Together they have an significant influence on project performance, albeit a different one, according to the power and responsibility that they have in the project. There are risks posed by potentially hostile stakeholders, and opportunities in the engagement of potentially supportive ones (Walker, Bourne, & Shelley, 2008). But who are these stakeholders?

In order to answer this question, we first adopted (and adapted) the definition of stakeholders proposed by Freeman (1984). A stakeholder is defined here as "*any group or individual who can affect or is affected*" by the building project. To analyze how stakeholders interact with each other and who can have an influence over the project outcome and decisions, researchers and practitioners in the building sector have developed several analytical and mapping techniques (Bourne, 2009; Winch & Carr, 2001). The salience model proposed by Mitchell et al. (1997, p. 869) is considered one of the foundations in this field of work. It focuses on "*the degree to which managers give priority to competing stakeholder claims*". The authors classify stakeholders according to three attributes: the power to influence, the legitimacy to claim, and the urgency of their claim. A pertinent innovation here is to introduce "urgency", an attribute that makes stakeholders' positions dynamic. Depending on these attributes, a stakeholder can be classified as a Latent Stakeholder (one attribute), an Expectant Stakeholder (two attributes) or a Definitive Stakeholder (three attributes). Table 1 shows that seven stakeholder classes emerge from different combinations of these attributes.

Nonetheless, other – more sophisticated – models of stakeholder classification exist. Based on Mendelow's (1991) model, Johnson, Scholes, and Whittington (2008) developed a matrix for classifying stakeholders according to their power and interests in the organization strategy or project. Newcombe (2003) also adopts the attributes of power and interests but proposes a matrix of power and predictability. Olander and Landin (2005) have applied this matrix to different project phases, showing variations during the project life cycle. More recently, Olander (2007) proposed an approach that combines the Attributes (A) of Mitchell et al. (1997) Salience Model, the Vested Interest-Impact Index (Vill) found in Bourne and Walker (2005), and the Position Value (Morin & Postel, 2008) proposed by McElroy and Mills (2007). The result is the Stakeholder Impact Index (SII), which is calculated as follows: $SII = Vill \times A \times Pos$. The results determine the impact of stakeholder influence and their position regarding the project.

Regarding the analysis of stakeholders, the importance of mapping has been recognized by many authors, including Bourne and Walker (2005) who say that "*effective project managers require keen analytical and intuitive skills to identify stakeholders and work with them to understand their expectations and influence upon project success*". Similarly (yet in a different field), Hensher and King (2002) map the perceptions of universities' key stakeholders to reveal relative degrees of support. Chandra and Loosemore (2010) use a comparative cause mapping that draws on a case study approach and several interviews. In a hospital construction case study, these authors find that "*the clinicians' understanding of the key cultural concepts differed significantly from all other groups and that clinicians' ability to influence hospital design outcomes is constrained by their relative social marginalization in the briefing process*" (p. 761).

Stakeholder management includes not only the analysis of who is involved and how, but also their level of engagement in the project (Yang et al., 2011). Mathur et al. (2008) identify three distinct approaches for conceptualizing their engagement in construction projects: (i) a management technique; (ii) an ethical requirement, and (iii) dialogue to facilitate mutual social learning. Steurer (2006) builds on this tradition and presents three perspectives to understanding stakeholder management: corporate, stakeholder, and conceptual points of view. The corporate perspective examines how corporations manage stakeholders; the stakeholder perspective focuses on how stakeholders influence corporations, and the conceptual perspective analyzes how certain concepts conduct business–stakeholder connections.

It is broadly accepted that managers require a range of analytical and planning techniques for understanding and visualizing stakeholder influence (Bourne & Walker, 2005). However, what happens to stakeholders' relationships when sustainability objectives are included in building projects? Albino and Berardi (2012) highlight that different and new relationships between stakeholders have been developed in order to manage the challenges raised