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Transforming Sustainable Value in the Construction Industry –
The role of Social Movements

ABSTRACT

Projects pursuing the balance of economic, ecological, and social aspects are being increasingly implemented by the construction industry. This shift represents a paradigm change and evidences new values being acknowledged within the sector. Concurrently, construction scholars tend to emphasize the creation, retention and addition of value, focusing mostly on costs and client deliverables. However, less attention is paid to the process of value change, specifically one that focuses on alternative stakeholders, such as Social Movements. We employ Social Movement theory to comprehend how these organizations affect the notion of value and value change in this industry. Their role is accentuated as a source for a value paradigm change in the form of institutional pressures that shape the values of other stakeholders of the construction industry. These pressures elicit a response in the form of a broader incorporation of sustainable practices amongst construction projects, which effectively alters the industry's notion of value. Additionally, we showcase a theoretical model that describes the pressure channels originated by Social Movements and their process mechanism affecting the construction industry.

Keywords: Social Movements, Sustainability, Value, Construction Industry, Sustainable Projects

INTRODUCTION

The construction industry has been undergoing a significant transformation by increasingly seeking to integrate sustainable innovations into its projects (Berardi, 2012). The availability of new processes (Fu et al., 2018), higher competition and stricter societal expectations on environmental impacts (Zhao et al., 2012) has encouraged construction companies to adopt alternative methods that consider relevant social and environmental factors to their projects' built environments. Therefore questions concerning the integration of non-financial value of these projects are gradually becoming more prominent in the decision-making process (Bygballe et al., 2013). Nonetheless, given the subjectivity of the notion of value in the construction industry, there is still no consensus on how the value of sustainable projects is perceived.

The existing literature on value and sustainability has traditionally highlighted the capture and, especially, the creation of value under a collaborative or competitive approach between companies, emphasizing its financial advantages (Ritala et al., 2013; Camilleri, 2017; Yang et al., 2017; Painter et al., 2019). Yet, despite being an intrinsically vague concept in general, when applied to the construction industry, the notion of value tends to present a strong focus on the relation between client deliverables and whole life cost of projects (Akram et al., 2011). This assumption, however, has been increasingly challenged with the emergence of the adoption of sustainable projects within the construction industry (Sev, 2009). These projects seek to perform tasks and services that are effectively and efficiently produced (Morfaw, 2011) while reaping continuous benefits to its built environment (Langston and Ding, 2001). The growth of sustainable projects signalizes a paradigm change within the construction industry, as it evidences that new values seeking the balance of economic, ecological, and social aspects are being acknowledge and adopted in the sector. Furthermore, the changing social trends and campaign by activists that influence consumption and construction patterns and practices will

be likely and intuitively recognized as relevant by construction scholars. However, the exact nature of this process has not yet been sufficiently explored by the construction literature. Therefore, how the concept of value in the construction industry changes to include sustainable innovations? To answer this, we will first focus on the concepts of value and in the theory of Social Movements.

How *Social movements* influence changes in the construction industry has been overlooked by construction scholars. Yet, studies on social movements have gained importance given the emergence of activism in civil society protest in this century (della Porta and Diani, 2015). The study of Social Movements is a useful tool to comprehend how societal pressures are organized, channeled and finally translated into institutional notions of value that result in proactive actions. Even when used, the analysis tends to focus on its obstructive nature, often against construction projects, rather than its potential benefits (Teo and Loosemore, 2011).

In this theory-building paper, we apply this theory in the construction industry research aiming to understand how these *social movements* can affect and change the notion of value in this industry. We discuss how, through a multi-level institutional process, social movements can influence the construction industry to embrace the value of non-traditional projects, such as ones containing sustainable features. The discussion will, then, center on understanding how Social Movements influence the Construction Industry and in elaborating a theoretical process model describing this process, as well as explaining how the value is transformed under these influences.

LITERATURE REVIEW

The apprehensions brought by the current environmental crisis amid a growing urban population has been one of the key challenges to the built environment. The construction industry, in turn, is increasingly pressured to change, adapt and address these concerns in its

projects (Sev, 2009; Berardi, 2012). Consequently, construction organizations, facing intense competition within the sector, are often required to deliver higher value with limited resources under a sustainable framework.

However, less attention has been paid to what *value* actually means within the construction industry and how this value is subject to change, especially under sustainable frameworks. Even when addressing sustainable value creation, research in the field tends to highlight technological or process innovation. Accordingly, change is often analyzed within new technologies and delivery models, while value change and its motivations are frequently overlooked. In addition, despite stakeholder role being emphasized when addressing organizational changes such as value definition and its scope, the analysis rarely focuses beyond the role of managers and, to a degree, shareholders, in shaping those values.

This literature review analyzes the current understanding of value in organizations, focusing specifically on construction organizations. We also approach sustainability as a value concept and how this related to the construction industry. Finally, we present *Social Movement* theory and its diffusion mechanisms to understand how these movements operate and influence their institutional settings.

Understanding Value in Construction Projects

What is Value. The creation, retention and addition of value is the end goal of any project promoted by organizations (Emmitt et al., 2005). Given the different possible applications and its impact in the performance of projects and the organization as a whole, the establishment of which are the values relevant to these organizations at the outset of a project is a key factor to their success (Emmitt et al., 2005). Value creation is the maximization of an organization's

value in the eyes of its shareholders, which often seeks its retention through the endurance of said value (Lepak et al., 2007). Value addition, on the other hand, is the capability of an organization to charge more for the good produced than the actual cost of production (Lepak et al., 2007). Value creation and value retention, however, are just two of the multiple facets the concept of value might carry. Organizations must, then, define and measure what are relevant value parameters to their activities (Emmitt et al., 2005). This task, however, is a challenge in itself due to the inherent subjectivity of the concept.

Many attempts have been made to establish objective factors when assessing value. A product, for example, can be somewhat quantified, thus enabling its value to be measured objectively (Akram et al., 2011). The theory of value (Bowman and Ambrosini, 2000) indicates that it relates to specific qualities of an item (either a task, product or service) as perceived by users in relation to their needs, as well as the monetary amount realized at a certain point in time in exchange for this item. Similarly, value is associated with the assessment of the benefits brought by something in relation to the resources needed to achieve it (Akram et al., 2011). These assessments, however, are limited by the perception of value to the benefitting entity, such as the client, whose needs and monetary value are impermanent and liable to change over time (Christoffersen, 2003). Ultimately, it's the client who decides what the monetary value is by accepting or not the price suggested by the seller, therefore dictating the overall value of the product (Emmitt et al., 2005).

While the resource-based theory also assesses value subjectively, based on the clients' perceptions of their needs and the extent to which alternative products might meet those needs, it puts emphasis on the characteristics of the product (Bowman and Ambrosini, 2000). Products must offer consumers either more attractive attributes or more attractive prices (Conner, 1991). Thus, effectiveness, reliability, profitability and pleasantness are qualities that will influence a product's value (Akram et al., 2011). These factors (utility, exchange value and esteem) are

helpful indicators of values that are perceived similarly across actors. In the resource-based theory, value creation relates to the beliefs about the usefulness of the resource in question while value capture is indicated by a subjective assessment of the relative bargaining powers of client and producer (Bowman and Ambrosini, 2000).

Another way of looking at value is by distinguishing *use value* and *exchange value*. Use value is regarded as the amount subjectively appreciated by a user, either an individual, organization, or society (Bowman and Ambrosini, 2000; Lepak et al., 2007). This appreciation must also have, in turn, a corresponding monetary amount that said user is willing to exchange to benefit from the value (Lepak et al., 2007), i.e. the price or the exchange value. Furthermore, for the producer, the monetary amount exchanged must exceed the associated costs of creating and maintaining the value in question, while there must also be a perceived performance difference to the user between the new value and other alternative options (Lepak et al., 2007).

Value in the Construction Industry. In construction projects, value is normally expressed as a ratio between the project deliverables and the whole life cost to deliver those (Akram et al., 2011). Through an economic perspective, the delivery team of a construction project tends to be concerned with delivering the best value to their client, since, otherwise, the client might search for a better alternative in a competitive market (Emmitt et al., 2005). Another example is the concept of value engineering, also known as value management or value analysis, which is used to accomplish essential functions of a product, service or project at the lowest possible cost (Zhang et al., 2009). Initially developed as a technical tool for cost reduction, value engineering has expanded into management activities and has become widely practiced in the construction industry (Fong and Shen, 2000).

An organization's business model describes the skills, knowledge and experience that firms develop to gain competitive advantage and assets needed to deliver value to the customer. Accordingly, the values chosen by construction organizations are reflected in the value proposition contained in the business model, which is the client's needs or demands that the firm has decided to address to deliver (Jones et al., 2019). Together with the firm's physical assets, these capabilities influence a firm's opportunities for value capture and determine the costs that they will need to incur to enable them to create value (Jones et al., 2019).

Value in construction can be also distinguished between external, focused on the values of the client, and internal, represented by the set of values of the delivery team (Emmitt et al., 2005). Each client has a different set of established values and interests and they represent different stakeholders, being direct such as users, investors, owners and indirect, related to the built environment, such as the city, landscape. The external value can further be differentiated by process value, which provides the best experience to the client during the design and construction of the project, and product value, defined by practical, yet sometimes subjective features such as firmness, appearance, convenience and sustainability (Emmitt et al., 2005). Both these values can interact and cause changes in their interpretation through time. The establishment of common values, or a "value universe" necessitates having knowledge of the different project stakeholders, a recognition of shared values and the understanding of why values differ between them (Emmitt et al., 2005). Often, the result of the value universe will be the best compromise between stakeholders.

Sustainability and the concept of value. Sustainability can be defined as the joint actions that safeguard the protection of the Earth or the biosphere in such a way that its viability is not threatened (Schaefer and Crane, 2005), and is often thought of as a long-term goal (Diesendorf, 2000). Sustainable development, in turn, refers to the many processes and pathways to achieve sustainability (Sartori et al., 2014). Its objective is to meet the needs of the present population

without compromising the ability of future generations to meet their own needs (Bruntland, 1987) and aims to balance economic, ecological, and social development, in what is also known as the Triple Bottom Line (Elkington, 1997). The ecological aspect and social equity are primary goals, while any type of social or economic development is welcome provided that it protects and enhances the environment and social equity (Diesendorf, 2000).

Sustainable values are the strategies and practices that contribute to a more sustainable world and, simultaneously, drive shareholder value (Hart and Milstein, 2003). This framework highlights the opportunities associated with sustainable development and connects them to dimensions of value creation for the firm. Products and services, thus, should be provided in forms that benefit these values, such as reducing consumption, energy use, distribution costs and economic concentration (Morfaw, 2011). Tools can be implemented to provide new perspectives on sustainable value creation and aid transforming the businesses to deliver uncaptured and sustainable value (Evans et al., 2017). The Sustainable Value Analysis Tool (SVAT), for example, help organizations target opportunities to create and capture sustainable value. It analyses captured and uncaptured value for key stakeholders across the product life cycle and uses a method to turn the identified uncaptured value into sustainability-focused business opportunities (Yang et al., 2014). The implementation of these measures, however, is quite challenging and complex as organizations need to combine growth, cost and risk reduction, innovation and legitimacy to achieve sustainable value creation (Hart and Milstein, 2003). In addition, since these measures also affect external actors, organizations must adopt a multi-stakeholder perspective when establishing their sustainable values (Brozović et al., 2020).

The construction industry has a major influence over the progress of sustainable development (Bae and Kim, 2007). Due to its scale and widespread presence, this industry and its related activities are one of the largest global polluters (Horvath, 2004; Gluch and Bosch-

Sijtsema, 2016; Killip et al. 2018) and have significant effects on the environment (Azis et al., 2012). Most impacts associated with the construction industry are related to energy consumption, dust and gas emission, noise pollution, waste generation, water discharge, misuse of water resources, land misuse and pollution, and consumption of non-renewable natural resources (Shen et al., 2007).

Construction companies are assimilating ideas of sustainability in their marketing, corporate communication, annual reports and, most significantly, in their actions, especially through sustainable projects (Silvius and Schipper, 2014). Several different concepts, techniques and technologies are available to grant sustainable characteristics to these projects. Beyond the availability of material means, the process that leads the change of the meaning of value and the subsequent implementation of sustainable projects in the construction industry also requires an underlying motivation. These incentives are rarely explored beyond a corporate/economic logic. Nonetheless, the participation of Social Movements in shaping the social discourse and, subsequently, pressuring organizations to change and adopt sustainable value is very significant.

Social Movements

What Are Social Movements. According to McCarthy and Zald (1977), Social Movements are a set of opinions and beliefs in a population which shows preferences for changing some elements of the social structure. When Social Movements are structured in complex or formal organizations identified and actively seeking to implement a goal, Social Movement organizations (SMO) are formed (McCarthy and Zald, 1977). Social Movement theory is regarded as a product of the social struggles of post-industrial economies (Pichardo, 1997). These contemporary Social Movements differ from traditional Social Movements, which are

originated by working class movements of the industrial period (Pichardo, 1997). The objectives of these Social Movements have shifted from the classic instrumental issues of industrialism, such as economic redistribution, to post-materialistic issues, such as quality of life issues and life-style concerns (Inglehart, 1990) while making sense of the relevant capitalist transformations (della Porta, 2017).

Different attempts have been made to establish the motivations behind Social Movements' adhesion. Social-psychological theories have assumed that, similarly to other forms of collective behaviour, this initiative derives from an irrational conduct, which is a consequence of predisposing psychological traits or states, such as one of marginality and alienation, or ideology (Klandermans, 1984). However, this approach has fallen into disuse (Klandermans, 1984). Resource mobilization theory, in turn, stresses the importance of structural factors, such as the availability of resources for collective action, and considers participants as rational agents (Marx and Wood, 1975; Zald and McCarthy, 1979). According to this concept, by weighting the costs and benefits of participation, individuals are empowered to decide joining a Social Movement through a rational decision process, based on a nuanced perception, in order to obtain desired outcomes (Klandermans, 1984). The progress of Social Movements alongside social developments demands, however, a fresh approach to the subject. New Social Movement theory arose in the 1990's placing emphasis on identity, culture, and the role of the civic sphere aspect of Social Movements to achieve engagement and support. The civic sphere, where culture and identity resides, becomes a locus of social protest, just as the economic and political spheres were to traditional Social Movements (Pichardo, 1997). Their members are deeply rooted in identity claims, as these are seen as an expression and affirmation of their cause and helps organize their political participation (Kauffman, 1990; Polletta and Jasper, 2001). However, all these approaches tend to focus the issue on a macro

scale, explaining Social Movements from societal and field level, often relegating the individual to the background.

Current scholars, though, see Social Movements as entities more activated by the logic of aggregating individuals than by traditional organizational networking (Juris, 2012), thus reducing the need for an existing structure dedicated to mobilization. The value-belief-norm (VBN) theory highlights the individual's role in shaping Social Movements. This concept puts forward the idea that Social Movements originate from individuals who embrace a cause, believe that the valued cause needs promotion or is under threat, and organize themselves collectively to provide the necessary support for those values (Stern et al., 1999). For Social Movements to be effective, support is needed from two groups of supporters: committed activists and non-activist individuals who identify themselves with the cause (Stern et al., 1999; Johnston et al., 1994). Social Movement activists are the individuals continuously committed to public actions projected to influence the social behavior and policies of a cause (Stern et al., 1999). Their activism is an important part of their life and a central element in their identity. The non-activists are individuals sympathetic to the Social Movement's cause and become mobilized in various degrees when they perceive that their individual human values can be either highlighted by their actions or threatened by their inaction. While committed activists are essential to keep the cause in evidence and attract non-activists, it is the latter's adhesion that upgrades the cause. Hence, a widespread change in individual behaviors among non-activists becomes essential to generate the necessary public support needed for social change (Johnston et al., 1994).

The existence of Social Movements, however, is irrelevant if it cannot impact its societal environment. Thus, more important than defining the motivation, structure and recruitment methods, is understanding how Social Movements reach their ultimate goal of influencing the relevant actors in order to achieve the desired change.

Social Movements' Mechanisms of Influence. Social Movements must have powerful allies both within and without the institutional arena to balance the complex system of alliances and oppositions needed to achieve their goals (Giugni, 1998). Social Movements emerge and thrive from the contradictions or multiple logics within fields to mobilize support, forge new paths or produce change (Schneiberg and Lounsbury, 2008). The diffusion process is not linear, as diffusion strategies highly depend on a Social Movement's goal and their institutional context. The adopted actions can be summarized as being either through dispute against institutions, collaboration with them or the creation of alternative market niches outside of the established market actors (King and Pearce, 2010; Balsiger, 2016). These three pathways imply, to an extent, the effectiveness of Social Movements' influence over market actors and in helping to shape them (Giugni and Grasso, 2019). Therefore, actions may vary between the creation of new markets that address Social Movements' goals, unilateral or multilateral regulation efforts such as implementing certifications and elaborating frameworks of action, and contentious activities like protests, public campaigns and boycotts (Balsiger, 2016).

Evidence-based actions tend to have a higher contagious effect on the targeted organizations, fields and institutions than disruptive actions. Hence, actions more likely to increase susceptibility to diffusion must be chosen based on the institutional contexts and the differences in receptivity and probability of contagious influence (Briscoe et al., 2015). Yet, disruptive tactics can lead decision makers to become more responsive to more moderate movement organizations whose conduct and goals they find more agreeable (Briscoe et al., 2015). Moreover, Social Movements can improve the chances of fostering change by raising the receptivity of organizations to alternative practices, thus transforming support between the general public into institutional validation. This can be accomplished through campaigns aiming to increase supporter adhesion, accumulate resources, establish frequent positive

presence in media, enhance the visibility of alternate activities or demonstrate the possibility of disruption that leads to a transformation (Schneiberg and Lounsbury, 2008).

The ability of Social Movements to form alliances with other actors in the social sphere is a key factor. If successful, these mobilizations generate the essential political space for the contestation of existing institutional and organizational logics, thus creating the conditions for change (Schneiberg and Lounsbury, 2008). This process is cumulative, meaning the higher profile a Social Movement achieves, the easier it will be for it to gather further public and institutional endorsements. Indeed, the more successful a Social Movement is, the more likely it will expand their scope of activism to campaign for a wider set of fields to adopt alternative practices (Schneiberg and Lounsbury, 2008).

Another important aspect to be considered is the validation of a Social Movement's agenda once it becomes supported by organizations. Using a classic institutional perspective, we can consider Social Movements and organizations as mutually reinforcing actors. While organizations adopting the innovations put forward by Social Movements understandably helps to legitimize the latter's goal and diffusion, once an organization adopts a Social Movements agenda that is perceived as successful or beneficial, other organizations within the same field tend to converge on the same response, given a shared institutional environment, as *per* the isomorphic process (DiMaggio and Powell, 1983). Hence, the probability of an organization supporting the agenda of Social Movements increases exponentially as other organizations, especially within the same field, demonstrate support.

In order to produce long lasting change, Social Movements must also alter the paradigms affecting their object contestation. In the sociological sense, paradigms are normative structures used by a community to relate to established ideas or notions. A change in paradigms can also mean a shift in hegemonic ideologies rooted in social coalitions (Kagan and Burton, 1995). The agenda pushed by Social Movements, originally counter-hegemonic

by nature, needs to become gradually accepted as potentially hegemonic by parts of society for this shift to happen (Schneiberg and Lounsbury, 2008).

The paradigmatic shift to embrace new values can, however, spark counter-mobilization by influential actors with opposing interests. Diffusion, then, becomes a contested process in which Social Movements must mobilize a strong and continuous political support at either the field-level or within organizations to protect the alternatives promoted by them (King and Soule, 2007; Schneiberg and Lounsbury, 2008). The effectiveness to overcome these counter-actions depends on the Social Movement's capacity to rally political resources and create favorable political contexts for the maintenance of their agenda in the public debate. Under these conditions, Social Movements becomes a locus not only for theorization and implementation of ideals but also for the organization and promotion of a supportive political power (Schneiberg and Lounsbury, 2008). A favorable institutional context, in which Social Movements builds a solid political relationship with institutions, strengthens the capacity and capillarity of a Social Movement to translate their ideals into concrete actions, increasing the possibility of desirable (Bartley and Schneiberg, 2002).

Establishing the success or failure of a Social Movement is quite difficult due to the natural struggle of establishing a causal relationship and the necessity of a nuanced analysis (Giugni, 1998). In addition, the effects of Social Movements actions are often indirect and can sometimes misrepresent their original goals (Giugni, 1998). Nonetheless, this framework provides promising possibilities to analyze role of Social Movements in different institutional contexts.

DISCUSSION

Social Movements' campaigns for sustainable practices can lead to a change of the understanding of what "value" means in its society (Stern et al., 1999; Amenta and Polletta, 2019). This is also applicable to specific industries, especially when Social Movements' campaigns target at field level, and governments. However, while Social Movement theory succeeds in understanding the macro level social structures that enable Social Movements' activism, it often struggles with explaining how activism exerts influence (Buechler, 1995).

In the case of the construction industry, aside from activism against construction projects (Teo and Losemore, 2011), this influence has not yet been examined in detail, especially in relation to its impact over value perception and change. Furthermore, the literature on the value change process in the sector is scarce. We aim to explore the mechanisms in which construction industries change their set of values analyzing the role of Social Movements as a driving force behind this dynamic.

In this discussion, we examine how the construction industry can assimilate new notions of value in its projects. The implications of this transformation in the field will be discussed, considering the inclusion of Social Movement theory into construction value analysis. Finally, we will present a theoretical model of how Social Movements influence the construction industry and showcase a model that illustrates this process.

Transforming the Understanding of Value in Construction Projects

As argued, there is strong focus on client needs and reduced costs under a traditional notion of value in the construction industry. A noticeable shift to change this perception of value, therefore needs to include external forces that are not customarily associated with this established dynamic. Institutional theory is increasingly turning to Social Movement theories

to analyze, at a field level, the factors associated with change in organizations (Lounsbury et al. 2003). We see the participation of Social Movements as an indirect, yet essential influence for the construction industry to incorporate other non-traditional values into their own, specifically in the direction of embracing sustainable value. For individual organizations, this framework of analysis also provides insights concerning the underlying dynamics of firm adaptation during value paradigm shifts (Kaplan, 2008).

Social Movements help change the notion of value through mostly indirect pressures, channeling them mainly through construction organizations, governments, clients, consumers and citizens to target the construction industry. The role of these movements is to clearly present the necessity and the benefits for the construction industry of addressing economic, social and environmental factors and to pressure the sector to adopt sustainable innovations in its projects. The pressures stemming from Social Movements will then mount with other circumstantial factors, such as the availability of sustainable technologies, to effectively alter the paradigms of what is perceived as value. The construction industry internalizes these pressures and incentives, envisaging the adoption of sustainable projects as the best response within their institutional environment, thus establishing a paradigm shift in the field and defining sustainability as one of its core values. The sustainable methods used may vary in form, but the benefits they carry to the built environment should far outpace their harm, upgrading surroundings from economic, social or environmental points of view.

The adoption of sustainable values by the construction industry signals a strong conformity of social, economic and environmental factors and generates significant implications for the built environment. For construction organizations, the paradigm shift enabled by Social Movement pressures might lead them to invest in projects outside their traditional activities. Aligned with their newly incorporated notion of value, this strategy instigates new opportunities for value creation. These may include the creation of

environmental services, energy generation, food production and other alternative revenue streams. Moreover, the addition of financial and non-financial value for these projects lowers the risks associated with the decision making process for construction organizations and can provide a substantial competitive advantage in a highly competitive construction market.

For the construction industry as a whole, its massive scale and widespread presence means that the adoption of sustainable values, even if limited, might represent significant progress in the fight against climate change and boost local economies. As one of the world's biggest contributors to CO₂ emissions, this represents a chance to offset part of its own emissions. It can also aid communities generating long-term inclusive economic opportunities with its sustainable buildings. Furthermore, the incorporation of sustainable values also characterizes an innovation in itself, as sustainability becomes a value worth incorporating in the industry.

In a theoretical sense, the inclusion of Social Movement theory highlights the importance societal factors have over studies concerning the construction industry. It modifies, to a degree, the way in which we interpret the influence stakeholders have over the construction industry and allows for an expansion of the contextual analysis of the built environment. The challenge, as pointed out by Giugni (1998), is to demonstrate how the relations established by Social Movements with other societal actors interact with each other to produce change. We aim to overcome this struggle by explaining the mechanisms in which social movements change the notion of value in the construction industry with the aid of a process model.

The influence of Social Movements on the Construction Industry - From Theory to Practice

Since Social Movements cannot control directly the decision-making process of construction projects, it must rely on indirect channels to enforce its agenda. As stated previously, these are usually translated into institutional pressures that affect organizations and the industry in general, yet the form in which these institutional pressures operate remains unclear.

The effectiveness of the role Social Movements play in changing value paradigms is a consequence of the general sustainable discourse that has progressively gained traction given the environmental, economic and social struggles currently seen in societies. Successful Social Movements understand the potential these issues have to spill over to other areas and manage to seize this political setting to their advantage. Even when targeting specific sectors is not the original focus of the frustration caused by these societal issues, Social Movements have the potential to capture momentum over these issues and sway the debate into other areas, including the construction industry.

Due to its cyclical dynamic, high fragmentation of market players, low profit margins, large number of family-owned and/or privately held structure, and business-to-business nature, Social Movement activism is rarely directed towards the construction industry as a whole. On rare occasions, Social Movements might target individual contractors, usually motivated by specific issues, such as the adoption of modern-day slavery or undertaking controversial projects that present environmental threat. Nevertheless, these tend to be isolated actions, rather than regular occurrences, thus not actually changing the concept of value within the construction industry.

When the social pressures originated in Social Movements mount, there is a paradigm shift of what is value at industry and firm level, and the value of these non-traditional activities become institutionally embedded within an organization's own set of values. We postulate that Social Movements help change the construction industry's notion of value through three non-excluding and mutually enforcing channels.

The first channel implies a transformation that is enforced by government towards organizations. In this top-down scenario, Social Movements are one of the sources of influence for regulators to create the norms which construction companies are obligated to follow. Societal pressures are channelled directly towards government authorities, lawmakers and state regulators, making public entities adapt their concept of value to align with the Social Movement's position. This, in turn, affects the definition of what is and what is not acceptable from a public institutional point of view, changing its value paradigm. The government, then, determines and implements the new value through stricter environmental regulations, raising minimum construction requirements and in its own tender notice bidding process. The construction industry must now operate by the rules fixed by the government, incorporating sustainable value into their own set of values.

Social Movements can also create a societal zeitgeist which encourages a number of organizations in the construction industry to voluntarily adopt new value frameworks. In this bottom-up development, Social Movements do not exercise direct pressure onto the construction industry, but rather provide the institutional environment for organizations perceive the benefits of value change. This process allows construction companies to anticipate future regulations and tap into new niche markets, therefore helping to shape these new markets in the process and causing a paradigm change of value within the industry. Other firms, which did not anticipate the change of value, feel now the need to incorporate it, otherwise risking to lag behind competition. This adoption mechanism can also be used as a powerful tool for

institutional marketing, especially within the general public and private investors where green innovations have a noticeable positive impact. Another possibility for the establishment of sustainable value occurs within the organization itself. Organizations in the construction industry might seek to implement sustainable practices in their headquarters, for example, regardless if sustainable construction is also implemented in their business activities.

A third effect of Social Movements is the consequence its campaigns have on the general public. Divided between clients, consumers and citizens, each of these categories of the general public can affect the notion of value of the construction industry in a specific way. As clients, they can alter directly the construction industry's practices by demanding projects include sustainable elements. Citizens can reinforce a Social Movement's position and augment pressure over the government to pass laws that, for example, limit the construction industry's environmental impact through the adoption of sustainable measures, similar to the top-bottom model. Analogous to citizens, non-construction organizations and their respective consumers, through Social Movements influence, can pressure governments to pass and apply legislation that serves their interests, such as banning asbestos and mandatory solar panels, thus reinforcing the need for construction projects to use sustainable practices. Social Movements, thus, work through both citizens and consumers/organizations to pressure governments to change their value paradigms that affects the construction industry, while encouraging clients to directly change their value paradigms when dealing with construction companies.

The Societal Pressure Process Model for Value Change

The *Societal Pressure Process Model for Value Change* brings to light the mechanism in which Social Movements help change the notion of value in the construction industry through mostly indirect pressures. The following image illustrates these dynamics, with each

arrow describing a different process originating in Social Movements' activism and terminating in the acknowledgement of these pressures by construction industry.

INSERT FIGURE 1

In the top-down model, Social Movements' pressure directly targets governments, lawmakers and other regulators. These pressures mounts to the point of paradigm change for these state entities, which then enforce regulations upon the construction industry forcefully changing their own paradigm values. The same process happens when Social Movements pressure consumers, non-construction organizations and citizens, since these actors then pressure those state entities to enact regulations, based on their interests, targeting the construction industry. Clients are affected by Social Movements' campaigns and embed sustainable values in their project specifications, forcing the construction industry to embrace those values, whereas the bottom-up model sees the construction sector actively embracing Social Movements' cause as a means to obtain competitive advantage.

CONCLUSION

Despite the evolution of Social Movement studies and the successful establishment of the influence these movements have had over some economic, societal and political changes seen in the last few decades, their roles had not yet been properly explored in the context of the construction industry. Given the value transformation seen in the construction sector, pressured by its settings to embrace new meanings of value, Social Movement insights offer a valuable approach to understand how this shift to sustainable values has occurred. Our analysis, thus, emphasizes how Social Movements influence the change of the understanding of what "value"

means in its society, specifically focusing its effect in crystallizing sustainability as one of the core values of the construction industry.

More importantly, we describe the social mechanism in which this change of value happens. The role of Social Movements is highlighted as a driving force for change in the form of both discourse and practical actions which, effectively, change the value paradigm of stakeholders affecting the construction industry. These campaigns act through three distinct, but complementary channels. The first sees Social Movements pressuring governments, lawmakers and other regulators which, in turn, enforces regulations directly upon the construction industry, in a top-down process. In the second, the bottom-up model indicates construction companies voluntarily adopting Social Movements' cause as a mean obtain competitive advantage. The final channel includes citizens, consumers and clients as the targets of Social Movements, with each of these categories indirectly pressuring the construction industry directly, in the case of clients, and indirectly through the government, in the case of consumers and citizens. When combined, the grouping of all these pressures cause a change of the value paradigm in the construction industry. This prompts an institutional response in the form of a wider integration of sustainable practices amongst construction projects, thus effectively altering the industry's notion of value.

Our main theoretical contribution relies on bringing insights of Social Movement theory to the study of construction and developing a model explaining one of the mechanisms in which sustainable practices can be included in the industry. In addition, this paper also makes a contribution regarding construction industry theory in discussing the effective role other stakeholders beyond managers and shareholders have over these organizations. Correspondingly, the study benefits the Social Movements literature as we showcase an application in an important industry in society and economy, providing a practical setting as opposed to the mostly theoretical papers seen in the field.

In a practical level, this paper may help construction organizations and the industry as a whole to understand how sustainable features generate a, now under Social Movement pressures, crucial value to their projects. The construction of a building with an empty, under-utilised rooftop, for example, could include an urban farming development plan. This would not only increase the availability of food for its surrounding community, but also the areas economic opportunities while offsetting part of its CO2 emissions and improving rainwater retention, greenhouse gas emissions and the microclimate in and around its built environment.

Despite its important role in shaping the values of institutions and organizations, Social Movements are not the only forces responsible for the change of value. Nonetheless, future research can use the *Societal Pressure Process Model For Value Change* to assess the influence of Social Movements over specific construction projects that present sustainable features. The use of qualitative research methods may reveal the degree to which a project's different stakeholders are influenced by the societal pressures made explicit in the model.

We believe that the acknowledgement of Social Movement influence in the adoption of sustainable practices in the field is, nonetheless, a fundamental step to increase the understanding of the importance of adopting sustainable development initiatives within the construction industry.

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FIGURES

Figure 1 - Societal Pressure Process Model For Value Change

