Stakeholders' influence strategies on social responsibility implementation in construction projects

Abstract

Social responsibility implementation in construction projects relies on the active involvements by multiple internal and external stakeholders. Stakeholder influences are an important driving force for resolving or alleviating the social and environmental problems in construction activities. To provide a better understanding of the complex stakeholder inter-influence, this research adopted an inductive qualitative method to investigate distinct influence strategies used by project stakeholders in achieving social responsibility goals. The corpus of twenty-five in-depth semi-structured interviews with construction practitioners from the Australian and Hong Kong construction industries was analyzed by a text-mining software, Leximancer. The findings identified the influence strategies of eight stakeholder groups and revealed that all stakeholders used both cooperative and aggressive strategies to influence. In contrast with the statement that power can determine stakeholders' aggressiveness, this research found that the perceived legitimacy and urgency of the concerned issues are the main determinants for stakeholders' aggressive strategies. The implications for project managers and policy makers are further discussed in the article.

Keywords: social responsibility, stakeholder influence, stakeholder interactions, cooperative and aggressive strategies, construction project

1. Introduction

The lack of social responsibility (SR hereafter) in the highly fragmented and dynamic environments in construction projects is an obdurate problem that can hinder the sustainable development of the industry (Lin et al., 2017a; Ma et al., 2017). The construction lifecycle is

often associated with adverse images such as environmental pollution, ecological disturbance, resource exploitation, community conflicts, and corruption and bribery (Moodley et al., 2008). Although some major construction companies are starting to embrace the concept of SR (Barthorpe, 2010; Ye and Xiong, 2011), it remains in an isolated and reactive mode that lacks systematic analysis of stakeholders interactions (Loosemore and Lim, 2017).

SR of megaprojects, according to Zeng et al. (2015), means the policies and practices undertaken by project stakeholders for the benefits of the environment and broader society. Construction projects involve a complex network of stakeholders including internal stakeholders such as developers, main contractors, consultants, and subcontractors, as well as external ones, such as governments, NGOs and local communities (Aaltonen and Kujala, 2010). Implementing SR in projects is not simply "selling the idea" to the investors or developers (Alberg Mosgaard et al., 2016). Since SR issues in construction projects mostly refer "mega-problems" that are beyond a single organization's capacity, the shared resources and collaborative endeavors are needed from multiple stakeholders (Peloza and Falkenberg, 2009). However, such endeavors are not easy to achieve because project participants are self-sufficient and interest-oriented (Cheng et al., 2001). Stakeholder influence, according to Liu et al. (2011), is the driving force to arouse companies' awareness and motivations to respond to the concerned social and environmental issues.

Current studies mostly focus on the influence of a single public stakeholder on firms' sustainable decision makings, such as NGOs (Jamali and Keshishian, 2009; Jonker and Nijhof, 2006), policymakers (Doh and Guay, 2006), and mass media (Apostol and Näsi, 2013). Studies are limited, especially in construction project contexts, in investigating the complicated interactions among stakeholders in regards to social and environmental issues. Lin et al. (2017b) found that stakeholders' power to impose influence on project SR differ.

Governments, contractors, and developers are the most powerful ones, while communities, NGOs, and end users hold limited power to influence. However, how the stakeholders practice their power in achieving desired goals remains unclear (Derakhshan et al., 2019; Elijido‐Ten et al., 2010).

Also, stakeholders' choices of influence strategies have different impacts on project implementation (Olander and Landin, 2005). Stakeholders' aggressive influences, such as by local community and social media, are threatening project implementation by causing significant delay and cost overrun (Liu et al., 2016; Shi et al., 2015). It would be beneficial for project managers to predict potential aggressiveness by stakeholders better so they can respond to and alleviate potential conflicts in advance (Boutilier and Zdziarski, 2017).

Addressing the research gaps, this study explored the stakeholders' diverse influences on SR implementation in construction projects through in-depth interviews and computer-assisted semantic analysis. The research objectives of this paper are twofold: First is to identify the different influence strategies adopted by multiple project stakeholders to influence each other in achieving SR goals; second is to explore under what conditions stakeholders choose aggressive strategies. The research findings contribute to the understanding of complex stakeholders' interactions, as well as provide implications for project managers and policy makers in promoting collaborative SR endeavors.

2. Literature Review

2.1 SR in construction projects

Corporate social responsibility (CSR) has been studied and practiced in many disciplines and across different cultural backgrounds (Brown and Parry, 2009; Jamali and Mirshak, 2007; Steurer, 2010). The concept of SR is perceived as a synthesis of contemporary social

obligations (Enderle, 2006) and a business strategy for increasing competitiveness (Vilanova et al., 2008), organizational effectiveness (Zahra and Latour, 1987), or financial performance (Cochran and Wood, 1984). Compared with the extensive attention on CSR, SR at the project level has received limited attention. Zeng et al. (2015) underlined the complexity of project SR including lifecycle dynamics, stakeholder heterogeneity, and interactivity. A societal governance framework, developed by Ma et al. (2017), showed that project SR requires societal co-governance by business, governments, and civil society as a whole.

Construction activities consume tremendous social and natural resources. In return, they improve the residential environments, boost the local economy, increase employment, play a significant role in urban development (Yao et al., 2011). Because of the significant impacts on the environment and society, construction stakeholders should also take a corresponding responsibility. Currently, it is the claims of governments and the public that forms the requirements for SR in construction projects. Included among these requirements is a consideration for sustainability, occupational health and safety, the relationship with the local community (Petrovic Lazarevic, 2008), ethical conduct (Oladinrin and Ho, 2014), resource efficiency and environmental protection (Shen et al., 2010). In addition to maximizing profits for investors and shareholders, construction project managers should thus embody SR values and contribute to the environment and broader society. Implementing SR in construction projects provides a novel approach to redefining project goals and pursuing improved social performance. Unfortunately, although the demand for integrating SR as project goals is pressing, research and practice of SR in project-level remain fragmented (Liu et al., 2011; Zeng et al., 2015).

Project-level SR has several unique characteristics that increased the complexity of its interpretation and implementation. Construction projects are temporal unions of multiple

95 stakeholders. Thus, the environmental and social impacts caused by project activities cannot
96 be attributed to any single participant (Packendorff, 1995). If several powerful stakeholders
97 fail to take corresponding responsibility, the affected parties will have to suffer from the
98 adverse effects (Li et al., 2012). Due to the lack of accountability, project stakeholders tend to
99 allocate the scarce resources to maximize self-interests instead of seeking for a project's
100 overall SR performance (Cheng et al., 2001; Oladinrin and Ho, 2015). Besides, construction
101 projects involve an extensive variety of stakeholders, representing conflicting demands and
102 interests (Aaltonen, 2011). Such conflicts in construction projects are increasing due to the
103 dynamically changing social demands and the dearth of natural resources (Li et al., 2012). A
104 better knowledge of how various project stakeholders use their power to balance conflicting
105 goals may help us to understand how SR in a construction project can be achieved through
106 the interplay of multiple stakeholders.

107 ***2.2 Stakeholder influence strategies***

108 Stakeholder influence refers to the means that stakeholders use to alter the behaviors of a
109 target to achieve their desired goals (Frooman, 1999), which is a manifestation of power
110 embedded in relationships between stakeholders and the target (Cook, 1977). Susnienė and
111 Purvinis (2015) highlight the importance of stakeholder influence in the research and
112 practices of SR. Current research has mainly focused on the influence strategies of a dyadic
113 stakeholder relation (Hendry, 2005; Sharma and Henriques, 2005). In response to the
114 advocacy of Rowley (1997) to move beyond the dyadic ties, stakeholder influence research
115 also needs to shift towards a network perspective (Boutilier and Zdziarski, 2017; Mok et al.,
116 2017).

117 Stakeholder influence strategies are the attitudinal and behavioral gestures that stakeholders
118 use to exercise their influences. The choice of strategies is essential for the realization of

stakeholders' appeals (Kipley and Lewis, 2008). Co and Barro (2009) adopted factor analysis to extract common components from eight influence strategies and proposed a dichotomy classification of aggressive and cooperative forms. The aggressive strategies are characterized by a forceful attitude or behaviors to change the targets' behaviors regardless of resistance. Such going against ones' wills or overcome rejections comes from the coercive attribute of power, which is often associated with abuse and manipulations (Pfeffer and Fong, 2005). In construction projects, aggressive influences by stakeholders can cause unforeseeable impacts on project objectives (Olander and Landin, 2005). In contrast, cooperative strategies are characterized by reciprocity to change the targets' attitudes or values to perform in the desired directions voluntarily, which has positive effects on collaboration and trust-building.

According to the literatures, the power advantages generating from the resource-dependence relations can determine stakeholder influence strategies (Frooman, 1999). Due to the diverse resources, stakeholders have their unique repertoires of strategies, and the power-dependence with the target determines which strategy was selected. According to Frooman and Murrell (2005), stakeholders tend to adopt coercive strategies when they have low dependence on the target firm, while compromise strategies were used more often when stakeholders are highly dependent on the target firm. Similar evidence was also found in social studies, that social actors with power advantages tend to use hard strategy to manipulate targets' behaviors, while less powerful ones often choose a rational and soft strategy (Somech and Drach-Zahavy, 2002).

However, the statement that power can predict aggressive or coercive strategies is increasingly questioned. Co and Barro (2009) found that an aggressive strategy was adopted when one is under pressures to obtain collaboration from others, and the trust level between them is low. Hendry (2005) also claimed that the selection of influence strategies by NGOs

depend on their expertise of a particular strategy and situations of the issues under concern. Apart from power-dependence structures, according to Elijido‐Ten et al. (2010), the significance of the events perceived by stakeholders can also predict stakeholders' choice of influence strategies. There is a need for further exploration of the effects of stakeholder power, and more importantly, searching for the alternative determinants for stakeholders' aggressive strategies.

3. Research Method

3.1 Data collection

This research adopted a semi-structural interview survey followed by a computer-assisted semantic analysis to identify stakeholder influence strategies on SR implementation in construction projects. A convenience sampling method was adopted in this study by selecting the informants with specific criteria according to the proximity and willingness to participate (Etikan, 2016). Compared with random sampling, convenience sampling has its limitations in terms of representativeness and generalization of findings. Such a sampling strategy was adopted because, first, the target informants were those who have rich observations to share on SR implementations and stakeholder interactions in construction projects. Therefore, the sample universe was determined as the experienced managers or executives from large construction companies, developers, government departments, NGOs, and other related institutions. Such target informants belong to a hard-to-reach community, to which a random sampling strategy was both difficult and unrealistic. Second, because the research is inductive in nature, we aimed at searching for commonality from the reported observations. According to Robinson (2014), the commonalities found from a heterogeneous sample are more reliable than the ones found from a homogenous sample. Considering the difficulties to access the target group and the operational limitations, a convenience sampling strategy was used to

167 select a sample with preferred heterogeneity in terms of working backgrounds.

168 The interviews were conducted by an investigator in Hong Kong and Brisbane respectively.
169 From March to July 2015, the interviewees were invited by the authors in Hong Kong from
170 their personal networks, which were accumulated during yearly research and consultancy
171 services in the local construction industry. After data collection in Hong Kong, from August
172 to December 2015, the investigator went to Brisbane, Australia, and conducted the remaining
173 interviews with the informants by the referral of one of the co-authors working in a university
174 at the region. All the interviews were conducted in face-to-face meetings by appointments.
175 Either English or Mandarin was used depending on the comfortable language preferred by the
176 informants. During the interviews, the informants were asked to provide examples of how
177 their organizations were influenced by various stakeholders for SR implementation in
178 construction projects, also, how they influence the others. The interview protocol consisted of
179 20 questions, together with a one-page consent form, were signed by the interviewees. The
180 interviews were all recorded by electronic recorders for transcriptions and semantic analysis.

181 Table 1 shows detailed information about the interviews. The sample contained 25
182 practitioners in Hong Kong (n=17) and Australia (n=8). The year of experiences of the
183 informants shows the sample belongs to the sample universe. The average experience of the
184 informants in the construction industry is 11.8 years, and 10 out of the total 25 had worked in
185 the industry for more than 15 years. The informants held senior positions in their
186 organizations, including directors, senior managers, project managers, and department leaders.
187 Although the positions cannot guarantee that rich information were provided, it can at least
188 increase the probability since staffs in senior levels are more familiar with SR and related
189 policies and practices (Lin et al., 2018). In terms of heterogeneity, the interviewees were from
190 two geographically different environments with diverse working backgrounds, for instance,

191 Gammon, AECOM, Town planning board, Green Building Council, Queensland Investment
192 Company, and Housing department.

193 *Insert Table 1 here.*

194 ***3.2 Two-step data analysis***

195 The transcripts of the interviews were analyzed by a computer-assisted qualitative data
196 analysis tool (CAQDA), Leximancer. The adoption of appropriate CAQDA software can
197 increase the rigor and efficiency of qualitative research. Leximancer is a text analysis tool
198 using unsupervised machine learning algorithms to generate concepts and themes based on
199 word frequency and co-occurrence (Smith and Humphreys, 2006). The software has been
200 extensively used in various disciplines since it was developed (see, for example, Cretchley et
201 al. (2010) and Rooney et al. (2011)). Compared with other CAQDA software like Nvivo and
202 Atlas.ti, Leximancer can automatically identify concepts and interrelationships from the
203 unified data without manual interventions, which decreases the subjectivity of the analysis
204 process (Sotiriadou et al., 2014). The efficiency of text analysis can be significantly increased
205 by using the interactive concept maps generated from Leximancer to track the original
206 contexts of the text segments. A two-step analysis was adopted in this study:

207 The first step was to identify the concepts and their relationships by using the unsupervised
208 seeding and mapping in Leximancer. The full corpus contained 79,435 words. The first
209 seeding was generated automatically. Because Leximancer has limits in handling daily use
210 language and merging concepts with duplicate meanings. Several manual adjustments were
211 performed after the automatic seeding. The concepts of daily use language that has no
212 semantic meanings were deleted including “things”, “terms”, “look”, “guess”, “example”,
213 “doing”, and “probably”. The concepts with duplicate meanings were merged, including
214 “issue/issues”, “project/projects”, “developer/developers”, “contractor/contractors”,

215 “company/companies”, “client/clients”, “building/buildings”, “environment/environmental”.
216 Also, the “main” and “contractor” were combined into a compounded concept. In addition,
217 we also manually seeded the thesaurus of several important concepts about project
218 stakeholder groups including “consultants”, “consumers”, “employees”, “investor”,
219 “manager”, “NGOs”, “representative”, “planning authority”, “residents”, “subcontractors”,
220 “suppliers”, “tenants”, and the “workers”.

221 The second step was a semantic analysis of the text excerpts containing stakeholder
222 interactions. We used the interactive function of Leximancer to extract the text excerpts that
223 contained two stakeholder concepts identified from the last step. The text excerpts contained
224 the contexts of stakeholder interactions reported by the interviewees, which constitute the
225 situational and strategic contents of stakeholder inter-influences. Based on the extractions, the
226 in-depth semantic analysis was conducted focusing on the two research objectives: 1) identify
227 the subject, target, attitudinal and behavioral gestures of the influence that were practised in
228 the excerpts; 2) if an aggressive strategy was employed, identify the potential determinants
229 from situational, relational, and demographic factors. Following these two research foci, three
230 investigators first analyzed the text excerpts independently and recorded their comments.
231 Then the coding was cross-checked and discussed among the investigators to finally induce
232 the strategies adopted and potential determinants for aggressive ones. During the discussions,
233 we also used the search function in Leximancer to track additional evidence for the coded
234 strategies, in order to triangulate the findings that we had obtained. Also, based on the
235 identified influence directions, a network framework was also developed to elaborate on the
236 complex roles and influence flows between diverse stakeholders.

4. the Semantic Analysis

4.1 The concept map

Figure 1 shows the concept map containing the themes (clusters) and concepts (nodes) generated from Leximancer. All the identified themes and the encompassed concepts from the map are clearly listed in Table 2. The most intensive theme from the interviews is "project", which verifies our assumption that SR practices in construction mostly occur in a project environment but is of little interest otherwise. The second theme is "government and main contractor", showing that most of the responsibilities for SR implementation in construction projects are arributed to the contractor companies. The low intensities of the themes such as "tenants", "residents", "workers", and "consumers" reflect the remote and less significant roles of these stakeholders. Whether the ranking means the importance of roles in SR promotion needs to be further explored by in-depth semantic analysis.

Insert Figure 1 here.

Insert Table 2 here.

The links and distances between the concepts represent the closeness of semantic meanings of the two concepts or themes. From the map, it shows "government" and "main contractor" are closely interact with each other. We can see that "consultant" plays an intermediate role between "developer" and "main contractor". However, it needs further semantic analysis to see what the detailed influences are (Elo & Kyngäs, 2008). The concept of "developer" is linked with "cost" and "investor", which could imply that the primary considerations of developers concerning SR are the financial issues, particularly investors' returns. This proximity of concepts (called collocation in linguistics) provides reassurance that the results have a form of face validity because they are as one would expect. Also, it also provides a

source for triangulation of research findings in the semantic analysis.

4.2 Interpretations of the excerpts

4.2.1 Communities and the public

Communities and the general public were grouped as they have similar influences on projects' SR implementation. It was found that their influence was mostly only occur when their benefits were at risks, such as health and safety threats, pollution, noise, and other disturbances. ***The representative meetings*** were reported as an influence strategy to discuss their concerns regarding the project activities. Mostly, the meetings are cooperative in nature by gathering different parties and putting issues on the table for discussions, reflecting communication and compromise.

> *They (the community representatives) call for a meeting. It often includes the government party, then our engineering representative, the main contractor; they all sit down with them, talking about the issues, what they want. (Inter.9, consultant)*

When the issues need a timely response, or the project participants were reluctant to change, communities and the public used ***complaints or protests*** to raise the tense.

> *Near our project is a village, sometimes they have assigned just a village representative to complain the project is too noisy and dusty. They just send only the representative come to our site and shout all their complaints. (Inter.8, contractor)*

Also, communities often to ***report to governments*** about their concerns or complaints, because they perceived that they do not have the enough power to direct influence, which

conforms to Frooman (1999).

> *They (community representatives) probably go for the telephone numbers around the site where you can just make a call and complain or raise their concern directly. The government will come back and say okay, we've received these complaints, what are you going to do about it? (Inter.8, contractor)*

4.2.2 Non-Governmental Organizations (NGOs)

NGO is a less frequently mentioned concept based on the concept map. But the semantic analysis shows an important role of NGOs in SR promotion. A primary influence of NGOs is to use their expertise and knowledge to ***lobby or raise appeals*** to persuade governments or companies to respond to the SR issues.

> *People from NGO will come to the office, and lobby them (government officers) and give the idea that if they don't look at these things then they might be in trouble. They put forward issues like environment and discrimination, and then the government will put these things on schedule. (Inter.19, consultant)*

> *Some NGOs or schools come and ask for donations. Some of them send emails or letters or someone visits. (Inter.19, consultant)*

SR campaign launched by NGOs is also an effective influence strategy to promote their advocacies and seek collaboration. Such activities can deliver the value and measures of SR to construction companies who want to identify themselves as socially responsible. Construction companies are voluntarily involved in such activities because they can network

with peers and build reputations.

> *We have an annual conference. We have practices, launches, evening drinks, networking, where we showcase what's working really well in the environment and provide opportunities for the industry to learn from their peers as well as safety in doing amazing work and then potentially being able to replicate with any new companies. (Inter.3, NGO)*

The professional knowledge and public relations held by NGOs are important resources to companies who care about their social and environmental images. NGOs can offer ***voluntary consultations*** to influence the decision makers to adopt SR by demonstrating the profitability of such practices.

> *[NGO name] because they provide them with options to be able to demonstrate their sustainability and a pathway to do it but within their economic framework. (Inter.22, consultant)*

NGOs also organized presentations or forums to stimulate the public's awareness. Through these ***educational activities***, communities and the public learn appropriate approaches to engage themselves for the concerned social and environmental issues.

> *People need to know the facts, so education is really important. They do need to become aware of it …We had this forum, and we gave a presentation where we showed them the slides. We showed them some facts about temperature and average temperature going up. (Inter.25, NGO)*

When the issues did not receive adequate attention, NGOs could raise the tension by ***putting***

pressures on governments or ***form a coalition*** with other powerful insittutions.

> *NGOs sometimes put some pressures on the government... They just come to the office, wave the figures and ask why there is so much pollution. (Inter.1, government)*

> *NGOs often come together with representatives from district council, and sometimes the journalists. So it was big problems for us. (Inter.1, government)*

4.2.3 Governments

The influence of governments was frequently mentioned by the interviewees. Governments are obliged to set the bottom lines regarding social and environmental issues. Through ***regulations and punishments***, governments enforce sustainable and socially responsible ways to conduct construction activities, such as environmental and social assessment, noise provisions, or environmental disclosures.

> *For example in the shopping mall or shops, disabled access should be provided. With the regulations, the investor will do according to the regulation otherwise you will see a lot of old buildings in Hong Kong without disabled access. Yes and the reason is they will have a disabled access or toilet because of they need to do so, according to the law or regulations. (Inter.17, main contractor)*

Governments also provide ***incentive policies*** to motivate developers to implement SR. Through such measures, the whole construction supply chain can be influenced, starting with changing the behaviors of investors and developers, then diffusing to contractors,

subcontractors, and suppliers.

> *It can be quite successful if a government can show there will be a benefit to the developer as he is the major party in the process. If they found that there will be benefit if doing the social responsibility they will do, and then they will affect the contractor, and the contractor affects the subcontractors. So the source of influence is the government policies. (Inter.18, investor)*

Another important influence by governments is the ***mediation*** with multiple stakeholders to resolve conflicts. Construction projects, especially in urban areas, inevitably cause disturbances to local communities and residents. To decrease such conflicts, governments often communicate directly and indirectly with the affected stakeholders before and during construction projects.

> *Governments will also use NGOs to communicate with local people. NGOs will ask whether they have any problems or need any help. Like there is an NGO for old people's care in areas we plan to develop. Many old people don't want to move away from their home. Then, the government and the developer decide to build a modern and cosier recreational center for them to host some elders and hold activities in another place. Then NGO helps the government and developer to communicate with the elders in the community. (Inter.2, Planning authority)*

Promoting stakeholder dialogue is also one of the influences of governments. By facilitating stakeholder meetings and public participation hearings, governments are responsible to provide a transparent environment for multiple parties to raise concerns and negotiate.

371 *We hold public engagement workshops many times since 2008 involving*
372 *NGOs, stakeholders, and community representatives (Inter.1, government)*

373 **4.2.4 End users**

374 Influences by individual house buyers and enterprise users were generated from the
375 interviews, but with relatively low intensity. End-users can influence the process by their
376 ***green purchase behaviors*** to motivate investors and developers to incorporate green and
377 sustainable features in designs, which will be passed on to contractors and subcontractors
378 down the supply chain.

379 *So they (consumers) create the demands for green. I only want to be in a*
380 *green building. When you've got that, then the developers have to react to*
381 *that, when the developer reacts to it, then the suppliers have got to react*
382 *to it, and all the way through. (Inter.16, developer)*

383 When the environmental standards of the buildings did not meet the expectations, consumers
384 can ***refuse to buy or rent the buildings***. Such a strategy by consumers is especially effective
385 in driving corporates to embed green features in their products (Henriques and Sharma,
386 2005).

387 *Many tenants just wouldn't come to a building that didn't make the*
388 *highest standard impacts because they want to be seen as achieving their*
389 *obligations and their duties as well. (Inter.4, Investor)*

390 **4.2.5 Developers and investors**

391 Developers and investor often implement their SR by integrating detailed social and
392 environmental requirements into ***contracts or tendering documents***. When main contractors'

behaviors deviate from the contract, developers can legitimately enforce the contract conditions to change.

> *These documents we've developed, so at the design phase when we engage in our architect and other consultants, we provide copies of all these and we entrench it contractually in the contracts to say, you know when you're designing this for…you must meet these requirements. (Inter.16, developer)*

Developers can also exert penalty to force contractors to make improvements when their work did not reach the sustainability standards, such as ***withholding payments***.

> *When there are some SR issues, the developer said we need you to fix them. There's an opportunity to fix if they don't. Then the results might be withholding money or doing it ourselves and again sort of withholding money. (Inter.10, contractor)*

4.2.6 Main Contractors

Main contractor is the most frequently mentioned stakeholder concept together with governments. Contractors need to obtain the "license to build" from local communities. Therefore, ***community engagement activities*** such as site tours or exhibitions are strategies used to gain legitimacy to build the projects.

> *Sometimes we set up some like a tour or sidewalk for primary school or secondary school students to understand the site we are doing…We let the residents understand the site area, what will happen and what we are thinking about and what we are doing. (Inter.8, contractor)*

When there is a conflict with profits, contractors cannot sacrifice investors' or shareholders' profits for SR investment. ***Negotiation*** with multiple parties is the most common strategy to seek a balance between project social, environmental, and financial goals.

> *We're trying to negotiate rather than going into that high tender, because when you go into that high tender, that's when a lot of these things develop because everyone is dollar driven, like we are sort of like under pressure to get the right performance from our financial point of view. (Inter.10, contractor)*

In a networked society, relational capital becomes increasingly valued by companies. To build long-term ***partnership and cooperation,*** companies often proactively collaborate with their clients' SR advocacy. This relationship-driven strategy is commonly exercised in the construction supply chain in driving the penetration of SR values.

> *I mean a lot of it is relationship driven and when we come to supporting the community and making donations I think a lot of the subcontractors that we work with, they are a big supporter of the things that we support as well. (Inter.10, contractor)*

Contractors also ***turn to governments*** for enforcement or regulation when the situations were out of their control. An example of this is when a main contractor was urged to regulate the uncivilized behaviors of the workers. Complaints reported by the local community could affect the reputation of the company. Even though the company had no controls on the workers in their off-duty hours, they felt legitimate to control the situations.

> *We just have meetings even with those government departments. The*

conclusion is they will have some officers come down to the road during the off-duty times like 5 o'clock to 6 o'clock, and they will make some charges on those workers who are misbehaving. (Inter.5, contractor)

4.2.7 Consultants

The concept of consultants standed out form the automatic concept map. Like NGOs, consultants also possess professional knowledge and experience on SR issues, but they practice different strategies. From the analysis, consultants influence developers by ***advising*** them to embrace SR measures by ***demonstrating the cost benefits*** and ***providing executive protocols***.

We do it through advice; we do it through advising developers. For example, I might sit on a consultancy with the developer looking to create a new office…so we are using the commercial reality of enticing him to have a Green star…Then they say, we want to use it. (Inter.11, consultant)

If we're responsible for running that project, we would definitely expect them to follow our processes and protocols. And we would induct them or provide them with written instructions around those. (Inter.9, consultant)

Some consultants supervise the project implementation on behalf of their clients, so they gain power and legitimacy to regulate the contractors' behaviors, by providing ***written requirements and monitoring*** the project activities.

Sometimes, we might have the operations and the maintenance contract for a mine for example. So, if that's the case, if we're responsible for running that mine and we bring in other contractors, we would definitely

expect them to follow our processes and protocols. And we would induct them or provide them with written instructions around those. (Inter.9, consultant)

4.2.8 Subcontractors, suppliers, and employees

Besides the above, several concepts of other stakeholders emerged from the transcriptions, including subcontractors, suppliers, and employees. These stakeholders were rarely found to influence others in regards to SR implementation. Subcontractors and suppliers often ***follow the main contractor*** in their SR initiatives to reinforce business relationships. Employees also ***follow the SR policies of their companies***.

A lady from the kidney foundation came for some prices to that and for a sensor… when she left on her run, 5 of our subcontractors that we work with all the time and sort of said, "Look this is the situation". I mean actually it was 6 because the 6 of them all putting in $1,000 and then we put $2,000 and that was the $8,000 that she needed … I mean again having that good relationship with suppliers and subcontractors helps us do that. (Inter.10, contractor)

Our employees do many small things such as voluntary services, they donate money for community, because the company encourages it. The company embraces it…now every employee gets one day off for voluntary leave, one day off you have that we'll pay for it, but you go and volunteer someway. We think that helper get spread the world. (Inter. 11 consultant)

480 ## 5. Results and Discussions

481 ### 5.1 The influence strategies by external and internal stakeholders

482 From the interviews, the external stakeholders include governments, NGOs, communities and
483 the public. The internal stakeholders are echelons along the construction supply chain from
484 end users, developers and investors, main contractors, consultants, subcontractors, suppliers
485 and employees. Table 3 shows a summary of the influence strategies adopted by the external
486 and internal project stakeholders.

487 *Insert Table 3 here*

488 To provide a holistic map, a network framework was developed by integrating the influence
489 flows between the stakeholders, and indicating their specific roles implied by the specific
490 influences (See Figure 2). The network shows that the influences that drive SR
491 implementation come from both external and internal influences. The external stakeholders
492 are the ones who set out the problems. They interact with each other to define SR issues and
493 use different strategies to put pressures on internal project stakeholders, mostly on developers
494 and main contractors, to take the issues into consideration. The internal stakeholders are
495 seeking solutions and innovative measures within their business framework to implement.
496 The internal driving forces come from the demands of end users and investors and
497 downwards through the construction supply chain.

498 *Insert Figure 2 here*

499 Among the external stakeholders, NGOs were found as an active promoter for social and
500 environmental issues, through lobbying governments, organizing initiatives for companies,
501 and educating the public, but with a relatively low rate of appearance from the interviews.
502 The identified influences by NGOs in promoting SR implementation were supported by

503 scholars. Hendry (2005) pointed out that lobbying is a non-specific and soft strategy that
504 NGOs use with all the other non-lobbying tactics. NGOs improved sustainable reporting
505 behaviors by mining companies through launching campaigns as reported by Deegan and
506 Blomquist (2006). From the findings, NGOs are likely to ally with governments and public
507 institutions to exert influence, which corroborates with Frooman and Murrel (2003).

508 Governments were mentioned most frequently in the interviews as a regulator, reflecting that
509 project stakeholders still consider SR as a reaction to regulatory requirements rather than a
510 proactive commitment. Meanwhile, mediating stakeholders' conflicts and facilitating
511 collaboration by governments were also identified from the interviews. This result
512 corroborates with Olander (2007)'s findings that governments play an important role to
513 balance conflicting stakeholder interests in construction projects. Steurer's (2010) claim that
514 SR was developed within a contemporary neo-liberal political economy as a means of
515 reducing governmental regulation in favor of collaborative co-governance. The results
516 support that governments' roles are currently under a transition from a regulatory role to
517 fostering partnerships and collaboration between business and public stakeholders (Albareda
518 et al., 2007).

519 Besides, communities were also an intense concept in the interviews. Their role can be
520 described as a claimant since construction projects usually disturb their living environments.
521 Indirect usage strategies, such as reporting to governments, are used when the communication
522 channel is lacking (Frooman, 1999). From the analysis, most of the aggressive strategies were
523 found performed by this group. It is important for project managers to identify and respond to
524 their needs proactively for avoiding these aggressive influence, especially in the
525 pollution-intensive industries (Jenkins and Yakovleva, 2006). Our evidence suggests that this
526 group usually remains indifferent until their benefits are at risk or damaged. To increase

527 public participation, it is noted from the results that NGOs is playing a role in educating the
528 public to be aware of social and environmental issues caused by construction projects.

529 Among the internal stakeholders, consultants were the second most frequently mentioned
530 stakeholders after main contractors. The semantic analysis shows a critical role of consultants
531 in promoting SR in construction projects. Developers are more likely to implement SR issues
532 that can be achieved within their financial plan (Othman, 2009). Consultants can use their
533 influence from professionals and expertise to propose SR measures and demonstrating the
534 economic feasibilities. When it comes to a conflict between cost and SR, consultants can
535 influence decision makers by suggesting the long-term benefits brought by the latter.
536 Consultants can also provide executive protocols and monitor the construction activities.
537 They can use forceful gestures such as a warning or penalty based on the legitimacy endowed
538 as the agents of developers.

539 Main contractors are the primary operators of SR measures, which was revealed as a top
540 concept from the corpus. We found, from the interview excerpts, that during stakeholder
541 meetings, contractors are more likely to reserve their opinions and follow the decisions of
542 developers. Also, contractors have motivations to do more than what is required to maintain a
543 good relationship with their clients. Further semantic analysis suggests that
544 relationship-driven is an essential influence for all supply chain stakeholders. Stakeholders
545 are driven by long-term business partnerships to share resources and information on SR. This
546 self-regulating mechanism lies in the core benefit of the SR concept (Sheehy, 2015).

547 Investors and developers are the primary initiators for SR. The two concepts were often
548 mentioned together, as shown in the concept map. They influence the behaviors of
549 contractors and subcontractors by integrating SR requirements into contracts or bidding
550 documents. It conforms with Jones et al. (2006) that the requirements of clients motivate SR

practices in construction companies. Sharma and Henriques (2005) found that the effects of such direct usage influence by investors cannot sustain since SR investments do not always have an immediate return. Higher social and environmental standards can cause increased tender price, costs, and extended time. It is suggested that instead of using contract-control, the best way to implement SR is through negotiations and partnerships between multiple parties to strive for a balance of conflicting goals, showing trust, benevolence, and sense of collaboration.

Project end users have a potential influence by exhibiting the demands and interests on SR features; however, from the interviews, such influence was only occasionally mentioned. As the upper echelon in the construction supply chain, end users' purchase behaviors are the fundamental driving force for developers to incorporate SR features in the design. We also found that most individual house owners/renters are more sensitive to price and less likely to care about societal goods. While the enterprise users show demands for SR features in the buildings, such as sustainability, the green certificate, and environmental disclosures.

5.2 The determinants of stakeholders' aggressive strategies

Adopting Co and Barro (2009)'s typology, we categorized the influence strategies identified from the interview excerpts into cooperative and aggressive forms (see Table 3). The results show that all stakeholders, regardless of being powerful or not, can use both cooperative and aggressive strategies under different conditions to promote SR implementation in construction projects. It is worth noting that, compared with aggressive strategies, cooperative strategies are more frequently adopted. It can be explained by the intrinsic nature of voluntariness and altruism of SR. When stakeholders want to influence others to follow their goodwill, it implies the inter-dependence, trust, shared objectives, and collective understanding that SR will bring long-term benefits for all.

575 The literature review indicated that power-dependence is the key determinant of stakeholders'
576 aggressive strategies. However, the aggressive influences that emerged from the semantic
577 analysis was mostly practised by less powerful stakeholders, including communities, the
578 public, NGOs, and the end users. These stakeholders held limited power to influence project
579 SR objectives compared with key players according to Lin et al. (2017b). As some examples
580 from the interviews, an NGO allied with the environmental department to force the
581 developers and contractors to recover the waterbody that they have polluted or stop the
582 construction work. A group of local representatives organized protests and online complaints
583 through social media to request for disclosure of environmental impacts. Also, we found that
584 the powerful stakeholders, such as developers and contractors, employed cooperative
585 strategies in most conditions.

586 From the analysis, we found that the statement that power can determine aggressive strategy
587 is parsimonious. This can be explained by the definition of power as the "ability" or
588 "property" to change the targets' behaviors, but not necessarily performed in a coercive form.
589 According to the resource dependence theory, the degree of power that held by a stakeholder
590 relies upon its resource-dependence relationship with the target (Emerson, 1962). When
591 stakeholders possess critical resources that the targets depend on, they have the power to
592 coerce desired behaviors; however, such coercion can also undermine the relationships
593 between the two parties. Boyd et al. (2007) reported that hard and coercive green purchase
594 strategy adopted by buying firms led to a negative impact on their suppliers principally
595 because it appears more like bullying rather than collaborating. Also, resource-dependence
596 relationships are changing depending on situations. For examples, NGOs rely on companies'
597 funds and supports to realize their appeals; therefore, they adopt cooperative strategies.
598 Meanwhile, NGOs can ally to enforce SR measures because they have access to the networks
599 and community trusts, which the successful project implementations must rely on (Jonker and

600 Nijhof, 2006). Also, the expertise and specialized skills held by NGOs are critical to
601 companies, especially when these resources are costly, inefficient, and time-consuming from
602 external sources (Peloza and Falkenberg, 2009).

603 SR is a concept that emphasizes on long-run, collaboration, and benevolence. Considering the
604 negative consequences on relationships, and the changing conditions of resource-dependence
605 relations, although some stakeholders have superior power than their target, aggressiveness or
606 coercion are not a preferred strategy. On the contrary, stakeholders with less power, such as
607 communities and NGOs, appeared to practice aggressive influences more often. When they
608 have claims, it also means their benefits were threatened or harmed, which cause distrust and
609 defensive gestures. With legitimate claims, the powerless stakeholders ten to find alliances or
610 external supports to increase their power.

611 Based on the analysis of the aggressive cases from the interview excerpts, this paper proposes
612 that legitimacy and urgency perceived by stakeholders can be alternative predictors for
613 aggressive strategies. According to Mitchell et al. (1997), power, legitimacy, and urgency
614 constitute the salience of stakeholders. The findings in this study extend this model by
615 positing that compared with power, legitimacy and urgency can better predict stakeholders'
616 potential aggressiveness. Institutional legitimacy, according to Tsai et al. (2005), is an
617 essential determinant of stakeholders' influencing strategy because, when the firms' action
618 has high legitimacy that meets social norms and expectations, stakeholders tend to adopt
619 conformity instead of using other influence strategies. According to Mitchell et al. (1997),
620 urgency can be reflected in two dimensions: 1) whether the issue is time-sensitive, and 2)
621 whether the issue is considered as critical by the stakeholder. The perceived urgency intensify
622 the conflicts between stakeholders.

623 Therefore, when stakeholders considered the issues as legitimate and urgent, they tend to use

aggressive strategy to enforce the relevant parties to respond. In contrast, if the SR issues were perceived as not urgent, or stakeholders have less legitimacy in their advocacy, a cooperative strategy is more likely to be adopted. This finding is consistent with Co and Barro (2009)'s finding that firms adopt aggressive strategies to implement urgent changes when they felt difficulty in conveying legitimacy, and the stakeholders are unlikely to collaborate. Stakeholders tend to choose cooperative strategies when they are mutually dependent, share the urgency to collaborate, and understand that the collaboration will bring benefits to all. Although the use of aggressive strategy sometimes may be necessary, it may lead to unintended effects and social costs. The findings proposed in this study can help managers to better understand and predict possible aggressive strategies.

6 Conclusions and implications

SR implementation in construction projects is a system in which each stakeholder is a component with irreplaceable functions. The unclarified roles of stakeholders in project SR is currently a research gap according to Zhou and Mi (2017)'s review. This research underscores such needs to identify the diverse roles of stakeholders based on their different influences. The main conclusions of the research were summarized to respond to the two research objectives.

From the interviews, governments and contractors were the most frequently mentioned concepts. However, based on the analysis, we suggest that NGOs play a central role in promoting SR issues in construction projects because they held better social networks, more flexibility, professional knowledge and expertise. From the interviews in both Hong Kong and Australia, we found that the Green Building Councils plays essential roles in launching green certificates and facilitating technology innovations. The research also revealed stakeholders' influences are changing along the project lifecycle. Governments can be a

regulator in project planning stage, but should play a neutral pivotal role among various contenders, to mediate conflicts and promote collaborative endeavors during the construction. Contractors influences were mostly observed during construction stage, while consultants, developers, and investors were found influential in the planning and design stage. Also, the research reveals that long-term business partnerships and collaborations in construction supply chains can be an effective way of promoting proactive SR implementation. Private organizations are often striking to seek a balance between shareholders' benefits and the companies' development. We also suggest that consultants should play a key role by using their professional power to promote cost-effective measures in project planning and design, such as environmental materials, energy-saving and green building technologies.

The research further proposes that both powerful and powerless stakeholders in construction projects can adopt aggressive strategies when they perceived the issues under concern are urgent and critical, and they are legitimate to practice influence. Powerless stakeholders, such as communities and end users, are more likely to adopt the aggressive strategies, because their power disadvantages can cause distrust and heightened tension in the relationships. Therefore, project managers should not only evaluate the stakeholders based on their general salience, but also understand their concerned issues and perceived situational factors. Also, from the analysis, it shows that the cooperative strategies were adopted more often compared with aggressive ones, especially by the powerful stakeholders, such as contractors, developers, and governments.

This research moves from the dyadic relations of stakeholder analysis to a network framework. According to Provan and Kenis (2008), a shared governance network that all the involved actors take equal responsibility to govern themselves can increase communication, equality, and innovations, leading to higher resilience of the system. By this preliminary

672 research, we cannot conclude that shared governance is an effective structure for SR
673 implementation. Nevertheless, it shows instead of a single central controller; all stakeholders
674 should take a unique and indispensable part in the network. For shared governance to work,
675 we need to enhance the communication channels, transparent environment, and trust among
676 multiple stakeholders to perform their roles.

677 This research is not without its limitations. The geographical limits of the interview sample
678 reduce the generalizability of the findings. Although stakeholder influences can be different
679 as social, political, and cultural environments vary (Doh and Guay, 2006), there are still some
680 common patterns that can be of value for project management across regions. This research
681 can be a good starting point for identifying these commonality, future in-depth studies are
682 needed in comparing different stakeholder influence strategies under diverse social, economic,
683 and political environments.

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Appendix: The Interview Protocol

A. Background

1. What is your position in this company?
2. How long have you been 1) in your present position? 2) at this company?

B. CSR practices

3. Can you tell me about your company's policies on CSR? What CSR issues are mainly included?
   Probes: OHS, Environment, Community impacts, Philanthropy
4. How is your work related to CSR? How do you define CSR?
5. To what extent do legislative regulations, i.e. EIS or SIS, fulfil CSR? Is the word CSR being replaced?

C. CSR in the upstream echelons

6. Who do you think are included in the upstream echelons in the construction supply chain?
   Probes: builders, suppliers, subcontractors, consultants, advisors
7. How do you communicate your CSR values to these upstream echelons?
   Probes: documents, emails, meetings
8. What strategies do you use to influence or motivate them to implement CSR? Or how have your company been influenced by the upstream echelons?
9. Have you ever collaborated on any CSR issues?
10. Has your organisation been blamed for the misconducts or weaknesses of the upstream companies?
    Probes: low quality materials, unskilled labours, environmental unfriendly design
11. What are the aspects that mainly hinder you from integrating CSR in the upstream chain?
    Probes: communication, collaboration, deputes, financial issues

D. CSR in the downstream echelons

12. Who do you think are included in the downstream echelons in the construction supply chain?
    Probes: developers, property management, end users, facility management companies.
13. Can you tell me how does your company communicate your CSR values to the downstream echelons?
    Probes: advertisements, publications, reports, labels, public media
14. In what ways does your company influence them to implement CSR? Or in what ways do the downstream echelons influence your company?
15. Are there any CSR programs that show the collaboration between your company and the downstream echelons?
16. Has your organisation been blamed for their misconducts or weaknesses?
17. What are the aspects that mainly hinder you from integrating CSR in the downstream echelons?

E. The pressure stakeholders

18. Usually what are the primary pressure groups that drive your company to perform CSR practises?
19. In what approaches do the pressure groups usually exert their influence?
20. How does your company response to the pressures?

914 **Tables and Figures**

915 **Table 1** the detailed information of the interviews

No	Region	Stakeholder groups	Work experience (years)	Positions	Time length (mins)
1	HK	Government	6.5	Site supervisor	22
2	HK	Planning authority	16	Committee member	38
3	HK	NGOs	4	N/A	27
4	HK	Investor	25	Investment director	33
5	HK	Main contractor	4	Assistant engineer	37
6	HK	Main contractor	16	Project manager	46
7	HK	Main contractor	5	Vice project manager	29
8	HK	Main contractor	20	Senior manager	24
9	HK	Consultant	4	Safety supervisor	22
10	HK	Main contractor	18	Senior manager	30
11	HK	Consultant	6	N/A	23
12	HK	Developer	20	Commercial manager	22
13	HK	Developer	2	Planning officer	24
14	HK	Developer	20	Project manager	49
15	HK	Developer	20	Safety manager	25
16	HK	Developer	2	Designer	23
17	HK	Main contractor	16	Quantity surveyor	46
18	AU	Investor	10	Department head	36
19	AU	Consultant	15	Research director	43
20	AU	Developer	10	Regional director	24
21	AU	Main contractor	26	Managing director	28
22	AU	Consultant	7	Senior consultant	34
23	AU	Consultant	8	PR officer	37
24	AU	Consultant	8	Sustainability leader	22
25	AU	NGOs	5	Research manager	23

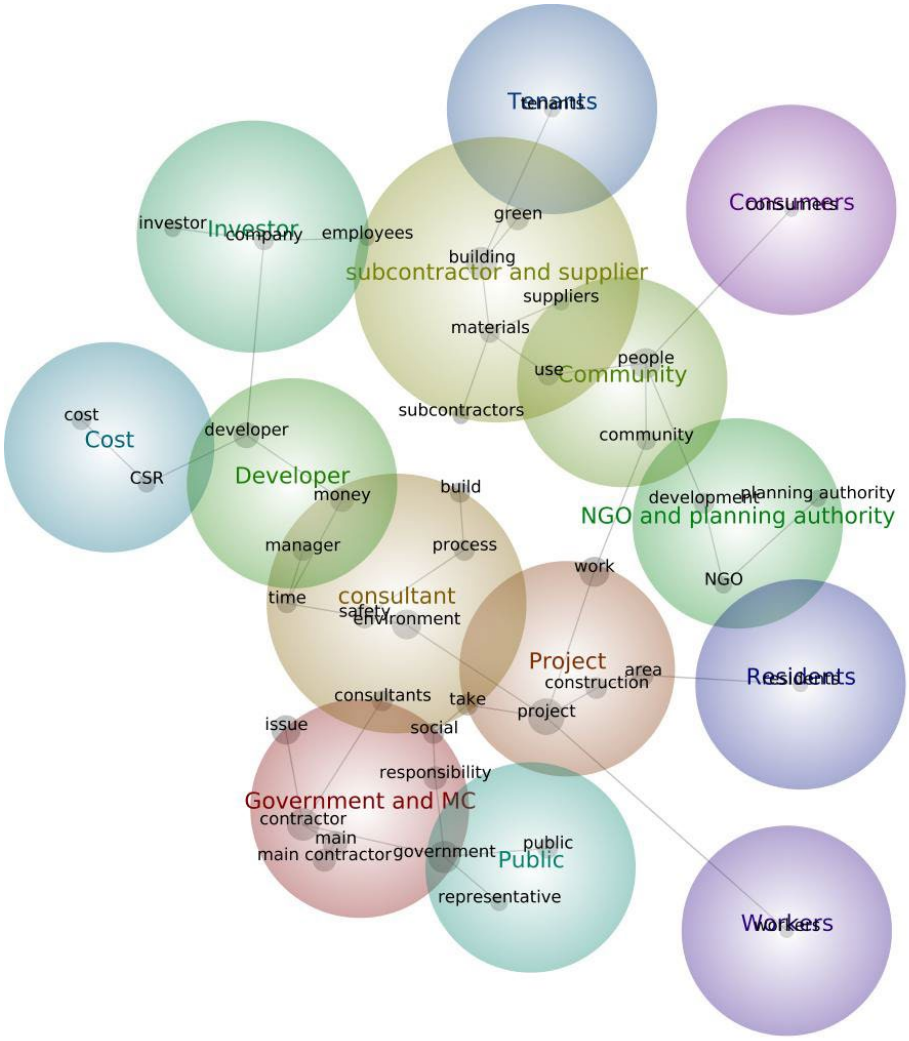
916 *HK is abbreviated for Hong Kong, AU is abbreviated for Australia

917

918

Table 2 the themes and concepts generated from the interview corpus by Leximancer

Intensity ranking	Themes	Encompassed concepts
1	Project	Project, construction, area, work
2	Government and main contractor (MC)	main; contractor; main contractor; government; social; responsibility; issue
3	Consultant	Environment; safety; consultant; take; process; build; time; manager; money
4	Community	People; community; use
5	Subcontractor and supplier	Green; building, materials, suppliers, subcontractors, use
6	Developer	Developer; money; manager
7	NGO and planning authority	Development; Planning authority; NGO
8	Investor	Investor; company; employee
9	Cost	Cost; CSR
10	Public	Government; public; representative
11	Tenants	Tenants
12	Residents	Residents
13	Workers	Workers
14	Consumers	Consumers



925
926 **Figure 1** the concept map of the interview corpus generated by Leximancer

Table 3 stakeholder influence strategies induced from the interviews

	Stakeholders	Influence targets	Aggressive strategies	Cooperative strategies
External stakeholders	Communities and the public	Governments Developers and investors Main contractors	Complaints or protests, reports to governments	Representative meetings
	NGOs	Governments Developers and investors Main contractors Communities and public	Putting pressures on governments, form coalitions	Lobby or appeals, SR campaign, voluntary consultations, education activities
	Governments	Developers and investors Main contractors Communities and public	Regulations and punishments	Incentive policies, mediation and reconciliation, promoting stakeholder dialogue
Internal stakeholders	Developers and investors	Main contractors Consultants	Payment withholding	Requirements in contracts or tendering documents
	Main contractors	Subcontractors and workers	Turn to governments for regulation	Negotiation, relationship-driven, community engagement activities
	Consultants	Main contractors Developers and investors	Written instructions, monitor	Professional advice, demonstration of financial feasibility, executive protocols
	End users	Developers and investors	Refusal to buy or rent	Green purchase behaviors

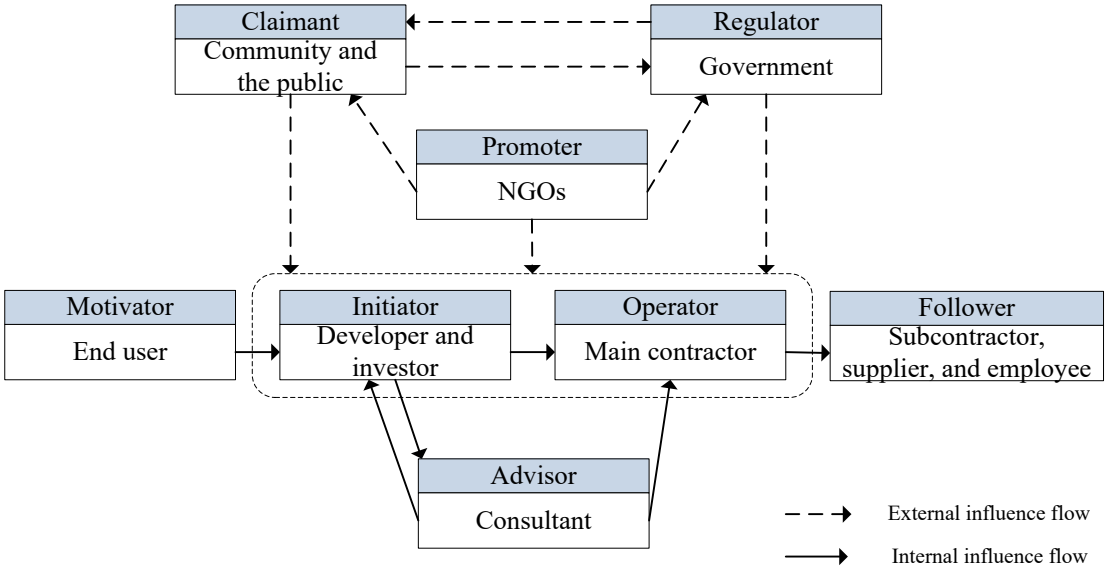


Figure 2 Stakeholder influence map on SR implementation in construction projects