

Construction Health and Safety Self-Regulation in Developing Countries: A Nigeria Case Study

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The study reported in this paper explored the self-regulatory approaches in terms of health and safety (H&S) in the Nigerian construction industry and the attitudes of the industry towards H&S self-regulation. This stems from the premise that the Nigerian construction industry has been viewed as unregulated, but evidence in literature indicates that some parts of the industry are self-regulated in various forms. However, it is unclear how self-regulation occurs in the industry, its approaches and the attitudes of the industry towards it. Based on group and individual interviews, there is evidence of self-regulation that is: enforced, industry-led, voluntary, H&S crusader-led, client-led and community-led. It was revealed that in many cases, when self-regulation is voluntary, the self-regulatory process does not exceed the first stage of self-regulation, adopting or developing standards. The attitudes of the industry towards H&S self-regulation can be described as not limited to “camouflage,” “convenience,” “context-defined,” “secondary,” “unstructured,” and “tick box.” However, there are some in the industry that have a favorable attitude towards H&S where it is “primary” in their organization. The understanding of self-regulation and H&S is advanced in this study, especially in developing countries, which policymakers, socio-legal scholars, practitioners, academics, and various industries may find beneficial.

Keywords: Approaches, attitude, construction, health and safety (H&S), Nigeria, self-regulation

Introduction

Notably, the construction health and safety (H&S) records of developing countries are evidenced as poor (Idoro, 2008; Idoro, 2011; Kheni et al., 2006). Their H&S regulatory environments are characterised with inadequate enforcement and poor implementation of H&S laws (Kheni et al., 2006) and inadequate H&S laws. In particular, in Nigeria, the industry is not covered by any local H&S law (Idoro, 2011; Umeokafor, et al., 2014). Consequently, some construction contractors in Nigeria adopt and administer H&S standards from developed countries (Idoro, 2008; Idoro, 2011), and/or the National Building Code of 2006, which is yet to receive legislative backing (Omeife & Windapo, 2013). Additionally, the oil and gas industry sets standards that its construction contractors, *inter alia*, must adhere to. As a result, Umeokafor and Isaac (2015) argue that based on the premise of self-regulation, the aforesaid activities in the Nigerian construction industry is self-regulation in various forms. This is where H&S self-regulation is the practice where organisations and/or industries develop, adopt and administer programs, standards and policies with little or no external intervention (Anderson & Russell, 2011; Castro, 2011; Gunningham, 2011; OECD, 2015). However, understandably, previous studies such as Idoro (2008, 2011), Umeokafor et al., (2014) view the industry as unregulated because the local H&S law does not cover construction sites and its activities. This suggests that H&S regulatory issues have been addressed only from a state regulatory dimension, overlooking the self-regulatory dimension and creating a gap in knowledge. While self-regulation is noted in studies to improve H&S (Finger & Gamper-Rabindran, 2013), it is, however, reported in Wall and Dyson (2002) to have failed in small firms in New Zealand.

The background established so far informs this study, which seeks to advance the understanding of construction H&S self-regulation in Nigeria. This paper is a part of the empirical evidence in an ongoing research that analyses the attitudes of the Nigerian construction industry towards H&S self-regulation, the various approaches to H&S self-regulation including how they occur. It does not examine the effectiveness of H&S self-regulation in the Nigerian construction industry nor does it investigate its impact on H&S performance. In synthesizing literature, construction H&S in Nigeria and its regulation, and the concept of self-regulation are covered.

Literature review

Construction health and safety in developing countries

It is noteworthy that developing countries face significant H&S challenges (Farooqui et al., 2008; Idoro 2011; Kheni et al., 2006). In particular, there is a lack of systematic procedures for H&S, and owners/stakeholders in construction companies are not committed to H&S (Farooqui et al., 2008). The lack of commitment from owners/stakeholders then result in lack of commitment from contractors (Farooqui et al., 2008). Authors note that the poor regulation of H&S in the Nigerian construction industry results in a lackadaisical attitude towards H&S (Umeokafor et al., 2014). Consequently, accidents are under-reported in developing countries such as Nigeria and Ghana (Idoro, 2008; Kheni, et al., 2006) and little resources are allocated to H&S (Idoro, 2008). The construction environment in developing countries does not help matters as corruption, insecurity, and poor safety culture impact on construction H&S practices (Umeokafor, 2015).

Regulation of construction health and safety in Nigeria

The construction H&S regulatory environment of Nigeria is fragmented in that the activities of various institutions cut across the industry. For instance, the National Environmental Standards and Environmental Regulations Enforcement Agency (NESERA), is charged with overseeing environmental safety such as noise standards, demolition. The Factories Act CAP FI L.F.N 2004 is the local H&S legislation covering factories in Nigeria. It empowers the Inspectorate Division of the Federal Ministry of Labour and Productivity to enforce the law. However, Article 87 of the aforementioned law means that construction sites and their activities are not covered by the law and are thus unregulated (Idoro, 2008). This, among many, has prompted individual efforts in tackling H&S challenges in the sector. In particular, construction contractors adopt or develop and administer H&S policies, standards and programs, from developed countries (Idoro, 2011). This can be on a voluntary basis or due to policies from their foreign parent companies (Umeokafor & Isaac 2015). Additionally, the construction sectors of the 36 states of Nigeria adopt the National Building Code of 2006 that is yet to receive legislative backing (Omeife & Windapo, 2013). The code sets the minimum standards, including safety standards in the building industry. While the oil and gas sector also sets H&S standards for all in the industry, including construction contractors (Umeokafor & Isaac, 2015), the safety issues in Lagos state of Nigeria, including its construction industry is overseen by the Lagos State Safety Commission (Lagos State Safety Commission Law, 2011). However, the extent of state involvement is unclear. Nonetheless, the fact that the state, out of the 36 states in Nigeria is voluntarily regulating safety issues in the state may be considered a kind of self-regulation. Therefore, based on the description of

self-regulation, elsewhere in this paper, the Nigerian construction industry is self-regulated in various forms and not unregulated (Umeokafor & Isaac, 2015).

Self-regulation

Self-regulation takes the form of the general regulatory process (Figure 1). From a self-regulatory perspective, Regulatory Instruments (RI) are conceptualized in this study to be standards, best practices, code of ethics or conducts, policies, and programs (Figure 1). In Figure 1, RI are created by the industry and/or organizations or professional institutions (or in any combination) who go on to monitor its compliance and implementation, enforcing them (Castro, 2011; OECD, 2006). It is also possible to review the entire regulatory process.

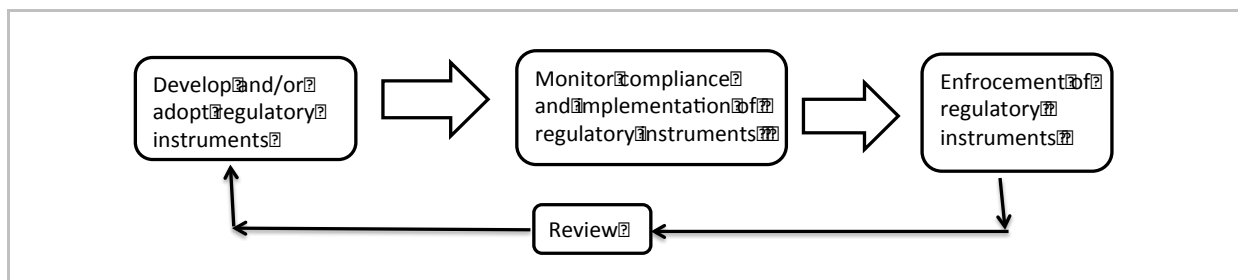


Figure 1: Self-regulatory process. (Modified from Castro, 2011)

The use of self-policing in achieving compliance in self-regulation is noted in Castro (2011). It can be through voluntary self-policing where the industry or professional institutions encourage voluntary detection and reporting of a violation through means such as reduction of fines (Castro, 2011). There is, however, an overlap at the individual and small organization level, when it comes to internal policies.

Self-regulation is flexible, involves the regulated and gives them a sense of belonging. Thus, it is tailored to the industry and consumer issues (Anderson & Russell 2011; OECD, 2006) and various circumstances (Hutter, 2001). In addition to being an effective regulatory means (Anderson & Russell, 2011; OECD 2006), it addresses cost-related issues and reduces the burden on the state (Hutter, 2001). Above all, it can achieve a higher level of compliance (Anderson & Russell, 2011). Consequently, it is viewed as more effective than the command and control regulation. However, there are limitations to self-regulation. Indeed, the extent of government involvement or other external involvement may result in conflict (Gunningham, 2011). Also, one of the parties in the regulatory process may pursue the interest of their members (OECD 2006) over the goal of the regulatory process.

Overview of approaches to self-regulation

Self-regulation varies from industry to industry, country to country. A manifestation of self-regulation is in the combination of private and public regulation (Castro, 2011; Gunningham, 2011; Hutter, 2001; OECD, 2006). This dual party involvement in regulation is conceptualised as co-regulation (Castro, 2011; OECD, 2006; 2015) where it involves governmental involvement in the regulatory process. For example, this can be between the industry and the government (Castro, 2011; OECD, 2015) or between the government entities and other stakeholders, and the industry (OECD, 2015) or between the state and firms. While the state and industry can be involved throughout the regulatory process, the state may set standards for the companies who then devise means of compliance and monitoring- enforced self-regulation (Hutter, 2001). Similarly, Gunningham (2011) notes a case of mandatory self-

regulation, where firms or industries set the standard and enforce them, but the state approves the process and monitors the regulatory process. OCED (2015) reports this as co-regulation. In the current study, the above three are viewed as enforced self-regulation. This is in addition to the situation where construction contractors are forced to self-regulate because they are bound by the H&S policies of their foreign parent companies.

The extent of governmental involvement and legislative backing in enforced self-regulation differentiates it from pure self-regulation (see: OCED, 2006). Pure self-regulation (Gunningham, 2011) or non-state regulation (Castro, 2011) or self-regulation (OCED, 2006) involves the voluntary administration of the regulatory process in Figure 1 with no external involvement. This pure self-regulation can be at industry level - industry self-regulation (Anderson & Russell, 2011; OECD, 2015) or at firm level. Under industry self-regulation, the industry or a group of firms set or agree on rules and standards, monitor and enforce compliance (OECD, 2015).

Methodology

The qualitative approach to research is adequate and efficient in answering “what,” “how” and “why” research questions (Eriksson & Kovalainen, 2008), and the study should focus on complex social phenomena (Isaacs, 2014), seeking to understand the phenomena through the eyes of the study population. As the research questions of this study meet the requirements of a qualitative study, semi-structured face-to-face and telephone interviews of thirty-seven participants and a focus group discussion (FGD) of seven participants were conducted.

Noteworthy, qualitative research raises validity, reliability and transparency issues, so investigators should take steps to address the above, ensuring trustworthiness in the research (Umeokafor, 2015). Correspondingly, the following steps were completed. For instance, using two data collection methods (interviews and FGD) to address the same research question (i.e. triangulation) was to ensure validity and trustworthiness in the data (Dainty et al., 1997; Denzin, 1978). Additionally, as will be seen below, interview data was collected from two sources, that is, from members of the construction supply chain and from key informants. This is also another method of triangulation (Denzin, 1978). Other steps to improve the trustworthiness in the research include peer reviewing the data collection instrument on stakeholders in the Nigerian construction industry and academics who are experts in construction and/or H&S. This is in addition to piloting the study on the Nigerian construction industry and revising it before the main data collection process. Furthermore, the transcripts of the interviews were also sent to the participants that signified interest in validating the transcripts. On receipt of their comments, the transcripts were revised. This ensures that the views of the respondents are captured. Lastly, peer debriefing was also adopted where the principal investigator worked together with not only the co-author but also other impartial colleagues, discussing aspects of the study, *inter alia*, the methodologies, the views of the authors.

In the reported study, the participants are members of the construction industry supply chain both in the formal and informal sectors, for example, suppliers, quantity surveyors, engineers. It also involved key informants with direct or indirect association with the industry or who have worked with or for the Nigerian construction industry, for example, a lawyer, an insurance practitioner (see the result section for more details). Both in the interviews and FGD, the atmosphere for data collection was considered, ensuring that it was convenient and

safe for the participants and investigator (Isaacs, 2014). Convenient atmospheres make research participants (e.g. interviewees) relaxed; creating an atmosphere that will make them speak freely (Isaacs, 2014). This resulted in conducting some of the interviews telephonically on the request of the participants. Additionally, as the principal investigator is from a university abroad, the participants may not be eager to provide some information just to avoid tarnishing the image of the country. On the other hand, it is possible that they will tell the investigator what they believe the investigator would like to hear just to please them. Consequently, as the principal investigator is Nigerian and has worked in Nigeria for many years, he created an atmosphere that would make the participants understand that he was or is part of the Nigerian construction industry, demonstrating his understanding of the “Nigerian culture.” Language was not a problem, as all the participants had an acceptable understanding and command of English.

Prior to the interviews and FGD, introductory letters were sent the participants’ organizations (by email and/or in person) introducing the research project and the investigators to them. In the letter, the participants were also informed of the following:

1. How the information they provide will be used and how it will be stored.
2. That they can withdraw from the interview or FGD at anytime. This includes their rights to request that the information be withdrawn after two months from the day of the interview or FGD.
3. Their rights to anonymity.
4. The expected duration of the interview and/or FGD.
5. That the FGD and/or interviews will only be recorded with their permission.

FGDs can offer insight on views from a group context, showing how the group agrees and disagrees on various matters. The principal investigator facilitated the FGD, and it lasted for about two hours. Before the FGD, the participants were reminded of the ethical steps in the above paragraph. The FGD then started with a self-introduction of the facilitator and the scope and objectives of the FGD. This was then followed by the basic rules of the FGD. The study was also introduced to the FGD participants. The atmosphere was then made lively with icebreakers, local jokes and brief discussions of burning issues in the Nigerian construction industry and Nigeria. The participants then had the opportunity of introducing themselves to each other. The facilitator then explained the concept of self-regulation to the participants. The participants were then introduced to open-ended questions so as to simulate discussion. These questions covered:

1. Their roles, association or relationship with the construction industry.
2. H&S self-regulation in the Nigerian construction industry and/or their organizations where applicable, including how it occurs.
3. How their organizations and/or the industry views H&S self-regulation, including the attitudes of their organizations and/or the industry towards H&S self-regulation.

Typically, questions on the attitudes of the industry towards H&S self-regulation such as the reactive attitude of the industry towards H&S self-regulation, H&S being viewed as responsibility of a certain sector or group in the industry, and open questions on how their organizations and the industry view H&S self-regulation were among the questions. Similarly, the various types of self-regulation as found in the literature review and how they occur were also topics in the FGD, including industry self-regulation and pure self-regulation. These respondents had to sufficiently describe their experiences to support their

claim for any type of self-regulation. At the end of discussing each question, the facilitator noted the excerpts of the discourse. Then at the end of the FGD, the facilitator read the summary of the excerpts to the participants who validated them. The facilitator then concluded by explaining to the FGD participants the importance of keeping the discussion confidential.

For the interviews, the participants' knowledge and understanding of H&S and construction were first assessed and if adequate, the other questions were then asked. These questions cover those asked in the FGD above. Just like in the FGD, the interview participants were reminded of the ethical considerations of the study as earlier stated; for example, anonymity, data protection and the option of discontinuing the interview.

In addition to recording both the FGD and interviews, notes were also taken during the sessions. During the transcription, notes were also taken and these notes were factored in during the analysis. Using NVivo for mac, the data were analyzed in convergence. The analysis first started with reading the transcripts many times to have a good understanding of the data. The analysis involved analyzing the data without the framework first (i.e. the types of self-regulation), seeing how it fits into the framework, (which is outcome-based) before using the framework (which is systematic), thus reducing subjectivity and bias and improving the trustworthiness of the research. This is evident in the results as themes that are outside the framework (i.e. the types of self-regulation) emerged (see Table 2). The themes that emerged from the FGD and interviews are presented below.

Results

Demographic information of the respondents

The interviewees were made up of informants with direct or indirect association with the construction industry. For example, employees of institutions or organizations whose activities cover safety in the industry, an insurance practitioner, members of trade association, and a lawyer. Participants from the construction supply chain include: subcontractors, H&S consultants and employees of public construction agencies. Others included: engineers, project managers, architects, H&S managers and quantity surveyors from consultancy firms and/or contracting firms. From the informal sector are: builders, engineers, and clients. The FGD of seven participants included a civil engineer, a sub-contractor, a supplier, one client, a trade association member, one H&S officer, and a main contractor. All the respondents had a minimum of five years work experience in or with the Nigerian construction industry. The participants from construction firms are from public institutions, multinational and indigenous firms, where many from Small and Medium Enterprises (SMEs) are owners/manager and trained construction professionals.

Attitudes of the industry towards health and safety self-regulation

It is vital to define or describe the themes in Table 1 showing how the evidence supports or warrants the themes. First, "camouflage," this is about pretense, deception or motives to hide the truth. In other words, it is not what you see that really happens, it is about window dressing. For the theme, "secondary," evidence shows that H&S is treated as less important than other things. For the theme "enforced," evidence shows the attitude that the organizations and/or the industry must be forced to self-regulate. For "context-defined," the

attitude here is that the context determines the level of involvement, if self-regulation takes place and quality of H&S self-regulation. “Tick box”: the attitude here is to fulfill the requirements. “Responsibility” manifests in two ways: viewing H&S as a responsibility thus will self-regulate; shifting the responsibility to another party. The theme “convenience” shows the attitude of self-regulating when it only involves little trouble or little effort. Those classified under “primary” are those that suggest H&S self-regulation as very important; it is high on the priority list. Lastly, for the theme “unstructured”, the attitude here is that H&S self-regulation is perceived and practiced unsystematically; it is not planned and it is unorganized.

Table 1 shows “camouflage” where some SMEs pretend to self-regulate to get contracts or because of clients and/or the industry (e.g. oil and gas), after which, they will “water down” the H&S self-regulatory process or revert to normal practices. However, some continue to self-regulate afterwards. There was no consensus on the latter during the FGD. Further, the FGD and interviews revealed that some multinationals also “water down” standards compared to what obtains in their parent countries. According to an H&S crusader and consultant, construction companies including multinationals do not accept their offer of assistance for H&S support; they rather engage in ostensible H&S so that people will see them as safety conscious. The respondent stated:

“Requests for assistance from construction companies, including large contractors are very little. What they just do in the real sense is that when they are building structures, building roads or building bridges they just have somebody there to look like there is health and safety presence. They put some cones and signs on the road. Health and safety goes beyond those signs... and cones they put on the road.”

Although the contractors may not see any need for assistance, thus will not ask, the above quote appears to show pretentious attitude. During the FGD and interviews, there was a consensus that the attitude of many construction contractors towards H&S self-regulation is “window dressing” (Table 1). Some even set up temporary H&S departments just to secure the contracts. One civil engineer stated:

“Well, I will use my own company as an example. When we are vying for all these government projects, we always create a fake safety department. It does not really exist; it is for us to get the job so that when they come for inspection they will see that we have everything required, that we have taken all the measures. We now present to them a safety department with a (fake) safety manager who will now tell them how we are going to ensure that we take safety precautions while doing the job. I believe all or most of these construction companies are like that.”

According to the above respondent, the civil engineer, prior to doing the above, they must have adopted some H&S laws, implementing some to some extent. Another H&S manager from a multinational confirmed the above stating he has been invited on many occasions by some smaller firms to act as an H&S officer, setting up a temporary H&S department and only to leave once the contract is awarded.

Equally important is the understanding that constant H&S self-regulation is mainly for the large construction firms (i.e. responsibility: Table 1) and only to be done by small or medium firms when there is an incident (“secondary”: Table 1) or when they are forced to (“enforced”: Table 1). The respondents mostly opine that the reactive understanding to self-regulate (i.e after the direct and indirect implications of incidents) mostly occur among SMEs

(Table 1). The quote below supports the above- the themes “responsibility” and “secondary.” One of the respondents stated:

"They (SMEs) don't take it (H&S) seriously until the accidents happen... it is only in the large construction companies like Berger, Dantata and Sawoe, Strabag, where it is already part and parcel of the organisation to self-regulate. Apart from those foreign companies operating in Nigeria, you hardly see indigenous companies having H&S. In fact, it is seen as only the responsibility of large firms or what only large contractors can do."

While the above shows that H&S self-regulation is secondary and viewed as the responsibility of a particular category in the industry (Table 1), there was consensus during the FGD and interviews that businesses self-regulate in various forms as will be seen in Table 2. Where companies self-regulate, in some cases, there is “top to bottom” approach where the management is highly interested in H&S and even chairs the H&S departments or program. The aim in some of these organizations is to have a strong H&S culture in the organization. Thus, engaging the workers in H&S, training them where and when need be. Basically, the attitude towards H&S here is that it is “primary,” a priority to the organization (Table 1).

Table 1

Summary of the attitudes in the industry towards H&S self-regulation.

Themes	Evidence
Camouflage	Pretentiously adopting some standards that will show the public we are self-regulating, but not really adhering to those that the public will not see. SMEs: Window dressing: putting procedures that make us appear like we self-regulate so that we can get contracts, but only to return to normal practices after we win the contract. Adopting some standards that will make us appear to take H&S seriously just to keep the workforce happy.
Secondary	H&S self-regulation is at convenience. Reactive understanding and attitude because of issues such as incidents. Not an integrate part of company policy. One of those things to be done after doing the main things.
Enforced	Both respondents from multinational and indigenous firms note points relating to/on H&S self-regulation as only enforced.
Context-defined	Multinationals do not maintain the standards from their parent company when in Nigeria – the construction environment determines the thoroughness of H&S. Self-regulation is only done in the oil and gas, banking, telecommunication sectors; in Lagos state; and oil producing states. The type of client or project defines the quality of the H&S procedures or strategies in the projects.
Tick box	There is evidence of the attitude of self-regulating to satisfy requirements or conditions without considering its efficiency or reading meaning to it. For instance, self-regulating to meet the: conditions of prospective contracts; requirements of the industry; norms in a geographic location.
Responsibility	Viewing causal workers as not their responsibility and only covering permanent staff in self-regulatory programs. Some owners/managers view self-regulation as a favor to the society, and not a responsibility. H&S is a responsibility of all in the industry. Self-regulation is the responsibility of the government and/or the industry. Self-regulation is a: top to bottom approach; bottom to top approach. Only large contractors or the oil and gas sector, or banking sectors have a responsibility to self-regulate.
Convenience	Self regulate where and when convenient. Avoiding self-regulation where possible. Adopting, implementing standards based on affordability.
Primary	Adopt, administer and enforce H&S standards, programs or polices from developed countries as a core objective of the firms. Owner/manager leading H&S self-regulation. Employees and management participation in self-regulation as a priority.
Unstructured	Self-regulation is not a thought process. It is informal and unsystematic. It is only considered during the construction stage, neglecting the other stages. It is uncoordinated; you do it as you like. H&S self-regulation is unplanned.

Furthermore, there is a mixture of various philosophies of self-regulation or simultaneous approaches to self-regulation in companies. This can be where an organization engages in industry self-regulation in a project(s) and in another type of self-regulation in other projects (context-defined: Table 1) with different levels of involvement or thoroughness. The project or the location of projects or the clients determines if the organization will self-regulate or not. The main point here is that it is context-defined (Table 1). Typically, a respondent stated:

“We operate with wisdom here because the way you operate in Shell, if you adopt the same method with the federal government, you will lose the contract. The way you operate with the federal government, if you try to adopt the same method with a small private client, you will lose the client so sometimes you have to follow everybody the way they are and the only thing is that as professionals, even though there are no policies for monitoring us on site, on our own we should try to be safety conscious or self-regulate”

To conclude, Table 1 shows that there are both favorable and unfavorable attitudes towards H&S self-regulation in the Nigerian construction industry. For instance, the theme “primary” is favorable, but the themes such as “camouflage,” “secondary” are unfavorable.

On a different point, evidence suggests that many construction businesses, excluding large contractors tend to concentrate on less effective strategies in the hierarchy of risk control (i.e. personal protective equipment (PPE)). Additionally, so many of the respondents directly or indirectly used PPE as a standard of comparison for H&S.

Types of self-regulation

Table 2 shows the types of H&S self-regulation found in the study. It is vital to remember that some types of self-regulation have been described elsewhere in this paper. However, there are efforts to describe some in Table 2 that were not earlier covered, showing how the evidence warranted the themes.

In addition to Table 2, there are some other significant findings. The size of firms was viewed to highly determine the types of self-regulation that occur in the industry and how they occur. There is evidence that small businesses rarely self-regulate, when they do, it is informal and/or unsystematic and simplistic or enforced, but the medium firms differ as seen below. Most large construction firms are enforced to self-regulate.

H&S crusader-led regulation (Table 2) may be as a result of an organization voluntarily approaching the H&S crusader for support or the H&S crusader naming and shaming the organizations, after covert or overt inspections by the H&S crusader.

The role of clients in H&S self-regulation is also well noted in the interviews (client-led/enforced: Table 2). From the FGD and interviews, the client is at the forefront of H&S, specifying the standards or insisting that H&S standards or programs are adopted, enforced and monitored. The interviews showed that these clients range from international to local clients but the FGD shows that these clients are mainly international clients. In the interviews, there is evidence that local clients can be individuals with high level of H&S awareness. They can also be individuals: who have worked in the oil and gas industry; who are educated; who are very wealthy.

Table 2

Summary of types of H&S self-regulation

Types of self-regulation/themes	Evidence
Voluntary/pure	Voluntary adoption and administration of H&S standards and policies based on affordability. Collective development and implementation of H&S strategies and measures in the absence of H&S department in SMEs. Voluntary structured development, implementation and administration of H&S policies in both SMEs and Large firms.
Client led/enforced	Clients specify that contractors adopt H&S standards, allocate funds and in many cases enforce and monitor the implementation.
Industry	Contractors adopt and administer existing standards in oil and gas or banking or telecom sectors. Oil and gas companies and banks audit the H&S records of contractors prior to the award of contracts; they then go on to monitor and inspect the H&S standards in the projects.
Mandatory/enforced	Chain effect: Multinationals set standards that medium firms meet because they (the multinationals) have to meet standards set by their international parent companies. Standards set by regulatory authorities such as NESREA are met, through strategies developed by organization. Parent company policies from abroad, or adopted H&S laws from abroad compel organizations to self-regulate
H&S crusader-led	H&S crusaders enforce H&S policies through inspections, consultation, partnering, and naming and shaming contractors with poor or pretentious or no H&S policy, making many to improve.
Community-led	The communities stipulate that standards are developed or adopted, enforced and monitored. Communities participate in the self-regulatory process.

Evidence from the FGD and interviews show strong influence and involvement of the local communities in H&S regulations, thus warranting the type of self-regulation, community-led self-regulation (Table 1). Here the communities where the projects take place will require the construction firms to adopt H&S standards or programs and enforce and monitor them. These communities always want to be part of the regulatory process. This can be through appointed representatives from the communities. These companies must adhere to these standards or the communities will disrupt their activities.

However, there are issues of concern in terms of community-led H&S self-regulation. In particular, few respondents in both the FGD and interviews note that in some cases these communities require that they be provided with the funds to employ an independent H&S consultant or to engage in some local H&S programs. However, when the funds are provided, the funds are diverted to private pockets. Many of the respondents in the interviews also decried the high cost of H&S due to community involvement because they already have their own standards or programs and H&S experts but because of the communities, they may have to make some adjustments to them. For instance, one respondent stated:

“When you work in some communities, especially in the oil producing states, they require you to use some of their recommended health, safety and environment consultants. They even require you to employ some people from their communities. They do not care if you already have competent workers. They do not care if you have experts that carry out the environmental test for you. No, they do not care; they just want it their way. This increases cost for us.”

As a result, few respondents conclude that, in some cases, there are conflicts between the contractors and the communities.

There is also evidence of enforced/mandatory H&S self-regulation in both the FGD and interviews, but with more emphasis during the interviews. The evidence includes compulsory company policies or international standards and local laws that cut across the construction industry (Table 2). According to these respondents, these local laws include environment laws that regulate pollution and noise.

In terms of pure self-regulation, few respondents demonstrated that they voluntarily self-regulate from the design stage to the post-construction stage, covering the stages in figure 1. However, there is also evidence that plenty of SMEs that engage in pure self-regulation adopt a simplistic approach or a system that is superficial or not thought through. In some cases, they mainly adopt regulations covering PPE, welfare facilities, and first aid. There is also evidence of self-regulation here stopping at only adoption of standards in SMEs, neglecting the second stage- monitoring compliance and implementation of the RI (Figure 1) and so on. The latter is also evident when enforced self-regulation involves governmental agencies whose regulatory activities cut across construction.

Equally important is industry self-regulation where there is no evidence of formal industry regulatory body in the construction industry. However, the FGD and interviews evidence oil and gas regulatory set standards that then have a chain effect on the construction industry in that the standards set in the industry cover all construction contractors that work for them. Oil and gas companies also ensure that their contractors adhere to the standards.

Discussion

There is good evidence of self-regulation, but the quality, in some cases, remains questionable. However, this offers optimism, especially, as the contexts such as the socio-economic context of Nigeria do not encourage involvement in H&S. The strong emphasis on concentration on the first stage of self-regulation –development and/or adoption of RI, leaving out the second stage onwards, tends to be a major challenge in H&S regulation in the Nigerian construction industry (see: Idoro, 2008; Umeokafor et al., 2014). The plenty of significant emphasis on the use of less effective risk control measures such as PPE is consistent with the “traditional stage” of safety culture in Lingard and Rowlinson (2005), which is reactive. The continued dominance of the reactive style of H&S management does not only leave the Nigerian construction industry lagging, but also increases the cost of H&S compared to if the innovative approach to H&S management is dominant. The innovative approach is characterised by proactive measures such as emphasis on elimination of risk where possible, paying greater attention to integrating safety at the decision making stage of projects (Lingard & Rowlinson, 2005). However, elimination of risk where possible can lead to risk aversion, which is not good for business, so care should be taken in such cases. More importantly, there is a thin line between pure self-regulation and internal policies (H&S management) at organizational level, but in the context of this study, that organizations voluntarily design and/or adopt and administer H&S standards is pure self-regulation.

In terms of the attitudes of the industry towards H&S self-regulation, the evidence in Table 1 suggests that the quality of H&S self-regulation may be poor. For example, if contractors self-regulate when it is convenient or if it is context- defined or if it is viewed as secondary, the attention it receives is likely to be low. It is likely to be low on the priority list of the organization. This may explain the concentration on the first stage of self-regulation –

developing and/or adopting RI. Additionally, Table 1 to some extent arguably also contributes to explaining why there are various types of self-regulation as seen in Table 2.

Meanwhile, the influence of large contractors on medium-scale firms (i.e. the chain effect in Table 2) offers optimism in that it can be exploited for improving H&S, as the medium-scale firms would want to retain their contracts. In affirmation, Sunindijo (2015) argues that greater emphasis on improving H&S in developing countries should be on large construction firms. The evidence of H&S crusader-led regulation suggests that it may even be ideal to factor in external actors such as independent pressure groups in the regulatory process. H&S crusader-led regulation differs from social pressure (a driver of H&S self-regulation: Umeokafor & Isaac, 2015) in that in H&S crusader-led regulation, the H&S crusader and the companies work together to improve safety standards while under social pressure the companies are pressured to self-regulate by external actors such as pressure groups, the media without the involvement of the external actors.

More importantly, the involvement of the communities in H&S regulation also offers optimism, but there is a risk of deviation in the interest of the communities from H&S interest to financial gain. If there is a form of third party involvement such as the government who will act as an observer, community-led H&S self-regulation may be quite impactful in Nigeria.

While Table 1 shows the attitude, “enforced,” where self-regulation can hardly be voluntary, Table 2 shows it as a type of self-regulation. Therefore, it is logical to say that the attitude that H&S must be enforced in Table 1 underpins the enforced type of H&S self-regulation in Table 2. Above all, this study indicates that H&S laws that integrate and/or foster flexible regulation is likely to flourish in Nigeria’s construction industry.

Conclusion

This study advances the understanding of regulation of construction H&S in Nigeria and the concept of self-regulation. This stems from the premise that the Nigerian construction industry is not unregulated as earlier authors note. Based on qualitative approach, there is good evidence in this study that SMEs self-regulate but in some cases, it is not systematic. It is evident that many SMEs adopt laws based on severity of risks; they also self-regulate because multinationals require them to self-regulate. However, there is evidence that they also transfer the knowledge and skills from working with multinationals in some projects, but the quality may need improvement. It is also evident that there are both favorable and unfavorable attitudes towards H&S self-regulation in that in some cases: it is a camouflage; it is secondary; it is primary; it is done only when it is convenient; it is context-based/defined. The aforesaid, among many, may explain the evidence in this study that there is: client-led self-regulation, H&S crusader-led regulation, *inter alia*, community-led self-regulation. These findings have implications on the developing countries, as there may be elements of one type of self-regulation or the other because of inadequate H&S regulatory environment in these countries. Some findings in this study also indicate the determinants of H&S self-regulation. Nonetheless, some limitations of this study suggest the need for further studies. Indeed, examining the Nigerian construction industry holistically may mean that certain characteristics that are solely formal/informal sector-based may need further examination. Thus, further studies can explore the discourse from a formal or informal perspective, helping to deepen the understanding of this discourse.

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