

DETERMINANTS OF COMPLIANCE WITH HEALTH AND SAFETY REGULATIONS IN NIGERIA'S CONSTRUCTION INDUSTRY

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ABSTRACT

The accident rate of the construction industry is disproportionate to the number of its workers compared with other industries. Despite this, the Nigerian construction industry lags behind in tackling the health and safety (H&S) challenges posed by the hazardous activities of the industry and contextual issues. Compliance with H&S regulations is one of the pillars to achieving optimum H&S in the workplace; regrettably, its level is low in Nigeria. This low level of compliance with H&S regulations in Nigeria remains one of the major factors blamed for the challenging state of H&S in Nigeria, especially in the construction industry. Hence, this paper examines the determinants of compliance with H&S regulations in Nigeria's construction industry, unearthing the salient issues to compliance with H&S regulations in Nigeria's construction industry. Using compliance theories, it explains the compliance behaviour of the Nigerian construction industry. Although studies on compliance with H&S regulations in developed countries abound, contextual influence prompts a study peculiar to Nigeria. A systematic review of available literature gathered through desk literature search and qualitative content analysis were conducted. The result of this study shows that key determinants to compliance with H&S regulations in the Nigerian construction industry include: culture, client influence, inadequate legislation, activities of the informal construction sector, beliefs, enforcement of H&S regulations, bribery and corruption. It is evident from this study that contextual issues may explain compliance behaviour. This paper goes further to conclude that irrespective of the inadequate regulations and lack of governmental support, stakeholders in the construction industry and trade unions can improve H&S. It also recommends that: building planning departments in local councils be involved in H&S enforcement; in tender selection, preference should be given to construction contractors with good safety records; H&S professionals should exploit the economic benefits of good H&S management system to attract management commitment.

Keywords: Compliance, Construction industry, Health and safety, Nigeria, Regulations.

1. INTRODUCTION

There is consensus that the construction industry understandably holds a poor safety record. On the other hand, it is understandably a major contributor to economies (Kheni et al. 2007; Okeola, 2009). This poor safety record is evident in many studies. According to Odeyinka et al. (2005), construction workers are 6 times more likely to be killed at work than workers in other industries. In the UK, the construction industry accounts for 10% of reported major injuries and 27% of fatal injuries to employees in 2012/2013, irrespective of its 5% contribution to the UK workforce (HSE, 2013). Also, the 2012/2013 record shows that the fatality rate per 100,000 construction workers of the industry in the UK was 1.9 (HSE, 2013). In Hong Kong, the construction industry accounts for an accident rate of 44.3 in 2012, where 3160 accidents were recorded, a 1.5% accident increase (Occupational Safety and Health branch, Labour Department, 2013).

Developing countries are no exceptions; in particular, Kheni et al. (2006) note that in 2000, Ghana's construction industry accounted for 14% of work related fatal injuries. According to a study of 42 construction contractors in Nigeria in 2006 (Idoro 2011a), the best recorded accident per worker rate in Nigeria in 2006 was 2 accidents per 100 construction workers, while the best recorded injury per worker for 2006 was 5 injuries per 100 construction workers. In support, Idoro (2007) demonstrates statistically that the Nigerian construction industry is grossly hazardous. These accidents and fatalities occur due to non-compliance with H&S regulations (Baxendale and Owain, 2000). Although there is dearth of reliable H&S records in developing countries (Idoro, 2011b; Okeola, 2009; Puplampu and Qartey, 2012), the H&S situation in developing countries is worrying (Kheni et al. 2007) and is understandably worse than in developed countries.

Recognising the challenging state of H&S in the construction industry and other industries, international organisations formulate conventions such as ILO convention, while countries formulate national law, standards, policies to protect the safety, health and welfare of people. It is not enough to formulate H&S laws, as compliance is pertinent in realising the aims of the laws. Similarly, adequate regulatory framework and system should be in place to achieve the aforesaid; deplorably, Nigeria is lagging behind in both. In particular, Diugwu et al. (2012) maintain that H&S statutory regulations and provisions are non-functional in Nigeria, simply because the failed H&S system in Nigeria is due to the weak statutory H&S regulations and provisions. It is therefore argued that the evident poor level of compliance with H&S regulations in Nigeria (Diugwu et al., 2013; Idubor & Oisamoje, 2013; Okolie & Okoye, 2012) highly contributes to the demonstrated challenging state of H&S in Nigeria's construction industry (Idoro, 2011a; 2007). In contrast, the continued exclusion of the construction industry in the definition of premises by the factories Act 2004 (Idoro 2008; Diugwu et al. 2012), the inefficiency of the custodian of H&S in Nigeria the Federal Ministry of Labour and Productivity Inspectorate Division (FMLPID) (Umeokafor et al. 2013) may plausibly explain this. Nevertheless, compliance with H&S regulations remains a core instrument for H&S improvement; as a result, understanding its determinants informs development of effective H&S strategies.

Writing about the determinants of compliance with H&S regulations in South Africa, Windapo and Oladapo (2012) found that severity of enforcement penalty, direct and indirect cost of accident, lack of knowledge *inter alia* determine South Africa's construction contractors compliance with H&S regulations. A review report by HSE in 2008, found that the size of the industry an organisation operates in, the organisational structure, the regulatory environment of the organisation among other factors determine compliance with H&S regulations.

While there is considerable literature on compliance with H&S regulations in the construction industry, contextualising Nigeria's construction industry in relation to determinants of compliance with H&S regulations remains under examined. Studies that consider contextual issues peculiar to Nigeria are vital for effective development of strategies. This view supports Kheni et al. (2007) findings that political, religious, socio-cultural environment influence H&S management hence should be considered when developing effective strategies for H&S. It is against this background that this study, which contextualises Nigeria systematically reviews literature to unearth the factors that determine compliance with H&S regulations in Nigeria's construction industry. It examines issues relating to compliance with H&S regulations in the wider African construction firms and then relates them to the Nigerian construction industry. Furthermore, it seeks to understand the compliance behaviour of Nigeria's construction industry based on compliance theories, considering the factors unearthed by this study.

2. THEORETICAL FRAMEWORK: COMPLIANCE THEORIES

Compliance behaviour is subject to various determinants, which may be complex (HSE, 2008). These determinants help to explain or suggest compliance behaviours of organisations or individuals. Promulgated laws do not guarantee compliance, irrespective of the regulatory efforts (HSE, 2008), rather economic cost (HSE, 2008), quest to maximise profit (HSE, 2008; Windapo & Oladapo, 2012), reputation of firm (HSE, 2008; Jacobi 2012; Nzuve and Lawrence, 2012) sanctions (HSE, 2008; Tombs & Whyte, 2013) *inter alia* are among the factors theoretically underpinned by compliance theories to explain compliance behaviour. However, some facts remain, some compliance approaches are more effective than others (HSE, 2008) most of which are underpinned by deterrence theories or/and compliance strategies, while some compliance behaviours may not be explained by compliance theories.

Deterrence theories, assume that punitive measures will deter organisations or individuals from breaching the law (Ayres & Braithwaite, 1992; HSE 2005; HSE, 2008). A regulatory authority adopts sanctions such as fines, prosecutions and other punitive measures as its principal technique for ensuring compliance. Indeed, in economic terms (which will mostly attract firms), deterrence embraces this equation $U < pD$, where benefits of non-compliance is U , likelihood of being caught is p and the cost of being apprehended D (Becker 1968 in Fairman & Yapp, 2005). In context of this study, this simply means that if the perceived benefits of non-compliance with H&S regulations are less than the possibility that the construction firms will be caught and the cost/consequence of being caught (image of firm, penalty, competitive level in the market *inter alia*), they will not comply. In other words, compliance is a rational behaviour (Fairman and Yapp, 2005).

In contrast, in relation to H&S, the cost of apprehension is difficult to determine (Fairman and Yapp, 2005) as they are direct and indirect costs (Umeokafor et al., (2013), which are difficult to calculate, making this theory challenging. This is in addition to the point that organisations may not have a perfect knowledge of being caught, (Tombs and Whyte, 2013) based on the point that rationality may be limited.

Consequently, deterrence theories, will adopt measures aimed at ensuring that p and D are greater than U (better still, p or D is greater than U); therefore, it is evident that market behaviours, economic grounds and sanctions are among determinants of compliance in the deterrence theory. This means that compliance depends on the ability of the organisation to understand the implications of all these factors. It is important to note that this theory has not been successful; hence, there has been a shift from deterrence to compliance based approach (Fairman & Yapp, 2005).

Compliance/cooperative/conciliatory strategies (Fairman & Yapp, 2005) seek to achieve compliance by tackling the obstacles (Fairman & Yapp, 2005; Tombs & Whyte, 2013). This may be through adopting approaches such as cooperation and conciliation through educating, persuading and negotiating with organisations (Fairman & Yapp, 2005; HSE, 2008). In the context of this study, this mainly refers to the custodian of H&S in Nigeria the FMLPID achieving compliance by cooperating with construction contactors, educating them on the benefits of H&S and negotiating with them on some strategies to adopt. Deplorably, the FMLPID does not have jurisdiction over the construction industry due to the omission of the industry in the Factories Act 2004 definition of premises. However, as Nigeria rectified the ILO convention on Occupational Safety and Health Convention, 1981 (No. 155), it can be argued that the construction industry is ostensibly bound by article 16 paragraph 1 of the Convention. Despite this, the construction industry remains unregulated by an external party; instead, self-regulation obtains in the industry. This section serves as the theoretical framework for this study, highlighting the underlying philosophical assumption of the factors of compliance discussed below.

3. DETERMINANTS OF COMPLIANCE: H&S IN AFRICA (NIGERIA)

3.1 Beliefs

Smallwood (2002) argues along the general notion that accidents are inevitable in the construction industry because it is believed that the industry is inherently dangerous; therefore, used as an anchor for non-compliance with H&S regulations and also abridge the importance of H&S to secondary issues. In support of this, Kalejaiye (2013) asserts that prior to the enactment of the safety laws in England in 1833, it was believed that accidents were predestined and inevitable, but this was no longer acceptable after the enactment of the above laws. Furthermore, Idubor and Osiamoje (2013) identify religious beliefs to determine compliance with H&S regulations; they opine that some employers resort to fetish rituals to stop accidents instead of taking adequate safety precautions. Idubor and Osiamoje (2013) also posit that some believe accidents are acts of God i.e. accidents occur because God allows them.

This is further emphasised by Sadeq and Ahmad (1996) cited in Smallwood (2002) who note that the Islamic 'Tawhidic' principles of justice & equality, dignity of labour and removal of hardship do not support intervention decisions based on cost benefits. As a result of the above arguments, contractors may do little or nothing to prevent these accidents; they may not take safety guidelines seriously. These therefore suggest that beliefs, be it religious or superstitious often filters into work environments resulting to lack of compliance with H&S regulations in the construction industry Africa wide.

3.2 Tendering process

Compliance with H&S regulations has prompted consumer buyer organisations to list ISO-9000 certification as a requirement for quality standard and a way of complying with H&S regulations (Nzuve & Lawrence, 2012). The literature so far reviewed shows that there is no standard of this nature in the Nigerian construction industry; most contractual documents appear not to highlight the importance of H&S compliance and the impositions of fines (penalties) for non-compliance. The action by consumer buyer organisations stated above can be adopted by the Africa's construction industry and its clients; they can standardise compliance with H&S regulations, not only in tenders as part of contract agreements (Windapo, 2013) but also in the instances where it is possible to that safety records and references from previous clients can be prerequisite for tendering for contracts to indicate the H&S performance of contractors. Therefore, priority should be given to construction firms without injury records; given that, Davies & Tomasin (1990) in Othman (2012) contend that successful projects have a 100% in H&S, time, cost and quality respectively. Relating Davies & Tomasin (1990) argument to section 2, the contention here is that if benefits of compliance/good H&S records are greater than the p and D, the construction contractors will comply with H&S regulations.

3.3 Enforcement of H&S regulations

Nzuve and Lawrence (2012) found that low level of inspection and examination of workplaces might determine the level of compliance with H&S regulations as evident in workplaces in Nairobi. The same can be said of Nigeria, where lack of enforcement characterises regulatory institutions (Idubor & Osiamoje, 2013; Umeokafor et al. 2014), most laws appear to fulfill all righteousness or are used for political or victimisation reasons, and the institutions alleged and proved to be corrupt and arbitrarily exercise its powers (Onyeozili, 2005). These ill characteristics of the regulatory institution in Nigeria also weaken its legal system. The contention being that the efficiency and effectiveness of the H&S enforcement bodies may determine the level of compliance with H&S regulations in workplaces.

In consideration to section 2, this factor of compliance is strongly underpinned by the sanction based deterrence philosophy, where (p) and (D) should be greater than U (better still, p or D should be greater than U) to prompt compliance. Should that be the case, compliance based on punitive measures may not be effective in Nigeria, as the regulatory system in Nigeria is dysfunctional, and as the custodian of H&S in Nigeria (FMLPID) does not comply with basic H&S regulations as Umeokafor et al. (2014) found.

Consequently, construction contractors may take advantage of having perfect knowledge of the low probability of being caught and decide not to comply with H&S. These may explain why researchers posit, that lack of: strict legislation enforcement (Idubor & Oisamoje, 2013; Onyeozili, 2005; Umeokafor et al. 2014); competent professionals i.e. H&S officers (Federal Ministry of Labour and Productivity 2010 in Idubor & Oisamoje, 2013); trained safety officers (Okeola, 2009), all enable non-compliance with H&S regulations in Nigeria. However, although the quality of enforcement may be marginal, enforcement at organisational level perhaps via safety officers should be made mandatory to Nigerian construction contractors (Okeola, 2009), as it will improve H&S enforcement. Equally important, Idubor and Oisamoje (2013) argue that the weak legal structure and absence of law enforcement in Nigeria allow foreign companies to take advantage of the ineffective statutory regulation. The same can be said of the construction industry. That may also suggest that these foreign firms may not have plans to comply fully with the H&S regulations in Nigeria or have a H&S management system similar to those obtained in their countries of origin, as they intend to reduce expenses and added cost to construction outputs.

3.4 Reputation of firms

According to section 2, this factor of compliance is underpinned by the cost of being caught (reputation of organisation) (D) being greater than the perceived benefits of non-compliance with H&S regulations (U). In light of Idubor and Oisamoje's arguments above, it is evident that multinational corporations are able to provide developing countries such as Nigeria with critical financial infrastructure for economic and social development, and at the same time the much-needed H&S regulations. However, these institutions may also bring with them relaxed codes of ethical conduct that serve to dilute the developing nation's regulations rather than to provide the critical support to compliance that ensures improved H&S in organisations. Multinational corporations should promote their reputation through good H&S practices instead of cutting corners in countries where H&S systems are not as rigorous, granted that the images of organisations to the public should contribute to their competitive strength in the market. Indeed, Nzuve and Lawrence (2012) maintain that non-compliance with H&S regulations often reflects the organisation's image and bottom-line, which must be protected; Jacobi (2012) also supports this view by arguing that organisation's image determine the level of their compliance with H&S regulations.

3.5 Higher profit margin

This factor is strongly underpinned by the economic philosophy of deterrence theory, where high cost of production outweighs the cost of being caught; therefore, it can be argued that the cost of being caught may prompt compliance. Indeed, accidents result to injuries, loss of materials and time, payment of compensation and payments to injured staff when off duty, hence increasing the cost of production and affecting the profit margin of the organisation. As such, to reduce the cost of production, improve productivity and maximise profits, many firms seek to improve H&S in their organisations and this includes compliance with H&S regulations (Windapo & Oladapo, 2012).

This explains why Nzuve and Lawrence (2012), Smallwood and Haupt (2007) posit that increased and sustained level of productivity often reflect on the level of compliance with H&S regulations. As such, the question as to why compliance is not at its peak is vital, as compliant organisations will benefit economically. However, ignorance of these benefits of compliance may be the answer the question. Be it as it may, organisations may comply with H&S regulations to save cost thereby increasing their profit margin, but may not comply if the cost of compliance is too much when compared with the profit margin.

3.6 Inadequate funding

Nzuve and Lawrence (2012); Idubor and Oisamoje (2013) contend that capital is required to provide adequate facilities in order to avoid cutting corners. In that lack of facilities such as clamps, safety belts may mean that desperate workforce will risk lives instead of going hungry, hence will not comply with H&S regulations. This explains why Diugwu et al. (2012) argue that lack of resources can hinder H&S management efforts. On the other hand, most enforcement bodies/institutions in the developing world lack the basic tools and amenities, which need funds to promote H&S regulations, educate the society, enforce the regulations, and disseminate information.

3.7 Perception of stakeholders in the industry

It is generally believed that construction industry is one of the most expensive industries; therefore, anything that will increase cost of construction should be avoided. Fairman & Yapp (2005) assert that this compliance behaviour is often based on rationality. This view is echoed by Windapo (2013) that construction contractors in South Africa perceive compliance with construction regulations as costly, time consuming and unnecessary, hence they deem compliance with H&S regulations as unnecessary. The same argument is repeated in Nigeria, where most construction organisations spend little or nothing on H&S management (Diugwu et al., 2012), perhaps because they perceive it as cost. This view simply results to nothing in terms of budget allocated to H&S management; consequently, there is likely to be high level of non-compliance with H&S regulations in these organisations.

3.8 Inadequate training of staff and workplace issues

Technical failure and inadequate training coupled with harsh work environment and unsafe methods of working inter alia are among the causes of non-compliance with H&S regulations in developing countries' construction like South Africa (Othman, 2012). This view is supported by Windapo and Oladapo's study of 2012, which demonstrates that lack of adequate training and unsafe work environment can determine how construction firms handle the issues of compliance with H&S regulations. In concordance, Adenuga, Soyingbe, and Ajayi (2007); Idubor and Osiamoje (2013) highlight that inadequate training is a hindrance to H&S regulations compliance. In correspondence, Idubor and Osiamoje (2013) maintain that the performance and productivity of staff is a function of the level of their expertise and skill, which is a function of the standard of training and education received.

These imply that if adequate H&S training and education are not given to staff, their H&S performance e.g., compliance with H&S regulations will be affected. It can therefore be misunderstood, in simple terms to just result to lack of knowledge and information which in-turn depend on the level of acquired training and education. The facts are that management related issues, individual willingness to participate in self-development, self-determination within a value oriented work environment will encourage compliance to H&S Regulations.

3.9 Management commitment

Argument must be made that the absence of safety consciousness in major construction organisations in Nigeria is common and must be deemed as bad examples. Adenuga et al. (2007) further show that some construction companies do not attach importance to workers' safety. Similarly, Smallwood (2002) agrees that top management should value safety notwithstanding that lack of value for safety may be as a result of the perception that safety is only cost related as argued by Hinze (1997) in Smallwood (2002). Should that be the case, it therefore indicates that the construction industries are not concerned with the safety of their employees as their watchword; it also suggests the absence of management commitment to H&S in the Nigerian construction industry. This explains why, Windapo and Oladipo (2012) contend that management commitment should be seen as the determinant factor to compliance with H&S regulations in the construction industry. This is underpinned theoretically by Fairman and Yapp (2005) assertion that based on deterrence theory; compliance behaviour is determined by rationality.

3.10 Activities of the informal construction sector

Tanko and Anigbogu (2012) pen that the informal construction sector in Nigeria engages in informal construction activities, which constitute about 70% of construction outputs; meanwhile, Kalejaiye (2013) posits that the informal construction sector has little or no access to occupational health. Their main methods of project execution involve employing workforce who do not have ideas of adequate safety practices required, therefore cannot advise the client to comply with H&S regulations. The argument therefore is that if 70% of the construction activities are executed through the informal practice, the construction industry is shooting itself on the foot, as they will never conform to H&S regulations; rather, they contribute to majority of the unsafe construction activities, thus hindering H&S improvement. As such, to improve H&S regulation in Nigeria, greater attention should be given to this sector (Tanko and Anigbogu, 2012) perhaps through adequate regulation. However, It can be argued that the informal sector is difficult to regulate because of the nature of its operations. From the above, it is therefore not misleading to state that this sector contributes hugely to non-compliance with H&S regulations in the Nigerian construction industry.

3.11 Unemployment

Idubor and Oisamoje (2013) identify unemployment as one of the factors that embolden non-compliance with H&S regulations. The level of unemployment in Nigeria is so high and increasing.

According to Trading Economics (2013), unemployment in Nigeria rose from 21.10 % in 2010 to 23.90 % in 2011, this amounts to high volume of men and women given to the employer to pay low wages or impunity to take advantage of workers to work under dehumanising conditions provided they have jobs. Therefore, if construction works being carried out violate H&S regulations at the same time under dangerous conditions, the workers are unable to complain, for they risk losing their jobs.

3.12 Fear of legal sanctions

Nzuve and Lawrence (2012) maintain that organisations may also comply with H&S for fear of legal actions. In affirmation, Idubor and Osiamoje (2013) assert that the legal sanctions organisations may face if they do not comply with H&S legislation may result to high financial cost to the organisations, thereby reducing their profit margin, in that they comply with H&S regulations. This implies that fear of legal sanctions may make cooperate organisations comply with H&S regulations. In addition, deterrence theory explains this factor in that for this factor to determine compliance, the likelihood of being caught is (p) and the cost of being apprehended (D) must be higher than the benefits of non-compliance (U). However, given what this study has established so far, it will be the bigger organisations that benefit most either way.

3.13 Bribery and corruption

Onyeozili (2005) states that Nigeria's regulatory institutions and the police force are perceived and have been proved to be corrupt; 'God-fatherism' determines the decisions of the inspectors. This is reinforced by Transparency International (2012) ranking Nigeria 139 out of 176 in terms of corruption perception index. In support, Idubor and Osiamoje (2013) assert that bribery and corruption are the biggest hindrances to proper compliance with H&S regulations in Nigeria; citing an instance where companies would not comply with the standard regulations and still get an 'okay' from the inspectors during inspection as a result of being bribed.

3.14 Neglect of human rights

From the human right perspective, Idubor and Osiamoje (2013); Puplampu and Qartey (2012) debate that human rights are the core elements of H&S. In that human rights are not well rooted in H&S rights of corporations because of lack of strict judicial references in Nigeria (Idubor & Osiamoje, 2013). This suggests that lawmakers neglect human rights, and this may lead to human rights abuse. Also, Puplampu and Qartey (2012) argue that human rights must be accessible to promote H&S. Therefore if inferred, the absence/neglect of human rights may influence H&S and perhaps its compliance.

3.15 Weak legal structures

According to the deterrence theories in section 2, the underlying assumption of this factor is that the likelihood of being caught (p) and the cost of being apprehended (D) are slim and unable to prompt compliance.

Construction contractors often wrongly perceive this slim chance of apprehension as an advantage for non-compliance, believing that the perceived benefits of non-compliance outweigh the benefits of compliance. Indeed, Idubor and Osiamoje (2013) maintain that the legal structure in Nigeria is weak in terms of interpreting and applying the governing laws. In the Nigerian construction industry where different regulations are in use, there is no uniformity in interpretation of regulations, while Idoro (2008) argues that implementation of the regulations are left to personal discretion. With regard to the penalty for non-compliance with H&S regulations, Windapo and Oladapo (2012) found that non-severe penalties for non-compliance with H&S regulations determine compliance with H&S regulations in the South African construction industry. The same can be said of Nigeria, where the penalties for violating some H&S laws are insignificant; often construction contractors take advantage of the law not to comply, or they comply at their discretion. Compliance can be argued to be a rational behaviour (Fairman and Yapp, 2005). However, the Labour, Safety, Health and Welfare Bill of 2012, stipulates stronger punishment for offenders (Idubor & Osiamoje, 2013). A downside of the legal system in Nigeria is the procedure in reality, where court cases take longer than allotted time frame, and H&S regulations are only enforceable upon trial and conviction (Idubor & Osiamoje, 2013). This suggests that majority of causalities may be discouraged from going to court because of the weak legal system in the country and the high cost of seeking justice without legal aid, as such encouraging employers to violate the regulations.

3.16 Client's influence

Famakin and Fawehinmi (2012) acknowledge the influence of clients in improving H&S in the construction industry by citing Huang and Hinze (2006), who assert that clients' involvement is a core requirement for ensuring a zero accident rate in construction projects. This is reinforced by Smallwood and Haupt (2007), who propose that clients should take the lead when it comes to H&S in their projects, as the H&S regulations like the South African Construction Regulations of 2003 place high level of responsibility on the client. These above suggest that low level of compliance with H&S regulations can be traced to the client who should ensure that the regulations are adhered to, hence ensuring optimum H&S in all projects. Lamentably, this is not applicable or evident in the Nigeria, especially in the informal construction practice where violation of H&S is endemic, and some clients have not heard of H&S. Moreover, Okeola (2009) records that one in six of the contractors in the 13 projects studied took an insurance policy. This suggests clients and contractors' neglect, as the client is required by law to ensure that the contractors comply with H&S regulations.

3.17 Lack of awareness and improper medium for information dissemination

The argument that lack of knowledge and understanding of H&S regulations determine the level of compliance within construction regulations is made by Windapo and Oladapo (2012), in that there is lack of awareness in most developing countries (e.g., Nigeria) for H&S regulations and practice, an issue that is also echoed by Idubor and Osiamoje (2013).

Therefore, Diugwu et al. (2012) contend that lack of knowledge for details and implications hinder H&S management in the construction industry. They found that construction workers in Minna, Nigeria (if not the whole country) do not know the enforcer of H&S regulations in Nigeria. If workers do not know or understand the regulations, they will not know when their rights have been violated. Pupilampu and Quartey (2012) note a similar issue that lack of adequate Information and statistics hinder the compliance with H&S in Africa; while Diugwu et al. (2012), Idubor and Osiamoje (2013) identify same for Nigeria. The above is explained by Diugwu et al. (2012), whose study argues that H&S information dissemination in Nigeria is ineffective, and has minimal impact to target groups, hence blaming the government for it. This demonstrates that enacting laws without adequate effort to make it available to the public is as a good as not formulating one at all.

3.18 Moral values

Nzuve and Lawrence (2012) believes that managers comply with H&S regulations due to the presumed severity of injury that the workers may suffer if accidents happen, this explains why Okeola (2009) argues that if morally obligatory, compliance should be on humanitarian grounds. In affirmation, Smallwood and Haupt (2007) demonstrate statistically the humanitarian motivation for H&S related regulations and the need for putting construction regulations into law through public announcement; asserting that analyses of severity rates of accident, disabling injury rates to buttress the above must be deemed key and relative to moral values. In contrast, Windapo (2013) shows that the extent of risk and perceived severity of physical hazard that may happen due to non-compliance with H&S regulations are not connected to the standards complied by South African construction contractors. Nevertheless, it can be argued on moral grounds, that employers in construction industry may often consider the H&S of their employees as superficial, therefore convenient to comply with H&S regulations when required.

3.19 Cost of compliance/production

Windapo (2013) found that increase in the cost of compliance with the H&S requirements determines the building constructors' compliance with statutory regulations in South Africa. In that some contractors may weigh the cost of compliance with H&S regulations and the overall cost of production against the profit margin and decide to comply at a convenient level. This is further supported by the deterrence theory in section 2. The implication of the above when factored in is that the cost of compliance (a factor of production) increases the cost of production, in most cases is often high and expensive. This supports Idubor and Osiamoje (2013) who agree that the high cost of production in Nigeria like cost of providing electric power drives organisations to cut corners as per H&S. In contrast, avoiding direct & indirect cost of accidents (a cost of production) can make them comply with H&S regulations as argued elsewhere in this paper. In short, it can be argued that factors of production influence compliance with H&S regulations in the Nigerian construction industry.

3.20 Absence of H&S representatives

The absence of H&S representatives in Nigeria's construction industry has detrimental impact according to Diugwu et al. (2012); who argue this in their study of "construction practices in Minna, Northern Nigeria". They found that 79.5% of most of their respondents do not have H&S representatives in their organisations. Hence, the absence of these representatives is a violation of the H&S regulations, which require organisations to have trade union appointed representatives or employee elected safety representatives. These representatives' main duty are to protect the H&S interest of the workforce. The argument being that these H&S representatives will help in ensuring compliance with H&S. These important factors and the role of safety officers are identified and reverberated by Okeola (2009) in facilitating and encouraging the construction contractors on safety issues, hence recommends mandatory roles for them.

3.21 Lack of adequate regulations

Idubor and Osiamoje (2013) uphold that poor national H&S standards hinder compliance with H&S in Nigeria. This factor of compliance is evident in the Nigerian construction industry, where the local H&S law (Factories Act 2004) does not technically cover it (Diugwu et al., 2012; Idoro, 2008; Idoro, 2011), thus not enforceable in the industry. Consequently, some construction firms adopt regulations from developed countries, and enforcement is at adopter's discretion (Idoro, 2008). The underlying assumption being that construction contractors can make rational decisions in respect to non-compliance on the grounds that they may have a perfect knowledge of the low probability of being caught due to the inadequate regulation. This view is supported by (Diugwu et al. 2012) findings: that lack of adequate regulation, lack of support as some of the constraints to H&S management in the Nigerian construction industry. This is on the grounds that the aforementioned may also determine compliance with H&S regulations.

3.22 Culture

While Kalejaiye (2013) highlights lack of safety culture in the family, education sector as some of the challenges facing the H&S environment in Nigeria's workplace, Idubor and Osiamoje (2013) contend that cultural dimension determines compliance with H&S regulations. They further posit that an organisation with safety culture will have a lower accident rate than one without safety culture. Correspondingly, the collectivist view of cultural dimension of Nigeria may equip Nigerian construction contractors with the potentials to comply with H&S regulations. Indeed, the findings of Kheni et al. (2007) suggest that some owners/managers of construction companies in Ghana comply with H&S because of cultural values and perceptions, highlighting the influence of extended family values. They note that some respondents perceive H&S as cultural and family responsibilities, viewing their employees as family members and themselves as family heads. In contrast, this collectivist view (i.e. cultural dimension) of the developing countries may result to unsound H&S management system in the construction industry (Kheni et al. 2007). This is because construction contractors may assign H&S responsibilities to incompetent family members (Kheni et al. 2007).

Furthermore, Nigeria as a nation has its own cultural norms, social and institutional environments, which include poor enforcement culture and poor implementation culture. As the construction industry like other businesses is susceptible to national culture (Kheni et al. 2007), this may influence their compliance behaviour. This view is supported by Idubor and Osiamoje (2013) who maintain that lack of implementation of plans is a major setback to the compliance with H&S regulations. Okolie and Okoye (2012) corroborate evidence in agreement to the studies above, they posit that national cultural dimension is correlated with safety climate that constantly influence the safety perception and behaviour of construction workers in Nigeria. The findings of their study that the safety perception and attitude of construction workers in Nigeria are influenced by culture, further buttress the view above. Thus, suggesting that compliance with H&S regulations by construction workers is determined by national cultural dimension.

Mention must be made of organisational culture, which Hofstede (1991) describes as the collective programming of the mind in an organisation that differentiates it from another. The argument here is that as organisations exist in a national culture, the institutional and social environment of the nation may influence the organisational culture. This may then determine the perception and attitude of the organisation in relational to H&S. It is argued that cultural environment is a core factor for developing strategies for H&S improvement (Kheni et al. 2007).

4. RESEARCH DESIGN AND METHODS

This study relied on secondary data through desk study. Systematic and extensive searches of databases like (EBSCOHOST, Sciverve Sciencedirect, Swetswise, ASCE Library, EMERALD, inter alia) were done. It used lunch words like ‘Occupational health and safety regulations in Nigeria’, which yielded only three indirectly related papers to the above topic, so further searches were done with lunch words like ‘health and safety management in Nigeria’, ‘Occupational health and safety regulations in Africa’ and some data were found. Those that are directly or indirectly related and relevant to the topic were chosen for the second search strategy. The above methodology was used in order to eliminate bias, ensure transparency and create room for repeatability. Because of the shortage of H&S literature on Nigeria and its construction industry, the citation search approach that is an accepted and widely used search strategy for a paper of this nature was adopted. This strategy requires the use of useful article(s), reference lists of papers and books relevant to the required topic. Content analysis of the data collected was also done and the result presented. This can be done systematically and objectively and/or by inference. In this study, all three techniques and theme-grouping pattern were adopted; inductive and derived explanations of the themes identified were done and the interpretive style used, as this study generates new insight.

5. RESULTS AND DISCUSSION

From the literatures reviewed so far, it is evident that while compliance theories explain some compliance behaviours of construction contractors hence the determinants, contextual issues may also explain their compliance behaviours.

For instance, some construction contractors may comply with H&S regulations because of cultural values and/or family values (Kheni et al. 2007), while national culture can also determine compliance (Okolie and Okoye 2012).

This study was also able to unearth and examine key issues to compliance with H&S regulations in the Nigerian construction industry. These major issues are: socio-cultural, socio-economic, institutional/legal, organisational and industrial issues. Organisational issues identified by this study include: reputation of firms (Jacobi 2012; Nzuve & Lawrence 2012); higher profit margin (Nzuve & Lawrence, 2012; Smallwood & Haupt 2007; Windapo & Oladapo, 2012); inadequate training of staff and workplace issues (Adenuga et al., 2007; Idubor & Osiamoje, 2013; Othman, 2012). Through critical analyses of Adenuga et al. (2007); Smallwood (2002); Windapo and Oladipo (2012); it was inferred that management commitment to H&S would determine compliance with H&S regulations. One of the key arguments being that as long as the Nigerian government do not tackle H&S challenges in the construction industry, organisations should endeavor to champion the improvement of H&S as they would benefit immensely. Literature reviewed so far suggests gross negligence in the part of either the government or enforcement authority. As the government does not take reasonable measures to preventing unsafe practices, then little is expected of the construction industrial operatives; thereof, Smallwood (2002) hypothesises that cultural norms start from the upstream of management to the downstream sector. Therefore, it can be argued that the recorded neglect by the government and industry suggest the absence of safety culture in Nigeria and lack of governmental support.

In terms to institutional/legal issues relating to compliance with H&S regulations, it was evident that the construction industry issue was technically omitted when the Factories Act of 2004 was drafted and during implementation. Enforcement of H&S regulations (Federal Ministry of Labour and Productivity 2010 in Idubor & Osiamoje, 2013; Okeola, 2009; Nzuve & Lawrence, 2012; Onyeozili, 2005; Idubor & Osiamoje, 2013; Umeokafor et al. 2014); weak legal structures (Idubor & Osiamoje 2013); bribery and corruption (Idubor & Osiamoje, 2013; Onyeozili 2005); lack of funding (Idubor & Oisamoje, 2013; Nzuve & Lawrence, 2012); absence of H&S representatives (Diugwu et al., 2012; Okeola, 2009); lack of adequate regulations (Idubor & Osiamoje, 2013) were found to be determinants to compliance with H&S regulations in the Nigerian construction industry. Through critical review of Idubor and Osiamoje (2013); Puplampu and Qartey (2012), it was inferred that neglect of human rights would also determine compliance with H&S regulations in the Nigerian construction industry. Additionally, critical reviews of a conceptual study by Idubor and Oisamoje (2013); an empirical study by Nzuve & Lawrence (2012) highlighted that fear of legal sanctions can also determine compliance with H&S regulations in the said industry.

Furthermore, unemployment (Idubor & Oisamoje, 2013); lack of awareness and improper medium for disseminating information (Diugwu et al., 2012; Idubor & Osiamoje, 2013) were the socio-economic issues recognised by this study that also determine compliance with H&S regulations in the Nigerian construction industry. A popular saying in Nigeria states that “Knowledge is power”; should that be the case, it could be assumed that the Nigerian society is not empowered in terms of H&S due to lack of knowledge in this instance. The studies further show that injury and accident

are common in the construction sites in Nigeria; however, people that suffered from occupational diseases or incidents would not know the necessary steps to take for compensation or to stop the reoccurrence.

In addition, socio-cultural issues were well covered by empirical studies by Othman (2012), Smallwood (2002) and a conceptual study by Kalejaiye (2013). They reported that beliefs determine compliance with H&S regulations in the construction industry. While culture (Idubor & Osiamoje, 2013; Kalejaiye, 2013; Kheni et al. 2007; Okolie and Okoye 2012); client's influence (Famakin & Fawehinmi, 2012; Okeola, 2009; Smallwood & Haupt 2006) were identified as determinants to compliance with H&S regulations, critical review of Nzuve and Lawrence (2012); Okeola (2009), Smallwood and Haupt (2007); Windapo (2013) showed that moral values influence compliance with H&S regulations in Nigeria's construction industry. Also, client's influence on compliance with H&S regulations seems overlooked in the Nigerian construction industry, as has been unearthed by this study.

Industrial issues such as tendering process (Nzuve & Lawrence, 2012; Othman 2012; Windapo, 2013); perception of stakeholders in the industry (Windapo, 2013); cost of compliance/production (Idubor & Oisamoje 2013; Windapo, 2013) were revealed as factors that determine compliance with H&S regulations in the construction industry. Critical analyses of studies (Kalejaiye, 2013; Tanko and Anigbogu, 2012) indicated that activities of the informal sector determine if the said industry would comply with H&S regulations. It should also be noted that the informal sector contributes to about 70% of construction activities in Nigeria (Tanko & Anigbogu, 2012), implying that the informal sector could be a major contributor to the high level of accidents in the construction industry.

6. CONCLUSION AND RECOMMENDATIONS

This study demonstrates that the state of H&S and compliance with H&S regulations in the Nigerian construction industry is poor. It has revealed that the key issues to compliance with H&S regulations in the Nigerian construction industry and perhaps the whole country are mostly related to socio-cultural issues, institutional/legal issues, organizational issues, socio-economic and industrial issues, with the activities of the informal sector as a major contributor. Additionally, using compliance theories, this study explains some compliance behaviours of the construction industry based on the unearthed compliance determinants. It is also evident from this study that contextual issues may explain compliance behaviour. This study goes further to recommend that to sustain the rapid economic growth and infrastructural development in Nigeria and improve H&S in the nation's industry, government's involvement in H&S with adequate enforcement mechanisms, management commitment and support from stakeholders, can help improve compliance with H&S, hence improve productivity, chances of competition in the market inter alia. Most importantly, governments of developing countries like Nigeria should improve H&S awareness and education by using enlightening agencies like the National Orientation Agency of Nigeria; H&S education and training should be mandatory and integrated in the school syllabus right from secondary level. H&S practitioners and promoters should use increase in profit margin inter alia as H&S promotion instruments to attract the public and top management interest. Furthermore, mandatory H&S section in contract documents should be adopted and strictly enforced in the developing countries' construction industry, preferably verified and referenced before payment.

Also, reference as per H&S performance form contractors' previous clients should be a prerequisite for tender selection, hence preference given to those with good H&S records. Meanwhile, naming and shaming organisations of poor and appalling H&S records should be adopted, as they will not like their images with the public and competitive levels in the market to be affected. Government and stakeholders should strictly regulate activities of the informal construction sector in order to promote H&S in developing countries; whereby, the building planning departments in local councils will be used as an H&S enforcer in the grassroots level just as they enforce planning permission.

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