

APPRAISAL OF THE DRIVERS FOR ADOPTING HEALTH AND SAFETY INSURANCE POLICY BY CONSTRUCTION FIRMS IN ABUJA, NIGERIA.

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Abstract. Building projects have the greatest challenges because time, money, and quality are prone to change and have financial implications. Because of this extreme unpredictability, conventional construction contracts mandate that contractors get insurance and indemnity for all project-related works and personnel. Despite a growing understanding that insurance should be the primary tool for risk management, few contractors in Nigeria have utilized it. The study's objective was to evaluate the drivers that influence construction companies to adopt health and safety insurance. The respondents for the survey include Architects, Builders, Engineers, Quantity Surveyors, and Health and Safety Officers within the targeted construction firms in Abuja were surveyed using a questionnaire as part of a quantitative research approach with the adoption of convenience sampling. Retrieved data were analyzed using mean item score and standard deviation. The study discovered that construction firms regularly implement insurance policies based on drivers like project and contractor size; type of project; and unique project complexities among others. Conclusively, health and safety insurance is a helpful tool for risk management in building projects, and project characteristics have a significant impact on contractors' decisions to use insurance, the adoption of this policy is crucial without any reservation since worker's safety is more important than building projects, the adoption of the policy should be without any reservation, as this will limit hazards and allow due compensation for injuries or accidents on construction site. This study recommended that construction firms and legal authorities should devise a strategic approach to implementing the practice without paying attention to the drivers

Keywords: Health and Safety, Insurance, Construction firms, Drivers, Contractor

Introduction

As a significant contributor to gross domestic product (GDP), particularly in emerging nations, the construction sector is frequently viewed as a catalyst for economic growth in many of these nations (Phoya, 2012). Construction sites are prone to high risk in and around the working environments, in most developing countries like Nigeria which is labour intensive, building construction activities involve working at heights, underground, in confined spaces, handling loads manually, handling hazardous substances, exposure to noises, dust, power/electricity cables and use of plants and equipment (Ahmed, 2008). In addition to providing jobs for individuals directly engaged in construction and other economic advantages, the building industry's operations nevertheless offer serious health and safety risks to its workforce (Farooqui, Arif & Rafeeqi, 2008). The actions of man on construction sites are enormous with less watchfulness and natural occurrences are inevitable which can lead to loss of lives, materials and permanent disability, hence, an organization managed effectively will always target its aim at reducing or avoiding waste, and precautions will be taken timely at all levels to prevent a breakdown in the systems (Watson *et al.*, 2018). Health is seen as a sound state of the body and mind of people from illness resulting from the materials, processes or procedures used in the workplace, while safety is the protection of people from physical injury (Hughes, 2008). Thus, health and safety can be seen to concern the physical and mental well-being of the individual at a place of work, every individual must consider the safety of his health as this is a prerequisite for effective performance and productivity at the workplace.

Meanwhile, regardless of laws governing health and safety procedures, the construction industry continues to be the most deadly and accident-prone in many developed nations. Accidents and health risks in this sector are higher than in any other, with the highest rates of fatalities and injuries occurring in developed nations like the United Kingdom, China among others (Duryan, 2020; Wang, 2018) while the situation in developing countries is worst as it is on record

that the rate of occurrence on Nigeria construction sites was pegged to be 24 per 100,000 workers (Aigbavboa *et al.*, 2023) indicating that 24 out of 100,000 personnel of site are victim of one accident or the other. Meanwhile, the priority placed on worker safety in Nigeria is appalling as workers cannot access the expected compensation for work-related injuries and fatalities (Njaka *et al.*, 2021), lack of regulation for claims and compensation has a high negative impact on construction worker's productivity. The abysmal situation of insurance culture in developing nations has captured interest among researchers, Ebekozi *et al.* (2023) opined that construction contractors widely neglect the implementation of all risk insurance for site operatives, unless compelled to act otherwise, especially when dealing with federal government projects. It was also established that some construction firms neither have safety insurance plans for their workers nor facilitate payment of compensation for the injured workers (Dodo, 2014), this has made safety procedures challenging in the Nigerian construction sector which has resulted in increased safety rule violations and workers' attempts to simplify their tasks are ineffective since construction managers place much priority on worker productivity than worker safety, which boosts output. Meanwhile, insurance, is quite helpful in the right situations, particularly given the extremely sensitive financial nature of construction projects and the goal to optimize worker safety and protection on the job site (Akinradewo *et al.*, 2022).

Previous literature on construction health and safety in the Nigerian construction industry revolved around causes of construction accidents (Kadiri *et al.*, 2014), impact of health and safety on project parameters from the perspective of consultants and contractors in the construction industry (Famakin *et al.*, 2012), safety procedures procedure on construction sites established from the evaluation of safety practices conducted by Opatunji and Oyelami (2018), Analytical study of casualties in the construction industry in Nigeria (Adekunle *et al.*, 2018), cost of compliance with health and safety management systems among contractors in the construction industry (Hamid *et al.*, 2014), benefits of smart wearables for construction health and safety (Adejumo & Oke, 2023). Others considered the cost of health and safety performance on building contractors (Okoye & Okolie, 2014), examination of the application of health and safety plans on construction sites in Lagos state, Nigeria (Adebayo & Emoh, 2019), and application of health and safety plan in Nigerian construction firms (Dodo, 2014).

Limited research has so far been conducted on health and safety insurance within Nigeria's construction industry. Dodo's (2014) investigation on health and safety insurance established that some construction firms do not offer their workers a safety insurance plan or help with compensating injured workers. Meanwhile, Bösmeyer (2020) opined that for a contractor to have peace of mind in the event of any loss; to achieve the required quality and standard and to provide for the safety of workers, there is a need for effective implementation of construction insurance. Also, Adebayo and Emoh (2019) focused on health and safety plans concerning safety wear within some selected construction sites in Lagos state, Nigeria. These, and other past studies failed to establish the drivers that propel the adoption of health and safety insurance for construction projects. To encourage its adoption by construction firms, this study looked at the construction sector accidents, and health and safety insurance policy to concentrate on drivers that will enhance the adoption of this policy, and to increase researchers' and contractors' knowledge of the driving factors for its implementation within the Nigerian construction industry.

1.0 The Construction Sector and Accidents

Despite the level of risk in the industry due to the nature of the construction business, procedures, environment, and organizations functioning in the system, the construction sector is viewed as one of the key drivers of the national economy because it offers employment to many, especially in the developing nations of the world especially Nigeria where its contribution to the national gross domestic product (GDP) accrue to 4.18% in total (Masoetsa *et al.*, 2022). Construction of infrastructure, facilities, and buildings, as well as the renovation of existing ones to the satisfaction of the client, constitute the construction industry's core business (Mellado & Lou, 2020), although the construction sector boosts the GDP of emerging nations like Nigeria, mishaps and related occurrences are inevitable. It is on record that 39.24% of construction hazards were recorded between 2014 and 2016, which had an impact on the efficiency of construction projects on sites (Kamoli & Mahmud, 2022).

The rate of accidents in the construction industry leading to injuries and fatalities is on the increase, Shaikh *et al.* (2021) concluded that the construction industry's accident rate is persistently high in contrast to other industrial sectors where accident rates have been gradually declining. The study also attributed the high accident rate to the sector's insufficient implementation and training on health and safety management. It was further established that the claims that resulted from accidents and injuries are many in developing countries such as Nigeria compared to that of Europe, the U.S., and Australia with these occurrences lacking adequate documentation which underscored the low level of safety practices (Okorie & Musonda, 2020). Furthermore, Eze *et al.* (2020) claimed that 733 cases of mild accidents and 55 cases of fatal accidents were recorded in the Nigerian construction industry within five years while the previous study by Adekunle *et al.* (2018) in a study conducted in Lagos state opined that 90.8% of fatality were recorded in Nigerian construction industry in the year 2015. He further elucidated that based on statistics that 4,777 fatalities occurred between the years 2001-2015 in the industry with the occurrence of 68% of the fatalities in non-residential construction and specialty trades, 29% among workers in the home building industry while 3% occurred in other

construction works and specialty trades. Considering the adverse impacts of accidents, construction safety insurance is crucial to contractors within the construction industry.

2.0 Construction Health and Safety Insurance Policy

Health is not just the absence of illness or disability; it is a state of total physical, mental, and social well-being (WHO, 2006) in which the body affirms that enjoyment of the highest attainable standard of health is a fundamental human right. While safety refers to shielding individuals from physical harm, health is the status of people's bodies and minds from illness brought on by the materials, techniques, or procedures utilized in the workplace (Hughes, 2008). Thus, it is possible to understand health and safety as an individual's physical and mental welfare at their place of work, every individual must consider the safety of his health as this is a prerequisite for effective performance and productivity at the workplace which determines the profitability of a contractor (Yi & Chan., 2013). It was earlier established that health and safety are inevitable aspects of construction work because it enhances the performance of employees (Famakin *et al.*, 2012). To safeguard the interests of those engaged in a construction project, construction insurance is very crucial, this is defined as a system of risk management in the industry with the purpose of transferring risks from clients, contractors, subcontractors, and other project participants to insurers to provide contingent funding in the event of difficulty (Akinradewo *et al.*, 2022). Construction insurance refers to a broad range of coverage options for the protection of building sites, workers, and machinery (Osman, 2012). The insurer is the firm that gives the covering while the party that bought it is called the insured. As insurers share risks from natural disasters and other contingencies, covering different parties and forms of injury or damage, construction health insurance is becoming more and more crucial to the success of projects (Owusu-Manu *et al.*, 2021).

However, the hazards and types of work performed have a direct impact on the contractor's insurance costs (Sertyesilisik, 2010). In construction contracts, insurance serves to protect the contractor from losses that might otherwise result from the contractor's contractual obligations to the employer; yet, for pragmatic business reasons, the employer pays for the insurance to "safeguard himself against the heavy losses" that he would incur if the contractor did not have the financial resources to meet those liabilities. It was then opined by Babu and Kanchana (2014) that employers for large civil engineering projects might receive higher economic premiums than building contractors, mostly because of their size and financial status. It was earlier opined by Opara (2011) that the implementation of an insurance policy is compulsory for all citizens as stipulated under the Insurance Act of 2003 which established the Builder's Liability insurance policy, mandating clients and contractors of building projects under construction with more than two floors to obtain insurance coverage that will indemnify them in the event of a building collapse, damage to the property under construction, and injury to workers (both skilled and unskilled) who are susceptible to accidents on sites, this insurance coverage also covers bystanders and adjacent clients in the event of an accident on the site. These provisions include those provided by the Standard Bidding Document (SBD), JCT Standard Form of Building Contract, the ICE Conditions of Contract, and the FIDIC Conditions, among others.

3.0 Drivers for the Adoption of Health and Safety Insurance Policies by Construction Firms

To execute a certain task, there is always a propelling force that motivates the fulfilment of the executed task. There exist studies on drivers that motivate the execution of health and safety insurance policies in developed countries (Musundire & Aigbavboa, 2015). It was opined by Wubet *et al.* (2023) that the project and contractor size contributed to construction insurance implementation because it determined the degree of risk on a particular project, insurance firms consider this factor as one reason for insurance policy adoption by the contractor while Liu *et al.* (2020) previously asserted that the project and contractor's size or capacity are determinant for project insurance coverage, and further stated that the true intention behind any insurer inability to compensate the client was due to the motive of the inability of the client to comply with every single policy as stated in the plan and its revision, this can only be visible when the risk is sufficient for the insurance cover by being accidental and abrupt, will allow the insurance provider to determine the suitable premium. Furthermore, the size of a project is very important, as the size is always considered when determining whether to insure it or not (Halwatura 2015), and the frequency and severity of accidents on building sites are closely correlated with the risks inherent in the construction process, which further affects the maximum amount of compensation that an insurer may be required to pay (Surminski, 2014). Also, the present advancement in technology globally has changed the modality of the procurement method adopted for construction projects. Each procurement method has its peculiarity requirements about insurance preferences (Angmor *et al.*, 2022). Certain techniques demand multi-year subscriptions, while others call for shorter time limits. This has an impact on both insurers and the insured since, to avoid losing business or failing to get coverage, both must be adaptable enough to receive or offer cover (Liu *et al.*, 2021).

Also, the construction contract itself takes a cogent role in determining the insurance of the project. The parties to any project have responsibilities to carry which involve the financial risk. Although Contractors evaluate risk allocation, the industry primarily uses standard forms of contracts, which can only be modified by express agreement between the

parties involved. These forms specify the risks that each party is accountable for, to what degree, the requirements for indemnity, and what insurance is required for particular projects (Bunni & Bunni, 2022). Others listed to drive the implementation of insurance are client pressure, hazard likelihood, hazard level (Shevchuk *et al.*, 2020), legislative requirements of the project, its contractual demands, and the uniqueness of the project complexities (Hassan *et al.*, 2021). In addition to these, the health and safety practices and the company's annual turnover, cost of health and safety during tendering, and full integration of health and safety have also contributed to the driving force for the implementation of construction insurance on building projects (Bunni & Bunni, 2022) coupled with the type of construction project to be constructed (Peñaloza *et al.*, 2020).

Methodology

The objective of this study was to evaluate the drivers for the adoption of health and safety insurance policies by construction firms in Abuja, Nigeria. A survey design was used for this study with well-structured questionnaire based on the objective of the study, distributed among the construction professionals within the targeted population to rank the drivers that were gathered through the review of literature on a Likert scale of 5 to ascertain their opinion on the topical issue. The population for the study were the construction firm's professionals in Abuja which include architects, quantity surveyors, builders, engineers, and the health and safety officers working with the firms subject to the fact that they have been involved in various construction projects and are beneficial of the health and safety policy within the firm. The sampling technique adopted for this research was convenience sampling method. The reason for choosing this method is in line with the assertion of Abrams (2010), which explained convenience sampling as a method of sampling in which the respondents are picked based on convenience about their availability, accessibility, proximity and by other means decided by the researcher.

However, the sample frame was limited to the registered firms with the Bureau of Public Procurement (BPP), Abuja consisting of sixty-eight (68) registered construction firms (Table 1) under this agency within the study area, the choice of Abuja was a product of the fact that it's the nation's capital and bound to harbour a larger percentage of construction firms' offices and professionals within the built industry (Ojelabi *et al.*, 2022). The study adopted 20% of the sample frame as sample size as shown in table 2, because of the limitations to the study such as finance in locating the construction firms within the study area, and the inability to assess many of the firm's professionals due to their busy schedule. The sample size was justifiable based on the opinion of Trochim (2000) that for a small population, 10–30% is sufficient, whereas for a huge population, as little as 1% is sufficient. A total of one hundred and twenty-five (125) copies of the questionnaire survey were administered to targeted respondents within the sampled firms. However, ninety-one (91) copies of the questionnaire survey were retrieved which amounted to 72.8% and deemed useful for analysis. The data gathered were analysed using statistical tools like frequencies, percentages, mean item score (MIS), and standard deviation.

Table 1. Sample Frame

Registered construction firm in Abuja	68
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Bureau of Public Procurement. (2019).

Table 2. Sample Size

Total population	Percentage used	Sample size
68	20%	14

Result

Respondents' Information

The respondents' information as shown in Table 3 revealed that the respondents have the required education and years of experience to fill out the questionnaire survey and supply accurate information to measure and provide inference for the study because they all possess higher education suitable for the study as shown in the table and the years of establishment of the firms received were adequate for the study because the majority of the firms fall within 11–34 years to a percentage of 48.35%. This set of the population is expected to have known and gained an understanding of construction insurance policy and it's important to the company's employees. A larger percentage of the employees also attested to the fact that insurance purchased is common in their firms because 78.02% of the respondents within the sample firms agreed to this with the level of implementation generally at 74.73% indicating the level of often and always on implementation.

Table 3: General information of the respondents

Item	Frequency	Percentage
Academic qualification		
HND	23	25.28
HND	33	36.26
BSc.	24	26.37
MSc.	11	12.09
Total	91	100
Designation of respondent in the organization		
QS	14	15.38
ARCH	26	28.57
Civil Eng.	32	35.16
Builder	3	3.3
Mech. Eng.	3	3.3
Elect Eng.	3	3.3
Health and safety officer	10	10.99
Total	91	100
Years of company establishments		
Less than 10 years	43	47.25
11 – 34 years	44	48.35
35 and above years	4	4.4
Total	91	100
Company size		
11-49 employees	39	42.86
50-149 employees	25	27.47
150 and above	27	29.67
Total	91	100
Has insurance been purchased before		
Yes	71	78.02
No	20	21.98
Total	91	100
How often is construction insurance implemented on building projects		
Always	36	39.56
Often	32	35.17
Sometimes	23	25.27
Total	91	100

Drivers for the Adoption of Health and Safety Insurance Policy by Construction Firms

Table 4 below shows the mean item score of drivers that influence health and safety insurance adoption by construction firms. Project and contractor size was ranked first with a mean of 4.25 and SD of 0.902, Project type was ranked second with MIS of 4.23 and SD of 0.818, Unique project complexities were ranked third with a mean of 4.03 and SD of 0.836, contractual demands was ranked fourth with MIS of 4.01 and SD of 0.972, and hazard likelihood was ranked fifth with mean 3.98 and standard deviation of 1.105. the least ranked drivers as shown from the table are the cost of health and safety during tender; health and safety practices and the company's annual turnover; cost comparative to the risk encounter; and integrated health and safety with a mean item score of 3.56, 3.50, 3.49 and 3.25 respectively.

Table 4: Drivers for Health and Safety Insurance Adoption

Drivers	MIS	Std. Deviation	Rank
Project and contractor size	4.25	0.902	1
Project type	4.23	0.818	2
Unique project complexities	4.03	0.836	3
Contractual demands	4.01	0.972	4
Hazard likelihood	3.98	1.105	5
Hazard level	3.78	1.227	6
Client Pressure	3.76	1.139	7
Legislative requirements	3.69	0.974	8
Project procurement Method	3.67	0.831	9
Costs of health and safety during tender	3.56	1.067	10
Health & safety practices and the company's annual turnover	3.5	3.15	11
Costs comparative to the risks encountered	3.49	1.026	12
Integrated health and safety	3.25	1.139	13

Discussion of Findings

The research findings indicate that construction firms consistently purchase insurance policies, and they implement them to a substantial level. The most prevailing drivers for health and safety insurance policy adoption by construction firms as revealed from this study are project and contractor size, this agreed with the study of Wubet *et al.* (2023) and Liu *et al.* (2020) which pointed to project and contractor size as a factor that promotes insurance adoption. Furthermore, Peñaloza *et al.* (2020) study justifies this research which established the type of construction project as the driving force for safety insurance implementation on site, and also established Hassan *et al.* (2021) that listed contractual demands on a project and its uniqueness as a criterion to be considered for the implementation of health and safety insurance by construction firms.

The results indicate that construction firms implement insurance plans more frequently, but their decision to do so is influenced by certain drivers, including whether or not a particular project requires insurance coverage. However, to avert the global menace of accidents and injuries on construction sites, especially in Nigeria, and for the safety of personnel with due compensation where necessary, the construction contractor should not be objective on insurance when dealing with a project in as much that the Insurance Act of 2003 has mandated both contractors and clients to obtain an insurance coverage against loss of properties and injuries or accidents to workers on job sites, especially when dealing with project from two floors and above.

Conclusion

The purpose of this study was to evaluate the drivers for the adoption of health and safety insurance policies by construction firms in Abuja, Nigeria with a view to improving policy implementation and adoption. The survey adopted descriptive statistics to establish the rate of purchase and implementation of the policies, and drivers that encourage its execution. The study concluded that construction firms subscribe to the policy and its implementation is determined by some drivers. The leading drivers for construction insurance policy implementation are project and contractor size coupled with the type of construction project and contractual demands of a project. In addition, project uniqueness and hazard likelihood were also deduced as driving factors as established from the research. Based on these results, it was shown that health and safety insurance is effective at mitigating project risks and that project characteristics have a significant impact on contractors' decisions to use insurance as a risk management tool.

As a result, since worker's safety is more important than building projects, the adoption of the policy should be without any reservation, as this will limit hazards and allow due compensation for injuries or accidents on construction sites. Therefore, it was recommended that construction firms and legal authorities should devise a strategic approach to implementing the practice without paying attention to the drivers. Due to finance in locating some of the firms within the study area, and inaccessibility of the professionals due to their busy schedule, Future studies can be carried out based on geographical regions to strengthen the topical issue within the Nigerian construction industry.

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Author contributions

Adepoju Moses ADEJUMO - Administrate the research and wrote the first draft of the article; Rotimi TAIWO - Analysed the data, revised the manuscript, and finance the publication; Olaosebikan Clement BABALOLA - Improved the first draft, revised the manuscript, and finance the publication; Bunmi Lola OLOWOOKERE - Designed the Questionnaire and revised the manuscript; Olayemi Olamide OLORUNLOGBON - Vetted analysed data and interpreted the research data; Doyin Hellen AGBAJE - Prepared the Research Methodology; Oluwatosin Damilola ASA - Established research population location and monitored data collection; Temilola Mopelola ADEJUMO - Responsible for data collection; Peace Osisiye MOSIMABALE - Responsible for data collection; Samuel Olusola OLATUNJI - Conceived the topic and encouraged research work

Disclosure Statement

The authors declare that there is no conflict of interest on this study in any form.

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